ACSM Health & Fitness Summit 2013

A Physician and Triathlete’s Prescription for Healthy and Fitness

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I. Introduction
   A. Presentation outline/objectives

II. Individual and Public Responsibility for a Fit Community
   A. Sick Care vs. Prevention
      1. Money spent toward sick care
      2. Amount of time spent per appointment
      3. Health Habits of Providers
      4. Prejudice and Skepticism
   B. Obesity Epidemic
      1. Chronic disease burden
      2. Heart Disease, Cancer, Diabetes
      3. Complex issue with numerous variables
   C. Health of the Community Impacts Everyone
      1. Health Care Costs
      2. Learned Behaviors
      3. Advertising/Marketing
   D. Motivational Behavioral Change
      1. Philosophy
      2. Techniques
      3. Stages of Change Model
      4. Goal Setting

III. Endurance Races
   A. Multisport events are now accessible to the masses
      1. Ironman Triathlons
      2. Rock and Roll Marathon Series
How to motivate someone to sign up
1. Charitable Cause
2. Team Based Approach
3. Finding what their personal “carrot” is

IV. Nutritional Aspects
A. Pre-workout nutrition
B. During workout/race fueling
   1. Endurance event vs. Sprint
C. Post-workout nutrition refueling
D. Electrolyte Replacement
E. Nutritional Supplements

V. Physical
A. Training regiments
   1. Swimming
   2. Biking
   3. Running
   4. Yoga
B. Tapering
C. Race Day Strategy

VI. Injury Prevention
A. Balanced approach
   1. Cross Training
   2. Rest Days
B. How to deal with being sick
   1. Learning to Listen to Your Body
   2. Importance of Sleep in Recovery

VII. Mental Toughness
A. Practice builds confidence
B. Mental Imagery
C. Anchoring to a goal
   1. Charity
   2. Team
   3. Personal meaning

D. Learning to enjoy the process, not just the outcome

VIII. Maintaining Health, Preventing the Yo-Yo
A. Making Healthy Behaviors a Lifestyle
   1. Establishing a routine

B. Being a Role-Model to Others
   1. Motivating them to get involved in fitness
   2. Educating on fitness and nutrition

C. Importance of Balance
   1. Moderation
   2. Not all eggs in one basket

IX. Four Take-Away Messages
A. Health is not just an individual responsibility, but the social responsibility of a community, because the health of the public effects everyone.

B. Prevention of chronic disease through healthier lifestyles will prevent a landslide of morbidity and mortality in the coming generations.

C. Physical fitness, improved nutrition and mental health improvement are all likely achievable through signing up for and completion of an athletic event.

D. The personal connections, sense of accomplishment, and improved health education that come from being around a healthy and motivated community lend themselves to help others in that community to undergo healthy behavior change as well.
ACSM Health & Fitness Summit 2013
MAXIMIZE THE SUMMIT EXPERIENCE
“HOW TO GET THE MOST OUT OF THE PROGRAM”

### Networking with Colleagues and Attendees

1. THANK YOU for attending this meaningful session.
2. Network with attendees and faculty; it starts here!
3. Introduce yourself to at least one person at each session.
4. Exchange a business card with people you meet at your Summit sessions each day.
5. Network with as many colleagues as you can, even when you’re not in a session.

### Maximizing the Learning Experience

1. Review the program - plan your sessions in advance, and show up early!
2. List the top 10 questions you want answers to and then seek those answers during the Summit.
3. Use sessions to *broaden* your interests; avoid learning what you already know.
4. When you get an idea during a session, write it down immediately!

### Interacting with Summit Faculty

1. The Summit faculty are presenting here because they want to share research and ideas.
2. Never feel intimidated to ask a question during a session (It’s usually a question that others have too)
3. Don’t be shy about talking to presenters - strike up a conversation with at least one speaker each day, either after the session, or in the hallways.
4. Ask presenters if you can follow-up with questions (most have contact info on lecture outline).
5. If you find that one speaker has the kind of information you are really looking for, ask him/her to schedule time to discuss ideas in more detail later (perhaps at breakfast or lunch).

### Taking Advantage of Special Offerings

1. Take advantage of the wonderful workouts and the excellent exhibits offered during the week.
2. Attend *ALL* of the keynote sessions.
3. Introduce yourself to Mike Bracko, Chair, Summit Program Committee
ACSM Program Materials

Daily Summit Program Schedule
- The electronic final program link was provided to all pre-registrants early March. This includes a lecture outline from each session. You can also access the speaker outlines via our mobile site during the meeting. This information lists daily schedules of sessions, speakers, workouts, workshops and exhibits. It includes, daily schedules with times, speakers, and room names.
- Review all sessions in each time slot, and decide which sessions are a ‘must see’.
- Note: The vast majority of lectures repeat a second time.
- Those lectures with “1X” after the title are only given ONE time.
- Note that some lectures in a given track may also encompass another track focus, as topics sometimes overlap tracks.
- Map out your day ahead of time and try to include a variety of sessions, attend a workout, and visit the exhibit hall.

Summit Final Program
Along with the electronic final program link, we have also provided info on our mobile app to all attendees prior to the meeting
- Onsite program and exhibit guide displays registration and exhibit hours, CEC information and descriptions of tracks and workouts. You should read ahead of time, as it will answer most questions about the meeting itself.

FYI: An FAQ sheet is also available at the registration desk, which helps you with general information about navigating the hotel, restaurants and amenities within the Paris hotel

Summit Session Types

1. **Keynote Sessions**
   Major topic presentations by top experts, keynotes are held in large lecture halls and attended by all Summit participants, so come early for a good seat!
   - **Opening Keynote:** This session kicks-off the Summit on the first day ( Tues. 5:30-6:45 pm). Immediately prior, attendees can get their first glimpse of the vendor booths in the Exhibit Hall, where they can also enjoy a reception with light snacks and beverages. Both are a MUST SEE, and are great opportunities to meet up with colleagues and network.
   - **Second Keynote:** Wednesday’s keynote is “Health, Fitness, and Lifestyle Medicine: The Future is Now” from 1:00-2:00 p.m.

2. **Breakout Sessions**
   These dynamic one-hour lectures are given by experts in their field. Accompanied by slide presentations and sometimes question and answer periods, this is your chance to hear first-hand the latest in health and fitness topics in one of ten tracks.

3. **Extended Breakout Sessions**
   Offering 1.5 hours of lecture, the expanded time frame of these sessions allows speakers to present more breadth within topical areas.

4. **Interactive Workshops**
   Workshops are 1.5 hour interactive sessions that include demonstrations and hands-on examples of exercises. Participant interaction with the presenter is encouraged.

5. **Workouts**
   Led by top health fitness instructors, the workouts offer energetic exercises in a wide variety of classes during morning, afternoon and evening hours. Not only will you get a great workout, but you will undoubtedly learn some new techniques from these experts. Be sure to show up early if you want to guarantee a spot in these popular
sessions. No advance tickets or sign-ups necessary. NOTE: Schwinn cycling is limited to 40 per spinning class. We encourage attendees to try at least one!
willPower & grace® is a formatted cardio-sculpt format based in functional drills and postures. Our goal is to help students build muscular strength, endurance, flexibility and neuro-muscular connection through a repetitive sequence of smart exercises for the entire body, including the feet. willPower & grace® is a barefoot workout; we’ve been teaching people foot fitness for over a decade.

Barefoot Training vs. Minimalist Foot Training
willPower & grace® is typically practiced in a clean, safe and predictable environment. In this case we believe that barefoot is best. However, effective foot fitness can be practiced with a true minimal shoe.

What is foot fitness?
Muscular strength, endurance, flexibility and neuro-muscular awareness in the feet and ankles; we believe that it’s an important piece of all exercise; keeping your body connected from head to toe.

Benefits include:
- Increased strength & endurance in the lower kinetic chain
- Reduced risk of injury
- Toes, feet, and ankles move more naturally, improving circulation, flexibility and general foot health
- Greater integration of more neuro-receptors; leads to better balance and agility
- By eliminating heel lift, bodyweight is more evenly distributed; leading to better posture & alignment
- Body moves more functionally – it just FEELS good.

willPower & grace® fundamentals:

1. Repetition produces results. willPower & grace® is a formatted program. Maintaining simplicity within our choreography allows our students (and instructors) to focus on foot fitness exercises.

2. willPower & grace® is multi-level, full-body workout.
   - Level 1 students should be safely barefoot, learning the major movement patterns.
   - Level 2 students become more aware of foot-fitness, while enhancing precision in full-body.
   - Level 3 students will leap and land, without a sound, challenging their thresholds.

3. willPower instructors guide students with positive, uplifting philosophy to increase their self confidence and lead them to recognized results.

4. Each willPower & grace® workout begins with a foot specific warm-up, which includes:
   - Dorsi and plantar flexion
   - Eversion and Inversion
   - Toe Grip, and Arch Doming
   - Toe lifts, toe spread, toe tap

Be patient. Gradual acclimation will ensure safe progression. When initiating a foot fitness program feet may be weak, stiff, and generally unfit.

We have trained willPower & grace® instructors all around the world! Contact us to learn more about our education pathway, or to bring willPower & grace® to your facility.

info@willPowerMethod.com
Kripalu Yoga
by
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Indiana University Department of Kinesiology, School of Public Health
mmyoke@indiana.edu

I. What is Kripalu yoga?
- Named after Swami Kripalu
- Kripalu means *being compassionate* in Sanskrit
- Kripalu Center for Yoga and Health in Lenox, MA
- Meditation in Motion
- Practice begins gently with an emphasis on being present in your body. Kripalu yoga allows you to choose the level of intensity that is right for your body, recognizing that every body is different. It activates the life force of the body that yoga calls *prana*.

II. Yoga Practice
- Centering and Pranayama
- Warm-up: feel-good moves, micro-moves for:
  - Shoulders/shoulder blades
  - Hips
  - Spine
  - Ankles
- All-fours:
  - Cat tilt/dog tilt
  - Puppy dog
  - Thread the needle
  - Child’s pose (garbhasana)
- Prone:
  - Sphinx pose with scapular depression
  - Half Locust
  - Relaxation
- All-fours:
  - Child’s pose (garbhasana)
  - Calf stretch
  - Low lunge
- Standing:
  - Forward bend (uttanasana)
  - Mountain pose (tadasana)
  - Tree pose (vriksanana)
  - Yoga squat (utkatasana)
  - Moon salutation (chandra namaskar)
  - Sun salutation with variation (surya namaskar)
- Seated:
  - Forward bend (paschimottanasana)
- Twist (matsyendrasana)
- Supine:
  - Bridge (setu bandhasana)
  - Wind-relieving pose
  - Knee-down twist (supta matsyendrasana)
  - Happy baby pose
  - Savasana
- Seated meditation

3 TAKE-HOME POINTS
1) Get in the habit of regularly reminding yourself to breathe deeply throughout the day. In yoga, breath is the link between the mind and the body.
2) Create your own simple life-affirming metta, such as “may I be at peace”. Say this to yourself often throughout the day (e.g. when you’re walking, riding the elevator, driving in your car).
3) Develop your ability to listen to your body’s preferences, then act on them. What stretch would feel good in any given moment? Which side does your body prefer to lie on each night in bed? This type of instinctive body awareness can also help with mindful, conscious eating.
Schwinn will be providing copies for the attendees and handing them out in the room onsite for Schwinn Cycling, Workshop and workout sessions. Thank you.
Purpose: Re-define and explore your body's balance systems using the BOSU Balance Trainer and a soft-touch weighted ball, and walk away with a whole new perspective on balance. More than just your ability to stand on one leg, balance signifies both the starting and ending point of human movement, and this workshop will show you how to train complementary aspects of balance to improve proprioception, strength and flexibility. You'll also gain some mind/body-based methods for enhancing stability and mobility from simple sitting to gait training. Note: This workshop focuses on barefoot training, however, please bring a pair of shoes or sneakers as well.

Introduction:

1. BOSU® Balance Variables (BBVs):
   - Contact Points
   - Visual Affect (driste)
   - Movement
   - External Stimulus: THE SOFT-TOUCH BOSU® WEIGHTED BALL
     - 3 Figure 8s: frontal, sagittal, transverse
   - Combinations

2. Challenges in each plane in order: frontal, sagittal, transverse

3. Our BALANCE definitions:

4. Isometric Balance Factors:
   - Ankle and Foot Strength
   - Pelvic Floor/Mula Bandha
   - Trasversus Abdominus
   - (TONGUE)

5. Barefoot Vs. Shoe Training:
   - a look at our shoes
   - a look at our feet

BOSU® Body Balance Program Design

A. Theme: Experience and Explore Balance Definitions of Stability and Mobility in a Triplanar, Functional Approach to Body Positions. “We are human be-ings, not human do-ings. It is okay to find balance and JUST BE,” Franklin, Inner IDEA Presenter

B. External Stimuli:
   - BOSU® Balance Variables mentioned above
   - BOSU® soft-touch weighted ball

C. Music (silence, natural sounds, Pilates-like beat)

D. Sensory Factors: (aromatherapy, taste, sound, touch, driste)

BOSU® Body Balance Teaching Progressions

A. Building Sequences: S & M

1. Find Stability (often influenced by yoga) as follows (in order of appearance):
   STANDING, SQUATTING, HINGING, SINGLE LEG, AND LUNGING, FOLLOWED BY:
   KNEELING, PRONE, SIDE, SUPINE, QUADRUPED, PLANK, and SITTED
2. **Mobility 1**: Challenge & PLAY with BBVs of softouch ball in Frontal Plane (infinity symbol) and Sagittal (number “8”).

3. **Mobility 2**: Proprioceptive Challenges with invisible learning (often influenced by T’ai Chi, Pilates, and Feldenkrais).

3. Return to Stability

4. **CLASS IDEAS:**
   a. AS HERE
   b. STRAIGHT THROUGH WITH SOFT TOUCH BALL ONLY
   c. STRAIGHT THROUGH WITH BODYWEIGHT MOVES WITHOUT BALL
   d. OTHER

4. **BOSU® Yearbook Class Picture & MVP!**

   TC: T’ai Chi/Chi Gong  F: Feldenkrais  Y: Yoga  P: Pilates
   UNLESS OTHERWISE STATED, ALL MOVEMENTS OCCUR WITH BBT DOME SIDE UP

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**BOSU® Body Balance**

<table>
<thead>
<tr>
<th>THEME</th>
<th>POSITION</th>
<th>CHALLENGES</th>
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<tbody>
<tr>
<td>STANDING STABILITY</td>
<td>STANDING IN MOUNTAIN</td>
<td>BBVs</td>
</tr>
</tbody>
</table>
| STANDING MOBILITY       | MOVING IN MOUNTAIN    | A. TC Gather the Chi (frontal)  
                          | B. TC Rooster Stands on 1 Leg (saggital)  
                          | C. TC Beat the Drum (transverse) |
| STANDING STABILITY      | SQUATTING IN CHAIR    | BBVs                                                                        |
| STANDING MOBILITY       | MOVING IN CHAIR       | A. TC Gather the Chi (frontal)  
                          | B. TC Rooster Stands on 1 Leg (saggital)  
                          | C. Y Twisted Chair (transverse) |
| STANDING STABILITY      | STANDING IN TABLE HINGE | BBVs                                                   |
| STANDING MOBILITY       | MOVING IN TABLE HINGE | A. Falling Star (frontal)  
                          | B. Tall Table Arms Overhead (saggital)  
                          | C. TC Gaze at Stars (transverse) |
| STANDING STABILITY      | SINGLE LEG IN TREE    | BBVs                                                                        |
| STANDING MOBILITY       | SINGLE LEG IN TREE    | A. P Knee Extension Points (frontal)  
                          | B. P Toe Taps to 12 and 6 (saggital)  
<pre><code>                      | C. P Leg Arcs (transverse) |
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<table>
<thead>
<tr>
<th>STANDING STABILITY</th>
<th>WARRIOR #1 Or #2 or LUNGE</th>
<th>BBVs</th>
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<tbody>
<tr>
<td>STANDING MOBILITY</td>
<td>WARRIOR #1 Or #2 or LUNGE with FRONT FOOT ON BBT BACK FOOT ON BBT</td>
<td>A. Y Standing Moon Leans (frontal) B. P Heel lifts (sagittal) C. P Cross-Chops (transverse)</td>
</tr>
<tr>
<td>KNEELING STABILITY</td>
<td>KNEELING</td>
<td>BBVs</td>
</tr>
<tr>
<td>KNEELING MOBILITY</td>
<td>KNEELING</td>
<td>A. Leg abduction w/airplane arms (frontal) B. Upper Body Bowing/Kneeling dead lifts &amp; Lower Body Leg Step-throughs (sagittal) C. Leg Bounces to Standing Twist (sagittal)</td>
</tr>
<tr>
<td>PRONE STABILITY</td>
<td>PRONE</td>
<td>BBVs</td>
</tr>
<tr>
<td>PRONE MOBILITY</td>
<td>PRONE</td>
<td>A. P Wide Swimming (up, open, close, down) (frontal) B. Moving Spiders (sagittal) C. Leg Reaches (opposite and same side) (transverse)</td>
</tr>
<tr>
<td>SIDE- LYING STABILITY</td>
<td>SIDE PLANK</td>
<td>BBVs</td>
</tr>
<tr>
<td>SIDE- LYING MOBILITY</td>
<td>SIDE PLANK</td>
<td>A. Hip Lifts (frontal) B. P Front &amp; Back Reaches (sagittal) C. Hip Lifts with Thread the Needle (transverse)</td>
</tr>
<tr>
<td>SUPINE STABILITY</td>
<td>DEAD BUG</td>
<td>BBVs</td>
</tr>
<tr>
<td>SUPINE MOBILITY</td>
<td>DEAD BUG</td>
<td>A. Lay back to Supine and “Angel Arms and Legs” (frontal) B. Thumb and Heel Taps (sagittal) C. Full Body Rotations (transverse)</td>
</tr>
<tr>
<td>REPEAT SIDE- LYING SERIES OTHER SIDE</td>
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<tr>
<td>QUADRUPED STABILITY</td>
<td>ALL 4s</td>
<td>A. Contralateral Hip and Shoulder Abduction (frontal) B. Same Side Reaches (sagittal) C. External &amp; Internal Rotations</td>
</tr>
<tr>
<td>QUADRUPED MOBILITY</td>
<td>ALL 4s</td>
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## BOSU® Body Balance Handout

<table>
<thead>
<tr>
<th></th>
<th>PLANK STABILITY</th>
<th>PLANK MOBILITY</th>
<th>SEATED STABILITY</th>
<th>SEATED MOBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PLANK STABILITY</strong></td>
<td>PLANK 1: hands or forearms on BBT, then walk to PLANK 2: toes on BBT</td>
<td>PLANK</td>
<td>V Sit forward of Apex</td>
<td>V Sit forward of Apex</td>
</tr>
<tr>
<td><strong>Plank Mobility</strong></td>
<td>BBVs with BALL BETWEEN KNEES OR UNDER TOES</td>
<td>A. Contralateral Hip and Shoulder Abduction (frontal) B. Same Side Reaches (sagittal) C. External &amp; Internal Rotations (thread the needle) (transverse)</td>
<td>BBVs</td>
<td>A. Gather the Chi (frontal) B. Praying Arms Reach (sagittal) C. Diagonal Reaches Up and Down (transverse)</td>
</tr>
</tbody>
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**MMVP**

BOSU.com

Find us on Facebook at “The Official BOSU Fan Page”
TRX will be providing attendees with access to session materials onsite.
Session Overview: Athletes, in particular endurance athletes, often focus on consuming a diet high in carbohydrates. However, current research encourages Americans to cut back the amount of sugar (in essence “carbohydrates”) they are ingesting for overall health improvement. These guidelines can become confusing for an athlete, especially due to the fact that this macronutrient is essential for optimal athletic performance. This presentation will review the current research on sugar consumption and chronic disease and then discuss how athletes can balance the recommendations for carbohydrate intake for performance versus those for the best sources of carbohydrate for overall health.

I. Introduction and Overview

II. Defining Carbohydrates
   a) Simple Carbohydrates
      i) Monosaccharides
      ii) Disaccharides
   b) Complex Carbohydrates
      i) Oligosaccharides
      ii) Polysaccharides

III. Sugar Consumption Research Review
   a) Obesity
   b) Heart Disease
   c) Diabetes

IV. Importance of Carbohydrates for Overall Health
   a) Role in the Body
   b) Disease Prevention

V. Importance of Carbohydrates for Athletic Performance
   a) Role in the Body
   b) “Hitting the Wall”
   c) Glycemic Index

VI. What Does This All Mean?
   a) Calculating Carbohydrate Needs
   b) Practical Applications of Balancing Carbohydrate Recommendations
i) Before, During and After Exercise
   (1) Food Sources
   (2) Sports Drinks, Energy Bars, and Gels
ii) For Overall Health

VII. Take Away Points
   a) Sugar intake should be limited to make a difference in the overall health of Americans.
   b) Adequate carbohydrate intake can impact athletic performance.
   c) It is important to balance the consumption of various types of carbohydrates to improve athletic performance, as well as overall health.

VIII. Resources
Developing Wellness Champion Networks Outline

Stefan Gingerich, MS and Sarah Monley | StayWell Health Management

I. Wellness champion network introduction
   a. Definition/clarification of wellness champion network for this presentation
   b. Conceptual structure for wellness champion networks
      i. Committee - Executives and leaders who represent key business units
      ii. Liaison - Staff whose job description includes health and wellness responsibilities
      iii. Champion - Volunteers who represent the wellness program among their peers and within their households

II. Summary of research
   a. Studies on face-to-face networks and influence on health
      i. Spread of obesity (Christakis and Fowler, 2007 New England J of Med)
         • People who gain weight increased the chances that their friends would gain weight
         • Friends and relatives of the same gender had a greater influence than those of different gender
         • Smokers were more likely to be associated with other smokers
         • Spouses, siblings, friends and co-workers influenced someone’s chances of being a smoker
   b. Gallup research on benefits of social interaction
      i. Well-being and happiness significantly higher for people who report ≥ six hours of social interaction per day
      ii. Worry and stress decreases significantly with ≥ six hours of social interaction in a day
      i. Survey of 730 companies and more than 1,500 worksite health practitioners
      ii. Assessed companies’ status with regard to Healthy People 2010 objectives
      iii. Companies with onsite staff were 10 times more likely to meet all Healthy People 2010 objectives
   d. Emerging research from StayWell (in review for publication)
      i. Analysis of 56 companies, 390,000 individuals, to assess best practices to encourage health coaching participation and improve risk reduction in worksite health
      ii. Results suggest that wellness champion networks strengthen the association between age and behavior change, such that strong networks were associated with higher risk change when they were implemented among older employee populations.
III. Case study client overview
   a. Taft-Hartley Trust fund structure
   b. Wellness program overview
   c. Plan-participant population demographics

IV. Industry approaches and case study strategies

   For more than three decades, the health promotion industry has developed research and practices that can help employers improve the health of their workforces. These successful practices can be used to guide strategies for wellness champion recruitment and retention.

   a. Recruitment strategies of wellness champions used in case study
      i. Industry approach: senior leader support
         • Strategy: collected management referrals
      ii. Industry approach: social influences
         • Strategy: established group networking
      iii. Industry approach: peer education
         • Strategy: developed co-champion process
            a. Collaboration between friendly co-workers
            b. Coverage throughout departments and shifts

   b. Additional recruitment strategies based on employee health management program design for reference
      i. Program participants who become leaders
      ii. Vendor integration based on professional relationships
      iii. Satisfaction surveying to gauge employee awareness

   c. Retention strategies of wellness champions used in case study
      i. Industry approach: data collection
         • Strategy: conducted new champion survey and complete communications review
      ii. Industry approach: contingency management
         • Strategy: implemented champion rating system
      iii. Industry approach: educational materials to support program engagement
         • Strategy: provided idea lists and toolkits

   d. Additional retention strategies based on employee health management program design for reference
      i. Orienting participants to program availability at launch
      ii. Data review to develop expectations
      iii. Providing communication messaging and talking points
      iv. In person educational opportunities

V. Conclusion | Q&A
**Take away items**

1. **Research** — Describe the results of at least one study discussed in the presentation that will help defend the use of workplace wellness champion networks.

2. **Plan** — Name three concepts or practices you are currently using in your employee health management program that could be applied to building a wellness champion network.

3. **Implement** — Apply one new strategy for recruiting or retaining wellness champions that was employed by the Trust fund discussed in this presentation.

*If you were unable to attend this presentation and would like copies of the slide deck we presented, please email Sarah Monley at sarah.monley@staywell.com or Stefan Gingerich at stefan.gingerich@staywell.com.*
ONE SIZE DOESN’T FIT ALL: Which Social Media Platforms Are Best for Health and Fitness Professionals?

Presented by
Fred Hoffman, M.Ed.

I. What is Social Media?
   1. Web 2.0, Networks
   2. Mobile and Apps
   3. Communicating and sharing
   4. Creating community
   5. Listening and observing
   6. It is now essential to be ‘part of the conversation’

II. How to decide which social media platforms are best for you and your business?
   1. What are the most popular social media platforms at the moment?
   2. Learn how to use several of the platforms
   3. Discover what others are using social media for and how
   4. Decide why you would choose to use any of the social networking sites
      a. What do you want to get out of social media?
      b. What do you want to put into social media?
   5. Create a social media strategy for you and your business
   6. Use metrics to measure results and success

III. Facebook
   1. Set up and getting started
   2. Personal Timeline
   3. Pages
   4. The LIKE button
      a. The significance of the like button,
      b. When, why and how to use it
   5. Locations and Check-in
   6. Privacy settings and Transparency
   7. Page Insights

IV. Twitter
   1. Set up and getting started
   2. How, what and when to tweet
      a. Tweet: 140 characters max
      b. Links, photos and video
      c. Retweet
      d. ‘@’ Connect and ‘#’ Discover
   3. Following and followers
   4. Twitter analytics
V. Pinterest
   1. Set up and getting started, the ‘Pin It’ button
   2. Boards
   3. Pinning and re-pinning
   4. Analytics

VI. YouTube
   1. Set up and getting started
   2. Posting videos
   3. Channels
   4. YouTube EDU
   5. Analytics

VII. LinkedIn
   1. Set up and getting started
   2. Professional Platform
   3. Groups
   4. Career pages

VIII. Additional platforms
   1. Instagram
   2. Google +
   3. Foursquare
   4. Others

IX. Managing multiple platforms
   1. Social media dashboards
   2. Social media manager and staff

X. Netiquette
   1. Do’s and Don’t’s
   2. Policies and strategies

Take Away Messages:
1. As fitness professionals, it is essential to use several social media platforms
2. You must create and follow a clear strategy for using social media to enhance your business and communication
3. Monitor results to measure success

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Overview: High-intensity or extreme conditioning programs (ECPs) (e.g., CrossFit, P90X, etc.) have exploded in popularity. While there is great enthusiasm and anecdotal evidence supporting the use of such programs, there remains genuine concern regarding the effectiveness and safety of their ever-expanding use. Musculoskeletal injury from these demanding programs, particularly for novice participants, potential effectiveness and benefits, and research needs will be highlighted. The positive and negative characteristics of such programs and practical solutions to improve ECP prescription and implementation and reduce injury risk will be emphasized.

I. Which conditioning programs are considered “extreme” and why?

II. Why are these programs attractive and increasingly popular?
   a. Purported gains
   b. Functional Fitness
   c. Evident risks
      i. Are these risks any greater than traditional conditioning programs?

III. Positive aspects of extreme conditioning programs
   a. Variation
   b. Cardiovascular and metabolic demands and gains
   c. Functional fitness
      i. Total body
      ii. Multi-joint, multi-planes
      iii. Fatigue tolerance
   d. Challenging (psychological discipline), exciting, motivating and camaraderie/teamwork
   e. “Real-world readiness”

IV. Negative characteristics of extreme conditioning programs
   a. Repeated, maximal (near maximal) timed exercise repetitions
   b. Insufficient rest between intervals
   c. Highly technical or advanced multi-joint exercises
   d. Progressive initiation often lacking for novice participant (too much too soon)
   e. Contributing risk factors (not of the program itself, per se)
i. Insufficient recovery time between high-volume training sessions

ii. “Carry-over” residual effects

iii. Fatigue-related changes

iv. Competitive – “keeping up” with others

v. Overuse, overreaching and overtraining

vi. Not sufficiently integrated with other conditioning/training

V. Other concerns, contraindications and considerations

a. Consider individual daily and performance demands

b. Consider your long-term and realistic goals

c. Consider health

d. Consider conditions & safety

e. Current or recent illness

f. Other clinical conditions

VI. Program design

a. Balanced & diverse: lower/upper body strength, power & endurance

b. Mobility and agility

c. Cardio-respiratory and recovery capacities

d. Incremental and individually progressive

e. Individual fitness and conditioning needs and limitation

f. Minimize overload and fatigue

g. Emphasize biomechanical control and technique

h. Periodicity and rest/recovery

i. Modification

j. Education

k. Certification

VII. Recommendations to improve implementation and reduce injury risk

a. Stepwise progression (acclimation) to exercise intensity, duration and advanced exercises

b. Individualized based on fitness, realistic goals and needs/demands

c. Restrict participation based on health status

d. Ensure suitable rest periods – between sets, days and cycles

e. Proper nutrition; avoid stimulants

f. Close monitoring

g. Watch for trends

VIII. Summary
Childhood Obesity ACSM Summit Outline
Lindy Moore, M.S.
March 13-14th, 2013

Audience: Physicians, RDs, Exercise Physiologist, Fitness specialists, Psychologists, Nurses

A. Quotes of Teens

B. Childhood obesity statistics

C. Medical Causes of Obesity

D. Determination of Overweight / Obesity -- BMI

E. Medical Complications

F. What can I do? (as a provider)
   Recommendations – Expert Committee Guidelines, CHA Rx Group
   85-94%, >95 %
   6 things: “The Role of Pediatricians in the Coordinated National Effort to Address Childhood Obesity”
   When to refer to weight management center

G. Nutrition related to obesity prevention
   Recommendations and how obesity can occur
   Portion Distortion
   Nutritional Counseling checklist

H. Exercise Prescription and how to make it effective in kids
   Why use the Prescription, why exercise is important for obesity in kids
   How to encourage exercise in a youth population

I. Psychology of behavior change in kids
   How body image can get distorted and dangerous
   How can one help a child make permanent behavior changes

J. What does Florida Hospital’s Center for Child and Family Wellness / Healthy 100 Kids do?
   Providing answers, solutions and hope
   Description of process
   Workshops, grocery store tours, etc...

K. Suggested practice tools for making change and compliance
   Nutritional checklist, motivational interviewing, exercise prescription

What do YOU want to do when you are 100?

Take Away Points:
1. Childhood obesity epidemic is on the rise and a multidisciplinary approach is needed to truly make an impact on the prevention and reversal of pediatric obesity
2. Nutritional changes can begin in the office and with clients through teaching of awareness of healthy and poor food choices
3. Body image and acceptance is primary for change to occur in an obese child
4. Exercise should be encouraged daily and emphasize fun
5. Working together change can allow for permanent change in child obesity
**Objectives:**

**Medical** - Providers learn to recognize the signs of childhood overweight and obesity early in order to provide both recommended prevention and treatment guidelines in their office and when to refer to a weight management program.

**Nutrition**
To understand how trends in dietary intake are affecting childhood obesity and the importance of addressing these factors in well visits and our communities to help encourage healthy, lifelong dietary habits.

**Psychology**
Raising provider awareness of psychological challenges encountered with overweight child and families including self-esteem, negative body image, and mood issues; exploring techniques effective in dealing with those challenges including motivational interviewing, mindfulness, and cognitive behavioral therapy.

**Exercise / Activity** - Providers learn about the benefits of exercise, including the physiological, mental and community benefits. Reasons why activity is not prevalent in society today and how exercise can impact the obesity epidemic for children and adults.

**Filling the Gap**
Childhood obesity is a relatively new problem area in Pediatrics presenting with its own major health-related complications. In this current healthcare system, primary care providers find it extremely challenging on many levels to fully address childhood obesity and its related medical, nutritional, psychological, activity and behavioral complications in order to not only prevent but treat this growing epidemic. Providers would find it beneficial to know how they can identify overweight and obese patients and what in-office and community resources are available to provide much-needed support and education to the families.

**Team References / Bibliographies**
- “Pediatric Obesity Clinical Decision Support Chart”. Hassink, Sandra G. Adapted from *keep Me Healthy* flip chart – Maine Center for Public Health and the Maine Chapter of the AAP.
- The Nutrition Care Manual® (NCM/PNCM). American Dietetic Association,
I. Goals for Today
   - Identify, Understand, and Provide Solutions to the “Why’s”

II. Self Introspection: Do We Really Deserve the Referrals?

III. What Do We Want vs. What They Want

IV. Understanding Why Things Are the Way They Are
   - What They Think We Do
   - Things They Are Afraid Of

V. What We Actually Do

VI. Top 10 Reasons Why Dr’s Don’t Prescribe Exercise

VII. Ways to Get Them To Prescribe Exercise
   - Demonstrating Your Value and Worth
   - Show Them You Are Different
   - Demonstrate How You Can Help Them

VIII. Ways to Get Them to Prescribe Exercise

XI. (9) Governing Principles
   - Overload, Specificity, Progression, Variation, Individuality, Reversibility, Diminishing Returns, Recovery, Safety
I. Introduction
   A. Presentation outline/objectives

II. Epidemic Trio
   A. Recommended resources

III. Frenzy
   A. Defining frenzy
      1. Inside frenzy
      2. Sources of frenzy
      3. Outside frenzy
   B. Steps to taming frenzy
      1. Positive emotions
      2. Accept frenzy
      3. Self awareness
      4. Self-compassion
      5. Appraise
      6. Increase positive emotions
      7. Engage heart, lungs and muscles
      8. Listen to calming music
      9. Coach Meg’s formula for Taming Frenzy

IV. Improve attention by managing distractions and impulses
A. Attention in the brain
B. Stretch outside your box
C. Harness your drive
D. Psychology of optimal experience
E. Sustain focus
F. Brain breaks
G. Short term memory and attention

V. How to harness working memory
VI. Creating an agile brain and the potential for insight
VII. Six rules of order to organize your brain
   A. Tame frenzy
   B. Improve focus
   C. Manage distractions & impulses
   D. Harness working memory
   E. Be cognitively agile
   F. Connect the dots

VIII. What’s your first step?
Foam Roller Workout
Irene Lewis-McCormick, M.S., C.S.C.S.
E-mail: irenemccormick3@gmail.com

I. Introduction
Self Myofascial release is a form of bodywork and stretching/self-treatment that can improve posture, increase flexibility and reduce stress, tension and pain while boosting athletic performance, energy levels and body awareness (Earls & Myers 2010). By learning to perform self-massage, participants can improve blood flow to muscles, reduce stress, and possibly increase joint range of motion and soft tissue flexibility. Many exercises can lend themselves to core stability, decreased risk of certain injuries and relaxation.

II. The Functional Kinetic Chain
A. Works as an integrated, functional unit and consists of:
   1. Articular system – joints
   2. Soft tissue system - muscles
   3. Neural system – nerves
B. Joint Mobility
   1. Dictates that joints should be able to move through the ranges of motion they were designed to as opposed to ones they are not designed to
C. Joint Integrity
   1. Dictates that joints need to be ‘lined up” so moving bones use muscles, tendons and ligaments correctly due to imbalances, weakness, or tightness
D. Neural Efficiency
   1. Dictates that the information that the body receives via the CNS is not altered due to any of the above mentioned
E. All components exist interdependently
F. If one segment is not functional, then the others must compensate leading to tissue overload, fatigue and the Cumulative Injury Cycle:
G. Cumulative Injury Cycle
   1. Injury
   2. Pain
   3. Fatigue
   4. De-conditioning
   5. Depression/anger/loss of self esteem
   6. Stress
   7. Muscle Tension

III. The Benefits of Rolling
A. MANY exercise injuries are a result of overuse and faulty movement patterns that are often a result of compensations and lack of joint and soft tissue flexibility
B. Fascial restrictions can result in
   1. Muscle tightness restricts joint range of motion
   2. Restrictions create alterations in movements
   3. This changes “normal” feedback to the central nervous system (CNS)
4. Movement efficient is altered and compromised
5. This can lead to faulty movement patterns
6. Early fatigue
7. Injury
   a. Example – Gluteal Muscles and Knee Pain
C. Can help correct known muscle imbalances
D. Can improve joint ROM particularly prior to exercise or training as well as post-exercise
E. May reduce certain restrictions in typical areas (Iliotibial band, hip flexors, gluteals muscles, Achilles area, etc.)
F. May decrease pre-workout muscle soreness due to DOMS
G. Can increases neuromuscular efficiency
H. Can assist with maintenance of normal functional muscular length
I. Can relieve stress
J. The Most Common Muscles Foam Rollers are Used For:
   1. IT Band
   2. Hip Flexors
   3. Gluteals
   4. Calf
IV. Selecting Foam Rollers
A. When choosing a foam roll, product density is very important
   1. Different parts of the body respond to different pressures
      a. Too soft, less than adequate tissue massage is applied
      b. Too hard, bruising and more advanced soft-tissue trauma may occur, leading to further restriction, initiation of the inflammatory process, decreased range of motion, pain, and decreased performance
B. Start with 6”x36” round rollers to start (about 3 feet)
C. Many companies offer color-coded rollers
   1. White rollers tend to be softest, while darker colors often indicate more density
D. Frequent use with dented rollers will cause uneven rolling when using them for SMR
V. General Guidelines for Rolling
A. The fitness professional should be proficient in these techniques prior to client instruction
   1. Position yourself on the foam roller for optimal benefits by lying or sitting in a position that will allow you to roll about 3 inches in either direction
   2. Hold the body on spots where tension is present
   4. Mild discomfort is expected
   5. Hold each challenging position 30-seconds to 1 minute
   6. If pain is reported, stop rolling
      a. Continuing to roll when pain is present activates the muscle spindles, which may cause increased tightness and possibly injury
   7. REST on the painful areas
      a. Resting 20-30 seconds on tight or painful areas will stimulate the Golgi Tendon and autogenically inhibit the muscle spindles
         i. This should reducing muscular tension and pain
8. Maintain proper draw-in position or abdominal bracing
   a. which provides stability to the Lumbo-pelvic-hip complex during rolling
9. Clients can perform SMR Program 1-2 x daily.
10. Stretch the worked muscles after each rolling session

Three Take-Away Messages
   a. Normal daily physical activities can lead to stress in the muscles and joints of the body. Using a foam roller can assist with relaxation and flexibility easily, in a sweat-less format (perfect for worksite wellness programs).
   b. When using a foam roller, the correct density is important to consider depending on the individual needs of the person using it. Dented and damaged foam rollers need to be replaced.
   c. Foam rollers can be used for increasing core stability as well as massage, spinal alignment and a fantastic cool-down with relaxation in any fitness setting.

Selected References

Schwinn will be providing copies for the attendees and handing them out in the room onsite for Schwinn Cycling, Workshop and workout sessions. Thank you.
MAKE CONTACTS TO BUILD RELATIONSHIPS:
NETWORKING FOR SUCCESS IN A WORLD OF OPPORTUNITIES

Presented by Fred Hoffman, M.Ed.

I. WHERE AND WHEN TO MAKE CONTACTS AND NETWORK
A. Anywhere, anytime
   1. You meet and talk to people everywhere
      - Waiting in line
      - On a plane or bus
      - At a party, social gathering or celebration
      - Place of worship
      - Work-related events and social gatherings
      - When and where you least expect it

II. WORK-SPECIFIC PROFESSIONAL NETWORKING
A. Have a plan!
   1. Determine networking ‘goals’ when possible
B. Attend a variety of industry events: seminars, workshops, conventions, conferences, tradeshows, health fairs, fund-raisers, focus groups, etc.
   1. Become a member of professional industry organizations
      - Consult their website and publications for upcoming events
      - Local – National – International
   2. Subscribe to online and print publications to learn about upcoming events
C. Get involved in industry-related activities
   1. Try public speaking (lecture or presentation)
   2. Give a free class
   3. Volunteer your time at an event
      - Convention staff
      - Free access to a large number of people
D. Social Media (Facebook, Twitter, Pinterest, LinkedIn, YouTube, etc.)
E. Online resources (University website, blogs, forums)

III. NETWORKING BASICS
A. Introductions, conversations, active listening
   1. Formal introductions (by someone, or self-introduction)
      - Determine how you are going to introduce yourself, and be prepared to articulate the answer to ‘what do you do?’
   2. Getting conversations started
      - Scan the room for someone to speak to
      - Introduce yourself
      - Create small talk
      - Be curious, ask open-ended questions
      - Be yourself and be genuine
   3. Practice active listening
   4. Take risks
   5. Prepare for rejection
B. Business cards
   1. Distributing and Receiving
      - Never leave home without them
      - Make a note on each card you receive to remind you of the person and conversation

C. Follow-up!
   1. Time sensitive
   2. E-mail, social networks, phone, ‘snail mail’
   3. Schedule meetings
   4. Do what you say you are going to do!
   5. Create a relationship!

D. Avoiding common mistakes and pitfalls

IV) PRESENTING YOURSELF
A. Business cards
   1. What should appear on your business cards

B. Resume, CV, biography

C. Web site or web page
   1. Newsletter
   2. Blog

D. Photos and videos

E. Social Media Networks
   1. Personal profile
   2. Group member
   3. Send a message!
   4. Follow up!

V) CAREERS IN THE FITNESS AND WELLNESS INDUSTRIES
A. Identify career goals
   1. Short and long-term goals
   2. Plan of action

B. An abundance of employment and career options

C. Where to find work opportunities
   1. Use your contacts (new and old)
   2. The power of the web
   3. Industry specific publications, websites, career fairs, trade shows, job boards, networking, word of mouth, etc.

D. What are employers looking for?
   1. Qualified professionals
      a. Education
      b. Current and up to date
      c. Certifications
      d. Multiple skills
TAKE AWAY MESSAGES:
1. A well thought out, professional business card is still essential
2. When meeting someone for the first time, clearly articulate what your job is and what services you offer
3. Social media is one of the best tools available for finding employment

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E-mail: fred@fredhoffman.com
Facebook: www.facebook.com/fred.hoffman
Twitter: fredhoffmanfit
LinkedIn: www.linkedin.com/in/fredhoffman
ACSM’s Health & Fitness Summit  
March 12-15, 2013 – Las Vegas  

Global Trends in Worksite Health Promotion  

Wolf Kirsten  
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1. The International Association for Worksite Health Promotion (IAWHP) – Who are we?  
2. Presentation overview and objectives  
3. Global Disease and workplace trends  
4. The growing significance of worksite health promotion worldwide  
5. Business and health drivers for worksite health promotion in different countries  
6. Top wellness program offerings  
7. Fastest growing wellness program elements  
8. Tools and channels used to communicate wellness programs  
9. Measured outcomes and impact of worksite health promotion programs  
10. The World Health Organization Healthy Workplace Framework & the Global Healthy Workplace Awards  
11. Summary and conclusions  

Take away points:  
1. Varying business and health issues are driving worksite health promotion programs internationally (beyond health care costs).  
2. Specific cultural traits and nuances impact the implementation of workplace programs.
3. A growing number of employers have recognized key health challenges and developed business strategies to overcome these.

4. Evaluation of worksite health promotion programs is still lacking on a global scale and needs to be focused on more.
Optimal Nutrition for Strength Power Athletes

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I. Introduction

II. Presentation outline/objectives

III. Defining the Strength Power Athlete
   A. Sport
   B. Body Composition
   C. Seasonality
   D. Nutritional Needs
      1) Fuel
      2) Recovery
      3) Adaptation

IV. Kilocalories
   A. Common Intake
B. Need

V. Carbohydrate
   A. Common Intake
   B. Need
   C. Consequences of too little

VI. Fat
   A. Common Intake
   B. Need
   C. Consequences of too much

VII. Protein
   A. Common Intake
   B. Need

VIII. Water
   A. Hypohydration from sport
   B. Consequences of hypohydration

IX. Dietary Supplements
   A. Creatine Monohydrate
   B. Beta Alanine
   C. Sodium Bicarbonate

X. Four Take Away Messages
   A. Strength power athletes are very difficult to define
   B. Most strength power athletes achieve adequate kilocalorie and protein intake
   C. Some strength power athletes are overeating fat and underrating carbohydrate
D. Only a few dietary supplements may benefit strength power athletes

XI. Selected References


Summary: Aspiring young athletes need to participate in preparatory conditioning programs that are purposely designed to enhance their muscular strength and motor skill performance. In this lecture, the latest advances in training children and adolescents will be reviewed, common questions from parents will be answered, and program design considerations for developing age-related fitness programs for aspiring young athletes will be explored.

I. Introduction
   A. Trends in fitness conditioning and sports participation among children and adolescents
   B. Current public health recommendations
   C. Opportunities for the fitness industry

II. Secular trends in youth physical activity
   A. Are we in the midst of an “unfitness” epidemic among youth?
   B. Are contemporary youth prepared for sports practice and competition?

III. FUNdamental Integrative Training (FIT) for aspiring youth athletes
   A. Health and skill-related fitness components: Integrate don’t isolate
   B. Importance of developing muscular strength and motor skills
   C. The hypothetical “proficiency barrier”
   D. “Exercise deficit disorder” in youth: Play now or pay later

IV. Exercise is Sports Medicine
   A. Thoughts from the International Olympic Committee
   B. The vortex of physical inactivity during childhood and adolescence
   C. Strategies for reducing sports-related injuries in young athletes
   D. Modifiable risk factors associated with training in youth
V. Resistance Training for Young Athletes

A. Why lift? Scientific evidence and clinical impressions

B. Keys to success:
   1. Qualified instruction
   2. Safe environment
   3. Technique-based progression

C. Program design considerations
   1. Youth resistance training program variables
   2. Periodization and program progression
   3. Value less intense training (L.I.T) sessions
   4. Importance of dynamic movement preparation
   5. Strategies for keeping the fun in fitness
   6. Tips for successful youth programs

VI. The Coaches Eye

A. Muscular fitness
B. Skill development
C. Effective teaching
   1. Learning
   2. Assessment
   3. Reflection
D. Mental engagement
   1. Mindset
   2. Attitude
   3. Enjoyment

VI. The Expanding Role of the Pediatric Exercise Scientist

A. Activating inactive youth
B. Who is a pediatric exercise scientist?
VII. Common Questions from Parents

A. At what age can my child start to lift weights?
B. Should my child play only one sport or different sports?
C. My child is active during sports practice...right?
D. What are the characteristics of a good youth fitness class?
E. What should I look for in a youth fitness coach?

VIII. Four Take Away Messages

A. A growing number of contemporary youth are ill-prepared for the demands of sports practice and competition and the fitness industry is in an inimitable position to have a positive influence on this trend.

B. Qualified health and fitness professionals should consider physical inactivity during the growing years a modifiable risk factor that should be identified and “treated.”

C. FUNdamental Integrative Training (FIT) can enhance both health- and skill-related components of physical fitness while reducing the risk of sports-related injuries in young athletes.

D. In addition to enhancing muscle strength and improving motor skill performance, health and fitness professionals should consider the critical importance of effective teaching and mental engagement when working with children and adolescents

IX. Selected References

Exercise is Medicine (EIM) on Campus

Presenters: Dr. Len Kravitz; Dr. Carol Kennedy-Armbruster, Dr. Mary E. Sanders & Dr. Dixie Stanforth

I. Introduction of Panel – Dr. Len Kravitz

II. Four Take-Away Messages
   A. Provide university professionals and interested allied professionals with an opportunity to learn what other universities are doing to promote physical activity through EIM on campus.
   B. Learn from faculty within four major universities (University of New Mexico, Indiana University, University Reno, University of Texas) initiatives on their campus’s
   C. Discuss and hear ideas for funding sources on campus for EIM service contracts.
   D. Hear ideas and/or share your own idea from other campus EIM initiatives.

III. EIM at University New Mexico and other Universities – Dr. Len Kravitz
   A. Example initiatives at UNM through the Exercise Science program
   B. EIM on Campus ideas from other universities

IV. EIM at Indiana University – Dr. Carol Kennedy-Armbruster
   A. Discussion on finding funding resources on campus and externally to sustain EIM
   B. IU Navy SHAPE Service Contract: http://www.navyfitness.org/shape/
   C. Healthy IU Service Contract: http://www.iu.edu/~welliu/
   D. Recreational Sports as EIM: http://www.iurecsports.org/

V. EIM at University of Texas/Austin – Dr. Dixie Stanforth
   A. Fitness Institute of Texas: http://www.edb.utexas.edu/fit/
   B. Division of Housing and Food Service Wellness Initiative http://www.utexas.edu/student/housing/index.php?site=24&scode=0&id=3300
   C. Recreational Sports: http://www.utrecsports.org/
VI. EIM at University of Nevada/Reno & Clinical examples of EIM – Dr. Mary E. Sanders

A. Student Services Health Education:
  http://www.unr.edu/shc/services/Health-Education.html

Campus Wellness and Recreation:  http://www.unr.edu/campusrec,

ACSM’s Health & Fitness Journal articles: Pedometer Trekking with Expedition N-ergy, 2009; Extreme Conditioning on Campus, Cracking Open a University Box, 2012.

Article links expire 5/1/13: Go to http://www.acsm.org/ click on “Topical Collections,” then on “Exercise is Medicine on Campus.”

B. Campus Medical School Interdisciplinary Clinical practice:
  http://www.medicine.nevada.edu/weightmanagement/

C. ACSM affiliate, Clinical Exercise Physiology Association (CEPA):
  www.acsm-cepa.org

VII. Sharing from the audience of EIM initiatives on campus.
Despite many advances to improve fitness safety in the industry, the number of injuries associated with fitness activities continues to increase each year. After an injury occurs, injured parties do not hesitate to file a negligence claim or lawsuit against fitness professionals and/or facilities. Several defenses are available to refute (or defend) negligence claims such as the Primary Assumption of Risk defense and the Waiver defense. It is important to understand under what circumstances these defenses work and don’t work. Case law examples will be described to help demonstrate the distinction between these two defenses and the specific protection they each provide. Participants will receive a free poster—the Risk Management Pyramid—that depicts the many defenses that can provide protection against negligence.

I. Injury Data
   a. CDC -- National Center for Injury Prevention and Control
   b. U.S. Consumer Product Safety Commission (CPSC)
      i. National Electronic Injury Surveillance System (NEISS)
      ii. Weight Training-Related Injuries – NEISS
   c. Examples of injuries incurred by plaintiffs in negligence lawsuits

II. Causes of Injuries from a Legal Perspective
   a. Inherent risks
   b. Negligence
      i. Ordinary
      ii. Gross, willful/wanton conduct, reckless conduct
   c. Product defects/product liability

III. Brief Overview of Negligence
   a. Definition
   b. Four elements the plaintiff has to prove

IV. Areas of Potential Legal Liability that Expose Fitness Personnel/Facilities to Negligence

V. Defenses that Defendants have Available to Refute (or Defend) Negligence Claims
   a. BEST DEFENSE – Do not breach your duties
   b. Assumption of risk
   c. Waiver (prospective release)
   d. Comparative or contributory negligence
   e. Immunity
   f. Statutes of limitations
   g. Product defects/product liability

NOTE: Defenses that will not work in a court of law: (a) not enough staff (b) takes too much time, (c) costs too much, and (d) that’s how other facilities do things

VI. Primary Assumption of Risk Defense
   a. Definition
   b. A defense that is used for injuries due to “inherent” risks
   c. Requirements for it to be an effective defense

VII. Waiver Defense
   a. Definition
   b. A defense that is used for injuries due to “ordinary” negligence
   c. Requirements for it to be an effective defense
      i. Exculpatory language that absolves the defendant of its own negligence
      ii. Public policy issues
Take Away Points -- Participants attending this session will be able to:
1. Distinguish injuries due to inherent risks and negligence.
2. Describe the primary assumption of risk and waiver defenses and under what circumstances they are effective in protecting defendants.
3. Understand the application of the primary assumption and waiver defenses using case law examples.

INJURY DATA
National Center for Injury Prevention and Control: About 11,000 persons per day receive treatment in U.S. Emergency Departments for injuries sustained during sport, recreation, and exercise activities. Injuries are a major reason individuals stop participating in physical activity. The Center has several research goals including identifying ways to minimize injury risks among people who are beginning or increasing physical activity (1).

U.S. Consumer Product Safety Commission – NEISS Data: Between 2007 and 2009, the number of injuries (U.S. hospital emergency room data) increased by 41%, 19%, and 23% for exercise activities (a) without equipment, (b) with weightlifting equipment, and (c) with other exercise equipment, respectively (2). Based on NEISS data, number of weight lifting injuries from 1990 -2007 was estimated at 970,810 (3). This study also analyzed the types of injuries by body region. Another NEISS study estimated hemorrhages/strokes due to soaring blood pressures during weight lifting to be 1,287 from 2002-2010 (4). The Valsalva maneuver can be avoided by proper breathing and not holding one’s breath.

Examples of Injuries Incurred by Plaintiffs in Negligence Lawsuits: Cardiac arrest, stroke, fractured bones, serious back/neck injuries, crushed trachea, rhabdomyolysis, and deaths due to head injuries, cardiac arrest, and stroke

CAUSES OF INJURIES FROM A LEGAL PERSPECTIVE (5)
Inherent Risks -- no one’s fault; they just happen (inseparable from the activity)
Ordinary Negligence -- the fault of the participant (e.g., misuse of exercise equipment) and/or the fault of the facility personnel (e.g., failure to meet the standard of care due to “careless” conduct – omission or commission)
Gross Negligence -- also referred to as willful/wanton conduct, reckless conduct
Product Defects/Product Liability -- the fault of the manufacturer due to some type of defect in the product, e.g., exercise equipment

BRIEF OVERVIEW OF NEGLIGENCE (5)
Definition: Negligence is “failing to do something” that a reasonable, prudent professional would have done or “doing something” that a reasonable, prudent professional would not have done, given the same or similar circumstance. Negligent conduct is “careless” conduct – either by omission (failure to perform) or commission (improper performance).
Four elements that the plaintiff must prove to win his/her negligence lawsuit
1. Duty – the duty or standard of care the defendant (health/fitness professional and/or facility) owes to the plaintiff (injured party)
2. Breach of duty – the defendant’s conduct did not meet the standard of care
3. Causation – the breach of duty was the “cause” of the plaintiff’s injury
4. Harm/damages – the harm that occurred to the plaintiff resulting in damages (losses) to the plaintiff

AREAS OF POTENTIAL LEGAL LIABILITY THAT EXPOSE FITNESS PERSONNEL/FACILITIES TO NEGLIGENCE
Each of the following represents an area in which numerous legal liability exposures exist in health/fitness programs and facilities (1) Employment issues, (2) Pre-activity health screening, (3) Health/fitness assessment and prescription. (4) Instruction and supervision, (5) Exercise equipment, (6) Facility issues, and (7) Medical emergency action plans (EAPs). Many potential legal duties exist in each of the 7 areas.
COMMONLY USED DEFENSES THAT WORK – PRIMARY ASSUMPTION OF RISK & WAIVERS

Primary Assumption of Risk (PAR) – a defense that can be used for injuries/deaths due to “inherent” risks – a participant must know, understand, and appreciate the inherent risks associated with the activity and voluntarily assumes those risks. Generally, the law does not allow plaintiffs to recover damages for risks they assume. Factors that courts will consider to determine if this defense works: (a) nature of the activity, e.g., sports/recreation vs. fitness, (b) experience of the plaintiff, e.g., novice vs. expert, and (c) cause of the injury/death, i.e., inherent risks or negligence.

Waiver – a contract (prospective release) signed by an individual prior to participation that contains exculpatory language that absolves the defendants (e.g., fitness personnel and facilities) from their own “ordinary” negligence. A variety of factors must be considered in order for the waiver to be enforceable. Waivers are not enforceable in certain states based on statutes or public policy issues.

CASE LAW EXAMPLES

Rutnik (6) – Racquetball player dies of a cardiac arrest during a tournament – the PAR defense was effective in protecting the defendants because he was an “experienced” player and therefore knew, understood, and appreciated the inherent risks associated with participation in a vigorous sport including cardiac arrest/death.

Corrigan (7) – Plaintiff (novice) fell off a treadmill and injured her ankle -- her personal trainer did not instruct or supervise her. The PAR defense was not effective because of the negligence of the trainer and because the court stated that fitness activities are not considered sporting activities in which the PAR defense would likely apply.

Santana (8) – Plaintiff fell during a step class and fractured her foot – the PAR defense was not effective in protecting the defendants because the instructor increased the risks over and above those inherent in a step aerobics class. The waiver defense was not effective either because the court did not approve of the exculpatory language appearing on the back side of a membership application document in small font.

Stelluti (9) – Plaintiff was injured during a spinning class and claimed the instructor was negligent. The New Jersey Supreme Court ruled that the waiver protected the defendants from their own negligence. However, two dissenting judges provided their opinions about waivers, e.g., they encourage a lack of care.

Roer (10) – Plaintiff was injured when he fell off a treadmill caused by an exercise ball getting sucked under the belt propelling the treadmill forward several feet. The waiver did not protect the defendants from their own negligence – it did not contain proper exculpatory language and even if it did, it would not be allowable under a NY statute that prohibits waivers.

RESOURCES and the RISK MANAGEMENT PYRAMID

Resources -- to learn how to incorporate the primary assumption of risk and waiver defenses

Risk Management Pyramid – free poster depicting 7 lines of defense to help protect against negligence

References

ACSM Health & Fitness Summit
March 12-15, 2013

BRANDING EXERCISE

Heather Marie Wilson
Consultant / Facilitator / Author
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BIO: Heather Marie Wilson, a 20+ year integrated marketing strategist with a specialty in multi-channel marketing, has experience working for Fortune 500 companies as the Director of Multi-Channel Marketing for The Home Depot and also as a consultant for many leading agencies developing marketing strategies for top brands in the US and globally. She holds an MBA from Emory’s Goizueta School of Business and a B.S. from the University of Massachusetts, Amherst where she also studied Exercise Science. She believes that we all have the opportunity to improve our lives and the world and wrote Seeds of Freedom: Cultivating a Life that Matters (Hay House), a memoir and personal development guide, to help others cultivate their own power. Her passions include meditation, traveling, and being outside and is touring the US in a vintage Airstream trailer this summer. www.heathermariewilson.com

DESCRIPTION: We will explore the question, “How can we drive exercise behavior change when a sedentary lifestyle is embedded in our culture?” and share real insights into why women don’t like the word “exercise.” Learn the most effective ways to brand exercise and transform the way you communicate with your clients.

OBJECTIVES: The objectives of this session are:
1. Provide a background of branding, why it is important and how it can help a business thrive
2. Explore the question, “How can a health initiative drive exercise behavior change when a sedentary lifestyle is embedded in our culture?”
3. Share strategies how to integrate information about the target audience into your brand

TARGET AUDIENCE: This presentation is geared toward Fitness Professionals that are responsible for communicating their message about exercise to potential and existing customers.

PRESENTATION OUTLINE

I. INTRODUCTION
   A. Welcome
   B. Ask audience what they want to achieve from this presentation
   C. Presentation outline/objectives

II. WHAT IS BRANDING?
   A. The definition of branding
   B. Why branding is important
   C. Examples of good brands
   D. Explain how branding is used
III. THE TARGET AUDIENCE

A. Who is your target exercise (will ask group to answer questions about their target audience)

B. What we found out about women ages 25-55
   1. General information about health-related decisions
   2. Desired Benefits
   3. Differentiating Behaviors
   4. Biggest Barriers

C. Need to know and understand your customers

IV. THE BIG QUESTION & THE REAL ANSWERS

A. **Question**: How can a health initiative drive exercise behavior change when a sedentary lifestyle is embedded in our culture?

B. **Discussion**: What do you think we can do to answer this question?

C. Key Insights from experts in behavior change
   1. Individuals want to be **empowered**
   2. Exercise motivation is strongly linked to **self-esteem**
   3. The decision to exercise is **emotional**
   4. Exercise improves **quality of life**
   5. We need to **rebrand exercise as a gift**
   6. We need to move **exercise up the priorities list**
   7. Exercise needs to become **part of the self-identity**

D. Target Consumer Survey
   1. Improved quality of life in the form of **stress relief and feeling happier** are two of the top 4 motivators of exercise
   2. **Lack of time and other priorities** are two of the top three barriers to exercise in our target
   3. Among those who currently exercise, **being healthier is the primary motivator** to remain physically active
   4. Our target reports that their **friends are their primary source of health information**
   5. Our target most commonly associates “exercise” with being **healthy but hard**

E. Consumer Database Findings
   1. 76% of our target says they are “always looking for a way to lead a healthier life”
   2. Our target is **more likely to be in contact with their doctor** than the general population, including their GP, Dentist, and GYN
   3. They are **50% more likely than the general population to give healthcare advice** to their friends and family
   4. The more our target exercises, the more **empowered they feel to be advocates** of healthcare and an active lifestyle

F. Key Insights
   1. Our target is **increasingly stressed**, a trend that is leaving them **more frustrated and less happy**
2. Our target perceives exercise to be hard and cites lack of energy as a primary obstacle.
3. Our target knows that exercising is a part of being healthy and is interested in maintaining their current health.
4. Our target is incredibly busy and has other priorities that are more important.
5. Our target is very concerned about their weight and appearance.

V. WHAT DOES THIS MEAN FOR YOUR BUSINESS? STRATEGIES TO INTEGRATE THIS INFORMATION INTO YOUR BRAND

A. Branding Exercise Shifts – will discuss each of these with the audience
   1. From masculine (doing) to feminine (being)
   2. From guilt to encouragement
   3. Focus on happiness, empowerment, and quality of life
   4. Demonstrate how exercise can give them more energy to live a better life
   5. Emphasize how exercise can help them gain more control and empowerment in their lives

B. It’s about transforming the way you communicate
   1. Have a conversation or a dialogue; not a one-way conversation
   2. Uncover the real “block” to exercise and help them through with ease, flow, and harmony
   3. Be authentic and honest
   4. Create an atmosphere of trust and safety
   5. Create small manageable goals

C. Discussion/exercise how audience would do this for their individual brands (depends on time)

VI. TAKE-AWAY MESSAGES

A. Good branding can help a company build its reputation and a connection with customers.
B. Understanding your target audience is critical when building and communicating your brand; Listen to your customers.
C. Most importantly, be authentic and honest in all your communications/interactions with your customer and understand that integrating exercise into a person’s life is more than discipline and time-management.
The Secret to Fitness is in the Bedroom – Sleep!

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Four Take Away Messages:
1) Define what healthy sleep is and how many hours are needed for optimal health and fitness.
2) Evaluate the risks of poor sleep and lack of sleep relating to being overweight and unhealthy eating habits.
3) Discover the benefits of proper sleep for improved fitness, weight loss, and sports performance.
4) Identify the key components of counseling clients to improve their sleep.

Introduction

Sleep has been called an athlete’s steroid. The forgotten component of fitness is without a doubt sleep. When our clients get proper sleep, they are healthy and fit. When they don’t get proper sleep, their health and fitness suffer. There is compelling evidence that chronic lack of sleep can alter hormones in the blood that control appetite and promote weight gain (Chamorro, et al, 2011, Chaput, et al, 2012, Knutson, 2012, Kobayashi, et al, 2012). Research indicates that poor sleep, or a lack of sleep, increases signals to the brain to eat, and decreases signals telling the brain we’ve eaten enough. The culprit is the hormone cortisol, which increases cravings for high fat “comfort” foods.

The Merriam-Webster dictionary defines sleep as “the natural periodic suspension of consciousness during which the powers of the body are restored.” Most adults need seven to nine hours of uninterrupted sleep per night. Moreover, when athletes get proper or increased sleep, their performance can improve (Mah, et al, 2011). Most likely, this can be carried over our fitness clients. Cheri Mah, a researcher in the Stanford Sleep Disorders Clinic and Research Laboratory is quoted on the Stanford University Medical School web site, “sleep is an important factor in peak athletic performance,” “athletes may be able to optimize training and competition outcomes by identifying strategies to maximize the benefits of sleep.” One of the primary reasons performance, and probably fitness, can improve is because during deep sleep, our bodies release human growth hormone, which stimulates the healing and growth of muscle and bone. As such proper sleep helps athletes and fitness in two ways: 1) it boosts performance due to improved cognitive function, reaction time, and hand-eye coordination, and 2) it aids recovery from tough games and workouts.

Overview of Healthy Sleep

- 5 stages of sleep: 1) light sleep, begin to lose muscle tone, muscle twitches, loss of self awareness, 2) loss of nearly all muscle tone, a light dreamless sleep, we spend half our sleep in Stage 2, 3) beginning of deep sleep, 4) deepest kind of slow wave sleep, replenishes physical and mental energy, 5) Rapid Eye Movement (REM, because eyes dart back and forth) 25% of night, onset of dreaming, important to healthy brain functioning, provides energy to brain and body, creation of long-term memories.
- Our genes act as internal clocks and release hormones according to circadian rhythms, which are triggered by darkness and light and alternate over 24-hour periods.
- Proper sleep helps contribute to a healthy immune system.
- During stages 3 and 4 the body produces and secretes human growth hormone which helps maintain and repair muscle and cells and is key to improving fitness and sports performance.
- Most adults need 7 – 8 hours of healthy sleep each night whereas teens and school-aged children need around 9 - 11 hours.
Why Do We Sleep?
- Two primary theories of why we need sleep: 1) Restorative Theory - sleep restores what happens when we are awake, the brain integrates new information, organizes memory, and the body repairs nerve cells and tissues, and 2) Adaptive Theory - an evolutionary adaption that kept us away from predators while we were vulnerable at night, sleep may have evolved as an adaptive and protective function, ie: we searched for food during the day and hid at night for protection.

Importance of Sleep
- When Bracko doesn’t get enough sleep his face looks like an old boot, but this is just the tip of the iceberg as it relates to the other adverse effects of poor sleep.
- Poor sleep, or lack of sleep, causes impaired cognitive functions, and makes it difficult to perform the simplest of tasks and including difficulty remembering things. There is a link between sleep deprivation and many psychological disorders, including depression.
- Some of the most common symptoms of chronic poor sleep include: irritability, memory loss, high blood pressure, headaches, and muscle aches. A lack of sleep can also cause overall fatigue, and health conditions such as hypertension and diabetes.
- As this relates to our clients, it is difficult to improve fitness when experiencing the symptoms of poor sleep. How can our clients get a “bang on” work-out when they’re tired, irritable, have a headache, and fatigued? As such, if we know a client is not getting enough sleep or has impaired sleep, it is diligent for us to discuss how they can improve their sleep. When this is done, the client will see remarkable results from our work-outs.
- Human growth hormone (HGH), helps build and repair muscle mass, tissue and cells. It is secreted during stages 2 and 3 of sleep. Melatonin, a hormone that is released during the onset sleep until around 2:00 – 3:00am boosts immune function and helps fight infections.

Sleep, Obesity, and Health
- We might think that people who sleep less have more time to get more exercise and reduce the risk of being overweight. The reality is that reduced sleep time has been linked to an increased risk of being overweight or obese.
- Why? Sleep deprivation decreases levels of leptin, a satiety-promoting hormone (makes us feel full or satisfied after eating), and increases levels of ghrelin, an appetite-promoting hormone.
- There is compelling evidence that chronic lack of sleep can alter hormones in the blood that control appetite and promote weight gain (Chamorro, et al, 2011). Research indicates that chronic poor sleep, or a lack of sleep, increases signals to the brain to eat, and decreases signals telling the brain we’ve eaten enough. The culprit is the hormone cortisol, which increases cravings for high fat “comfort” foods.

Can Sleep Improve Fitness and Sports Performance
- Mah (2008) found that when college swimmers got extra sleep (10 hours per night for six to seven weeks) they swam a 15-meter sprint 0.51 seconds faster, reacted 0.15 seconds quicker off the start blocks, improved turn time by 0.10 seconds, and increased kick strokes by 5.0 kicks.
- Mah, et al (2011) found that when college basketball players extended their sleep to a minimum of 10 hours per night their performance on the following tests improved: faster timed sprint, shooting accuracy improved, free throw percentage increasing by 9%, and 3-point field goal percentage increasing. In
addition the subjects improved their scores on Psychomotor Vigilance Task (PVT), Epworth Sleepiness Scale (ESS) and Profile of Mood States improved with increased vigor and decreased fatigue subscales.

- During deep sleep, our bodies release human growth hormone, which stimulates the healing and growth of muscle and bone. As such proper sleep helps athletes and fitness in two ways: 1) it boosts performance due to improved cognitive function, reaction time, and hand-eye coordination, and 2) it aids recovery from tough games and workouts. A sure bet for our clients wanting the added advantage from their work-outs.

- By extension, our clients will get a better work-out because good sleep helps with productivity and concentration, increased energy, and improved mood.

**Tips to Help Our Clients Get Better Sleep**

- Limit caffeine, especially in the afternoon and evening.
- Limit alcohol, especially excessive consumption before bed.
- Try to quit smoking or tobacco because nicotine is a stimulant.
- Don’t use a computer, cell phone/hand held device 1.5 hours before bed, they stimulate the brain.
- Limit TV before bed.
- Decrease the temperature in the house or bedroom before and during sleep.
- Get lots of daylight, but avoid bright light before bedtime.
- Use the bed for sleeping and lovelmaking, and perhaps reading before sleep.
- Only nap 15 to 20 minutes in the early afternoon, if necessary
- Wind down late in the day.
- Get clients to complete a Sleep Diary.
- Eat three to four hours before bed, and avoid heavy meals.
- If you don’t fall asleep within 30 minutes, get out of bed and do something else until your body and mind feel tired.
- If you have trouble falling asleep, try meditation, listening to soothing music, a warm bath or other nighttime rituals that signal it’s time to sleep.

**References**

2013 ACSM Health & Fitness Summit

Trends and Opportunities in Worksite Health Promotion

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I. Introduction
   a. Presentation outline and objectives

II. What’s a trend…what’s a fad?
   a. What is the current state of the field?
   b. What is driving change in the field?
      i. The Patient Protection and Affordable Care Act
      ii. The Accountable Care Organization initiatives
      iii. The [leading] obesity epidemic
      iv. The [lagging] diabetes epidemic
      v. The overriding concerns about costs
         1. Medical care costs
         2. Productivity-related costs
      vi. Society’s rate of change

III. Identify key trends and opportunities in worksite health promotion
   a. Mega-trends
      i. BIG DATA
      ii. Use of innovative technologies
   b. What’s right and what works
      i. Evidenced-based guidelines
      ii. High touch or high tech
      iii. Self-directed or group
      iv. High cost versus low cost (what has greatest impact)
c. Program design alignment with successful outcomes
   i. Inspiring Incentives vs. Checklist Payouts
   ii. Opportunities that may come from the Patient Protection and Affordable Care Act
   iii. Health assessments and biometric screenings
   iv. Onsite/Online/Telephonic Interventions and Participant engagement
      1. Employees
      2. Spouses
   v. Program Integration
      1. Leveraging internal/external resources
      2. Focus on fitness, injury prevention and worker performance
      3. Linkage with Safety, EAP, training, etc.

d. Impact on overall costs and workforce performance is paramount
   i. Outcomes reporting
   ii. Program performance dashboards

IV. Preparing yourself to for the [near] future
   a. Learn how to position your skills and experiences to launch health/fitness programs and services for employers, hospitals and health plans
      i. Key attributes and suggested training / professional development
      ii. Global considerations
   b. Program accreditations
   c. Understand the key success factors in marketing your health/fitness programs
   d. Review of key program measures to document your program success and impact on the bottom line

V. Three Take-Away Messages
   a. Checklist to help you respond to the rapidly changing trends in the worksite health market
   b. Positioning and packaging solutions for small and large employers need to be aligned with their top concerns including cost reduction and worker performance
   a. Measure and report on progress and overall program performance
Clinical Integration as a Subversive Activity

Don L. Jones, Ph.D., ACSM-CPT
Jones of Orlando Consulting, Orlando, FL
E-mail: djones37@cfl.rr.com

Siene Freeman
Tri-City Wellness Center, Carlsbad, CA
E-mail: siene.freeman@clubone.com

I. Introduction
   a. Presentation outline/objectives

II. History of Clinical Integration
   a. Significant Milestones

III. “Three Key Questions” that physicians – and clinicians - want answered
   a. What can you do for my patient?
   b. What are you doing for my patient?
   c. What are the results of your actions?

IV. The Continuum of Care
   a. Approaching Wellness as a Team
   b. The importance of having appropriately certified staff members
   c. Transitioning of patients into the health club
   d. Presenting outcomes data
   e. Becoming a good community partner
   f. The “Wounded Warrior” project
   g. IHRSA’s “Joining Forces” Network

V. The Organization and Development of the CIA
   a. The “Clinical Integration Associates”
   b. Infiltrating the hospital clinical departments
   c. Winning hearts and minds of the physicians and clinicians
   d. The importance of Active Education and Lunch ‘n Learns
   e. Moving from treatment to transition

VI. Strategies used by others
   a. Brazil – Best Practice models in Sao Paulo and Rio de Janeiro
   b. The Integrated Practice Unit
   c. The Medical Fitness Association’s Facility Certification program
d. ACAC’s Community Health Model

e. Active Education Programs and Lunch ‘n Learns

VII. The “Exercise is Medicine” initiative

VIII. Three Take-Away Points

a. Communicate with Physicians and Nurses and other Clinicians – answer the three key questions

b. Infiltrate the various clinical departments with your staff and trainers

c. Join the “Exercise is Medicine” initiative

IX. Suggested References

- “Fitness RX – The Opportunity in Medical Fitness Centers” - Pamela Kufahl, Editor, Club Industry Magazine, June 2011
- “Medical Referrals: Is Your Facility Linked to the Health-Care Community” – Amanda Harris, M.Ed. - ACSM’s Health & Fitness Journal, Vol. 11/No. 6
- www.woundedwarriorproject.org
Using Assessment Results To Create Falls Prevention Exercise Programs

Dr. Christian Thompson
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University of San Francisco
Owner, Thompson Fitness Solutions, LLC
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Three Take Away Points

1. Attendees will learn why packaged falls prevention exercise programs have hit-or-miss results with patients/clients.

2. Attendees will learn how to evaluate clients/patients on three validated functional assessments of older adults. This evaluation will include both objective scoring and observation of movement quality.

3. Attendees will be given a Falls Prevention Program matrix to develop individualized falls prevention exercise programs from assessment results.

I. Setting the Table
   A. Three questions for the audience
      1. Who?
      2. What?
      3. How?
   B. Objectives for session

II. Introduction To The Problem
   A. Falls occurrence
      1. Frequency
      2. Medical consequences
      3. Health care costs
      4. Quality of life limitations
   B. Risk factors for falls
      1. Intrinsic & Extrinsic factors
      2. Why older adults are at elevated risk
   C. Evidence of exercise intervention effectiveness
      1. Studies that support exercise as an intervention strategy
2. Studies that do not support exercise as an intervention strategy
3. WHY DO RESULTS DIFFER SO OFTEN?

III. Individualizing A Falls Prevention Exercise Program
A. General strategy
   1. Utilize validated assessments
   2. Use objective score to determine norm-based functional level
   3. Use movement observations to determine relative strengths/weaknesses
   4. Combine to develop appropriate exercise program design
B. Objective scoring of assessment performance
   1. Functional Reach Test
   2. Timed Up-And-Go Test
   3. 30-second Chair Stand Test
   4. Norm-based scoring of individual clients/patients
C. Movement observation of assessment performance
   1. Comparison of two participants performing Timed Up-And-Go Test
   2. Basic motor control principle - developing list of task demands
   3. Functional Reach Test
   4. Timed Up-And-Go Test
   5. 30-second Chair Stand Test

IV. Translating Assessment Results To Program Design Components
A. Four domains of falls prevention exercise programs
   1. Joint mobility
   2. Sensory integration
   3. Muscle strength/muscle power
   4. Dynamic balance/gait enhancement
B. Falls Prevention Program matrix
C. Norm-based objective scores
   1. Determines starting level of difficulty in the FPP matrix
   2. Start with “Lowest Common Denominator” approach
D. Movement observations
   1. Determines selection of specific exercises in the FPP matrix
   2. Relative # of exercises for each domain
   3. Development of a truly individualized falls prevention exercise program

V. Sample Program Design Matrix With Specific Exercises
A. Participant #1
   1. Review of objective score and movement assessment
   2. Joint mobility exercise selection
   3. Muscle strength/muscle power exercise selection
   4. Dynamic balance/gait enhancement exercise selection
B. Participant #2
   1. Review of objective score and movement assessment
   2. Joint mobility exercise selection
   3. Muscle strength/muscle power exercise selection
   4. Dynamic balance/gait enhancement exercise selection

VI. Questions & Comments
This presentation will evaluate the role of protein and amino acids in adult health and physical performance, including repair and maintenance of skeletal muscle. Dr. Layman will review mechanisms for the actions of amino acids in metabolism and discuss the importance of quality, quantity and timing of protein intake with emphasis on branched-chain amino acid leucine in muscle development and energy metabolism. The talk will provide research evidence and application to athletes, weight management and aging as well as address questions regarding use of protein supplements.

Outline:

1. Overview of the controversy about macronutrient choices
   - How do we make choices about the balance of protein, carbohydrates and fats?

2. Benefits of protein-rich diets
   - Effects of protein on body composition, energy expenditure, satiety and glycemic regulations

3. Understanding protein and amino acid roles in metabolism
   - Amino acids as building blocks versus metabolic signals

4. Protein needs depend on protein quantity, quality and distribution
   - The quantity and quality of protein at individual meals are the keys to muscle health.

5. Applications of protein-rich diets for athletes, weight management and aging
   - Getting the balance of protein and carbohydrates correct for athletic performance and adult health.

Selected References:


SHAKTI: the experience

Lawrence Biscontini, MA
Mindful Movement Specialist, International Spa and Wellness Consultant
Mission: “wellness without walls™”

I. INTRODUCTIONS
1. Namaste! (“My inner peace salutes your inner light”) 
2. Gratitude
3. findlawrence.com, L’s Background & Biscontini Scholarship
4. Our Purpose Today: The purpose of Shakti is trifold:
   a. To give a work-in experience fusing mindbody disciplines
   b. To celebrate non-verbal loving communication
   c. To celebrate a year in music
5. Music: inspirations from the year in review
6. Resources:
7. Workshop/Masterclass
8. World Class Fitness Conference 2006, Moscow, Russia
9. MMVP
10. The 5 people to consider in every experience:
   1. Mom  
   2. Athlete  
   3. CNN News!  
   4. Blind  
   5. _____

II. THEORY
1. THE DEFINITION OF SHAKTI:
2. the purist’s task and the finger drill
3. Land: Ideal Mat Placements
4. Research: Neurolinguistic Programming (NLP) and books:
   “Communication” defined as “response you get regardless of intention” NLP says communication is only 7% words, 38% tone, and rest body language. “Teaching” defined as bringing about an independent change in behavior or thought.

5. Optional Practical drills with partners teaching silently.
   Partner Names: A + 1
   Skill 1: A teaches 1. Reverse.
   Skill 2: 1 teaches A. Reverse.
6. Types of Cues:
   B_____ R_____ A N_____ D S_____ M_____ A_____ S_____ H
   Skill 3: A teaches 1 INCLUDING 4 Maximum Cues Possible. Reverse.

THEME:
A. Yoga (stability): YOGA ALLIANCE
“Tension is where you THINK you should be; relaxation is where you are.”

B. Pilates (mobility: PILATES METHOD ALLIANCE
“All new ideas are revolutionary and when the theory responsible for them is proven through practical application…such revolutionary ideas simply cannot be ignored. They cannot be kept in the background”  JP

C. T’ai Chi/Chi Gong (ability): DR. TAI CHI
“He who needs the most can do the best with the least.” LT

D. Feldenkrais (awareness): ATTEMPTING ANY SERIES WITH EYES CLOSED
“Through awareness we can learn to move with astonishing lightness and freedom—at any age—and thereby improve our living circumstances, not only physically … but emotionally, intellectually, and spiritually.” Moshe Feldenkrais

E. Gyrating Disciplines (twisting)
“Strength and stability through contrast, joint mobility, sensory awareness, and breath integration.” Juliu Horvath

F. NIA (celebrating the human cycle): NIANOW.COM
Rooted in a somatic (body-based) approach to learning, Nia education is designed to allow students to develop and participate in their own way. The Body is used for exploration, discovery, and sensory-based experience. The Mind is used to focus, witness and direct attention. Emotion is used to create a personal connection to experience, and thus becomes a conduit of body-mind connection; Spirit (that which is unique to a person) is used to recognize personal power, foster self-healing and expand each person’s potential.
III. PRACTICAL
Teaching Suggestion for Each Song:
1. Establish breathing technique suggestion.
2. Set up stability.
3. Add mobility: teach the song including 8 Positions of the Body:
   - staples moves from pt and rehab: standing (biped, unilateral) 
   - kneeling, sitting, side-lying, prone, supine, plank, quadruped 
   - balance, triplanar, functional work 
   - attention to the lyrics where appropriate 
4. Address core.
5. Indicate where sensation occurs.
6. Conclude the song/track with your signature move.

Agenda Legend Key for reading Choreography:
- XS = ‘times’ of repetitions.
- Y = Yoga  P = Pilates  TC = T'ai Chi and Qi Gong
- G= Gyrating movements w/rotation  F = Feldenkrais
- (S) = slow   (F) = fast   R = Right   L= Left
- EQ = EQUIPMENT
- ROS = Repeat Other Side
- O/Re-= Regression (making a movement easier)
- O/PR = Progression (making a movement harder)
- MC = Motivational Cues
- MB = Mouth Breathing  NB = Nose Breathing
- NMB = Nose and Mouth Breathing

<table>
<thead>
<tr>
<th>TRACK</th>
<th>WHERE? DISCIPLINE</th>
<th>BREATHING</th>
<th>MUSIC &amp; MOVES</th>
</tr>
</thead>
</table>
| 1. "GOOD MORNING SUN" | STANDING YOGA VARIATIONS ON SUN SALUTATION | NB | SECTION A 
   1-8 Y CHAIR POSE  
   9-16 Y TABLE POSE  
   17-24 Y CHAIR POSE  
   25-32 Y MOUNTAIN POSE  
   CHORUS: UPWARD FACING DOG + PLANK  
   (O/Re: with Knees on floor)  
   ROS |

Summary:
Home-Work: 1. What is your current state of mind in music? What is your “year in music? 
2. Record Yourself 3 Times: 1. to watch, 2. to listen, 3. to feel 
3. Watch Cirque du Soleil 
4. Watch a mime/pantomime. 
5. Listen to a reading for the blind. 
6. Take a Zumba® class for the methodology of nonverbal cueing. 
7. Attend a class of almost anything for the blind.

Resources:

Final Take-Home Messages:
Synergy Circuit
Presented by Carol Murphy

Workshop Description: Using the stability ball, dumbbells, bar and body weight, this integrated strength workout aims to improve strength, balance, flexibility and function.

Objective:
I. Learn a workout that aims to develop a functionally fit body using easily accesible, ever-popular fitness equipment.
II. Understand the science and theory behind the class design.
III. Review safety guidelines, exercise technique and proper use of equipment.
IV. Gain practical experience.

What is function?
Four step exercise evaluation
1. ____________________________
2. ____________________________
3. ____________________________
4. ____________________________

Why a circuit?
• Produce Results
• Time efficient
• Combat boredom
• Versatile
• Creates connectedness (especially stations)
• Reduce risk of injury
• Increases exercise adherence

Circuit Class Design
• Time - primary goal is to be time efficient. Typically 45 minutes.
• Formula -
  • 8-20 reps in 30-45 sec
  • 40-60% of 1RM
  • minimal rest between exercise stations
  • 6-15 stations / exercises per circuit
  • repeat the circuit 2-3 times per session, if desired

• Format -
  • Unison
  • Station

• Focus -
  • Limited only by creativity, space and equipment
Segment One

CHEST PRESS / CRUNCH
ROW / STORK STANCE TRAIL LEG ON BALL
SIDE RAISE / ABDUCT LEG ON BALL
LUNGE - FORWARD / BACK + SERVING BICEPS

Segment Two

CHEST FLYE COMBO
LAT PULLOVER
INCLINE SHOULDER PRESS
BRIDGE HIP EXTENSION

Segment Three

PUSH UP COMBO (2 PUSH UPS 2 TUCK EXTEND)
BACK EXTENSION
SHOULDER PUSH UP - HANDS ON BALL
HIP ABDUCTION / SIDE CRUNCH (SIDE- LYING)
CRUNCHES -- REPEAT OTHER SIDE
SEL - LEG CURLS

Segment Four - Tubing
ONE ARM CHEST FLY - LOW TO HIGH
BENTOVER ROW
UPRIGHT ROW
SQUAT ABDUCT

Thank you for attending Synergy Circuit.
Available on Healthy Learning DVD
www.carolmurphy.com
Schwinn will be providing copies for the attendees and handing them out in the room onsite for Schwinn Cycling, Workshop and workout sessions. Thank you.
BOSU® Smart Feet Strong Body

Get strong and centered from the ground up in this unique workshop which uses the BOSU® Balance Trainer to strengthen your feet and ankles. Learn techniques to help improve posture and prevent kinetic chain injuries. Stimulating your feet on the unstable surface provided by the Balance Trainer will enhance proprioceptive awareness and reduce stress levels. Leave this workshop understanding the benefits of “barefoot training” as well as learning foot and leg conditioning routines which will transfer to disciplines such as yoga and Pilates. Learn how smart feet build a strong body!

Know What You’ve Got!

<table>
<thead>
<tr>
<th>TOE JAX</th>
<th>Great</th>
<th>Good</th>
<th>Needs Attention</th>
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<tbody>
<tr>
<td>Agility / Coordination</td>
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<th>TAPPER CHALLENGE</th>
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<table>
<thead>
<tr>
<th>Exercise &amp; Equipment</th>
<th>Execution</th>
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<tbody>
<tr>
<td>Toe-Up Walk Around (BT)</td>
<td>Heels are low near BT base, toes point up toward apex. Walk a full circle. Switch directions.</td>
</tr>
<tr>
<td>Toe-Down Walk Around (BT)</td>
<td>Toes point low near BT base, heels are closer to apex. Walk a full circle. Switch directions.</td>
</tr>
<tr>
<td>Toe Work (floor/BT)</td>
<td>Stand on floor, with one foot on apex of BT. -Plantar flex other foot – push dorsal foot into dome. -Dorsi flex foot and toes - push bottom of toes into dome.</td>
</tr>
<tr>
<td>Balance Plank (BT)</td>
<td>Plank with forefeet on BOSU®. Dorsi flex, then plantar flex.</td>
</tr>
<tr>
<td>Diamonds (BT)</td>
<td>Prone on apex of BT, head on fists on floor. Knees wide: heels touch, dorsi flex. Lift and lower legs.</td>
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## WALK THE LINE

<table>
<thead>
<tr>
<th>Exercise &amp; Equipment</th>
<th>Execution</th>
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<tbody>
<tr>
<td>Standing Alignment (floor)</td>
<td>Stand on floor, hands on hips, bend &amp; straighten knees, aligning knees over toes. Practice this exercise in both parallel and turnout.</td>
</tr>
<tr>
<td>Standing Quad Lift (BT)</td>
<td>Stand on BT apex, arms out for counterbalancing, one foot (toes) resting on BT. Bend and straighten the standing leg.</td>
</tr>
<tr>
<td>Standing Torso Twist → Squat with Torso Twist (floor &amp; BT)</td>
<td>Stand on BT with feet and knees together, engage adductors, extend arms wide, twist side to side slowly. Squat with alternate torso twists (elbow to opposite knee) while keeping knees aligned over toes.</td>
</tr>
<tr>
<td>Side Lying Sequence (BT)</td>
<td>Lay on side with BT under ribs, rest on elbow. Legs straight: 1) Top leg abduct &amp; hold: plantar flex, dorsi flex &amp; circle 2) Bottom leg lifts to scissor: plantar flex, dorsi flex</td>
</tr>
<tr>
<td>Dead Bug (BT)</td>
<td>Supine, back on BT, legs in table-top. plantar flex, dorsi flex &amp; circle</td>
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## LANDING GEAR

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<tr>
<th>Flexibility</th>
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## Exercise & Equipment

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<tr>
<td>Compressions (BT)</td>
<td>Feet hip distance, pedal feet and roll through the foot; begin at the heel. Keep feet connected to dome</td>
</tr>
<tr>
<td>Heels Up/ Toes Up (BT)</td>
<td>Split stride; tip weight forward &amp; back (dorsi &amp; plantar flexion)</td>
</tr>
<tr>
<td>Ankles In &amp; Out (BT)</td>
<td>Feet at hip distance: evert / invert at ankle</td>
</tr>
<tr>
<td>Side Squat with Heel Lift → Side Squat &amp; Explode (BT)</td>
<td>One foot on BT apex, toes front, squatting with one foot on the floor: toes front. Squat, lift and lower floor heel. Push-off (“1, 2”) Land (“1, 2”) Progress to explode &amp; land, progress to explode - hold at top, insole to inner leg - hold balance posture.</td>
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<tr>
<td>Exercise</td>
<td>Description</td>
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<tr>
<td>Lunge with Heel → Lunge &amp; Explode (BT)</td>
<td>One foot on apex of BT, toes front. Other leg is behind, toes front. Lunge low and push off forefoot, stay close to floor. Progress push-off forefoot into standing balance position.</td>
</tr>
<tr>
<td>Walking Stairs &amp; Lift (BT)</td>
<td>Begin standing on apex of BT. Step down off front, land on forefoot, then heel (“1,2”). Allow ankle, knee, hip flexion of both legs. Explode (push-off) of forefoot – hold at top, insole to inner leg – hold balance.</td>
</tr>
<tr>
<td>Double Bounce: Close &amp; Wide (BT)</td>
<td>Double bounce on BT, focus on landings: toes pointed front, land on forefoot, then heel (“1,2”). Allow ankle, knee, hip flexion of both legs.</td>
</tr>
<tr>
<td>Double Jump (Floor)</td>
<td>Double bounce on floor, focus on landings: toes pointed front, land on forefoot, then heel (“1,2”). Allow ankle, knee, hip flexion of both legs. Explode (push) off of forefoot, and off-load weight (stay “light”) by core bracing and full-body compliance.</td>
</tr>
<tr>
<td>Smart-Foot Running (BT &amp; Floor)</td>
<td>Jog on top of BT, focus on landing forefoot first, and off-loading weight (stay “light”) by core bracing and full-body compliance. Feet should remain beneath hips. Repeat this exercise on the floor.</td>
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**MY PARTY TRICK**

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<th>Execution</th>
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**BOSU® Training Exercise:**

Find us on Facebook at “The Official BOSU® Fan Page”

Follow us on Twitter @BOSUFitness
TRX will be providing attendees with access to session materials onsite.
I. Introduction

A. Objectives

- Define lifestyle medicine
- Review the history of lifestyle medicine
- Discuss the current state of lifestyle medicine
- Outline future challenges and opportunities for health and fitness professionals in lifestyle medicine

B. Lifestyle medicine

- Overwhelming body of scientific and medical evidence
- Lifestyle choices and practices influence short and long term health and quality of life

C. Behaviors effecting health

- Nutrition practices
- Physical activity status
- Weight status
- Tobacco use, particularly cigarette smoking

D. The problem

- How many can say yes?
  - I don’t smoke
  - I accumulate at least 30 minutes of moderate to brisk physical activity on 5 or more days a week
  - My BMI is 25 or lower
  - I eat 5-9 servings of fruits and vegetables daily
  - If female, I drink up to one serving of alcohol daily, but not more
  - If male, I drink up to two servings of alcohol daily, but not more

- The opportunity
  - Nurses Health Study data
  - Health Professionals Follow-up Study data
Coronary death rates in men and women
Ideal cardiovascular health

E. Risk factors for mortality

- Seven out of ten risk factors for mortality related to diet and physical activity practices
  - High blood pressure
  - Overweight and obesity
  - High blood glucose level
  - Physical inactivity
  - High cholesterol levels
  - Low fruit and vegetable intake
  - Alcohol use

F. Results in the United States

- A "perfect storm" for bad health

G. The role of lifestyle medicine to help reverse these trends

H. Lifestyle choices are complex, interrelated behaviors

- Nutrition
- Physical activity
- Weight management
- Mind/body wellness

I. The American College of Sports Medicine shares this mission

II. A Timeline of Advances in Lifestyle Medicine

III. Background, Vision and Commitment of Rippe Health and Rippe Lifestyle Institute

IV. Authoritative Guidelines Emphasize the Role of Lifestyle in Good Health

- Guidelines from American Heart Association, Institute of Medicine, American Academy of Pediatrics, etc.

B. Cornerstone principles of lifestyle medicine

V. The Challenge: Translating Guidelines (the "ideal") into Individual Behavior (the "real")

A. Putting principles into action is the overarching objective of lifestyle medicine, but also the challenge

- Food is not food until it is eaten
- A behavior is not a behavior until it is adopted
- How often should you exercise?
VI. America Has Been Slow to Change
   A. Our lifestyle practices account to 70-80% of all mortality
      • “We have met the enemy and he is us” (Pogo)

VII. Influencing Factors on Behavior
    A. Individual
    B. Social/family
    C. Community environments
    D. Macro-public health environment

VIII. Strategies Emphasizing Implementation: Moving From “What” to “How”
    A. Address patterns of behavior
    B. Use behavioral medicine
    C. Strategy
       • Be aware
       • Be intentional
    D. Leverage the latest research
    E. Strategy: model healthful behaviors
    F. Focus on quality
    G. Principles for fitness and health professionals
       • Passion
       • Preparation
       • Persistence
       • Performance

IX. Lifestyle Medicine: 30 Years is Just the Beginning

X. The Challenge Continues
I. Periodization
   A) Definition
   B) Linear Periodization
   C) Reverse Linear Periodization
   D) Non-Linear (Undulating) Periodization
   E) Research Findings

II. Training Loads
   A) Stimulating Loads
   B) Maintenance Loads
   C) Recovery Loads

III. Training Cycles
   A) Macrocycles
   B) Mesocycles
   C) Microcycles

III. How to Build a Periodized Program

IV. Examples of Periodized Programs

V. Other Training Points
   A) Systematization
   B) Progression

VI. Recovery
   A) Reestablishment of Homeostasis
   B) Adaptation
C) Factors Affecting Recovery
   i) training volume and intensity
   ii) nutrition & hydration
   iii) environment
   iv) stress
   v) level of cardiovascular fitness
   vi) other recovery strategies
ACSM Summit – Las Vegas 2013
Gastric Bypass Athlete: An Emerging Clientele
Nancy Clark MS RD CSSD
www.nancyclarkrd.com
Sports Nutrition Services, Boston, MA

I. Goals of session
   A. Increase awareness of the growing population of gastric bypass athletes who
      1. Aspire to be marathoners, triathletes, and century bike riders
      2. Become compulsive exercisers (walkers, “gym rats”)
   B. Address sports nutrition concerns of the gastric bypass athlete
      1. Help these novice athletes reach their athletic goals
      2. Keep these athletes safe and out of the medical tents!

II. Background: About 6% of GB patients become “highly active”

III. Standard nutrition advice for GB patients:
   A. Target 1,200-1,600 kcal/day in many small meals and snacks
   B. Eat slowly (30 minutes per meal)
   C. Do not drink when eating or for 30-60 minutes after eating
   D. Avoid concentrated sweets (to avoid dumping syndrome)
   E. Sip 8-12 oz. fluid each waking hour (~12 cups/day)
   F. Target 60 to 80 grams of protein per day
   G. Take vitamin and mineral supplements

IV. GB athletes confront many challenges:
   A. Standard challenges of a very low calorie diet:
      1. Fatigue, feel cold, mood changes, dry skin, hair loss
   B. Additional challenges for bypass athletes:
      a. Intolerance to certain foods (sugar/refined carbs)
      2. Dehydration
      3. Hypoglycemia
      4. Vitamin and mineral deficiency (iron, calcium)
      5. Biggest challenge: Dumping syndrome

V. GB athletes want to know:
   A. What should I weigh?
      1. Hard to determine an appropriate weight
         a. Distorted body image
b. Excess flesh
c. Unrealistic weight loss expectations

2. Focus on health, not weight

B. How much should I eat?
   1. Estimate energy needs of obese person using Mifflin-St. Jeor equations
   2. Appetite Increases with distance from surgery

C. Should I eat before I exercise?
   1. Fears about eating
   2. Learn through trial and error to find tolerable carbs

D. What should I eat during extended exercise?
   1. Learn through trial and error to find tolerable carbs
   2. Swishing: a “safe” fueling tactic?

E. How can I keep myself from getting dehydrated?
   1. Learn sweat rate
   2. Drink on a schedule
   3. Monitor urine
   4. Experiment with a variety of fluids to learn what is best tolerated
   5. Hyponatremia - a potential concern

F. Am I getting enough protein?
   1. Athletes require about 1.2-1.7 g Pro/kg

G. Do I need extra vitamins?
   1. Common nutritional deficiencies include iron, B-12, D

IV. Unanswered questions

A. What are the most effective fueling and hydration tactics/protocols--
   1. for GB patients less than one year post-surgery?
   2. for GB athletes 1 to 2 years post-surgery?
   3. for GB athletes more than two years post-surgery?

B. Carbohydrate needs: How much glycogen depletion occurs in GB patients--
   1. with low intensity exercise?
   2. with moderate intensity exercise?
   3. with high intensity exercise?

C. What are the sodium needs during endurance exercise for GN athletes?

D. Is anyone collecting data from medical tents?
V. Case study #1: Aspiring bike racer

“I want to race better as a cyclist. I now place in the top 70% at races. I want to lose 10 pounds to change my power to weight ratio, but I’ve hit a plateau.” ... “I’m not feeling right. I feel tired and run down. I’m getting cold sores and I’ve never had them before. I’m wondering if I’m not absorbing certain nutrients due to the bypass? Maybe I’m not eating enough protein?”

Teaching points:
--Food is fuel, not the “fattening” enemy
--The lightest athlete may not be the best athlete
--The cost of losing more weight might hurt his performance
--Perhaps his body is “good enough” the way it is?
--Is his fatigue related to iron-deficiency anemia?

VI. Case study #2: Ultra-distance runner and cyclist

“My fitness is no longer the issue with my performance. My limiting factor is nutrition. I have continued to treat food as a reward for my hard workouts.” ... “I have intense cravings for sweets. I’ve always loved to eat. Food has a magnetic pull.” ... “I knew my eating was wrong so I started tracking my food. I’m eating about 2,300 calories and am exercising vigorously at least 1 hour every day.” ... “My current eating plan is hard to maintain. I don’t want to white-knuckle my self through the rest of my life.”

Teaching points
• The purpose of exercise should be to train to improve performance, not to burn calories.
• Food should be consumed for fuel; what non-caloric ways could he reward himself?
• Hunger is physiological—and very powerful
• Would he be able to perform better at a higher weight if that meant being better fueled?
• Is this eating-style conducive to sustained fat loss?

VII. Time for questions and discussion
Lecture Outline
ACSM’s Health & Fitness Summit - April 12th – 15th, 2013

“Exercise and Cardiometabolic Health: Separate Yourself by Utilizing the Evidence”

James R. Churilla, Ph.D., MPH, RCEP, FACSM
Brooks College of Health
University of North Florida, Jacksonville, FL 32224
E-mail: j.churilla@unf.edu

Many health and fitness professionals are working with people with individual cardiometabolic risk factors or a clustering of cardiometabolic risk factors known as Metabolic Syndrome. This presents the health and fitness professional with what is often a missed opportunity to develop evidence-based exercise programs for individuals with cardiometabolic disorders that have been medically cleared to exercise independently. Regular physical activity, reducing sedentary behavior, higher levels of cardiorespiratory fitness, and maintaining desirable body weight are factors that have been shown to ameliorate many cardiometabolic health risks and reduce the risk of Metabolic Syndrome. New evidence on the favorable impact muscular strengthening activities may have on cardiometabolic health increases the breadth of tools health and fitness professionals can utilize in working with individuals with Metabolic Syndrome or any of the individual cardiometabolic risk factors defining the syndrome.

I. Welcome and Presentation Objectives

II. Chronic Conditions

Cardiometabolic disorders – Brief description of each
• Obesity
• Prehypertension and Hypertension
• Dyslipidemia
• Impaired fasting glucose/impaired glucose tolerance and diabetes
• Metabolic Syndrome

III. Obesity
• Briefly discuss the progression to obesity and the metabolic health risks along this progression.
• Illustrate to the health and fitness professional how and where along this progression continuum there are a plethora of opportunities to intervene.
• Illustrate the physical activity patterns of underweight, overweight, and obese individuals. Providing the fitness professional with surprising information regarding underweight adults.
• Muscular strengthening activities
• Recommendations and prescriptions

IV. Hypertension
• Briefly discuss the etiology of prehypertension and hypertension
  o 90-95% essential (no known cause) - 5-10% etiology is known
  o The stethoscope speaks…..
• Illustrate the JNC VII guidelines and briefly convey important numbers
  o Pre-hypertension - Stage 1 and Stage 2
• Muscular strengthening activities
• Recommendations and prescriptions

V. Dyslipidemia
• Briefly discuss the progression to dyslipidemia and the health risks along this progression.
• HDL-C – How exercise impacts this important component of dyslipidemia and what the values really mean.
  o <40 mg/dL in men
  o <50 mg/dL in women
• Triglycerides
  o ≥150 mg/dL
• Muscular strengthening activities
• Recommendations and prescriptions

VI. Diabetes
• Briefly discuss the progression to diabetes and the metabolic health risks along this progression.
  o Cardiovascular disease
  o Metabolic Syndrome
  o Type 2 Diabetes
• Illustrate to the health and fitness professional how and where along this progression continuum there are a plethora of opportunities to intervene and who are exercise responders and non-responders.
• Muscular strengthening activities
• Recommendations and prescriptions

VII. Metabolic Syndrome
• Exercise and Metabolic Syndrome - What works?
• What’s up with waist?
• Recommendations and prescriptions

VIII. Physical Activity/Exercise
• Leisure time physical activity (LTPA). LTSB?
• Sedentary time? Different than physical inactivity?
• Fitness

IX. Three Tips To Take Away And Implement In Your Job From This Presentation

• Following this presentation the health and fitness professional should have an optimal understanding of today’s most prevalent chronic cardiometabolic health disorders.
• Following this presentation the health and fitness professional should understand and be able to discuss with clients or patients the relationships between cardiometabolic health risks and physical activity, sedentary time, and fitness.
Following this presentation the health and fitness professional should know how to best prescribe physical activity and exercise, including muscular strengthening activities in individuals with cardiometabolic health disorders based on the most recent evidence and recommendations.

X. Selected References


Physical Activity Guidelines for Americans Midcourse Report:
Strategies to get youth moving: What works?

Shellie Y. Pfohl, MS
Executive Director, President’s Council on Fitness, Sports & Nutrition (PCFSN)
E-mail: Shellie.Pfohl@hhs.gov

I. Introduction of Physical Activity Guidelines for Americans (PAG) Midcourse Report
   a. Public health significance of increasing physical activity in youth
   b. Speak to the Report’s connection to PCFSN and the Office of Disease Prevention and Health Promotion (ODPHP)
   c. Acknowledge work of the PAG Midcourse Report Subcommittee
   d. Key points from the report
      i. Identifies interventions that can help increase physical activity in youth throughout the U.S.
      1. Builds on the 2008 PAG, but does not modify existing recommendations
      ii. 5 main settings
         1. School, preschool and childcare, community, family and home, and primary care
      iii. Most important findings from report
         1. School setting and opportunity for leadership to advance implementation
         2. Preschool and childcare
         3. Built environment

II. School setting
   a. Briefly introduce setting and sub-settings
   b. Key findings and specific strategies
      i. Multi-component school-based interventions
      ii. Physical education
   c. Implementation and next steps
      i. First Lady’s Let’s Move! initiative and desire to impact the school setting
         a. Let’s Move! Active Schools create active environments throughout the school day
            i. Includes physical education, before, during and after school opportunities, staff involvement, family & community engagement.
      ii. Partners involved
      iii. Simple 6 step process that provides recommended action items to increase physical activity opportunities
         a. Build Support
         b. Assess Your School
         c. Develop a Plan
         d. Explore Resources
         e. Take Action
f. Celebrate Success

III. Preschool and childcare setting
   a. Briefly introduce setting
      i. Importance of including this age group (3-5 years of age)
   b. Key findings and specific strategies
   c. Implementation and next steps

IV. Community setting
   a. Briefly introduce setting and sub-settings
   b. Key findings and specific strategies
      i. Built environment
   c. Implementation and next steps

V. Family and home setting
   a. Briefly introduce setting
   b. Opportunities for promoting physical activity in this setting

VI. Primary care setting
   a. Briefly introduce setting
   b. Opportunities for promoting physical activity in this setting

VII. Audience Q & A

VIII. Conclusion /Closing
   a. Summary of Q & A, key points, next steps

IX. Three Take-Away Messages
   a. The usefulness of the PAG in promoting physical activity to decision makers
   b. The importance of helping youth ages 3-17 be physically active on a daily basis and types of activities in a variety of settings that are beneficial to their growth and development
   c. Evidence-based strategies addressing the built environment, policies and legislation, programs, media, and education that can help American’s youth be more active

X. Selected References
I. Introductory Remarks
   A. Importance of planning your career
   B. Presentation outline/objectives

II. Career progression
    A. Create a Career Blue Print
       1. Setting: Health fitness, Clinical, Performance, Management
       2. People: Youth, Older Adults, Athletes, Deconditioned
       3. Work Tasks
       4. Values
       5. Travel
       6. Emotional
       7. Compensation
    B. Defining a path
       1. Setting goals
       2. Education
          a) Back to school – certificate or degree
          b) Continuing education - importance of strategic selections
       3. Certification
          a) Advanced certifications
b) Advanced credentials

III. Maximizing your value
   A. Teaching vs. Coaching
   B. Communication skills
   C. Identifying strengths and weaknesses
   D. Using research
      1. Products
      2. Programming
   E. Personal growth

IV. Business/Entrepreneurial Skills
   A. Getting started
   B. Business planning
   C. Finance
   D. Management
   E. Promotion & Marketing
      1. Internet
      2. Other applications
   F. Using Technology

V. Career Tidbits from a Wayward Wander

VI. Audience Discussion

VII. Selected References

   A. http://www.acsm.org/find-continuing-education/career-resources
   B. http://www.acsm.org/get-certified
   C. Potteiger, J.A. ACSM’s Introduction to Exercise Science. Baltimore, MD: Lippincott Williams & Wilkins, 2011
   D. 
You Built It, So Why Don’t They Come?  
Mary Kruse MS, ATC   President  
HealthSource Solutions, Minneapolis, MN  
marykruse@healthsource-solutions.com

Participation vs engagement  
• Participation: you do it  
• Engagement: you want to do it

Creating Engagement  
• Authentic connections, mutual respect  
• Strong healthy relationships  
• Manage expectations  
• Leaders set the example  
• Involve others in sharing a common vision  
• Build on strengths!

Programming to the unreachable  
1. Program to participant needs  
2. Program messages to reach each stage  
3. Program plans designed to engage  
4. Program outcomes to show change

1. Program to participant needs: Re-examining motives  
Whose program is it—yours, ours or theirs?  
• Who built it? Why?  
• What role did employees play?

Understanding the culture  
• Environment  
• Leadership/management  
• Unwritten rules  
• Expectations

Programming to, not at  
• What makes them tick?  
• What are barriers?  
• Seek out their goals

Is the model you chose, the right fit?  
• Traditional  
• Outcomes driven  
• 5 Pillars of Wellbeing  
• Blue Zones  
• Zero trends
2. Program messages to reach each stage
Weaving together theory and practice to reach all
- Stages of Readiness
- Learning preferences
- Intrinsic motivation

Adult Learning—adults want self management and control
- Adults learn at different rates and in different ways
- Adults want efficient use of their time
- Adults want to be active participants in learning
- Adults operate from problem solving mode and want practical solutions

Health Belief Model
- Aware and understand the risk/s
- Care about consequences
- Understand benefits
- Know the barriers

Prochaska’s Stages of Change
- Pre-contemplation/Contemplation
- Preparation
- Action
- Maintenance/Relapse

If we only offer programs to those in the action phase, we not only miss large portions of the population, we also ignore employees that have made change.

Creating Intrinsic Motivation
- Goals and rewards that are meaningful
- Learning/activities that are important
- Engage people in the change process
- Customize programs based on where individuals are at
- Change requires leaders to recognize, encourage and deepen their team’s insights

3. Programs designed to engage
What works: examining strategies?
Tools: online, paper, apps, seminars
Approach: social connection, groups, readiness, topics
Plan design: is your program designed to all levels of readiness and interests?

Program Ideas
- Too Tired to Move
- Personal Transformation
- Get in Shape to Hunt
- Stand up for Health
- Retire on $10 a day
- Park and Walk
- Parenting: Where’s the instruction manual?
- Balancing Life’s Stressors
- Shout outs
- Venison cook-off
Weaving into an annual plan
- Communication
- Programs
- Environment
- Relapse

Use Stages of Change to reach everyone
- Lay out annual calendar
- Cross check against stages
- Brainstorm holes

Have you reached past the action/maintenance people?
Are you making them come to you?

4. Program Outcomes

Evaluation: Asking the right questions, measuring both objective and subjective
- Participation
- Satisfaction
- Self efficacy
- Barriers
- Testimonials
- How can we support you?

Reaching the unreachable
What more have you done?
- Follow-up
- Expand your menu
- Address barriers
- Support confidence

Strategies to reach out
- Get in Touch
- Walk the talk
- Collaborate
- Know Barriers
- Show case success
- Capitalize on teachable moments

Celebrating Success: Do they know what has been achieved?
- Leadership
- Management
- Wellness committee
- Employees

Take Away Points:
- Program to your people
- Communicate to the pre-contemplator/contemplator and preparers
- Transition from wellness to wellbeing to engage the unreachable
Introduction and Overview

Critical Domains of a Brain Healthy Lifestyle: Physical Activity, Proper Nutrition, Stress Management, Socialization, Mental Stimulation, Spirituality

Review of the Anatomy & Physiology of the Brain
1. Lobes of the Brain
   a. Frontal
   b. Temporal
   c. Parietal
   d. Occipital
2. The Cerebellum
3. Limbic System
4. Neurons, Neurotransmitters, Neurotrophic Factors

Exercise for Brain Health!
1. Thirty Minutes of Moderate to Vigorous Aerobic Exercise
   a. Stimulates BDNF causing neurons to fire more efficiently
   b. Increases neurogenesis in the hippocampus
   c. Gets oxygen and glucose to the brain faster
   d. Repetitive gross motor movement strengthens dendritic branching
   e. Reduces obesity
   f. Balances brain chemicals, hormones and system functions

Research and Brain Boosters:

Optimizes Learning and Cognition Through the Lifespan
1. Exercise causes nerve cells to multiply, nerve connections to strengthen, protecting neurons from harm
2. Exercise increases neuronal connections
3. Exercise fuels the brain with oxygen and glucose
4. Exercise increases the number of capillaries surrounding the neurons
5. Exercise strengthens the cerebellum
6. Exercise strengthens the corpus callosum
7. Exercise increases levels of neurotransmitters dopamine, serotonin, norepinephrine, and neurotrophic factors like BDNF

Research and Brain Boosters:
Effectively Manage Stress, Anxiety, & Mood

1. Exercise and Stress
2. Exercise and Depression
3. Exercise and Anxiety

Research and Brain Boosters:

THREE TAKE HOME MESSAGES:
1. Exercise plays a vital role in brain health through the lifespan.
2. Exercise optimizes learning and cognition through the lifespan.
3. Exercise is a key component to managing stress, anxiety, and mood.


Friedland, R.P. et al. (2001). Patients with Alzheimer's disease have reduced activities in midlife compared with healthy control group members. Proceedings of the National Academy of Sciences. 98, 3440.


TRX For Everyone: How To Introduce Suspension Training To Your Clients

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Three Take Away Points

At the end of this workshop, attendees will be able to:

1. Overcome client fears and other barriers to adoption of the TRX.
2. Develop a research-proven senior fitness exercise program using the TRX.
3. Demonstrate, cue, and correct 1 exercise for each of the following exercise domains: joint mobility, muscle strength/muscle power, and dynamic balance/gait enhancement.

I. Introductions and Overview
   A. Arrangement of groups at TRX stations
   B. Three questions for the audience
      1. Use the TRX with clients/patients (or other ST systems)?
      2. Functional level of clients/patients?
      3. Issues/barriers with new clients concerning ST systems?
   C. Objectives for session

II. Rationale for Using TRX
   A. Principles of suspension training
      1. Stability principle
      2. Vector principle
      3. Practice and experiential time (5 mins)
   B. Benefits to novice and older clients
      1. Can unload body to reduce joint stress
      2. Can provide external balance support
      3. Practice and experiential time (5 mins)
   C. Evidence of TRX intervention effectiveness for novice exercisers
      1. Study at USF
2. Study findings

III. Introducing novice and older clients to the TRX
   A. N.A.P.S.M.R. cueing strategy
      1. N = Name of exercise
      2. A = Adjustment of TRX
      3. P = Position of body for exercise
      4. S = Starting position
      5. M = Movement of exercise
      6. R = Return to starting position
      7. Practice and experiential time (10 mins)
   B. Cueing strategies
      1. Visual - demonstration
      2. Verbal - individual exercise components
      3. Tactile - movement assistance & biofeedback
      4. Practice and experiential time (10 mins)
   C. Progression & regression guidance

IV. Novice & Older Exerciser TRX Program Design Components
   A. Joint Mobility
      1. Ankle Circles
      2. Hip Circles
      3. Shoulder Circles
      4. Ta-Da’s
      5. Practice and experiential time (10 mins)
   B. Muscle strength & Muscle Power
      1. Squat
      2. Row
      3. Chest Press
      4. Practice and experiential time (10 mins)
   C. Dynamic Balance & Gait Enhancement
      1. Multiplanar Lunge Patterns
      2. Side Steps
      3. Practice and experiential time (10 mins)

V. Questions & Comments
This session will present an effective method to train staff in providing great member service. It will review best practices and new training tools to improve member service among all staff and in all areas of your facility. Beginning with a philosophy that service is an attitude not a department and that it is everyone’s job, the training teaches how developing positive relationships with all members impact everything we do in health and fitness organizations. Staff will learn how service and mission come to life through people, not treadmills, fitness centers, or swimming pools. The learning objectives for this session are to: understand the power of positive relationships with members and its impact on retention; learn several new tools to improve member service in your facility; and learn ways to measure and track member satisfaction in fitness facilities.

Three take-aways
1. Understand how building relationships from the first encounter with potential members is critical to their satisfaction as a member
2. Learn a complete staff training program for member service
3. See member satisfaction from the perspective of potential and current members

I. Introduction and Overview
   1. Purpose
   2. Learning Objectives
   3. Principles for Success

II. S.M.A.R.T. Member Service Program
   1. S.M.A.R.T. Service Survey
   2. Member Service Performance Criteria

III. Standards for Service Success
   1. Membership Service Best Practices
      a. In-Person Inquires
      b. Telephone Inquiries

IV. Prospective Member Interview Process
   1. Interview Procedures
   2. Using the Interview Card

V. Secret Shopper Program
   1. Principles and Guidelines
   2. Case Study
VI. **Member Satisfaction**  
   1. Member Loyalty  
   2. Overview of Member Satisfaction  
   3. Measuring Member Satisfaction  

VII. **Handling Member Complaints**  
   1. Dealing with Complaints and Problem Solving  
   2. Ten Steps for Handling a Complaining Member  
   3. My Complaint Action Log  

VIII. **Closing**  
   1. Personal Commitment  
   2. Staff Pledge to Members  
   3. Evaluations  

**RESOURCES**  
4. “Relationships, Results, Retention, and Referrals”, Michael McDonald, 2012, Healthy Learning Publishers  
6. *YMCA Membership By Design*, 2001, YMCA of the USA
Ten Steps For Handling A Complaining Member

1. Say "I'm sorry." These should be the first words out of your mouth. It costs nothing. It isn't admitting fault. You're just sorry they are feeling inconvenienced. These are the most powerful words you can speak to a complaining member.

2. Honor their perspective. Even if their position is clearly off-base, their perspective is their reality and must be honored.

3. Don't get defensive. This will only make things worse for you and for them. Resist the urge to protect yourself.

4. Don't make excuses or argue. Nobody ever won an argument with a customer. Even if you "win" and prove you are right, we lose.

5. Fully understand the problem. Ask questions and repeat back what you think you've heard. Make sure everything is crystal clear.

6. Tell them what you're going to do next. Seeing you take immediate and logical action will help them feel their situation was handled competently.

7. Tell them when you'll get back to them. Don't leave them hanging and stressed about the problem. If they know exactly when you'll be getting back to them, they will feel their situation was handled well.

8. Thank them for bringing the concern to your attention right away. You especially want to do this with the little things, so they'll keep bringing them up, rather than silently going to the competition.

9. Resolve the problem quickly. Studies indicate that the faster you resolve problems, the less damage is done. Don't let issues sit unresolved.

10. Follow through and follow up. Make sure all residual emotions have been cleaned up.
ACSM Health & Fitness Summit  
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**ACSM's Guidelines for Exercise Testing and Prescription the Ninth Edition-A Preview**

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I. Introduction  
A. Presentation outline/objectives

II. The History of *ACSM’s Guidelines for Exercise Testing and Prescription* (GETP)  
A. Important facts  
   1. See Appendix A for *ACSM’s GETP* Chairs and Editors Since the First Edition

B. Reference texts  
   1. See Selected References VI.

III. The New Features and Content of *ACSM’s GETP, the Ninth Edition* (GETP 9)  
A. New Features  
   1. Introduce the editorial team, contributing authors & reviewers  
      a. See Appendix B for *ACSM’s GETP 9* contributing authors  
      b. See Appendix C for *ACSM’s GETP 9* reviewers  
   2. More strongly supports the public health message that all people should adopt a physically active lifestyle  
   3. Reduces the emphasis on the need for medical evaluation in healthy, asymptomatic persons  
   4. Emphasizes identifying those with known disease because they are at greatest risk for an exercise-related cardiac event
5. Introduces a New Chapter, Chapter 11 on Behavioral Theories and Strategies for Promoting Exercise

6. Includes summary boxes throughout to highlight important information, and take home messages and key online resources now conclude each chapter

7. Appendix A Common Medications is now authored by registered pharmacists from the University of Connecticut with clinical expertise in the pharmacology of medications likely to be used by patients and clients in exercise testing and programmatic settings

B. GETP 9 Content Overview

1. Section I: Health Risk Appraisal and Risk Assessment
   a. Chapter 1 Benefits and Risks Associated with Physical Activity
   b. Chapter 2 Preparticipation Health Screening

2. Section II: Exercise Testing
   a. Chapter 3 Preexercise Evaluation
   b. Chapter 4 Health-Related Physical Fitness Testing and Interpretation
   c. Chapter 5 Clinical Exercise Testing
   d. Chapter 6 Interpretation of Clinical Exercise Test Results

3. Section III: Exercise Prescription
   a. Chapter 7 General Principles of Exercise Prescription
   b. Chapter 8 Exercise Prescription for Healthy Populations With Special Considerations and Environmental Considerations
   c. Chapter 9 Exercise Prescription For Patients With Cardiovascular and Cerebrovascular Disease
   d. Chapter 10 Exercise Prescription for Populations With Other Chronic Diseases and Health Conditions
   e. Chapter 11 Behavioral Theories and Strategies for Promoting Exercise

4. Section IV: Appendices
   a. Appendix A Common Medications
b. Appendix B Medical Emergency Management  
c. Appendix C Electrocardiogram Interpretation  
d. Appendix D ACSM Certifications  
e. Appendix E Contributing Authors to the Previous Two Editions  

IV. Interact with the Authors  
A. Question and Answer Period  

V. Take Home Messages  
A. Learn about the history of ACSM’s GETP  
B. Become familiar with the new features and content of ACSM GETP 9  
C. Interact with the authors  
D. Access GETP 9 and certification information from  
   http://certification.acsm.org/get-certified  

VI. Selected References  
B. Committee on Certification and Registry Boards Candidate Handbook. V2.0- January 2006. Available from:  
Habit Making; Habit Breaking
by
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Habit: definition according to Webster's Dictionary: a) a thing done often and hence, usually, done easily; a practice or custom b) a pattern of action that is acquired and has become so automatic that it is difficult to break.

I. The Science of Habit Formation
A. Habits are chunked and are primarily formed in the basal ganglia of the brain. Chunking: the brain’s way of saving effort.
   • Some habits are performed unconsciously, as if the brain were on autopilot
   • Habits protect us from “decision fatigue” once a habit loop has been formed. This has advantages and disadvantages.
   • Habits never completely disappear once encoded into the brain.
   • Habits can emerge without our permission.
B. Characteristics of habits:
   • Often automatic
   • Usually emotionless
   • Situational
C. The partial reinforcement extinction effect: we learn to accept no rewards along with occasional, unexpected, and unpredictable rewards (e.g. slot machines, the 1 email out of 50 that is interesting). Variable-ratio intervals are powerful habit-makers.
D. 21 days to form a habit?
E. Habitual ways of behaving can be organized on a continuum

II. Marketing Strategies for Consumer Habit Formation
A. Create a craving: find a simple and obvious cue, a routine, and then, provide a clear reward
B. Particularly strong habits can produce addiction-like reactions—wanting evolves into obsessive craving, forcing our brains into autopilot

III. Changing (or Breaking) a Habit
A. A habit cannot be eradicated; it can only be replaced.
B. A habit is a formula our brain automatically follows: when I see CUE, I will do a ROUTINE in order to get a REWARD
C. Keep the old cue, deliver the old reward, but insert a new routine. Almost any behavior can be transformed if the cue and reward stay the same. The Golden Rule of habit change.
D. The process of habit change is well established, but that still doesn’t mean it’s easy. Real effort and determination are required. You must make a conscious decision to change. However, with time and effort, almost any habit can be reshaped.

E. Committing to change as part of a group is powerful and increases the odds of success. (Think AA).

F. Psychologists use habit reversal training: 1) develop an awareness of the bad habit, 2) learn a competing response

G. Awareness (mindfulness or living in the moment) is key at first, since many habits are unconscious

H. Suppressing thoughts and rigid behaviors usually backfire when trying to break a bad habit

I. Strategies for success:
   - Pre-commitment: making a hard decision when self-control is high.
   - If possible, change the context.
   - Use environmental interventions or reminders.
   - Use implementation intentions, a form of goal setting.

J. There are thousands of formulas for changing habits, depending on the individual and the specific habit. Each person’s habits are driven by different cravings.

K. A framework for habit change:
   1. identify the routine—what’s your loop?
   2. experiment with rewards
   3. isolate the cue (almost all habitual cues fit into the following: location, time, emotional state, other people, immediately preceding action)
   4. have a plan

IV. Making a New Habit

A. If you want to start a new habit (e.g. running each morning), you must choose a simple cue and a clear reward, and the cue must trigger a craving for the reward. Craving drives the habit loop (a 3-step loop with a cue, routine, and reward)

B. Have a plan to get the habit going.

C. Consider motivation: why do you want the new habit?

D. Goal-setting is important; use short-term goals to reach the long-term goal (process of shaping behavior).

E. The ideal time to establish a new habit is immediately after another habit has occurred (e.g. take out the trash after washing the dinner dishes, or flossing after brushing teeth)

F. WOOP strategy (wish, outcome, obstacle, plan)

G. Satisfaction with the new habit is key to keeping it going (if you don’t feel you’re getting anywhere, it’s hard to continue). The habit must eventually become intrinsically motivated and done for its own sake.
V. What about acquiring the Exercise/ Physical Activity Habit?
   A. The laziness habit is hard to break.
   B. Self-monitoring techniques have proven to be the most successful (e.g. pedometer use).
   C. Exercise is a hard habit to acquire because there’s no regular cue. It’s important to find the right slot in your day, the right type of exercise, the right location, and solutions for barriers—in order to make the habit stick.

**Good News**: understanding and working with the unconscious, automatic nature of habits can help people to make changes!

**Take-away Points:**
1. Identify negative triggers and have management strategies at the ready.
2. Work on one habit at a time and start small.
3. Adapt your habits individually to fit your lifestyle for maximum sustainability.

**References:**
* T.F. Heatherton’s work on willpower: [http://www.dartmouth.edu/~health/#Pubs](http://www.dartmouth.edu/~health/#Pubs).

**Resources:**
Body Image, Weight & Worth: Is There a Connection for Girls and Women?

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Body image, weight and self worth have a strong connection for most individuals, particularly women, and not necessarily in a positive way. How can health professionals develop a more empathic approach to working with clients no matter what size, shape, or amount of curve? This presentation will look at the overwhelming media, image and peer pressures that have added to the challenges for young as well as older women struggling to create and maintain a healthy vision of themselves and maintain a daily wellness practice. This presentation will introduce research findings and program strategies that integrate positive health attitudes and body image skill development for your existing clients and marketing ideas to reach out to your community.

Objectives:
The program will:
- provide a background of why learning to relate to your body in healthier ways is an important aspect of maintaining weight loss and should be addressed in every weight control program
- highlight the overwhelming pressure for girls and women to emulate a thin ideal body image
- describe how exercise motivation, eating and body image are predictors of weight control
- introduce body image and self esteem skills to enhance your existing wellness program offerings

3 Takeaways points-
1. There are connections between improvements in body image and positive changes in eating behavior
2. Poor body image and low self worth can affect any client irrespective of size, shape, age or fitness level
3. Developing intrinsic sources of motivation play an important role in long term weight management, positive body image indicators and overall well-being

Presentation Outline
I. Body image and self esteem (BI/SE) understanding the female experience  
   Societal mixed messages  
   “Ideal” images in media  
   Psychosocial influences  
   It’s all in the family: dealing with positive and negative family perceptions
II. Moving towards positive BI/SE
    Working with adolescents, women, seniors, men, and diverse populations
    Using positive psychology as a foundation
    Key coaching strategies
        Using wellness planning coaching tools

    BI/SE skill development (see 11 Body Image Skills)
        Practical applications
            “You have to do it yourself, and you can’t do it alone”

    Intrapersonal (knowledge, attitudes, values, skills, behavior, self-concept)
        Understanding the SPECIES model- start with wellness!
            (social, physical, emotional, career, intellectual, environmental, spiritual)
        Mastery living experiences
        Positive psychology exercises
            VIA strengths, research related to gratitude, learned optimism
        Goal setting/goal accomplishment- “I can do that!!”

    Interpersonal- Social Support (social networks, families, and peers)
        Group sharing (check-ins, weekly stretch)
        Buddy sharing, contracting goals
        Social needs that nurture
        Mentorship training- each one, teach one

Resources-
Metcalfe, Lauve: *Reshaping Your Body, Rethinking Your Mind: a practical guide to enhancing body image and improving self esteem*, Desert Southwest Fitness, Tucson, AZ

VIA strengths inventory: [http://www.authentichappiness.sas.upenn.edu/](http://www.authentichappiness.sas.upenn.edu/)

Barbara Frederickson, Positivity, Crown, 2009


Diane Loomas, *Full Esteem Ahead*, H.J. Kramer publisher

Uniquely Me! The Girl Scout/Dove Self-Esteem Program

Reflections Body Image Program, Delta Delta Delta Fraternity, Dr. Carolyn Becker

Media Awareness Network, www.media-awareness.ca
11 Skills for Developing a Healthy Body Image & Self Esteem
© Lauve Metcalfe, M.S., CWC

**Skill #1 Honor your personal story.** Past events and experiences “shape” one's perception of body image. Acknowledge your personal story and become more conscious of what choices you can control to improve the quality of your life.

**Skill #2 Accept yourself the way you are.** Develop an acceptance of your body image in the present form. Self-acceptance allows you to channel your energies into modifying behavior, rather than struggling with negative “woulda, coulda, shoulda” thinking.

**Skill #3 Create a positive mental outlook.** The attitude that you bring into a situation greatly determines the outcome and conditions you to expect good outcomes or to be disheartened by negative ones. Whether you think you can or you think you can't, you're probably right.

**Skill #4 Practice positive self-talk skills.** Positive “self-talk” messages will reinforce the qualities, skills and attributes within you, affect your unconscious mind and have a major effect on the way you view yourself.

**Skill #5 Guide away from comparisons.** Beauty is a multi-dimensional combination of a variety of aspects of an individual that is in a constant state of change. Acknowledge your personal expressions of beauty that make you unique.

**Skill #6 Build your self-reliance.** Each time you challenge yourself and attempt a task or skill that is outside of your comfort zone, you will experience a stronger degree of confidence in your abilities.

**Skill #7 Lighten up and live in the NOW.** To fully enjoy life stay in the present and experience life from moment to moment. Create a balanced perspective on life by looking to the future with anticipation, respecting the past for insight, and most importantly, living in the now.

**Skill #8 Reward yourself in healthy ways.** Create rewards and positive incentives to keep you on track with your body image program. Develop daily, weekly and monthly incentives that recognize the effort you are putting into your personal wellness program.

**Skill #9 Give yourself praise.** Acknowledge the positive steps you make in taking care of yourself. Be open to the praise of others and regularly give and receive compliments.

**Skill #10 Develop coping skills to deal with set backs.** There are moments in all our lives that are difficult to deal with emotionally. By creating rest periods and occasional breaks in your program you will allow yourself time to be a “human being” vs. a “human doing”.

**Skill #11 Be connected.** Many people can help you stay on track with a healthy lifestyle. Value the role that supportive friends and relatives play in your life. Take time out on a regular basis to be in touch with nature and the environment.

© Reshaping Your Body, Rethinking Your Mind, Lauve Metcalfe, M.S.
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Rethinking Energy Balance: If a calorie is a calorie, why don't we lose weight by the books?

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Why do people lose different amounts of weight on the same diet and exercise plan? Numerous biological and behavioral factors regulate and influence energy balance and body weight. When one side of the energy balance equation is changed a simultaneous change occurs on the other side. Thus, energy balance is dynamic and constantly changing in response to a myriad of factors. How do we manage this teeter-totter effect? What weight loss approaches have research evidence to back their recommendations? This talk will sort the fact from the fiction around weight loss.

1) Introduction and Overview

2) What is the difference between static and dynamic energy balance?
   a) Definition: Static Energy Balance and how we calculate weight change
   b) Definition: Dynamic Energy Balance

3) What factors contribute to our current weight?
   a) Non-modifiable (adults): Genetics, Epigenetic, Age, Gender, appetite/body weight regulating hormones; Impact of epigenetics on the next generation (material diet)
   b) Modifiable factors: Diet, Physical activity level (type), Environment
   c) How do alterations in diet impact energy expenditure?
   d) How do alterations in physical activity impact energy intake?

4) What do we care?
   a) How do we present energy balance to your clients?
   b) What do you say when they don’t get the response they expect or the response you told them to expect.
   c) How can we do a better job of predicting weight change based on diet and PA?

5) What can we do about it? Are their diet and exercise interventions that work?
   a) Dietary factors:
      • Energy Density
      • Fiber,
      • Protein,
      • Type of fats: Omega 3 Fatty acids,
      • Fat partitioning factors: Green tea, calcium/dairy, caffeine
   b) Exercise factors: High intensity exercise; resistance training;

6) Talk home message and conclusion
At the end of this session, participants will be able to:

a) Define and explain static vs. dynamic energy balance.
b) Explain to a client why people lose weight differently on the same diet and exercise program.
c) Identify diet and exercise practices that may help management of weight using the dynamic energy balance principles.

Research References:

Web sites:
I. Introduction
A. Presentation outline/objectives
   1. To help health/fitness professionals understand how common, painful orthopedic conditions can affect client exercise participation and tolerance and how physicians diagnose and treat them.
   2. To describe appropriate strategies health/fitness professionals can take to help clients remain physically active, prevent de-conditioning and avoid damaging and reinjuring painful body segment(s) and/or exacerbating pain.
   3. To identify signs, symptoms and situations warranting that exercise professionals refer their client(s) back to a physician/healthcare professional.
   4. Discuss the effect(s) that some common treatments for pain have on physical activity tolerance and exercise performance.

II. "What Is Pain"?
A. Definitions
   1. Subjective Descriptions
   2. Acute versus Chronic

III. What Purpose does Pain Serve (What Good Is It)?
A. A Warning System
   1. Decreases Risk of ongoing damage
   2. Tissues undergo characteristic phases of healing activity
   3. Pain can be deceiving (Not always a good indicator of tissue strength and healing)
B. Role of Exercise Professionals
   1. Understand how tissue(s) and injuries heal
   2. Understand their scope of practice
   3. Develop safe, effective exercise programs in conjunction with guidelines established by client's physician
   4. Communicate with client's physician when warranted

IV. Special Considerations During Exercise
A. Exercisers often use pain as a guide for return to activity and tissue health
   1. Pain levels often decrease well before tissue healing is complete
   2. Exercisers might believe they can return to workouts before the body is actually ready
B. Never overstress healing tissue
   1. Appropriately controlled therapeutic stress is needed to optimize collagen matrix formation
   2. Client progress from one phase of healing to the next
   3. Progress dictated by specific objectives (established by the physician and/or physical therapist)
   4. New/worsening symptoms and/or reduced function warrant referral back to MD ASAP!!!!

V. Reconditioning Considerations
A. Inflammation Stage
   1. Preventing disruption of new tissue
   2. *Exercise Strategies- General aerobic and anaerobic training and resistance training of uninjured extremities, with priority given to maximal protection of the injured area
B. Repair/Proliferation Phase
   1. Preventing excessive muscle atrophy and joint deterioration in the injured area; maintaining muscular and cardiovascular function in uninjured areas
C. Remodeling Phase
1. Optimizing tissue function by continuing and progressing the activities performed during the repair phase
2. *Exercise Strategies* - Transition from general exercises to sport-specific or gym/workout specific exercise

VI. Management Options
A. Quit Doing It
1. Change Technique
2. Do something else and work around it

B. Drugs/Medications
1. NSAIDs
2. Narcotics
3. Other- Muscle relaxants, TRUE Muscle relaxants
4. Injected
5. Topical

C. Therapeutic Modalities
1. Complementary and Alternative Medical Interventions
2. Chiropractic and Accupuncture, Cryotherapy, Electrical Stimulation, Laser, Ultrasound, Magnets

D. Surgery - Correct the anatomy, remove displaced meniscus, Stabilize joint, Fix bone/ligament
   1. “Wash-out” a joint
   2. Replace a joint

VII. "Quit Doing It"
1. Allow tissue recovery (i.e. Hamstring)
2. Prevent worsening injury (i.e. Stress Fractures, Achilles Tendonitis, etc.)
3. Unknown or uncertain diagnosis
4. You must establish time frames for recovery and testing
5. Provide alternate activities
6. Be cautious, but not overly conservative, The athlete/patient ultimately decides

VIII. Alter Activities
A. Practical suggestions
   1. Must know the activity/sport
   2. Don’t be the coach

B. Running centers
   1. Bike fit
   2. Pads, gloves, braces, wraps, etc

IX. Painkiller sales soar around US, fuel addiction
A. Nationwide (2010), Oxycodone 62 TONS, Hydrocodone 42 TONS, 40-5 mg Percocet®, 24-5mg Vicodin® for every person in the US

B. Pain out of the Expected
   1. Wrong diagnosis, Additional diagnosis, Poor compliance, RSD, Neuropathic pain, Malingering or psychiatric issues
   2. As the MD, What could I have missed?
      3. Bone contusion or fracture w/ ligament injury
      4. Compartment syndrome w/ fracture or soft tissue injury
      5. Cast/splint/brace too tight, Infection/abscess under wound, Nerve injury

C. Non-compliance with treatment
   1. Doing too much
   2. Not wearing splint or using crutches
   3. Not taking medicines
   4. Fear of addiction, Spreading out doses, Fear of running out, Cost, Diversion

XI. Additional Diagnoses
A. Complex Regional Pain Syndrome (CRPS)
   1. Signs and Common Symptoms
2. Treatment

B. Malingering and Somatization
1. Signs and Symptoms
2. Treatment

XII. CASE STUDY (Please Help Mr. Smith!!!)
38 y/o engineer completed 12 weeks physical therapy for R rotator cuff impingement/tendonitis (MD cleared him to workout!!!)
5/5 strength w/full R.O.M., no swelling or difficulty w/ADLs
Typical Workout 3x/week
- Low Bar Rear Squats (10, 8, 6, 3, 3)
- Behind the Neck Press (3 x 6)
- Wide Bench Press (10, 6, 3, 3, 2)
- Rear Lat Pull-down (3 x 10)
- Parallel bar Dips (4 x 10 weighted)
- Chest Flies (3 x 12)
- Overhead Dumbbell Tricep Press (4 x 10)
- Incline Dumbbell Bicep Curls (4 x 10)
- Supine Triceps Extensions (4 x 8)
- Biceps Preacher Curls (4 x 10) What is Wrong Here?

- Start with exercises to build a stable base (scapula).
- Add exercises to strengthen the rotator cuff muscles.
- Add compound exercises. Emphasize synchronized motion between the scapular stabilizer and rotator cuff muscles. (general exercises)—remember not normal for probably 9 months !!!
- Add exercises which challenge balance, stability and proprioception (i.e., position sense).
- Modify exercise techniques of commonly performed workout activities. Avoid pain!!!!!
- Contact MD immediately if new or worsening symptoms occur!!!

XIII. Four Take Away Messages
A. Personal trainers must operate within their scope of practice when working with clients who have chronic, painful conditions. New or worsening pain warrants immediate client referral to their physician(s)
B. Physicians provide a compliment of diagnostic, surgical and treatment services which can improve physical activity tolerance in patients experiencing chronic pain. Personal trainers can benefit from understanding the potential benefits and risks posed by them.
C. Exercisers often use pain as a guide for return to activity and of tissue health and healing but pain levels often decrease well before tissue healing is complete. Exercises must neither under stimulate nor overstress healing tissues.
D. Knowledgeable Personal trainers can help their clients improve their health and fitness levels while they are healing without increasing their risk(s) of injury or re-injury.

XIV. Conclusions
- Tell your clients not to ignore pain
- Address pain early and consult a physician
- Do not attempt to “push through” or work through chronic pain
- Everyone’s pain is different
- If not getting better, look harder
- Personal trainers should work cooperatively with their client’s physician to develop safe, effective strength and conditioning programs
“Expert” Moms (and Dads)—What Our Kids Teach Us About Physical Activity, Nutrition, Body Image, and Performance

Panel Discussion at ACSM Health & Fitness Summit 2013
Wednesday, March 13 (3:30-4:30pm)

Three panelists/expert parents will present their top 7 parenting tips on fitness, nutrition, body image and performance. This moderated panel will include an interactive component for delegates to share their comments and ask questions.

MAJOR TOPICS TO BE ADDRESSED INCLUDE:

Sports and Performance
Weight and Body Image
Nutrition
Physical Activity and Screen Time
Family Fitness

PANELISTS:

Heather Chambliss, Ph.D., FACSM: Faculty member in Health Promotion in the Department of Health and Sport Sciences at The University of Memphis hchmblss@memphis.edu

NiCole R. Keith, Ph.D., FACSM: Associate Professor, Department of Kinesiology, Indiana University-Purdue University, Indianapolis, IN nkeith@iupui.edu

Eric S. Rawson, Ph.D., FACSM: Professor, Department of Exercise Science, Bloomsburg University, Bloomsburg, PA erawson@bloomu.edu

Amanda Vogel, MA human kinetics (moderator): Certified fitness professional, fitness writer, social-media consultant, Vancouver, B.C. www.ActiveVoice.ca
HIIT and Cardio Research to Practice
More Than Tabata - the HIIT Protocol Work-Out Experience

Presented by Helen Vanderburg, BPE, ACE, CFP
Mike Bracko, Ed.D., CSCS, FACSM

1. Fartlek Training
- Walking warm-up . . . 3 min's.
- Fartlek running work-out . . . 5 min's.

2. Tabata

HIIT group, 5 days/week for 6 weeks, 8 sets, 20 sec work at 170% of VO2max, 10 sec rest.

Benefits - HIIT group improved VO2max by 7 ml/kg/min and anaerobic capacity increased by 28%.
Remarkable benefits in 4 minutes. Remarkable benefits considering 2:40 min of work. Can we do “Tabata” HIIT with our clients 5 days/week, 3 days/week?

Work-out: Jump squats as fast as possible for 20 sec/10 sec rest, 8 sets. Passive recovery.

3. Tremblay

Compared moderate-intensity aerobic exercise & HIIT on fat loss & muscle metabolism.

Benefits - HIIT group decreased sum of 6 skinfolds nine times less than endurance program.
10 – 15/15 – 30 sec intervals or 4 - 5/60 - 90 sec intervals. Intensity = 60% - 70% of max. Recovery HR down to 120-130 bpm.

Remarkable benefits considering total work time =
Protocol 1 = 1:30 - 7:30 min of work
Protocol 2 = 4:00 - 7:30 min of work
Intensity of 60 – 70% can be well tolerated by clients.

Work-out: 4 forward bounds with run back, #1 - 5 x 20 sec , #2 – 4 x 75 sec, recovery HR 120-130

4. Little

6 training sessions, 8-12 x 60 sec intervals at approximately 100% of peak power with 75 sec of recovery. Peak anaerobic power is what we do just before collapsing. Is it possible to work at 100% for 60 seconds?

Benefits - increased exercise capacity on cycling time trials and increased muscle mitochondrial capacity. Not very exciting benefits. Increased exercise capacity may be important to clients – 8 - 12 min of work, 8:45 - 13:45 min of rest.

Work-out: Human Bench Hops 5 work intervals/60 sec at 100%. 75 sec of recovery.
5. Perry

6 weeks of HIIT – Untrained men & women. 10 x 4 min intervals at 90% VO2 peak, 2 min rest, 3 days/week. VO2 peak is highest value of VO2 attained on test.

Results:
- Reduced break down of glycogen (more fat being used)
- Reduced lactate accumulation
- Increased fat oxidation at 60% of pre-training VO2 peak.
- Training power output increased by 21% and VO2 peak increased by 9%.

Benefits - Increased fat oxidation . . . FAT, FAT, FAT . . . can you smell the fat burning?!?!
- 40 min work, 18 min rest . . . this is a lot. Can our clients adapt to 58 min of HIIT?

Work-out: Intensity = 90%, 3 x 4 min intervals, 2 min active recovery.
1. 30 sec Dry Skating
2. 30 sec Plank Arm Wrestle W/Shuffle
3. 30 sec Side Shuffle with Squat Jump
4. 30 sec Burpee Partner Hand Slap . . . repeat.

6. Talanian

8 women, 7 HIIT sessions/2 weeks, 10 x 4 min intervals at 90% VO2, 2 min rest.
Total exercise time = 58 min. “Marked increases in whole body and skeletal muscle capacity for fatty acid oxidation during exercise.”

7. Helgerud

40 men, 4 groups:
1. 45 min long slow distance (70% HRmax)
2. 24.25 min lactate threshold run (85% HRmax)
3. 47 reps/ 15 x 15 sec running. 90-95% HRmax /15 sec active rest 70% Hrmax
4. 4 x 4 min of interval running, 90-95% HRmax, 3 min of active resting at 70%HRmax).

Results: 15 x 15 and 4 x 4 increased VO2max more compared with LSD and lactate-threshold.

“Practical “application – 47 reps/ 15 x 15 = 23.5 min. 4 x 4 min of interval running, 3 min rest = 28 min.

Benefits -
- HIIT increased VO2max more than LSD and LT.
- 15x15 = 5.5% ↑ VO2
- 4 x 4 = 7.2% ↑ VO2
- Remarkable benefits in VO2 for 23.5 – 28 min of work.

Work-out: 15 x 15, 90-95% HRmax, 8 reps, 4 min/16 intervals:
1. 15 sec Lunge Split Jump  
2. 15 sec rest  
3. 15 sec 4 corner hops  
4. 15 sec rest . . . Repeat 4x.

8. Whyte

10 overweight/obese sedentary men. 2-week HIIT, 6 sessions, 4 - 6/30 sec Wingate sprints, 4.5 min recovery.

Results:  
- VO2max and Wingate power increased.  
- Insulin sensitivity, resting fat oxidation rate higher (24 hrs post-work-out)  
- Systolic blood pressure and resting carbohydrate oxidation were lower (24 hrs post-work-out).  
- Waist and hip circumferences decrease.

“Practical “application – 6 work-outs, 4 - 6 intervals, 30 sec Wingate anaerobic sprints, 4.5-minute recovery.

9. Baquet

63 kids - 3 groups: 1) Continuous, 2) HIIT, and 3) control. HIIT group: 10 x 10 sec/10 sec recovery, 5 x 20 sec/20 sec recovery, 5 x 30 sec/30 sec recovery, 10 x 15 sec/10 sec recovery, 10 x 10 sec/10 sec recovery, 100 – 190% of max aerobic velocity.

Results: Both groups increased peak VO2 and max aerobic velocity. Authors suggest continuous running can be boring, consider a variety of training programs for children.

Work-Out:  
- Intensity = 100 – 190% max 
1. 4 sets - 10 sec Squat Jacks, 10 sec recovery  
2. 4 sets - 20 sec Power Squat, 20 sec recovery  
3. 4 sets - 30 sec Touch-down Jack, 30 sec recovery

10. Vanderburg - Anaerobic Capacity - Pyramid Training - Recovery during partner ex’s

Work-out:  
15 sec - Vertical partner push-ups  
30 sec - Human bench jump over  
45 sec - Partner crawls  
60 sec - Partner squats  
45 sec - Partner crawls  
30 sec - Human bench jump over  
15 sec - Vertical partner push-ups

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DVD’s - https://www.healthylearning.com/m-1804-mike-bracko.aspx info@helenvanderburg.com, www.helenvanderburg.com  Friend me on Facebook and twitter
Using Assessment Results To Create Falls Prevention Exercise Programs

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Three Take Away Points

1. Attendees will learn why packaged falls prevention exercise programs have hit-or-miss results with patients/clients.

2. Attendees will learn how to evaluate clients/patients on three validated functional assessments of older adults. This evaluation will include both objective scoring and observation of movement quality.

3. Attendees will be given a Falls Prevention Program matrix to develop individualized falls prevention exercise programs from assessment results.

I. Setting the Table
   A. Three questions for the audience
      1. Who?
      2. What?
      3. How?
   B. Objectives for session

II. Introduction To The Problem
   A. Falls occurrence
      1. Frequency
      2. Medical consequences
      3. Health care costs
      4. Quality of life limitations
   B. Risk factors for falls
      1. Intrinsic & Extrinsic factors
      2. Why older adults are at elevated risk
   C. Evidence of exercise intervention effectiveness
      1. Studies that support exercise as an intervention strategy
2. Studies that do not support exercise as an intervention strategy
3. WHY DO RESULTS DIFFER SO OFTEN?

III. Individualizing A Falls Prevention Exercise Program
   A. General strategy
      1. Utilize validated assessments
      2. Use objective score to determine norm-based functional level
      3. Use movement observations to determine relative strengths/weaknesses
      4. Combine to develop appropriate exercise program design
   B. Objective scoring of assessment performance
      1. Functional Reach Test
      2. Timed Up-And-Go Test
      3. 30-second Chair Stand Test
      4. Norm-based scoring of individual clients/patients
   C. Movement observation of assessment performance
      1. Comparison of two participants performing Timed Up-And-Go Test
      2. Basic motor control principle - developing list of task demands
      3. Functional Reach Test
      4. Timed Up-And-Go Test
      5. 30-second Chair Stand Test

IV. Translating Assessment Results To Program Design Components
   A. Four domains of falls prevention exercise programs
      1. Joint mobility
      2. Sensory integration
      3. Muscle strength/muscle power
      4. Dynamic balance/gait enhancement
   B. Falls Prevention Program matrix
   C. Norm-based objective scores
      1. Determines starting level of difficulty in the FPP matrix
      2. Start with “Lowest Common Denominator” approach
   D. Movement observations
      1. Determines selection of specific exercises in the FPP matrix
      2. Relative # of exercises for each domain
      3. Development of a truly individualized falls prevention exercise program

V. Sample Program Design Matrix With Specific Exercises
   A. Participant #1
      1. Review of objective exercise score and movement assessment
      2. Joint mobility exercise selection
      3. Muscle strength/muscle power exercise selection
      4. Dynamic balance/gait enhancement exercise selection
B. Participant #2
   1. Review of objective score and movement assessment
   2. Joint mobility exercise selection
   3. Muscle strength/muscle power exercise selection
   4. Dynamic balance/gait enhancement exercise selection

VI. Questions & Comments
I. Introduction
   A. Presentation outline/objectives

II. The Health Benefits of Physical Activity
   A. Irrefutable evidence regarding the health benefits of routine physical activity and exercise.
   B. Concerns remain regarding the risks for exercise-related adverse events.
   C. Pre-participation screening is advocated widely.

III. Pre-Participation Screening
   A. Originally, an exceptionally conservative approach was taken.
      1. In the 1970s, physicians often recommended a stress electrocardiogram for men over the age of 35 yr who wished to become more physically active.
      2. This approach was deemed to be too costly and prohibitive.
   B. The Physical Activity Readiness Questionnaire (PAR-Q) was developed in the early 1970s by a series of leading Canadian researchers (including Dr. Don Bailey, Dr. Roy Shephard, and Dr. Don Chisholm).
      1. In 1974, Bailey and colleagues suggested a simple, self-administered screening process as part of the Canadian Home Fitness test.
      2. Chisholm and colleagues (circa 1976) created a 19 question screening battery
         a. From this process, 7 questions were identified (based on expert opinion) that had the most relevance for exercise screening.
         a. The Physical Activity Readiness Questionnaire (PAR-Q)
      3. More than 35 years of experience has demonstrated the remarkable ability of the PAR-Q to safely and effectively screen participants who seek to become more physically active.
   C. The Physical Activity Readiness Medical Evaluation (PARmed-X; also developed by Chisholm and colleagues) was designed for use by physicians to assist them in addressing medicals concerns for physical activity participation.

IV. Recently, the medical community has challenged the PAR-Q and related PARmed-X.
   A. Opinion-based not evidence-based.
      1. The lack of evidence-based support has limited the endorsement of the original forms (in particular the PARmed-X) by health care professionals and medical organizations.
   B. Purposely conservative.
   C. The PARmed-X is not user friendly.
      1. Physicians often find the exercise clearance process cumbersome and time consuming.
   D. Fail to recognize the advancements in training within the exercise sciences.
   E. Limited usefulness for clinical populations.
1. Automatically sends patients with heart disease to seek a physician, despite the fact that these individuals may be at a low risk for an adverse exercise-related event.
2. May clear intermediate to higher risk individuals living with a chronic medical condition (such as diabetes).
3. As many as 95% of individuals with a chronic medical condition that answer YES to one or more of the PAR-Q questions do not receive or seek medical clearance for physical activity.

F. Age restrictions (15-69 yr)
   1. Creates barriers for children and the elderly

V. A systematic and evidence-based approach was taken to create a new physical activity participation and risk stratification strategy.
   A. Over 540,000 were retrieved, and more than 1,000 were used to form the foundation for more than 60 evidence-based recommendations.
   B. Systematic reviews were conducted to establish the exercise-related risks and effective risk stratification in prominent medical conditions (Orthopaedic Conditions, Cancer, Heart or Cardiovascular Conditions, Metabolic Conditions, Psychological Conditions, Respiratory Conditions, Spinal Cord Injury, and Stroke).
   C. Additional systematic reviews were conducted to evaluate the risks associated with exercise testing and training in the general population, the role of the qualified exercise professional (including the requisite core competencies required for working with varied chronic medical conditions), and the risks associated with exercise during pregnancy without complications.
   D. The process adhered to the international standards established by the Appraisal of Guidelines for Research and Evaluation (AGREE) Instrument.

VI. Key findings of this evidence-based process:
   A. The health benefits of physical activity far outweigh the transient small risks seen after an acute bout of exercise for the vast majority of individuals (including those with established chronic medical conditions).
   B. Recent advancements in training within the exercise sciences has allowed for appropriately trained and certified exercise professionals to take an increasingly greater role in both health- and performance-related settings.
   C. The age restriction of the PAR-Q and PARmed-X was not warranted.
   D. An evidence-based risk continuum was created wherein: 1) Low risk persons may exercise at low to moderate intensities with minimum (or no) supervision. 2) Intermediate risk persons should exercise under the guidance of an appropriately trained qualified exercise professional. 3) High risk persons should exercise in a medically supervised setting that includes a qualified exercise professional.

VII. A new pre-participation physical activity clearance and risk stratification process was created (i.e., the new Physical Activity Readiness Questionnaire for Everyone (PAR-Q+) and the electronic Physical Activity Medical Readiness Questionnaire (ePARmed-X+)).
   A. The new PAR-Q+ is a 4-page document that contains a wide range of questions to identify any possible restrictions or limitations to physical activity participation.
   B. Those identified as intermediate to higher risk (via the PAR-Q+) are sent to a qualified exercise professional and/or the ePARmed-X+ for further evaluation.
   C. New process leads to a marked reduction in the barriers to becoming more active.
1. Only a small proportion of clients are referred for additional medical screening.
2. Persons normally screened out of physical activity participation are screened (often self-screened) back into physical activity.

VIII. Selected References


Key Take Home Messages

1. The new risk stratification and physical activity participation clearance strategy (i.e., PAR-Q+ and ePARmed-X+) has served to reduce greatly the barriers to physical activity participation.
2. Persons normally screened out of physical activity are now able to be screened (often self-screened via the PAR-Q+ and ePARmed-X+) back into activity/exercise.
3. Qualified exercise professionals now have a greater role in effective risk stratification and physical activity clearance.
4. Numerous knowledge translation resources have been developed to facilitate the uptake of research information into clinical practice.
I. Goals for Today
- Exposure to Something New, Realization That There is Another Way

II. (5) Checkpoints
- Foot/Ankle, Knee, Hips, Shoulder/Thoracic Spine, Head/Neck

III. (11) Myofascial Lines

IV. Assessing Without Guessing

V. (8) Kinetic Chain Tests
- Supine Pelvic Lift, Supine Plank, Prone Plank, Side Lying Abduction, Side Lying Adduction, Shoulder Extension, Push-up, Pull-up

VI. Testing Procedures
- The How
- Scoring System (0, 1, 2, 3)

VII. Acute Variables
- Progression Based on Quality of Movement
- Grading the Workload Principles
- 3-4 Sets and 3-6 Reps
- ~30 Seconds of Rest
Evidence Based Recovery Strategies to Prevent Fatigue and Over-Reaching

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I. Presentation Overview:
   a. Fatigue vs. Overtraining
      i. Influencing factors and mechanisms
      ii. Effects on performance and injury
   b. Evidence based solutions for combating fatigue & over-training
      i. 3R’s (Re-Fuel, Rest, & Restoring Movement)
   c. Implementing an integrated and systematic recovery program

II. Effects of Fatigue
   a. Sport & athletic performance depends upon ability to produce and sustain high level of performance throughout competition and training
   b. Fatigue can deteriorate physical, technical, decision-making, and psychological skills and lead to long-term performance deficits if not managed appropriately
      i. Magnitude and duration of performance deficits dependent upon management

III. Fatigue and Performance
   a. Muscle Performance (strength, power, contraction velocity)
   b. Exercise Performance (speed, power, balance, stability, movement)
   c. Competition/training Performance (work rate during competition/training, decision making, anticipation)

IV. Mechanisms of Fatigue
   a. Peripheral / local - (muscle biochemistry)
   b. Central - (neural drive to the muscle: voluntary & involuntary)

V. Strong correlation between training load & injury rates

VI. Over-Training & Over-Reaching
   a. Disturbed stress-regeneration balance
      i. Stress: physical and/or mental

VII. Over-training is a misnomer
   a. With appropriate recovery practices,strategies over-training can be prevented

VIII. Optimum Recovery
   a. Re-Fuel Strategies
      i. Meals
         1. Eat breakfast, regularity/consistency, balanced
ii. Hydration
   1. Water (3-4 L / day), electrolytes (sodium, potassium, calcium)

iii. Pre-Training
   1. Higher carbohydrate, moderate protein, lower in fat

iv. Post-Training
   1. Timing (within 30 minutes) & water replacement

b. Improper Re-Fuel Consequences
   i. Inadequate energy intake relative to expenditure will compromise performance and result in negative catabolic response
      1. Loss of lean tissue mass (strength and endurance)
      2. Compromised immune, endocrine and musculoskeletal function
   ii. Long-term improper re-fueling results in poor nutrient uptake, especially micro-nutrients
      1. May result in metabolic dysfunctions and lowered resting metabolic rate
   iii. Have a nutritional consultant to tailor a re-fueling plan according to the individual’s needs

c. Rest Strategies
   i. 7-8 hours of sleep (minimum) – sleep extension has performance benefits
   ii. 60-minutes of relaxation per day
   iii. Minimize psycho-social stress

d. Inadequate Rest Consequences
   i. Physical performance (weight training, cardiorespiratory functioning)
   ii. Weight loss (% fat loss vs. % lean muscle mass)

e. Restore Movement Strategies
   i. Muscle balance is key
      1. Identify movement impairments & determine underlying causes
         a. Single leg squat, overhead squat, landing error scoring system
      2. Corrective exercise (3x/wk) – Mobility, Stability, Neuromuscular Control
   ii. Dynamic warm up & cool down
   iii. Monitor training load
      1. (RPE x Training/Competition Duration (min))

IX. Recovery - Supplemental Behaviors

a. Implemented in addition to best practices (not in place of) – there’s no “magic bullet”
   i. The application of the following recommendations may be dependent on:
      1. Time of season/schedule
      2. Training load
      3. Injury status
      4. Practicality

b. Supplemental recovery behaviors application:
i. Reduction of s/s associated with exercise-induced muscle damage
   1. Tissue disruption & catabolism
   2. Delayed onset muscle soreness (DOMS)
   3. Decreased muscle force output between bouts of activity
ii. Improved fatigue resistance during strenuous activity
iii. Reduction in immunosuppression post strenuous activity

c. Nutrition-based
   i. Antioxidants – Vitamin C, Vitamin E, Coenzyme Q10
   ii. Phytochemicals – Tart Cherry Juice
   iii. Amino Acids – L-Carnitine, Leucine/HMB, Beta-Alanine
   iv. Fatty Acids – Omega 3 (EPA & DHA)

d. Modality-based
   i. Whole body vibration
   ii. Massage
   iii. Compression garments
   iv. Cryotherapy

X. Planned recovery requires an integrated and systematic approach
   a. Educate your clients & athletes – consistent messaging
   b. Provide access / remove barriers to best practices
   c. Monitor movement efficiency, training loads, recovery behaviors

XI. Five Take-Away Points
   a. Fatigue is a physiologic stimulus for anabolic response if recovery is optimized
   b. Foundation for optimum recovery = 3R’s
      i. Re-fuel, Rest, Restore Movement Efficiency
   c. Supplemental recovery behavior (nutrition & modalities) must be combined 3R’s
   d. Monitoring of training load and recovery behaviors is necessary to direct behavior
   e. Recovery behaviors are best applied in a systematic & integrated approach

XII. Selected References
I. Brief history of high intensity interval training (HIIT)
A. Hannes Kolehmainen, 1912; Olympic Champion from Finland, Gold medal in 5,000m and 10,000m; world record in 3,000m; used interval training (5-10 repetitions, 1000m or 3min 5sec, 19km/hr or 11.78mph, recovery not known)
B. Pavoo Nurmi, 1920-1930; Olympic Champion from Finland, won 9 Gold medals in 1,500m, 3,000m, 5,000m, 10,000m, and Steeplechase; used interval training (6 repetitions, 400m, 24km/hr or 14.88mph, did this workout within 10km-24km (6-15mile) runs, introduced short intervals)
C. Emil Zatopek, 1952 Olympics, 5,000m, 10,000m, Marathon; (up to 100 repetitions, 400m, 20km/hr or 12.4mph, 200m recovery)
D. First scientific publication on HIIT in 1959 by Reundell and Roskamm
E. Saltin, B. and Astrand, P., 1960. Swedish physiologist who began intense study of interval training. Introduced intervals as % of VO2max (30min, 15sec runs, 15sec rest, 100% speed of VO2max intensity)
F. Edward L. Fox, 1967. Interval training for military purpose; compared the physiological response for a recovery run or passive complete rest; suggested to alternate the work intervals with rest, rather than running; felt it restores phosphocreatine reserves better;
G. Metabolic adaptations, 1970’s. Researchers around world begin study of metabolic adaptations of interval training. Muscle enzymes of interest include ATPase, creatine kinase, adenylate kinase. Jonas Bergstrom and introduction of biopsy needle made metabolic research a viable science.
H. Coaches use HIIT in 1980’s. Sebastian Coe was trained by his father Peter, who was very inspired by scientific methods. He performed aerobic and anaerobic interval training as well as circuit training for strength and power improvement. Seb Coe was an 800m to 1500m runner who won four Olympic medals.
I. Said Aouita in 1980’s. The great middle-distance runner (who held World records for the 1500m, 2,000m, 3,000m, and 5,000m); he won the 5,000m at the 1984 Summer Olympics. Intervals with different speeds.
J. Grete Waitz in 1980’s. Nine-time winner of New York Marathon. Two world records in the 3,000m and World Champion in the marathon in 1983. She utilized a combination of Fartlek, short intervals, long intervals, tempo training and distance runs.
K. HIIT in 2000 to 2012. More sport application (tennis, handball, soccer, rugby, American football, etc.). Clinical application (COPD, cardiac patients, diabetes). Molecular research focused on solving questions on metabolism and bioenergetic effects of HIIT.

II. Brief history of continuous cardiovascular exercise
A. Phidippides in 490 B.C. What is called the Marathon today gets its name from the 280-mile distance he covered in 3-4 days from Athens to Sparta and then back to Marathon. He was sent to gain the help of Spartans against the Persian army in Marathon.
B. Marathon at Olympic Games. Marathon changes to 26 miles in 1908. After 16 yrs., in 1924 the Marathon was established at 26.2 miles. Run in Paris Olympics in 1924 for the first time. Albin Stenroos from Finland was the Men’s Olympic Marathon Champion on July 13, 1924. His time was 2:41:23.
C. Women’s Marathon at the Olympic Games. The women’s Marathon was introduced in the 1984 Summer Olympics (in Los Angeles, CA, USA). It was won by Joan Benoit of the USA. Time 2:24:52.

III. Cardiovascular physiology 101: Key terms
A. Maximal oxygen consumption (VO2max): The maximal rate of consumption, distribution and utilization in ml oxygen/kg/min.
B. Heart rate max (HRmax), maximal HR. The highest heart rate one can achieve during graded exercise. Many estimations: 208- (0.7xAge), 220-Age, 206.9-(0.67xAge)
C. Stroke volume (SV): Blood pumped beat by each heart ventricle. Average at rest from 70ml-80ml each beat.
D. (CO)=HRxSV. Resting CO: 75beat/min x 70ml/beat = 5.2L/min Exercise CO: 180beat/min x 120ml/beat = 22L/min
E. Peak power: The maximal power output measured in watts. Typically performed on a cycle ergometer.
F. Exercise intensity in HIIT: A percentage of maximal effort. Examples are 95% of VO2max (VO2max x .95); 85% Peak Power (Peak Power x .85); 75% HRmax (HRmax x .75)
G. HIIT Intervals: The exercise intervals are the work bouts of exercise that range from 5sec to 8min. The rest interval is the recovery between exercise intervals and can be quite variable.
H. Work/Rest Ratio. Scientists and coaches look at the relationship of the exercise interval and rest interval. An exercise interval of 1min and a rest interval of 4min is a Work/Rest ration of 1-to-4. 5min and a rest interval of 5min is a Work/Rest ratio of 1-to-1.
I. E.P.O.C. represents the Excess Post-Exercise Oxygen Consumption (called the ‘exercise after burn’). Factors that E.P.O.C. include creatine phosphate (CrP) replenishment, metabolism of lactate, temperature recovery, hormones recovery. The oxygen consumed to bring physiological variables (above) to pre-exercise. Research shows that HIIT programs have very high E.P.O.C.
J. Capillary density: a proliferation of capillaries in skeletal muscle (5-15% increase)

IV. Cardiovascular physiology 101: Key concepts
A. Overview of heart as it sits in the thoracic cavity
B. Overview of heart pumping blood through the pulmonary and systemic circuits
C. The heart is really two independent pump systems that work simultaneously together. Blood moves along a pressure gradient (higher to lower pressure). It is the pressure that causes the heart valves to open.

D. Video overview of cardiac cycle. Children’s Hospital of Philadelphia (www.chop.edu)

E. View of actual myocardium comparison of right and left ventricle. Overview of sinoatrial (SA) node.

F. Heart rate influenced by medulla oblongata. This is the cardiovascular control system

G. Sympathetic nervous system increases HR and blood pressure. Parasympathetic nervous system inhibits HR and blood pressure. With exercise there is a large increase of sympathetic activity accompanied by a decrease in the parasympathetic systems

H. HR adaptations with chronic exercise. HR in trained individuals will be lower as compared to untrained persons. This is because trained individuals have much GREAT stroke volume adaptations to exercise.

I. EDV represents end-diastolic volume (describing the filling of the ventricles)

J. ESV represents end-systolic volume (describing blood left in ventricles after ejection)

K. EDV – SV = ESV; EDV - ESV = SV; ESV + SV = EDV

L. EDV (is diastole, also called preload); SV (is systole; afterload describes the pressure that the chambers of the heart must generate in order to eject blood out of the heart).

M. SV, in untrained persons ranges from 40-60% of VO2max; however, it is much higher in trained persons

N. During exercise, the vascular compliance or elasticity of vesicles increases (in healthy persons) thus less mean arterial pressure. This really helps to enhance SV during exercise in trained persons.

O. Contractility affects SV as well. During exercise the peripheral muscles contract harder, thus increasing venous return

P. Contractility of the heart increases too. The heart is a muscle and during CV exercise it contracts harder.

Q. Summary of benefits of CV responses and adaptations to HIIT and endurance training: increased heart size (thickening of cardiac muscle), increased heart contractility, increased cardiac output, enlarged ventricle volume, decreased resting heart rate, decrease submaximal exercise heart rate, increased venous blood return to the heart, improved aerobic capacity in healthy persons and those with cardiovascular disease, lowered resting blood pressure (when elevated), improved stroke volume, increased VO2max

V. Metabolic Adaptations

A. Where is fat completely oxidized in cells? Mitochondrion (think of it as a fat burning fireplace)

B. Cardiovascular and HIIT training mitochondrial density increases: mitochondria get 35% bigger; can reproduce up 15-50% more

C. Metabolic model diagram: In this model calcium–calmodulin kinase (CaMK) and adenosine monophosphate kinase (AMPK) are signaling pathways that activate peroxisome proliferator-activated receptor-γ coactivator-1α (PGC-1α). PGC-1α is like a “master switch” that is believed to be involved in promoting the development of the skeletal muscle function (increase in fat oxidation, increase in GLUT4 and glycogen, increase in mitochondrial density, increase in slow twitch muscle fibers oxidative capacity.

High-volume training appears more likely to operate through the CaMK pathway and HIIT appears more likely to signal via the AMPK pathway.

NINE Take Away Programs from the Research!

1) TRACK (OR TREADMILL) HIIT

Warm-up: Light 10min run Interval: 800meter runs at approximately 90% of maximal heart rate 16-17 on 6-20 ratings of perceived exertion scale (RPE scale) which is ‘Hard to Very Hard” Each 800meter interval should be timed Rest Interval: Light jog or walk for same amount of time it took to run each 800meter Work/Rest ratio: 1:1 to 1:2 ratio. The time for the interval (800meters) and rest interval should be the same Frequency: Try to complete 4 repetitions Modify: The distance of the interval can be adjusted from 200m to 1000m. Vary length of the rest interval. Adapted from Musa, D.I., et al. (2009). The effect of a high-intensity interval training program on high-density lipoprotein cholesterol in young men. Journal of Strength and Conditioning Research, 23(2), 587-592.

2) HILL TRAINING HIIT

Warm-up: 10min of light jogging Interval: Set treadmill incline at 5%-8% grade and speed at 3 mph. During each interval increase speed to 5 mph – 6.5 mph, while keeping grade at 5%. The length of the interval should be 1min. Rest Interval: Self-selected speed. Do not adjust incline. Work/Rest Ratio: 1:2-2 ratio. The work interval is 1min and the rest interval is 2min Frequency: 3-6 intervals Cool Down: 5 – 10min of easy jogging Comments: This is a hill running interval session. Modify incline, running speed, interval length, and rest interval. Adapted from Seiler, S., and Hetlelid, K.J. (2005). The impact of rest duration on training intensity and RPE during interval training. Medicine & Science in Sports & Exercise, 37(9), 1601-1607.

3) COMBINATION HIIT AND CV CONDITIONING

Warm-up: 10min of light exercise Interval: 30seconds of sprinting (any mode) Rest Interval: 30second rest Work/Rest Ratio: 1:1-1 ratio. The work interval is 30seconds and the rest interval is 30seconds Frequency: Preformed continuously for 20-30min Note: After completion of interval session perform a 20-30min slow jog or walk at 50% HRmax Modify: Complete on multiple modes (cycling, elliptical training, running, rowing, stair stepping, etc.) Adapted from Seiler, S., and Hetlelid, K.J. (2005). The impact of rest duration on training intensity and RPE during interval training. Medicine & Science in Sports & Exercise, 37(9), 1601-1607.

4) STEP-WISE INTERVAL TRAINING
Protocol: Start at a relatively easy workload (cardiovascular warm-up) for 5 min of exercise and then increase intensity about 10-15 percent. At the end of each subsequent 4 min exercise stage increase the work load about 10-15 percent for the first 4 min training period. This program can be halted when a particular intensity level is reached or a specific duration is attained. Try completing step-wise UP and step-wise DOWN sequence. Intensity: The initial work intensity should be about an RPE of 11. Then, depending on the means of increasing the intensity on the mode (i.e., speed, grade, stride, etc) increase the intensity roughly 1 RPE with each subsequent 4 min stage (i.e., program starts at an RPE of 11; after 4 min the intensity becomes a 12; after 4 min the intensity becomes a 13; after 4 min and intensity becomes a 14. Do until a specific time/intensity is attained. Duration: Duration should follow ACSM (2006) guidelines, which recommend 20-60 min Adapted from Jacobs and Sjödin (1985). Relationship of ergometer-specific VO2max and muscle enzymes to blood lactate during submaximal exercise. British Journal of Sports Medicine, 19, 77-80.

5) CONTINUOUS INTERVAL TRAINING
Warm-up 5-10 min of light exercise 4-8 continuous endurance intervals Each interval is 4 min followed by a 4 min low-intensity rest (12 min/mile) Each successive interval is at a faster pace: Let’s look at an example 1) 10 min/mile 2) 9:30 min/mile 3) 9:00 min/mile 4) 8:30 min/mile 5) 8:00 min/mile Complete on multiple modes Adapted from Akubat, I. et al. (2011) Intermittent exercise alters the heart rate-blood lactate relationship used for calculating the training impulse (TRIMP) in team sport players. Journal of Science and Medicine in Sport / Sports Medicine Australia, 14(3), 249-53.

6) METABOLIC BASE TRAINING
Warm-up: 5-10 min Protocol: Perform continuous submaximal aerobic exercise on the selected mode Intensity: Intensity is 65% of VO2peak which would be about a 14 RPE (Somewhat Hard) Duration: Duration is 40-60 min of sustained cardiorespiratory exercise Called metabolic base training because it increases mitochondrial density Adapted from Burgomaster, K. et al. (2008). Similar metabolic adaptations during exercise after low volume sprint interval and traditional endurance training in humans. Journal of Applied Physiology, 586(1), 151-160.

7) MAXIMAL LACTATE THRESHOLD TRAINING

8) CONTINUOUS CV TRAINING WITH TWO BIG EFFORTS
Warm-up: 10 min of light exercise Workout: A low to moderate intensity 30-50 min continuous run at 60% - 70% heart rate max. At any time during the workout (beginning, middle or end) perform two Maximal Speed Efforts lasting 2 min. Modify: Complete on multiple modes Adapted from Smith et al. (2003). Optimising high-intensity treadmill training using the running speed at maximal O2 uptake and the time for which this can be maintained. European Journal of Applied Physiology, 89(3-4), v337-343.

9) THE THREE 1-MILE WORKOUT
Warm-up: 5 min of light jogging Workout: Workout is three 1-mile bouts with a 5-minute active rest between each mile. The first mile should be at fast pace (record time). The second mile should be at slower pace and intensity than the first mile. The goal of the final mile is to complete it in the same time as the first mile. Interval: one-mile Rest Interval: 5 min of low intensity running between mile bouts Modify: Any mode of exercise can be substituted for running Babineau et al. (1997). Physiological response of 5/1 intermittent aerobic exercise and its relationship to 5 km endurance performance. International Journal of Sports Medicine, 18(1), 13-19.

QUESTIONS AND FABULOUS FEATS
Q: How many times per week can HIIT be completed?
A: Research says that three times per week may produce the best results while limiting injury. Interval training is very demanding and it is important to be fully recovered between sessions. Fabulous Feats: The official International Association of Athletics Federations world Marathon record for men is 2:03:59, set by Haile Gebrselassie of Ethiopia. The women’s record holder in the marathon is Paula Radcliffe of the United Kingdom in a time of 2:15:25.
Q: If a client has been inactive for several months is it safe to start an exercise program with HIIT?
A: There should be a careful progression of activity when re-starting any exercise program. Beginning with HIIT may increase the chance for injury and muscle soreness. A better approach would be to start with continuous aerobic exercise at a low intensity level. Once able to run for 30 min at a moderate intensity he/she can then progress slowly into interval training. More Fabulous Feats: The longest certified road race in the world is the 3,100 mile Self-Transcendence Race in NYC. The longest bicycle race is the Tour d’Afrique, which is 12,000 km (7500 miles) and 120 days traveling from Cairo, Egypt to Cape Town, South Africa. One of the longest swims ever was recorded by Martin Strel in 2009. The Slovenian man swam the length of the Amazon River (3,272 miles) in 66 days.

Final Quiz: Which program do you feel is superior in the following cardiovascular and metabolic adaptations: Stroke volume, heart contractility, cardiac muscle growth, maximal aerobic capacity (VO2max), mitochondrial density, capillary density, fat burning, glycolytic enzymes, E.P.O.C. (Excess post-exercise oxygen consumption energy expenditure)
The purpose of this session is to give some beginner networking tips for students and young professionals and give them the opportunity to network with several of the experts attending the Summit! Attendee will learn new networking skills, get to practice them immediately, and get feedback from experts in a range of fields.

I. Introduction
   a. What is Networking and how do I do it?
   b. Top 10 Do’s and Don’ts of Networking
   c. Description of Session Logistics
   d. Introduction of Experts in the Room
      i. Personal Training: Fred Hoffman
      ii. Health and Fitness Club Owner/Manager:
      iii. Wellness Medicine/Coaching/Motivation: Heather Chambliss
      iv. Sports Dietician: Nancy Clark
      v. Group Fitness Instructor:
      vi. Worksite Wellness: Stephan Gingerich
      vii. Research/Academia: Avery Faigenbaum

II. Networking Time with Feedback
   a. During this time students/young professionals will have the chance to network for 5 minutes at a time with experts in the room who will then give them feedback about their performance. Lanay will be keeping time and making people switch every 5 minutes. The purpose is to simulate a social event at a professional conference where one may want to network.

III. Conclusion
   a. Reminder of top Do’s and Don’ts
   b. List of opportunities to practice networking skills at the Summit

IV. Take Away Messages
   a. Experts aren’t scary – go introduce yourself!
   b. Most of us got to where we are because someone helped us, thus we are willing to help you too.
   c. Learn what your strengths are and develop a way to tell others
   d. ACSM membership can help you network and work towards your dream career!
Foam Roller Workout
Irene Lewis-McCormick, M.S., C.S.C.S.
E-mail: irenemccormick3@gmail.com

I. Introduction
Self Myofascial release is a form of bodywork and stretching/self-treatment that can improve posture, increase flexibility and reduce stress, tension and pain while boosting athletic performance, energy levels and body awareness (Earls & Myers 2010). By learning to perform self-massage, participants can improve blood flow to muscles, reduce stress, and possibly increase joint range of motion and soft tissue flexibility. Many exercises can lend themselves to core stability, decreased risk of certain injuries and relaxation.

Begin Spinal and Body Assessment
- Lie Supine on the floor
- Relax the body beginning at the toes and follow up to the shoulders and head
- Become aware of each part of the body (feet, legs, thighs, hips, low back, shoulders, neck and head)
- Sit up and lie supine on foam roller so the roller rests under the spinal segments and supports the head
- Flex knees and allow arms to rest on the floor beside the body
- Begin to perform a series of arm and leg exercises:
  - Arm Movements
    - Snow angels
    - Arm scissors
    - Shoulder abduction
    - Elbow flexion with shoulder abduction and adduction
    - Y and W stretches
  - Leg and Torso Movements
    - Single leg knee and hip flexion
    - Supine Figure 4 stretch
    - Bridge
    - Spinal flexion with reach
- Roll off roller onto the floor and re-evaluate the body – notice the differences

Begin Self Massage
- Start by sitting on roller emphasizing right side of gluteals
- Move to lateral hip
- Move to anterior hip area
- Move to quad (don’t roll directly over knee joint)
- Move to IT Band
- Move to gluteal fold
- Move to hamstring
- Move to calf
- Anterior leg
- Transition to other side of the body
- Begin spinal massage beginning at the gluteals
- Move to low back
- Transition to mid-back
- Transition to shoulders
- Transition to base of head
- Pull roller out and finish session with breathing and relaxation
No Outline Available.
Schwinn will be providing copies for the attendees and handing them out in the room onsite for Schwinn Cycling, Workshop and workout sessions. Thank you.
<table>
<thead>
<tr>
<th>Drills</th>
<th>Equipment/Position</th>
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<tbody>
<tr>
<td><strong>Acclimation</strong></td>
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</table>
| • Alt. Dome Toe Taps holding ball  
  - Rotation hip to hip | Standing behind dome, holding soft med ball at chest height. |
| • Alt. Front Lunges holding ball  
  - Halo chop | |
| • Single arm shot put w/ ball w/ rear leg extension and hand trade w/ ball | |
| • Step hop toss/catch ball center alt. legs add visual effect | |
| • Step Knee + Lateral Raise + Runner’s stretch  
  - Step Leg Swing + Shoulder Roll | Standing behind dome, holding soft med ball in one hand. |
| • Squat & Side Lunge Series  
  - Small, Med, Large Side Lunge shift 3x holding ball at chest w/dome return | Standing on top of dome, holding soft med ball at chest height. |
| • Dome squat stir the pot w/med ball alt sides  
  - Ball touch to dome side to side then FREE STYLE w/visual effect | Standing on top of dome, holding soft med ball. |
| **Squat V-Sit Series** | |
| • Squat hips back over dome, Stand  
  - Squat to sit stand w/ double arm overhead press  
  - Sit to tuck ball to shins stand w/ double arm overhead press  
  - Sit - single leg V-sit to stand w/ double arm overhead press alt legs  
  - Sit - Bilateral V-sit 3x to stand w/ overhead press | Standing in front of dome, holding soft med ball at chest height. |
| **Lower Body Blast** | |
| • Squat holding BOSU in front  
  - Squat, lift BOSU to chest height  
  - Squat, Dead Lift, Squat, Stand  
  - Squat, Dead Lift, Squat, Stand, Squat Pulse 4x, Squat Rock 4x, Row 1x, Stand | Standing holding BOSU dome side down. |
| **Planks & Pushups** | |
| • Plank one hand on dome pushup 3x walk to center  
  - Elbow Plank on dome w/Mountain Climbers 6x walk to plank  
  - Dome pushup 3x - repeat elbow plank w/mountain climbers  
  - Add arm pattem w/push-up front/shoulder cross/side repeat seq. | Dome side up |
| **Total Body Blowout** | |
| • Squat one foot on dome, single arm clean, rack  
  - Squat, Clean, Rack, Overhead Press  
  - Add propulsion  
  - Add knee lift  
  - Squat propulsion to lunge snatch roll up - METABOLIC  
  - Build entire Squat sequence other side | Dome side up palming soft med ball in same hand as foot that is on top of the dome |
| **Dynamic Bird Dog** | |
| • One arm row wide  
  - Add Front Raise tempo slow  
  - Add Hamstring Curl to Row and Straight Leg Raise to Front Raise  
  - Kneel on top of dome for single arm biceps curls  
  - Single Arm Projection Curls...Repeat entire sequence on other side | Bird Dog position, one knee on dome, hands in front w/same hand as knee on dome palming soft med ball, & back leg extended. |
| **Dip and Crawl** | |
| • Triceps Dips  
  - Add Hip Bridge with Alt Elbow Strike  
  - Supine Plank, Side Plank, Supine Plank, Side Plank & crab walk | Dome behind hips, hands on dome |
### Warm Up

1. **Sun Stretch** • Forward Fold to dome • Half Extension w/hands on dome • Triceps hover/push-ups • Move hands in front of dome, press up to Cobra w/hover • Place hands on dome at ribs • Downward Facing Dog • Child’s Pose
2. One leg back w/knee tuck 3x • Opposite arm on floor, open hip • Replace hands on dome, jump or walk forward to Half Extension w/hands on dome, Reverse Swan Dive to standing

   - Repeat each movement 3x
   - Connect into a flow
   - Connect 1 & 2 in a flow
   - Repeat on both sides

### Chairs & Pyramids

1. **Chair on dome** • Rise to one toe, step back for soft landing, turn back foot out and hips forward • Chest expansion w/Forward Flexion • Reach arms around touch leg/shin/dome • Half Extension to Forward Fold • Bend front knee, lift back heel, step forward to Chair on dome
2. **Chair on dome** • Side Squat L off dome, Twist to R • R Knee down on dome, L leg long to side, Side Bend toward foot • Step up to Standing L/R

   - Start standing on top of dome
   - Repeat on both sides
   - Repeat on both sides

### Inner Hips Series

1. **Alt Side Lunges with Hands on Dome** • Side Twist R • Repeat L • Turn feet open to Garland Squat using Dome for leverage • Half Extension w/hands on dome to Standing
2. **R Knee on Dome, small step forward L** • Quadriceps Stretch R • Bigger step forward L into Hip Flexor Stretch w/Rotation • Angle biggest step out and roll around in hips • Upward Facing Dog

   - Child’s Pose b/t each stretch
   - Repeat sequence 1 between R & L sides

### Spinal Extension

1. **Torso on dome/toes on floor into Locust Flow** • Single Leg Bow • Child’s Pose • Full Bow option
2. **Turn back to Dome** • Feet up on dome behind, kneeling • Camel progressions • Downward Facing Dog

   - Repeat on both sides
   - Use towel to pad knees

### Passive Stretches & Relaxation

Sitting on dome, Forward Fold • Figure Four Stretch R • Dancer Stretch, repeat sequence other sides • Slide down dome, back supported, Wind Shield Wiper legs

Relaxation Options:
- Corpse with head and shoulders on dome
- Corpse with feet on dome
- Double Diamonds with head and shoulders on dome
- Side Cuddle around dome

www.BOSU.com
TRX will be providing attendees with access to session materials onsite.
Body leverage training is a hot trend in fitness. Exercising using body weight has been used for thousands of years, and is emerging as a popular work-out again. Plenty of research exists on the effectiveness of exercises such as push-ups (Cogley, et al., 2005), abdominal/core training (Monfort-Pañego, et al., 2009), and plyometrics (Markovic & Mikulic, 2010). This presentation will present, discuss, and demonstrate what the research indicates are the best exercises to enhance fitness using body weight. Body leverage training takes on many forms including push-ups, abdominal/back/core training, jump training, and partner resistance training. Body leverage training is at the forefront of innovative programming in the fitness industry. The research and efficacy of this form of training will be discussed with demonstrations of most of the exercises that appear in the research.

1) Warm-up

2) Push-Ups and Upper Body
   a) Research on effectiveness of push-ups with hands in different positions: “for greater muscle activation during exercise, then push-ups should be performed with hands in a narrow base position compared with a wide base position (Cogley, et al., 2005),
   b) “Perfect Push-up.” Perfect body position.
   c) “V” Push-up.
   d) Wide Hands Push-up.
   e) Plyo-Push-up.
   f) Modified Push-up.
   g) Multiple variations for hand placement for push-ups.
   h) Partner holding feet in air push-up (“Push-ups with the feet elevated produced a higher ground reaction forces than all other push-up variations, Ebben, et al., 2011).
   i) Plyo-Push-Ups: “fall push-ups required kneeling subjects to drop and then attempt to return to their initial position exercise achieved higher levels of muscular activation in the agonist and synergist muscle groups, and greater impact forces and impact force development rates.” (García-Massó, et al., 2011)
   j) Vertical Partner Push-Up
   k) Dips on partners knees with partner doing curl-ups and/or back bridge.
   l) Self-resistance – arm curls/tricep extension.
   m) Partner Standing Row and Partner Lat Pulldown

3) Abdominal/Back/Core
   a) Research on effectiveness of abdominal/core/back training.
   b) Neutral spine core training.
   c) Modified core training, Standing Front & Side Planks and Standing Bird Dog. For beginning exercisers and workplace training.
d) Front Plank, Modified on knees and normal with elbows under shoulder.  
 e) Right & Left Side Plank, Modified on knees and normal with elbows under shoulder.  
 f) Front plank and side plank pushing on partners hands . . . “Plank Arm Wrestle.”  
 g) Bird Dog, modified and regular to advanced.  
 h) Vertical core training – Arm Chops.  
 i) Pelvic stabilization exercises, Standing Cat Camel, Standing Pelvic Tilt, Pelvic Tilt with Ab Contraction, Pelvic Tilt-Ab Contract, Kelgal exercise (contracting and relaxing the muscles that form part of the pelvic floor, improve the tone and function of the pelvic floor muscles)  
 j) Pelvic stabilization: single leg pelvic stabilization.  
 k) Practice all exercises.  

4) Legs  
 a) Self-resistance for single joint exercise, open kinetic chain: quads and hamstrings with self-resistance.  
 b) Hamstring partner exercise (Nordic Hamstring Exercise: Lorenz & Reiman, 2011) for increasing eccentric strength and injury prevention.  
 c) Closed Kinetic Chain Leg Exercises: Partner Squats, Squat Jumps, Single Leg Squats, and Lunges with different arm movements and positions. How does arm position challenge the core?  
 d) Jump Training & Plyometric exercises: “stimulate the series elastic component of the muscle, a small amount of volume is required to bring about these positive changes i.e. 2-4 sets of 10 repetitions per session.” (Matavulj, et al., 2001, Blackey & Southard, 1987) or “4 sets of 8 repetitions.” (Gehri, et al, 1998).  
 e) Practice all exercises.  

5) Compound Exercises  
 a) Partner Pull-Up Dead Lift  

6) Periodization of Body Leverage Training  
 a) Endurance training for all body parts, reps or holding contraction for higher counts.  
 b) Why we need endurance for the core; endurance throughout the day.  
 c) Developing muscle strength with body leverage training, reps, static contraction, and speed of movement.  
 d) Power training for upper and lower body with jump training and Plyometrics, speed of movement.  
 e) Practice a periodization model.  

Take Away Messages  
 a) Understand the multiple ways that body leverage training can be used for all clients.  
 b) Understand the research justification for body leverage training.  
 c) Understand how to periodize a body leverage training program.  
 d) Get a great work-out!!
Research Citations & Web Sites for Body Leverage Training


Web Sites

I. INTRODUCTIONS
1. Nämaste! ("My inner peace meets, greets, and salutes your inner light")
2. Gratitude
3. Our Purpose Today: (stability and mobility)
4. This program is really about:
5. Resources/Equipment:
6. Theme:

II. THEORY
1. definition of mind-body fitness
2. most popular forms of mind-body fitness today
3. what research exists regarding these forms
4. how research is established and published
5. irony of time: these are the oldest exercise forms on the planet which are just gaining scientific study!

III. PRACTICAL
1. yoga
   • research sources available:
   • common published trends:
   • take-home theoretical message:
   • take-home practical implementation of example:
   • strength/flexibility: warrior crescent lunge low and high
   • flexibility: kneeling camel pose
   • strength: chair pose

2. Pilates
   • research sources available:
   • common published trends:
   • take-home theoretical message:
   • take-home practical implementation of example:
   • evolved swimming
   • standing articulation to floor and back
3. T’ai Chi/Chi Gong
   - research sources available:
   - common published trends:
   - take-home theoretical message:
   - take-home practical implementation of example:
     - painting the wall
     - flying bird
     - wise owl gazes backwards
     - galloping horse

4. Feldenkrais
   - research sources available:
   - common published trends:
   - take-home theoretical message:
   - take-home practical implementation of example:
     - tell, show, IMAGINE, do
     - getting up and down

Homework:

Summary:

Resources:

Final Take-Home Messages:
Build a Block Dance Inspired Cardio  
Presented by Carol Murphy

Workshop Description: If you ever wondered how to motivate people to move, dance-inspired cardio is for you. It’s the ideal combination of energy, creativity and fun in a workshop that shows you how to create and successfully teach an endless array of heart-pumping, calorie-burning cardio workouts. You’ll learn the base moves, movement transitions and choreography building methods that are critical to class success. Experience a master class that will excite and delight, plus take away key strategies for creating a winning workout experience for all.

Benefits of Dance Based Fitness Classes

- Physical
- Mental
- Emotional

Build A Block Workshop:

- Base Moves
- Movement Transitions
- Creating Mini Blocks - 16 counts
- Variables of complexity – within each mini block
- Assessing Level of Blocks
- Organizing your combos

Teaching Methods

1. Linear Progression
2. Pyramid method
3. Add-on method (Building Block)
4. Link method (Part to whole teaching)
5. Layering

Warm up for Dance Inspired High-Low

- Benefits of the Warm-up
- Warm-up design tips
- Putting it all together in a class

Music: Mixed Impact 145-165 BPM
Low Impact 135-145 BPM
Movement Transitions

Circle of Choreography
- All moves within a circle transition well
- Moves within circles that overlap transition well
- Moves between circles that do not overlap will not transition well

OTS= on the spot FB= front back RL= right left N= neutral RPT= repeat
LDF= left diagonal front RDF= right diagonal front C= count RTN= rotation
C= clockwise CC= counter clockwise

Inspired Energy Master Class Choreography

<table>
<thead>
<tr>
<th>Block</th>
<th>Move</th>
<th>Foot Strike</th>
<th>Counts</th>
<th>Direction / Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>a.</td>
<td>Walk Forward 4x, rock side 4c</td>
<td>RRLR, RLRL</td>
<td>1-4, 5-6, 7-8</td>
</tr>
<tr>
<td></td>
<td>b.</td>
<td>Mambo cha-cha-cha 2x, pivot</td>
<td>RLR, RLR-LRL, RL</td>
<td>1-2, 3-4, 5-6, 7-8</td>
</tr>
<tr>
<td></td>
<td>c.</td>
<td>Tap 3 (f,b,f); hop on r / r</td>
<td>RRR, R; LLL, L</td>
<td>1-4, 5-8</td>
</tr>
<tr>
<td></td>
<td>d.</td>
<td>Cross step touch 2x (R, L); *jump 5-6-7-8</td>
<td>R, L; L, R, RLRL</td>
<td>1-4, 5-8</td>
</tr>
<tr>
<td>Two</td>
<td>a.</td>
<td>Grapevine 2</td>
<td>R, L</td>
<td>1-4; 5-8</td>
</tr>
<tr>
<td></td>
<td>b.</td>
<td>Mambo cha cha cha + 4c march or turn</td>
<td>RLR, RLR; LRLR; LRL</td>
<td>1-2, 3-4, 5-8</td>
</tr>
<tr>
<td>counts</td>
<td>c.</td>
<td>6c mambo 2x + cha cha 2x</td>
<td>LRLRLR; LRLRLR; LRLR</td>
<td>1-2, 3-4, 5-6, 7-8</td>
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<tr>
<td>Three</td>
<td>a.</td>
<td>Agility shuffle 4c + 2 JU; r</td>
<td>RRLR: NN; LRLR, NN</td>
<td>1-4, 5-8; 9-16</td>
</tr>
<tr>
<td></td>
<td>b.</td>
<td>Step curl 6 “u” + dbl curl</td>
<td>1-16</td>
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<tr>
<td>counts</td>
<td></td>
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<tr>
<td></td>
<td>b.</td>
<td>6ct reverse mambo 2x + reverse turn</td>
<td>RLR, LRL, RLR</td>
<td>1-4, 5,6,7,8</td>
</tr>
<tr>
<td>counts</td>
<td>c.</td>
<td>Alt reach RLR, HH, roll-up; 4 c turn R, 4c L</td>
<td>N 1-8, RLRRLRRL</td>
<td>1-2-3, 4-5-6, 7-8</td>
</tr>
</tbody>
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Thank you for attending Dance Inspired Cardio
website: www.carolmurphy.com email: murphfit@rochester.rr.com
Schwinn will be providing copies for the attendees and handing them out in the room onsite for Schwinn Cycling, Workshop and workout sessions. Thank you.
# BOSU® Mind-Body Fusion

<table>
<thead>
<tr>
<th>Pilates Sequences</th>
<th>Yoga Sequences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pilates Warm-Up Sequence</strong></td>
<td><strong>Yoga Warm-Up Sequence</strong></td>
</tr>
<tr>
<td>1. Standing Spine Articulation</td>
<td>1. Mountain Pose to Forward Bend</td>
</tr>
<tr>
<td>2. Roll Up</td>
<td>2. Forward Extension to Plank</td>
</tr>
<tr>
<td>3. Overhead Reach</td>
<td>3. Plank to Push-Up</td>
</tr>
<tr>
<td>5. Chest Lift with Rotation</td>
<td>5. Three-Legged Dog to Crescent Lunge</td>
</tr>
<tr>
<td>6. Forward Bend to Mountain Pose</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pilates 1: Prone Sequence</th>
<th>Yoga 1: Kneeling and Prone Sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Frog</td>
<td>1. Cat Stretch</td>
</tr>
<tr>
<td>2. Extended Frog</td>
<td>2. Low Lunge to Hamstrings Stretch</td>
</tr>
<tr>
<td>3. Openings and Beats</td>
<td>3. Revolving Lunge</td>
</tr>
<tr>
<td>4. Basic Back Extension</td>
<td>4. Quad Stretch</td>
</tr>
<tr>
<td>5. Double Leg Kick</td>
<td>5. Upward Facing Dog</td>
</tr>
<tr>
<td>6. Swan</td>
<td></td>
</tr>
<tr>
<td>7. Swimming</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pilates 2: Full Body Integration Sequence</th>
<th>Yoga 2: Standing Sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Front Support</td>
<td>1. Standing Lateral Flexion</td>
</tr>
<tr>
<td>2. Leg Pull Front</td>
<td>2. Chair Pose</td>
</tr>
<tr>
<td>3. Knee Stretch</td>
<td>3. Revolving Chair</td>
</tr>
<tr>
<td>4. Pilates Push-Up</td>
<td>4. Chair Pose with Eagle Arms</td>
</tr>
<tr>
<td>5. Crescent Lunge</td>
<td>5. Crescent Lunge to Warrior 2</td>
</tr>
<tr>
<td>6. Side Angle to Low Lunge</td>
<td></td>
</tr>
</tbody>
</table>
### Pilates 3: Core Sequence
- 1. Double Leg Stretch
- 2. Single Leg Stretch
- 3. Criss Cross
- 4. V-Sit
- 5. Teaser 1
- 6. Teaser 2

### Yoga 3: Seated Poses Sequence
- 1. Seated Pelvic Rock
- 2. Seated Forward Bend
- 3. Seated Gluteals Stretch
- 4. Seated Twist
- 5. Straddle Forward Bend
- 6. Boat Pose

### Pilates 4: Full Body Integration Sequence
- 1. Back Support
- 2. Leg Pull Back
- 3. Hug A Tree
- 4. Up Circle – Down Circle
- 5. Changes
- 6. Helicopter

### Yoga 4: Lateral and Prone Poses Sequence
- 1. Lateral Flexion
- 2. Plank to Pigeon
- 3. Pigeon to Splits
- 4. Side Balance to Locust

### Pilates cooldown: Elongation Sequence
- 1. Seated Spine Stretch
- 2. Spine Twist
- 3. Saw

### Yoga cooldown: Supine Stretch Sequence
- 1. Supine Knee Hug to Hamstrings Stretch
- 2. Back Extension
- 3. Corpse Pose
- 4. Seated Cross-Leg Balance

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info@helenvanderburg.com
TRX will be providing attendees with access to session materials onsite.
I. Wellness champion network introduction
   a. Definition/clarification of wellness champion network for this presentation
   b. Conceptual structure for wellness champion networks
      i. Committee - Executives and leaders who represent key business units
      ii. Liaison - Staff whose job description includes health and wellness responsibilities
      iii. Champion - Volunteers who represent the wellness program among their peers and within their households

II. Summary of research
   a. Studies on face-to-face networks and influence on health
      i. Spread of obesity (Christakis and Fowler, 2007 New England J of Med)
         • People who gain weight increased the chances that their friends would gain weight
         • Friends and relatives of the same gender had a greater influence than those of different gender
         • Smokers were more likely to be associated with other smokers
         • Spouses, siblings, friends and co-workers influenced someone’s chances of being a smoker
   b. Gallup research on benefits of social interaction
      i. Well-being and happiness significantly higher for people who report ≥ six hours of social interaction per day
      ii. Worry and stress decreases significantly with ≥ six hours of social interaction in a day
      i. Survey of 730 companies and more than 1,500 worksite health practitioners
      ii. Assessed companies’ status with regard to Healthy People 2010 objectives
      iii. Companies with onsite staff were 10 times more likely to meet all Healthy People 2010 objectives
   d. Emerging research from StayWell (in review for publication)
      i. Analysis of 56 companies, 390,000 individuals, to assess best practices to encourage health coaching participation and improve risk reduction in worksite health
      ii. Results suggest that wellness champion networks strengthen the association between age and behavior change, such that strong networks were associated with higher risk change when they were implemented among older employee populations.
III. Case study client overview
   a. Taft-Hartley Trust fund structure
   b. Wellness program overview
   c. Plan-participant population demographics

IV. Industry approaches and case study strategies

For more than three decades, the health promotion industry has developed research and practices that can help employers improve the health of their workforces. These successful practices can be used to guide strategies for wellness champion recruitment and retention.

a. Recruitment strategies of wellness champions used in case study
   i. Industry approach: senior leader support
      • Strategy: collected management referrals
   ii. Industry approach: social influences
      • Strategy: established group networking
   iii. Industry approach: peer education
      • Strategy: developed co-champion process
         a. Collaboration between friendly co-workers
         b. Coverage throughout departments and shifts

b. Additional recruitment strategies based on employee health management program design for reference
   i. Program participants who become leaders
   ii. Vendor integration based on professional relationships
   iii. Satisfaction surveying to gauge employee awareness

c. Retention strategies of wellness champions used in case study
   i. Industry approach: data collection
      • Strategy: conducted new champion survey and complete communications review
   ii. Industry approach: contingency management
      • Strategy: implemented champion rating system
   iii. Industry approach: educational materials to support program engagement
      • Strategy: provided idea lists and toolkits

d. Additional retention strategies based on employee health management program design for reference
   i. Orienting participants to program availability at launch
   ii. Data review to develop expectations
   iii. Providing communication messaging and talking points
   iv. In person educational opportunities

V. Conclusion | Q&A
**Take away items**

1. Research — Describe the results of at least one study discussed in the presentation that will help defend the use of workplace wellness champion networks.

2. Plan — Name three concepts or practices you are currently using in your employee health management program that could be applied to building a wellness champion network.

3. Implement — Apply one new strategy for recruiting or retaining wellness champions that was employed by the Trust fund discussed in this presentation.

*If you were unable to attend this presentation and would like copies of the slide deck we presented, please email Sarah Monley at sarah.monley@staywell.com or Stefan Gingerich at stefan.gingerich@staywell.com.*
Rethinking Energy Balance: If a calorie is a calorie, why don’t we lose weight by the books?

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Why do people lose different amounts of weight on the same diet and exercise plan? Numerous biological and behavioral factors regulate and influence energy balance and body weight. When one side of the energy balance equation is changed a simultaneous change occurs on the other side. Thus, energy balance is dynamic and constantly changing in response to a myriad of factors. How do we manage this teeter-totter effect? What weight loss approaches have research evidence to back their recommendations? This talk will sort the fact from the fiction around weight loss.

1) Introduction and Overview

2) What is the difference between static and dynamic energy balance?
   a) Definition: Static Energy Balance and how we calculate weight change
   b) Definition: Dynamic Energy Balance

3) What factors contribute to our current weight?
   a) Non-modifiable (adults): Genetics, Epigenetic, Age, Gender, appetite/body weight regulating hormones; Impact of epigenetics on the next generation (material diet)
   b) Modifiable factors: Diet, Physical activity level (type), Environment
   c) How do alterations in diet impact energy expenditure?
   d) How do alterations in physical activity impact energy intake?

4) What do we care?
   a) How do we present energy balance to your clients?
   b) What do you say when they don’t get the response they expect or the response you told them to expect.
   c) How can we do a better job of predicting weight change based on diet and PA?

5) What can we do about it? Are their diet and exercise interventions that work?
   a) Dietary factors:
      • Energy Density
      • Fiber,
      • Protein,
      • Type of fats: Omega 3 Fatty acids,
      • Fat partitioning factors: Green tea, calcium/dairy, caffeine
   b) Exercise factors: High intensity exercise; resistance training;

6) Talk home message and conclusion
At the end of this session, participants will be able to:

a) Define and explain static vs. dynamic energy balance.
b) Explain to a client why people lose weight differently on the same diet and exercise program.
c) Identify diet and exercise practices that may help management of weight using the dynamic energy balance principles.

Research References:

Web sites:
NIH Body Weight Simulator: http://bwsimulator.niddk.nih.gov/
Summary: Fitness professionals need creative and effective methods to impact the health and physical fitness of individuals, organizations and communities by using low and no cost resources and by identifying useful resources within existing organizational budgets. This presentation will describe the development and implementation of fitness programs that have demonstrated success even when faced with limited or no financial resources. Presenters will identify free or low-cost methods to conduct environmental inventories, acquire equipment, deliver assessments, and establish programs for children and adults.

I. Global Recommendations for Physical Activity

A. Physical activity guidelines for children and adults

B. Global sloth: where do we go from here?

B. Why move? Why Play?

II. Overcoming Barriers to Physical Inactivity

A. Limited financial resources

B. Environmental considerations

C. Limited access to equipment, facilities, and qualified fitness professionals

D. Lack of time and motivation

E. Misperceptions about “exercise”

III. Promoting active lifestyles in adults and older populations

A. Need for creativity
1. When fitness centers work and when they don’t
2. Alternate locations for fitness programs

B. Joint use agreement
   1. Necessity
   2. Content
   3. Example

C. Developing and implementing adult programs on a limited budget
   1. Finding partners
   2. Identifying appropriate locations
   3. New assessment tool(1)
   4. Other resources
   5. Recruiting members/clients
   6. Maintaining relationships

D. Sample programs
   2. Physically Active Residential Communities and Schools

IV. Activating Inactive Youth

A. Children are not miniature adults
   1. Fundamental principles of pediatric exercise science
   2. Identifying youth with “exercise deficit disorder”

B. Developing a partnership with schools and community centers
   1. Service learning for college students
2. Role of physical education teachers and health care providers

C. Developing and implementing youth programs on a limited budget
   1. Visit existing programs
   2. Think big but start small
   3. Effective program design and instructional strategies
   4. Examples of no (or limited) budget activities for youth
   5. Advertising youth programs with no budget
   6. Get “connected”

D. Sample program ideas
   1. Project JUMP: A community-based intervention for underserved youth
   2. FIT for youth: A school-based program for children and adolescents

V. Four Take-Away Messages
   A. Fitness professionals need to be aware of common barriers to physical activity and develop creative and cost-effective strategies to overcome them in order to promote physically activity lifestyles for all youth and adults
   B. Existing resources in most communities can be used to begin and maintain exercise programs for children and adults at little or no cost to the fitness professional and program participants.
   C. Both resources and partnerships can be identified to increase the visibility and effectiveness of both the fitness professional and the exercise program.
   D. There are simple assessments available to assess participant progress and show program success.

VI. Selected References


Physically Active Residential Communities and Schools
http://www.youtube.com/watch?v=QaYJ6xS6P5Y

Chase Near Eastside Legacy Center (The 2012 National Football League Super Bowl Legacy Project)
http://www.youtube.com/watch?NR=1&v=udGVHeF8t7I&feature=endscreen
Protecting Against Negligence: Understanding Defenses that Work and Don’t Work!

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Despite many advances to improve fitness safety in the industry, the number of injuries associated with fitness activities continues to increase each year. After an injury occurs, injured parties do not hesitate to file a negligence claim or lawsuit against fitness professionals and/or facilities. Several defenses are available to refute (or defend) negligence claims such as the Primary Assumption of Risk defense and the Waiver defense. It is important to understand under what circumstances these defenses work and don’t work. Case law examples will be described to help demonstrate the distinction between these two defenses and the specific protection they each provide. Participants will receive a free poster—the Risk Management Pyramid—that depicts the many defenses that can provide protection against negligence.

I. Injury Data
   a. CDC -- National Center for Injury Prevention and Control
   b. U.S. Consumer Product Safety Commission (CPSC)
      i. National Electronic Injury Surveillance System (NEISS)
      ii. Weight Training-Related Injuries – NEISS
   c. Examples of injuries incurred by plaintiffs in negligence lawsuits

II. Causes of Injuries from a Legal Perspective
   a. Inherent risks
   b. Negligence
      i. Ordinary
      ii. Gross, willful/wanton conduct, reckless conduct
   c. Product defects/product liability

III. Brief Overview of Negligence
   a. Definition
   b. Four elements the plaintiff has to prove

IV. Areas of Potential Legal Liability that Expose Fitness Personnel/Facilities to Negligence

V. Defenses that Defendants have Available to Refute (or Defend) Negligence Claims
   a. BEST DEFENSE – Do not breach your duties
   b. Assumption of risk
   c. Waiver (prospective release)
   d. Comparative or contributory negligence
   e. Immunity
   f. Statutes of limitations
   g. Product defects/product liability

NOTE: Defenses that will not work in a court of law: (a) not enough staff (b) takes too much time, (c) costs too much, and (d) that’s how other facilities do things

VI. Primary Assumption of Risk Defense
   a. Definition
   b. A defense that is used for injuries due to “inherent” risks
   c. Requirements for it to be an effective defense

VII. Waiver Defense
   a. Definition
   b. A defense that is used for injuries due to “ordinary” negligence
   c. Requirements for it to be an effective defense
      i. Exculpatory language that absolves the defendant of its own negligence
      ii. Public policy issues
Case Law Examples

Resources to Incorporate the Primary Assumption of Risk and Waiver Defenses into your Risk Management Plan

Risk Management Pyramid

Take Away Points -- Participants attending this session will be able to:
1. Distinguish injuries due to inherent risks and negligence.
2. Describe the primary assumption of risk and waiver defenses and under what circumstances they are effective in protecting defendants.
3. Understand the application of the primary assumption and waiver defenses using case law examples.

INJURY DATA

National Center for Injury Prevention and Control: About 11,000 persons per day receive treatment in U.S. Emergency Departments for injuries sustained during sport, recreation, and exercise activities. Injuries are a major reason individuals stop participating in physical activity. The Center has several research goals including identifying ways to minimize injury risks among people who are beginning or increasing physical activity (1).

U.S. Consumer Product Safety Commission – NEISS Data: Between 2007 and 2009, the number of injuries (U.S. hospital emergency room data) increased by 41%, 19%, and 23% for exercise activities (a) without equipment, (b) with weightlifting equipment, and (c) with other exercise equipment, respectively (2). Based on NEISS data, number of weight lifting injuries from 1990 -2007 was estimated at 970,810 (3). This study also analyzed the types of injuries by body region. Another NEISS study estimated hemorrhages/strokes due to soaring blood pressures during weight lifting to be 1,287 from 2002-2010 (4). The Valsalva maneuver can be avoided by proper breathing and not holding one’s breath.

Examples of Injuries Incurred by Plaintiffs in Negligence Lawsuits: Cardiac arrest, stroke, fractured bones, serious back/neck injuries, crushed trachea, rhabdomyolysis, and deaths due to head injuries, cardiac arrest, and stroke

CAUSES OF INJURIES FROM A LEGAL PERSPECTIVE (5)

Inherent Risks -- no one’s fault; they just happen (inseparable from the activity)

Ordinary Negligence -- the fault of the participant (e.g., misuse of exercise equipment) and/or the fault of the facility personnel (e.g., failure to meet the standard of care due to “careless” conduct – omission or commission)

Gross Negligence -- also referred to as willful/wanton conduct, reckless conduct

Product Defects/Product Liability -- the fault of the manufacturer due to some type of defect in the product, e.g., exercise equipment

BRIEF OVERVIEW OF NEGLIGENCE (5)

Definition: Negligence is “failing to do something” that a reasonable, prudent professional would have done or “doing something” that a reasonable, prudent professional would not have done, given the same or similar circumstance. Negligent conduct is “careless” conduct – either by omission (failure to perform) or commission (improper performance).

Four elements that the plaintiff must prove to win his/her negligence lawsuit
1. Duty – the duty or standard of care the defendant (health/fitness professional and/or facility) owes to the plaintiff (injured party)
2. Breach of duty – the defendant’s conduct did not meet the standard of care
3. Causation – the breach of duty was the “cause” of the plaintiff’s injury
4. Harm/damages – the harm that occurred to the plaintiff resulting in damages (losses) to the plaintiff

AREAS OF POTENTIAL LEGAL LIABILITY THAT EXPOSE FITNESS PERSONNEL/FACILITIES TO NEGLIGENCE

Each of the following represents an area in which numerous legal liability exposures exist in health/fitness programs and facilities (1) Employment issues, (2) Pre-activity health screening, (3) Health/fitness assessment and prescription. (4) Instruction and supervision, (5) Exercise equipment, (6) Facility issues, and (7) Medical emergency action plans (EAPs). Many potential legal duties exist in each of the 7 areas.
COMMONLY USED DEFENSES THAT WORK – PRIMARY ASSUMPTION OF RISK & WAIVERS

Primary Assumption of Risk (PAR) – a defense that can be used for injuries/deaths due to “inherent” risks – a participant must know, understand, and appreciate the inherent risks associated with the activity and voluntarily assumes those risks. Generally, the law does not allow plaintiffs to recover damages for risks they assume. Factors that courts will consider to determine if this defense works: (a) nature of the activity, *e.g.*, sports/recreation vs. fitness, (b) experience of the plaintiff, *e.g.*, novice vs. expert, and (c) cause of the injury/death, *i.e.*, inherent risks or negligence.

Waiver – a contract (prospective release) signed by an individual prior to participation that contains *exculpatory* language that absolves the defendants (*e.g.*, fitness personnel and facilities) from their own “ordinary” negligence. A variety of factors must be considered in order for the waiver to be enforceable. Waivers are not enforceable in certain states based on statutes or public policy issues.

CASE LAW EXAMPLES

Rutnik (6) – Racquetball player dies of a cardiac arrest during a tournament – the PAR defense was effective in protecting the defendants because he was an “experienced” player and therefore knew, understood, and appreciated the inherent risks associated with participation in a vigorous sport including cardiac arrest/death.

Corrigan (7) – Plaintiff (novice) fell off a treadmill and injured her ankle – her personal trainer did not instruct or supervise her. The PAR defense was not effective because of the negligence of the trainer and because the court stated that fitness activities are not considered sporting activities in which the PAR defense would likely apply.

Santana (8) – Plaintiff fell during a step class and fractured her foot – the PAR defense was not effective in protecting the defendants because the instructor increased the risks over and above those inherent in a step aerobics class. The waiver defense was not effective either because the court did not approve of the exculpatory language appearing on the back side of a membership application document in small font.

Stelluti (9) – Plaintiff was injured during a spinning class and claimed the instructor was negligent. The New Jersey Supreme Court ruled that the waiver protected the defendants from their own negligence. However, two dissenting judges provided their opinions about waivers, *e.g.*, they encourage a lack of care.

Roer (10) – Plaintiff was injured when he fell off a treadmill caused by an exercise ball getting sucked under the belt propelling the treadmill forward several feet. The waiver did not protect the defendants from their own negligence – it did not contain proper exculpatory language and even if it did, it would not be allowable under a NY statute that prohibits waivers.

RESOURCES and the RISK MANAGEMENT PYRAMID

Resources – to learn how to incorporate the primary assumption of risk and waiver defenses

Risk Management Pyramid – free poster depicting 7 lines of defense to help protect against negligence

References

Change is HARD
1. Exercise examples: it doesn’t take much to have an impact….why are so few Americans following our advice to “eat less, move more?”
2. CDC 2010: 33% never exercise, 55% no vigorous activity; even worse in older populations

II. Implementation Intentions: A research based approach
1. Resolutions….Intentions….
   Why do people who intend to “do” something not get it done?
2. Intentions indicate you are ready to act
   “Forming a behavioral or goal intention signals the end of the deliberation about what one will do and indicates how hard one is prepared to try, or how much effort one will exert, in order to achieve desired outcomes.” (Webb & Sheeran, 2006)
3. Intentions = Key Determinant?
   Assumed to contain the essence of motivational factors that influence behavior
   Goal theory, Health behavior models & Attitude-behavior theories point to intentions as a key to behavior change
4. Theory of Planned Behavior (TPB) targets goal directed, volitional actions
5. Do both intention AND behavior change? Meta-analyses show that a medium-to-large change in intention (d=0.66) leads to a small-to-medium change in behavior (d=0.36).
6. How to move from Intention to Action?
   How do you activate and strengthen intentions - change behavior in the real world?
   Having a Goal/Intention ≠ having a Plan to accomplish it
7. Goals ≠ Implementation Intentions
   Differ on content and structure
   Goal intention = what you intend to do/achieve [I’m going to start exercising]
   Implementation Intention = when, where, and how you intend to achieve it [This Friday, at 10 a.m., I will go to the club for a circuit training class]
8. Implementation Intentions: May bridge the “intention-behavior” gap
   Determine how you intend to implement specific actions to achieve your goal
   Create an “if-then” scenario: you connect a good opportunity to act with defined behaviors in that situation
   “See and Seize” opportunity
9. Implementation Intentions: Do they work?
   Robust outcomes across variations in study design, measures, and goal domains
   If-then planning facilitated goal-striving regardless of self-regulatory problem
   Medium to large effect sizes: initiating goal striving, shielding goals from unwanted influences, disengaging from failing goals, and preserving self-regulatory capability for future goal striving
10. Sample Research with Implementation Intentions
    Cancer screens? Reproductive health? Sport anxiety?
11. iPhone App for Behavior Change using Implementation Intentions
    Brisk walk for weight loss? Stress reduction? Better moods?
    It’s simple, easy….so why doesn’t everybody do it?
12. Study Design/Limitations
    a. Random assignment to one of three conditions: Control, II + Process Reminder, and
II + Goal Reminder

b. External validity = will it generalize to other groups?

All participants were recruited using an e-mail distributed to a participant database that outlined the eligibility criteria and described the study as concerning attitudes & behavior relating to walking. Participants were required to exercise less than three times per week (including brisk walking), not have a medical condition that prevented them from walking briskly, own a cell phone, and be able to attend a second (follow-up) session exactly 4 weeks after their first session.

*Average age of 24, mean BMI = 22 [normal/healthy], and got paid or course credit.

13. Three groups: Controls
The control group received no text messages and was not required to form implementation intentions. However, as with all other participants, they provided their cell phone number and were informed of the current governmental guidelines for physical activity (30 min/day of at least moderate-intensity physical activity 5 or more days of the week) and the benefits of meeting these guidelines. Furthermore, they were told they did not meet these guidelines. Brisk walking was suggested as a good means to help them reach these targets, and they were then explicitly asked to try to walk for at least 30 min on 5 or more days per week (in bouts of at least 10 min).

14. Three groups: II + Plan Reminder

Participants in this condition received the same text as the control group. Additionally, they were informed that it can be “helpful to make very specific plans regarding how you will walk briskly five times per week and receive text message reminders of these plans.” They were also told that they were free to choose the situations in which to walk that would be easy, convenient, or enjoyable for them, and they were able to decide when they would receive text message reminders of these plans.

15. Three groups: II + Goal Reminder

The manipulation received by this group was exactly the same as that presented to those in the implementation intention + plan reminder condition with the following difference. Although participants were requested to formulate implementation intentions, they did not receive reminders of these plans. Instead, they were informed that it would be helpful to receive reminders of their brisk walking goal. They were subsequently required to decide the days and times when they would receive these text message reminders. The participants in this condition could also log into the system to change the content of the text message reminders, the number of text message reminders they would receive, or when these text messages were delivered, and they received text messages for the full 4-week period.

16. How did it work? Cellphones run the treatment!
Messages either:

a. Provided information, but also directed them to specific exercise actions for II + PLAN Reminders; or
b. Provided information + reminded them about their GOAL

17. Bottom Line? Good news!
Moderate effects on self-reported exercise in both II groups compared to controls
After one month, 42% and 45% of the II groups reported meeting standards for regular exercise compared to 22% for the control group

18. Real bottom line?
Cheap & easy!
Set a goal, structure the process of achieving it, and implement the process using reminders that link to the plan or the goal itself
III. Change is Hard! Time for a SWITCH

1. Direct the Rider
   Is it resistance? Or lack of clarity?
   Follow the Bright Spots
   Script the Critical Moves
   Point to the Destination

2. Motivate the Elephant
   Is it laziness? Or exhaustion?
   Find the Feeling
   Shrink the Change
   Grow Your People

3. Shape the Path: Is it a people or a situation problem?
   Tweak the environment
   Build Habits
   Rally the Herd

4. Bright Spot Recipe for Vietnamese families
   Gather data on the issue (height/weight of all kids)
   Study data - find the bright spots (some kids healthy, despite being poor)
   Identify the “normal” way to do things (most families serve 2 large bowls of white rice)
   Study bright spots - what are they doing differently? (4 small meals, include potato greens & small shrimp)
   Ensure these actions are not “exceptional” (no “rich uncles” - need scalable strategies)
   Reproduce bright spot practices (cooking circles, shared, learned)

IV. Three Key Take-Aways

1. Change is HARD! We need strategies that help in the real world.
2. Consider Implementation Intentions as a strategy for change: when, where, how you plan to achieve your goal or perform your new behavior.
3. Develop plans for strategic change that targets the head, the heart, and makes the path easier.

Selected References (in order of appearance in talk)

Can implementation intentions and text messages promote brisk walking? A randomized trial. Prestwich, Andrew; Perugini, Marco; Hurling, Robert
I. Goals for Today
   - Identify, Understand, and Provide Solutions to the “Why’s”

II. Self Introspection: Do We Really Deserve the Referrals?

III. What Do We Want vs. What They Want

IV. Understanding Why Things Are the Way They Are
   - What They Think We Do
   - Things They Are Afraid Of

V. What We Actually Do

VI. Top 10 Reasons Why Dr’s Don’t Prescribe Exercise

VII. Ways to Get Them To Prescribe Exercise
   - Demonstrating Your Value and Worth
   - Show Them You Are Different
   - Demonstrate How You Can Help Them

VIII. Ways to Get Them to Prescribe Exercise

XI. (9) Governing Principles
   - Overload, Specificity, Progression, Variation, Individuality,
     Reversibility, Diminishing Returns, Recovery, Safety
Outcome Measures Made Simple

Carol Kennedy-Armbruster, Ph.D.
Indiana University, Department of Kinesiology
E-mail: cakenned@indiana.edu

I. Introduction
   A. Presentation outline/objectives
   B. Overview of moving from manager to researcher/evaluator
   C. What I wished I had known and measured as a fitness manager

II. Why Measure health outcomes? How are we measuring outcomes related to health and wellness?
   A. How does measuring outcomes relate to marketing/validation of programs?

III. Learning what participants want physical activity/exercise to do for them.
   A. Example of analysis utilizing the questions below:

Exercise/Physical Activity History

What do you want exercise to do for you? Please rate the importance of each item from the scale listed below.

<table>
<thead>
<tr>
<th>Extremely Important</th>
<th>Somewhat Important</th>
<th>Not at all Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

_____ Improve cardiovascular fitness  _____ Improve performance for a specific sport

_____ Weight loss  _____ Ability to cope with stress

_____ Improve muscle definition  _____ Improve flexibility

_____ Increase strength  _____ Increase energy level

_____ Feel better  _____ Improve daily functioning

_____ Improve performance on the PRT/PFT/CFT  _____ Improve overall health and wellness

IV. Sitting time research

A. How to measure sitting time and how sitting time relates to other health measurements:

Circle the amount of time you spend sitting during the course of most days of the week:

a. Almost none of the time
b. Approximately ¼ of the time
c. Approximately ½ of the time
d. Approximately ¾ of the time
e. Almost all the time
V. Simple fatigue measurements: Fatigue Severity Scale (FSS)

**Circle** the response which represents how strongly you agree or disagree with the following questions:

<table>
<thead>
<tr>
<th>During the past week I’ve found that</th>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My motivation is lower when I am fatigued.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>2. Exercise brings on my fatigue.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>3. I am easily fatigued.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>4. Fatigue interferes with my physical functioning.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>5. Fatigue causes frequent problems for me.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>6. My fatigue prevents sustained physical functioning.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>

VI. Sleep survey – Epworth Sleepiness Scale

**Circle** the response which most accurately answers the following questions:

How likely are you to doze off or fall asleep in the following situations?

<table>
<thead>
<tr>
<th>Situation</th>
<th>Never - Slight chance - Moderate chance - High chance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sitting and Reading</td>
<td></td>
</tr>
<tr>
<td>2. Watching TV</td>
<td></td>
</tr>
<tr>
<td>3. Sitting, inactive in a public place (e.g., a theater or a meeting)</td>
<td></td>
</tr>
<tr>
<td>4. As a passenger in a car for an hour without a break</td>
<td></td>
</tr>
<tr>
<td>5. Lying down to rest in the afternoon when circumstances permit</td>
<td></td>
</tr>
<tr>
<td>6. Sitting and talking to someone</td>
<td></td>
</tr>
<tr>
<td>7. Sitting quietly after a lunch without alcohol</td>
<td></td>
</tr>
<tr>
<td>8. In a car, while stopped for a few minutes in the traffic</td>
<td></td>
</tr>
</tbody>
</table>

VII. Functional Movement Screening in relation to traditional biometric screening of clients to measure outcomes.

A. What is functional movement screening?

B. How does it relate to traditional biometric screening/Analysis of a five year study of FMS/health outcomes with the US Navy.

[http://www.navyfitness.org/shape/](http://www.navyfitness.org/shape/)
VIII. Four Take-Away Messages

A. Acquire four surveys to analyze physical activity/exercise history, sitting time, fatigue and sleep in order to enhance program analysis/validity of health outcomes.

B. Analyze FMS results in reference to traditional biometric screening of a five year data project with the US Navy.

C. Connect the importance of positive health messaging, outcome analysis, and research with program delivery.

IX. Selected References

Sitting time:

Fatigue:

Sleep:
- [http://epworthsleepinessscale.com/](http://epworthsleepinessscale.com/)

Functional Movement Screening: FMS:
- [http://www.functionalmovement.com/](http://www.functionalmovement.com/)
Sole Training® is a foot fitness program based on two sequences. The self-massage sequence is restorative and therapeutic; compare it to a yoga class (for your feet). The standing sequence promotes strength, endurance, flexibility and coordination; compare it to a boot-camp workout (for your feet). These exercises work; we’ve been doing them for over a decade.

*The Sole Training® video download is available at willPowerMethod.com

What is foot fitness?
Building muscular strength, endurance, flexibility and neuro-muscular awareness in the feet and ankles.

What are the benefits of foot fitness?
According to Vibram FiveFingers®, exercising while barefoot, or wearing minimal shoes provide the following benefits:

1. **Strengthens Muscles in the Feet and Lower Legs**
   Wearing minimal shoes, or training barefoot will stimulate and strengthen muscles in the feet and lower legs, improving general foot health and reducing the risk of injury.

2. **Improves Range of Motion in Ankles, Feet and Toes**
   No longer ‘cast’ in a traditional, structured shoe, the foot and toes move more naturally.

3. **Stimulates Neural Function Important to Balance and Agility**
   When barefoot or wearing minimal shoes, thousands of neurological receptors in the feet send valuable information to the brain, improving balance and agility.

4. **Eliminate Heel Lift to Align the Spine and Improve Posture**
   By lowering the heel, your bodyweight becomes evenly distributed across the footbed, promoting proper posture and spinal alignment.

5. **Allow the Foot and Body to Move Naturally**
   Which just FEELS GOOD.
### Sole Training® Massage Sequence

**preparation:** mats, blankets, blocks, towels, foot lotion  
**time:** 3-10 minutes  
**when:** prior to any workout, after any workout, before bed or upon waking

<table>
<thead>
<tr>
<th>EXERCISE</th>
<th>EXECUTION</th>
<th>FUNCTION</th>
</tr>
</thead>
</table>
| **TOE GYMNASTICS**| Use your fingers to lengthen your toes:  
• Long stretch (3 joints except Big Toe)  
Use your fingers to spread your toes:  
• Splits (forward and back)  
• Splits (wide)  
• Fans | **LOCALLY:** Circulation, Toe flexibility and mobility leading to enhanced balance.  
**STIMULATES:** Sinuses, Eyes, Ears, Pituitary Gland, Neck, Equilibrium |
| **TRANSVERSE ARCH** | Use your thumb finger to work deep between the bones; manipulate and tenderize the soft tissue between your 5 metatarsals. | **LOCALLY:** Circulation, Releases adhesions and scar tissue in transverse arch area  
**STIMULATES:** Heart, Lungs, Shoulder, Diaphragm, Thyroid, Thymus, Solar Plexus |
| **LONG ARCH**     | Use knuckles or elbow to massage the long arch (and plantar fascia) of your forefoot. Use deep sweeping motions. | **LOCALLY:** Circulation, Flexibility in Long arch, stimulates arch awareness, relieves general foot cramps / pain  
**STIMULATES:** Spleen, Kidney, Ascending & Descending Colon, Pancreas, Adrenals, Bladder, Intestines, Liver |
| **HEEL AWAKENING**| Using your knuckles as a small “meat tenderizer” gently pound, plump and circulate the area around the calcaneus (heel bone). | **LOCALLY:** Increased circulation and revitalization  
**STIMULATES** Pelvis, rectum, sciatic, ovaries/ testes |
| **ACHILLES TENDON & FRONTANKLES** | Use your thumb and first two fingers to squeeze the base of your Achilles. Wrap hands around ankle (facing each other). Create gentle warmth by “wringing” out the ankle. | **LOCALLY:** Awareness, flexibility, relaxation  
**STIMULATES** General reproduction, elimination |

### Sole Training® Standing Sequence

**preparation:** equipment free, shoeless  
**time:** 3-10 minutes  
**when:** prior to any workout

<table>
<thead>
<tr>
<th>EXERCISE</th>
<th>EXECUTION</th>
<th>FUNCTION</th>
</tr>
</thead>
</table>
| **LANDING PAD + TOES** | - Lift toes off the floor and recognize full landing pad space  
- Lift toes up as high as possible  
- Spread all 10 toes out as wide as possible | Neuromuscular coordination leading to greater muscular recruitment for balance and agile movement  
Toe strength, endurance, mobility, flexibility |
| **TOE CHALLENGES** | - Lift all ten toes up.  
- Tap 5th toes (pinkie) to floor  
- Tap 1st toes (big / great) to the floor  
- Bring 5th and 1st toes down – keep middle toes up | Increases neuromuscular coordination for toes  
Overall foot strength, endurance, mobility |
| **FOOTFOLD**  
* ROCK & ROLL | - Lift heel up. Pop the heel up and down (may be rhythmic) and roll across the landing pad. Weight bear on foot.  
* Inversion and eversion at ankle | Stretches plantar fascia  
Increases ankle and foot mobility through joints and muscles  
* Increases flexible strength in ankles and lower leg |
| **SMART TOES & DOMING** | - Grip the ground with your toes and release  
- Grip and HOLD  
- Focus on the long arch of the foot and lift up | Strength, endurance, flexibility of toes and foot. |
Benefits of Writing About Fitness

- Free marketing
- Adds credibility
- Builds your platform, profile and exposure
- Creates an additional profit stream
- Your articles help and educate others

How to Get Your Articles Published

Where to Start

- Be clear about your goals (money, building a platform, marketing in community, national recognition)
- Know your market (trade versus consumer; what do your prospects and clients read?)
- Develop story ideas (gym, conferences, other articles, blogs, Facebook, Twitter)

What Every Fitness Writer Needs to Know

- The difference between an unsolicited manuscript, a query and “on spec”
- Print versus online (the benefits of writing web exclusives)

Steps to Getting Your Articles Published

1. Study the publication/website
   - Read the articles, letters to the editor/reader comments, etc.
   - Analyze the ads
   - Research the reader demographics (writer’s guidelines)
   - Determine type of publication (trade versus consumer; high-circulation/higher-paying versus low-circulation/lower-paying; local versus national/international)

2. Get writer’s guidelines/editorial calendar
   - WHAT are writer’s guidelines
   - WHERE do you find them?
   - WHY are they useful?
   - HOW to proceed if you can’t get guidelines
3. Polish your writing skills and collect clips/tear sheets
   - Club, client or trade newsletters, blog, local newspaper/magazines

4. Send a query via email
   - BROAD TOPIC VERSUS FOCUSED IDEA
   - Make your idea specific to the intended market
   - Think ahead
   - Address query to the right person (check the masthead); avoid “Dear Editor”
   - Hook the editor with a strong lead
   - Lay out the specifics (...will the editor steal your idea?)
   - Play up your expertise and experience as a fitness pro
   - Published clips

Packaging: Making the Same-Old Ideas New Again

   - It might seem as if almost every health/fitness topic has already been covered in magazines. You can focus your idea and “reinvent” themes by considering how your article will be PACKAGED differently.
   - Definition of packaging: ________________________________

Example: Three different ways to package an article about fitness walking

1. Walking plans for beginner, intermediate and advanced exercisers
2. 10 ways to burn an extra 100 calories per walking workout
3. Three women share how they walked off 10, 20 or 30 pounds

Focus your article from the idea stage to the promise.

<table>
<thead>
<tr>
<th>YOUR BIG IDEA!</th>
<th>Angle</th>
<th>Hook</th>
<th>Details</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROMISE: A clear vision of: “What’s in it for the reader?”</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
You Got an Assignment! Now What?

How to Work Well with Editors

- A simple email technique that helps create relationships with editors …
- A simple social-media technique that helps create relationships with editors …
- Two important details you MUST know before you start to write (not all editors volunteer this info)
- Citing research or stats? Do this …
- “Complete the service”
- Meet your deadline because …
- If you get revisions or an author checking copy, don’t do this …
- Why word count matters

Show Me the Money

- What you can expect to be paid $$$
- Why you want to retain rights to your articles whenever possible
- Payment on acceptance versus on publication
- Do you really want to write for free?

Common Article-Writing Pitfalls & How to Avoid Them

1. Weak lead
   - Hook the reader: ask a question, cite a statistic, appeal to readers’ interests, promise a solution, use an anecdote, surprise the reader
   - Look for “buried leads”

2. Writing that’s boring or unclear
   - Identify the tone and voice of the magazine
   - Define scientific terms; avoid overly technical jargon
   - What makes writing lively?
   - Use “you” and “your”
   - Vivid descriptions/specifics, word choices (especially verbs)
   - Casual, conversational tone
   - A mix of sentence structures
   - Punctuation choices

3. Too text-heavy (no segues, subheadings or sidebars)
   - A good article is easy to read and naturally flows from one point to the next
   - Long chunks of text with no breaks can be overwhelming for both the editor and readers

Fitness Writing Resources Available at ActiveVoice.ca

- How to Write Winning Queries: Sell your article ideas for profit and promotion as a health/fitness expert
- Anatomy of an Article: How to quickly write compelling articles that get the results you want
Physical Activity Guidelines for Americans Midcourse Report:
Strategies to get youth moving: What works?

Shellie Y. Pfohl, MS
Executive Director, President’s Council on Fitness, Sports & Nutrition (PCFSN)
E-mail: Shellie.Pfohl@hhs.gov

I. Introduction of Physical Activity Guidelines for Americans (PAG) Midcourse Report
   a. Public health significance of increasing physical activity in youth
   b. Speak to the Report’s connection to PCFSN and the Office of Disease Prevention and Health Promotion (ODPHP)
   c. Acknowledge work of the PAG Midcourse Report Subcommittee
   d. Key points from the report
      i. Identifies interventions that can help increase physical activity in youth throughout the U.S.
         1. Builds on the 2008 PAG, but does not modify existing recommendations
      ii. 5 main settings
         1. School, preschool and childcare, community, family and home, and primary care
      iii. Most important findings from report
         1. School setting and opportunity for leadership to advance implementation
         2. Preschool and childcare
         3. Built environment

II. School setting
   a. Briefly introduce setting and sub-settings
   b. Key findings and specific strategies
      i. Multi-component school-based interventions
      ii. Physical education
   c. Implementation and next steps
      i. First Lady’s Let’s Move! initiative and desire to impact the school setting
         a. Let’s Move! Active Schools create active environments throughout the school day
            i. Includes physical education, before, during and after school opportunities, staff involvement, family & community engagement.
      ii. Partners involved
      iii. Simple 6 step process that provides recommended action items to increase physical activity opportunities
         a. Build Support
         b. Assess Your School
         c. Develop a Plan
         d. Explore Resources
         e. Take Action
f. Celebrate Success

III. Preschool and childcare setting
   a. Briefly introduce setting
      i. Importance of including this age group (3-5 years of age)
   b. Key findings and specific strategies
   c. Implementation and next steps

IV. Community setting
   a. Briefly introduce setting and sub-settings
   b. Key findings and specific strategies
      i. Built environment
   c. Implementation and next steps

V. Family and home setting
   a. Briefly introduce setting
   b. Opportunities for promoting physical activity in this setting

VI. Primary care setting
   a. Briefly introduce setting
   b. Opportunities for promoting physical activity in this setting

VII. Audience Q & A

VIII. Conclusion /Closing
   a. Summary of Q & A, key points, next steps

IX. Three Take-Away Messages
   a. The usefulness of the PAG in promoting physical activity to decision makers
   b. The importance of helping youth ages 3-17 be physically active on a daily basis and types of activities in a variety of settings that are beneficial to their growth and development
   c. Evidence-based strategies addressing the built environment, policies and legislation, programs, media, and education that can help American’s youth be more active

X. Selected References
I. Introduction
   A. Presentation outline/objectives

II. Epidemic Trio
   A. Recommended resources

III. Frenzy
   A. Defining frenzy
      1. Inside frenzy
      2. Sources of frenzy
      3. Outside frenzy
   B. Steps to taming frenzy
      1. Positive emotions
      2. Accept frenzy
      3. Self awareness
      4. Self-compassion
      5. Appraise
      6. Increase positive emotions
      7. Engage heart, lungs and muscles
      8. Listen to calming music
      9. Coach Meg’s formula for Taming Frenzy

IV. Improve attention by managing distractions and impulses
A. Attention in the brain
B. Stretch outside your box
C. Harness your drive
D. Psychology of optimal experience
E. Sustain focus
F. Brain breaks
G. Short term memory and attention

V. How to harness working memory

VI. Creating an agile brain and the potential for insight

VII. Six rules of order to organize your brain
   A. Tame frenzy
   B. Improve focus
   C. Manage distractions & impulses
   D. Harness working memory
   E. Be cognitively agile
   F. Connect the dots

VIII. What’s your first step?
Optimal Nutrition for Strength Power Athletes

Eric S. Rawson, Ph.D., FACSM
Department of Exercise Science
Bloomsburg University of Pennsylvania
Email: erawson@bloomu.edu

I. Introduction
II. Presentation outline/objectives
III. Defining the Strength Power Athlete
   A. Sport
   B. Body Composition
   C. Seasonality
   D. Nutritional Needs
      1) Fuel
      2) Recovery
      3) Adaptation
IV. Kilocalories
   A. Common Intake
B. Need

V. Carbohydrate
   A. Common Intake
   B. Need
   C. Consequences of too little

VI. Fat
   A. Common Intake
   B. Need
   C. Consequences of too much

VII. Protein
   A. Common Intake
   B. Need

VIII. Water
   A. Hypohydration from sport
   B. Consequences of hypohydration

IX. Dietary Supplements
   A. Creatine Monohydrate
   B. Beta Alanine
   C. Sodium Bicarbonate

X. Four Take Away Messages
   A. Strength power athletes are very difficult to define
   B. Most strength power athletes achieve adequate kilocalorie and protein intake
   C. Some strength power athletes are overeating fat and underrating carbohydrate
D. Only a few dietary supplements may benefit strength power athletes

XI. Selected References


Overview: High-intensity or extreme conditioning programs (ECPs) (e.g., CrossFit, P90X, etc.) have exploded in popularity. While there is great enthusiasm and anecdotal evidence supporting the use of such programs, there remains genuine concern regarding the effectiveness and safety of their ever-expanding use. Musculoskeletal injury from these demanding programs, particularly for novice participants, potential effectiveness and benefits, and research needs will be highlighted. The positive and negative characteristics of such programs and practical solutions to improve ECP prescription and implementation and reduce injury risk will be emphasized.

I. Which conditioning programs are considered “extreme” and why?

II. Why are these programs attractive and increasingly popular?
   a. Purported gains
   b. Functional Fitness
   c. Evident risks
      i. Are these risks any greater than traditional conditioning programs?

III. Positive aspects of extreme conditioning programs
   a. Variation
   b. Cardiovascular and metabolic demands and gains
   c. Functional fitness
      i. Total body
      ii. Multi-joint, multi-planes
      iii. Fatigue tolerance
   d. Challenging (psychological discipline), exciting, motivating and camaraderie/teamwork
   e. “Real-world readiness”

IV. Negative characteristics of extreme conditioning programs
   a. Repeated, maximal (near maximal) timed exercise repetitions
   b. Insufficient rest between intervals
   c. Highly technical or advanced multi-joint exercises
   d. Progressive initiation often lacking for novice participant (too much too soon)
   e. Contributing risk factors (not of the program itself, per se)
i. Insufficient recovery time between high-volume training sessions

ii. “Carry-over” residual effects

iii. Fatigue-related changes

iv. Competitive – “keeping up” with others

v. Overuse, overreaching and overtraining

vi. Not sufficiently integrated with other conditioning/training

V. Other concerns, contraindications and considerations
   a. Consider individual daily and performance demands
   b. Consider your long-term and realistic goals
   c. Consider health
   d. Consider conditions & safety
   e. Current or recent illness
   f. Other clinical conditions

VI. Program design
   a. Balanced & diverse: lower/upper body strength, power & endurance
   b. Mobility and agility
   c. Cardio-respiratory and recovery capacities
   d. Incremental and individually progressive
   e. Individual fitness and conditioning needs and limitation
   f. Minimize overload and fatigue
   g. Emphasize biomechanical control and technique
   h. Periodicity and rest/recovery
   i. Modification
   j. Education
   k. Certification

VII. Recommendations to improve implementation and reduce injury risk
   a. Stepwise progression (acclimation) to exercise intensity, duration and advanced exercises
   b. Individualized based on fitness, realistic goals and needs/demands
   c. Restrict participation based on health status
   d. Ensure suitable rest periods – between sets, days and cycles
   e. Proper nutrition; avoid stimulants
   f. Close monitoring
   g. Watch for trends

VIII. Summary
Managing Pain in the Active and Athletic Patient
Aaron Rubin, MD, FAAFP, FACSM
Kaiser Permanente Sports Medicine Fellowship Program
Peter Ronai, M.S., ACSM RCEP, CES, CSCS-D, FACSM
ACSM Program Director Certified
Clinical Associate Professor
Exercise Science
Sacred Heart University
ACSM Health & Fitness Summit

I. Introduction
A. Presentation outline/objectives
   1. To help health/fitness professionals understand how common, painful orthopedic conditions can affect client exercise participation and tolerance and how physicians diagnose and treat them.
   2. To describe appropriate strategies health/fitness professionals can take to help clients remain physically active, prevent de-conditioning and avoid damaging and reinjuring painful body segment(s) and/or exacerbating pain
   3. To identify signs, symptoms and situations warranting that exercise professionals refer their client(s) back to a physician/healthcare professional
   4. Discuss the effect(s) that some common treatments for pain have on physical activity tolerance and exercise performance

II. "What Is Pain"?
A. Definitions
   1. Subjective Descriptions
   2. Acute versus Chronic

III. What Purpose does Pain Serve (What Good Is It)?
A. A Warning System
   1. Decreases Risk of ongoing damage
   2. Tissues undergo characteristic phases of healing activity
   3. Pain can be deceiving (Not always a good indicator of tissue strength and healing)
B. Role of Exercise Professionals
   1. Understand how tissue(s) and injuries heal
   2. Understand their scope of practice
   3. Develop safe, effective exercise programs in conjunction with guidelines established by client’s physician
   4. Communicate with client’s physician when warranted

IV. Special Considerations During Exercise
A. Exercisers often use pain as a guide for return to activity and tissue health
   1. Pain levels often decrease well before tissue healing is complete
   2. Exercisers might believe they can return to workouts before the body is actually ready
B. Never overstress healing tissue
   1. Appropriately controlled therapeutic stress is needed to optimize collagen matrix formation
   2. Client progress from one phase of healing to the next
   3. Progress dictated by specific objectives (established by the physician and/or physical therapist
   4. New/worsening symptoms and/or reduced function warrant referral back to MD ASAP!!!!

V. Reconditioning Considerations
A. Inflammation Stage
   1. Preventing disruption of new tissue
   2. *Exercise Strategies- General aerobic and anaerobic training and resistance training of uninjured extremities, with priority given to maximal protection of the injured area
B. Repair/Proliferation Phase
   1. Preventing excessive muscle atrophy and joint deterioration in the injured area; maintaining muscular and cardiovascular function in uninjured areas
C. Remodeling Phase
1. Optimizing tissue function by continuing and progressing the activities performed during the repair phase
2. *Exercise Strategies*—Transition from general exercises to sport-specific or gym/workout specific exercise

VI. Management Options
A. Quit Doing It
1. Change Technique
2. Do something else and work around it
B. Drugs/Medications
1. NSAIDs
2. Narcotics
3. Other—Muscle relaxants, TRUE Muscle relaxants
4. Injected
5. Topical
C. Therapeutic Modalities
1. Complementary and Alternative Medical Interventions
2. Chiropractic and Acupuncture, Cryotherapy, Electrical Stimulation, Laser, Ultrasound, Magnets
D. Surgery—Correct the anatomy, remove displaced meniscus, Stabilize joint, Fix bone/ligament
   1. “Wash-out” a joint
   2. Replace a joint

VII. "Quit Doing It"
1. Allow tissue recovery (i.e. Hamstring)
2. Prevent worsening injury (i.e. Stress Fractures, Achilles Tendonitis, etc.)
3. Unknown or uncertain diagnosis
4. You must establish time frames for recovery and testing
5. Provide alternate activities
6. Be cautious, but not overly conservative, The athlete/patient ultimately decides

VIII. Alter Activities
A. Practical suggestions
1. Must know the activity/sport
2. Don’t be the coach
3. Think outside the “medical” box
B. Running centers
   1. Bike fit
   2. Pads, gloves, braces, wraps, etc.

IX. Pain Killer sales soar around US, fuel addiction
A. Nationwide (2010), Oxycodone 62 TONS, Hydrocodone 42 TONS, 40-5 mg Percocet®
   24-5mg Vicodin® for every person in the US
B. Pain out of the Expected
1. Wrong diagnosis, Additional diagnosis, Poor compliance, RSD, Neuropathic pain, Malingering or psychiatric issues
2. As the MD, What could I have missed?
   3. Bone contusion or fracture w/ ligament injury
   4. Compartment syndrome w/ fracture or soft tissue injury
   5. Cast/splint/brace too tight, Infection/abscess under wound, Nerve injury

C. Non-compliance with treatment
1. Doing too much
2. Not wearing splint or using crutches
3. Not taking medicines
4. Fear of addiction, Spreading out doses, Fear of running out, Cost, Diversion

XI. Additional Diagnoses
A. Complex Regional Pain Syndrome (CRPS)
1. Signs and Common Symptoms
2. Treatment

B. Malingering and Somatization

1. Signs and Symptoms
2. Treatment

XII. CASE STUDY (Please Help Mr. Smith!!!)

38 y/o engineer completed 12 weeks physical therapy for R rotator cuff impingement/tendonitis (MD cleared him to workout!!!)
5/5 strength w/full R.O.M., no swelling or difficulty w/ADLs

Typical Workout 3x/week

- Low Bar Rear Squats (10, 8, 6, 3, 3)
- Behind the Neck Press (3 x 6)
- Wide Bench Press (10, 6, 3, 3, 2)
- Rear Lat Pull-down (3 x 10)
- Parallel bar Dips (4 x 10 weighted)
- Chest Flys (3 x 12)
- Overhead Dumbbell Tricep Press (4 x 10)
- Incline Dumbbell Bicep Curls (4 x 10)
- Supine Triceps Extensions (4 x 8)
- Biceps Preacher Curls (4 x 10)  **What is Wrong Here?**

- Start with exercises to build a stable base (scapula).
- Add exercises to strengthen the rotator cuff muscles.
- Add compound exercises. Emphasize synchronized motion between the scapular stabilizer and rotator cuff muscles. (general exercises)—remember not normal for probably 9 months !!!
- Add exercises which challenge balance, stability and proprioception (i.e., position sense).
- Modify exercise techniques of commonly performed workout activities. Avoid pain!!!!!
- Contact MD immediately if new or worsening symptoms occur!!

XIII. Four Take Away Messages

A. Personal trainers must operate within their scope of practice when working with clients who have chronic, painful conditions. New or worsening pain warrants immediate client referral to their physician(s)
B. Physicians provide a compliment of diagnostic, surgical and treatment services which can improve physical activity tolerance in patients experiencing chronic pain. Personal trainers can benefit from understanding the potential benefits and risks posed by them.
C. Exercisers often use pain as a guide for return to activity and of tissue health and healing but pain levels often decrease well before tissue healing is complete. Exercises must neither under stimulate nor overstimulate healing tissues.
D. Knowledgeable Personal trainers can help their clients improve their health and fitness levels while they are healing without increasing their risk(s) of injury or re-injury.

XIV. Conclusions

- Tell your clients not to ignore pain
- Address pain early and consult a physician
- Do not attempt to "push through" or work through chronic pain
- Everyone’s pain is different
- If not getting better, look harder
- Personal trainers should work cooperatively with their client’s physician to develop safe, effective strength and conditioning programs
2013 ACSM Health & Fitness Summit

Trends and Opportunities in Worksite Health Promotion

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E-mail: nico.p.pronk@healthpartners.com

I. Introduction
   a. Presentation outline and objectives

II. What’s a trend…what’s a fad?
   a. What is the current state of the field?
   b. What is driving change in the field?
      i. The Patient Protection and Affordable Care Act
      ii. The Accountable Care Organization initiatives
      iii. The [leading] obesity epidemic
      iv. The [lagging] diabetes epidemic
      v. The overriding concerns about costs
         1. Medical care costs
         2. Productivity-related costs
      vi. Society’s rate of change

III. Identify key trends and opportunities in worksite health promotion
   a. Mega-trends
      i. BIG DATA
      ii. Use of innovative technologies
   b. What’s right and what works
      i. Evidenced-based guidelines
      ii. High touch or high tech
      iii. Self-directed or group
      iv. High cost versus low cost (what has greatest impact)
c. Program design alignment with successful outcomes
   i. Inspiring Incentives vs. Checklist Payouts
   ii. Opportunities that may come from the Patient Protection and Affordable Care Act
   iii. Health assessments and biometric screenings
   iv. Onsite/Online/Telephonic Interventions and Participant engagement
      1. Employees
      2. Spouses
   v. Program Integration
      1. Leveraging internal/external resources
      2. Focus on fitness, injury prevention and worker performance
      3. Linkage with Safety, EAP, training, etc.

d. Impact on overall costs and workforce performance is paramount
   i. Outcomes reporting
   ii. Program performance dashboards

IV. Preparing yourself to for the [near] future
   a. Learn how to position your skills and experiences to launch health/fitness programs and services for employers, hospitals and health plans
      i. Key attributes and suggested training / professional development
      ii. Global considerations
   b. Program accreditations
   c. Understand the key success factors in marketing your health/fitness programs
   d. Review of key program measures to document your program success and impact on the bottom line

V. Three Take-Away Messages
   a. Checklist to help you respond to the rapidly changing trends in the worksite health market
   b. Positioning and packaging solutions for small and large employers need to be aligned with their top concerns including cost reduction and worker performance
   a. Measure and report on progress and overall program performance
BIO: Heather Marie Wilson, a 20+ year integrated marketing strategist with a specialty in multi-channel marketing, has experience working for Fortune 500 companies as the Director of Multi-Channel Marketing for The Home Depot and also as a consultant for many leading agencies developing marketing strategies for top brands in the US and globally. She holds an MBA from Emory’s Goizueta School of Business and a B.S. from the University of Massachusetts, Amherst where she also studied Exercise Science. She believes that we all have the opportunity to improve our lives and the world and wrote Seeds of Freedom: Cultivating a Life that Matters (Hay House), a memoir and personal development guide, to help others cultivate their own power. Her passions include meditation, traveling, and being outside and is touring the US in a vintage Airstream trailer this summer. www.heathermariewilson.com

DESCRIPTION: We will explore the question, “How can we drive exercise behavior change when a sedentary lifestyle is embedded in our culture?” and share real insights into why women don’t like the word “exercise.” Learn the most effective ways to brand exercise and transform the way you communicate with your clients.

OBJECTIVES: The objectives of this session are:
1. Provide a background of branding, why it is important and how it can help a business thrive
2. Explore the question, “How can a health initiative drive exercise behavior change when a sedentary lifestyle is embedded in our culture?”
3. Share strategies how to integrate information about the target audience into your brand

TARGET AUDIENCE: This presentation is geared toward Fitness Professionals that are responsible for communicating their message about exercise to potential and existing customers.

PRESENTATION OUTLINE

I. INTRODUCTION
   A. Welcome
   B. Ask audience what they want to achieve from this presentation
   C. Presentation outline/objectives

II. WHAT IS BRANDING?
   A. The definition of branding
   B. Why branding is important
   C. Examples of good brands
   D. Explain how branding is used
III. THE TARGET AUDIENCE

A. Who is your target exercise (will ask group to answer questions about their target audience)

B. What we found out about women ages 25-55
   1. General information about health-related decisions
   2. Desired Benefits
   3. Differentiating Behaviors
   4. Biggest Barriers

C. Need to know and understand your customers

IV. THE BIG QUESTION & THE REAL ANSWERS

A. Question: How can a health initiative drive exercise behavior change when a sedentary lifestyle is embedded in our culture?

B. Discussion: What do you think we can do to answer this question?

C. Key Insights from experts in behavior change
   1. Individuals want to be empowered
   2. Exercise motivation is strongly linked to self-esteem
   3. The decision to exercise is emotional
   4. Exercise improves quality of life
   5. We need to rebrand exercise as a gift
   6. We need to move exercise up the priorities list
   7. Exercise needs to become part of the self-identity

D. Target Consumer Survey
   1. Improved quality of life in the form of stress relief and feeling happier are two of the top 4 motivators of exercise
   2. Lack of time and other priorities are two of the top three barriers to exercise in our target
   3. Among those who currently exercise, being healthier is the primary motivator to remain physically active
   4. Our target reports that their friends are their primary source of health information
   5. Our target most commonly associates “exercise” with being healthy but hard

E. Consumer Database Findings
   1. 76% of our target says they are “always looking for a way to lead a healthier life”
   2. Our target is more likely to be in contact with their doctor than the general population, including their GP, Dentist, and GYN
   3. They are 50% more likely than the general population to give healthcare advice to their friends and family
   4. The more our target exercises, the more empowered they feel to be advocates of healthcare and an active lifestyle

F. Key Insights
   1. Our target is increasingly stressed, a trend that is leaving them more frustrated and less happy
2. Our target perceives exercise to be hard and cites **lack of energy** as a primary obstacle
3. Our target knows that exercising is a part of being healthy and is interested in **maintaining their current health**
4. Our target is **incredibly busy and has other priorities** that are more important
5. Our target is very concerned about their **weight and appearance**

V. WHAT DOES THIS MEAN FOR YOUR BUSINESS? STRATEGIES TO INTEGRATE THIS INFORMATION INTO YOUR BRAND

A. Branding Exercise Shifts – will discuss each of these with the audience
   1. From masculine (doing) to feminine (being)
   2. From guilt to encouragement
   3. Focus on happiness, empowerment and quality of life
   4. Demonstrate how exercise can give them more energy to live a better life
   5. Emphasize how exercise can help them gain more control and empowerment in their lives

B. It’s about transforming the way you communicate
   1. Have a conversation or a dialogue; not a one-way conversation
   2. Uncover the real “block” to exercise and help them through with ease, flow and harmony
   3. Be authentic and honest
   4. Create an atmosphere of trust and safety
   5. Create small manageable goals

C. Discussion/exercise how audience would do this for their individual brands (depends on time)

VI. TAKE-AWAY MESSAGES

A. Good branding can help a company build its reputation and a connection with customers
B. Understanding your target audience is critical when building and communicating your brand; Listen to your customers
C. Most importantly, be authentic and honest in all your communications/interactions with your customer and understand that integrating exercise into a person’s life is more than discipline and time-management
1. **BOSU® HIIT Extreme Overview**

   **A. Purpose**
   Learn the science of high intensity interval training and its application to fitness and sport. Take home a variety of short, plug-n-play high intensity interval sequences that are fun, realistic and effective for all participant ability levels.

   **B. HIIT Defined**
   High intensity interval training (HIIT) that uses relatively short, high intensity cardiovascular intervals that are alternated with less intense recovery intervals.

   **C. HIIT Energy System Essentials**
   1. VO2 max facts
   2. Improving aerobic power
   3. Lactate threshold (LT)
   4. Oxygen dependent vs. independent energy production

   1. RPE: 7 – 10 (approx. 80%+ max heart rate)
   2. 15 – 60 seconds intensity; 10 – 60 seconds recovery
   3. HIIT workouts should not exceed 10 – 20% of total weekly volume

   **E. HIIT Benefits**
   1. Improves endurance more than continuous training alone
   2. Improves ability to raise lactate threshold and VO2 max
   3. Optimizes caloric expenditure and fat utilization

   **F. Progressing HIIT**
   1. Build endurance foundation first
   2. Cardio effort increase = coordination, balance, stabilization decrease
   3. Results are dependent on appropriate effort and recovery levels

   **G. BOSU HIIT Extreme Interval Types**
   1. Rolling Intervals
   2. Surge Intervals
   3. Short Burst Intervals

2. **Effort Rating Scale (RPE): 7-10 = HIIT Zones**

<p>| | | | | | | | |</p>
<table>
<thead>
<tr>
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</thead>
</table>
   1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  |

   2 - 3: Very easy; warm up/recovery/cool down level of effort
   4 - 6: Moderate; aerobic steady state level of effort
   7 - 9: Hard to very hard; aerobic lactate threshold level of effort
   10 +: Maximal; anaerobic level of effort, crosses lactate threshold

www.BOSU.com
# BOSU® HIIT Extreme Rolling Intervals

<table>
<thead>
<tr>
<th>Interval Type</th>
<th>Goal</th>
<th>Effort/Recovery Ratio</th>
<th>RPE</th>
<th>Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ROLLING INTERVALS</strong></td>
<td>Improve aerobic power up to LT; improve recovery ability; build interval training foundation</td>
<td>1:1:1 (HIIT hybrid)</td>
<td>5-6 6-7 8-9</td>
<td>3-minute sequence builds from moderate to hard to very hard in 1-minute increments; minute 1 of each sequence is the recovery segment for the previous interval</td>
</tr>
</tbody>
</table>

## BOSU® HIIT Extreme Rolling Intervals

<table>
<thead>
<tr>
<th>Minute 1 (RPE 5 - 6)</th>
<th>Minute 2 (RPE 6 - 7)</th>
<th>Minute 3 (RPE 8 - 9)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1) Squat Lunge Combo</strong></td>
<td>Tempo</td>
<td>Jump lunge x 2 + Over the top</td>
</tr>
<tr>
<td>Standing beside dome;</td>
<td>Side rear lunge</td>
<td></td>
</tr>
<tr>
<td>½ tempo</td>
<td>Side squat</td>
<td></td>
</tr>
<tr>
<td>Rear lunge</td>
<td>Jump stick on top</td>
<td></td>
</tr>
<tr>
<td>Side squat</td>
<td>Side squat other side</td>
<td></td>
</tr>
<tr>
<td>Squat on top</td>
<td>Repeat for 1 minute</td>
<td></td>
</tr>
<tr>
<td>Side squat other side</td>
<td>Repeat for 1 minute</td>
<td></td>
</tr>
<tr>
<td>Repeat for 1 minute</td>
<td>Repeat for 1 minute</td>
<td></td>
</tr>
<tr>
<td><strong>2) Plank Jack Combo</strong></td>
<td>Squat to plank ½ tempo</td>
<td>Squat to plank ½ tempo</td>
</tr>
<tr>
<td>Standing on floor behind PSU:</td>
<td>Tempo jack x 2</td>
<td>Tempo jack x 2</td>
</tr>
<tr>
<td>Squat to plank</td>
<td>Slow pushup</td>
<td>Pushup fast x 2</td>
</tr>
<tr>
<td>Walk feet out/in slow</td>
<td>Squat to stand ½ time</td>
<td>Squat to stand ½ Tempo</td>
</tr>
<tr>
<td>Squat to stand</td>
<td>Jump feet together</td>
<td>Jump feet together/raise</td>
</tr>
<tr>
<td>Jump feet together</td>
<td>Repeat for 1 minute</td>
<td>BOSU overhead</td>
</tr>
<tr>
<td>Repeat for 1 minute</td>
<td>Repeat for 1 minute</td>
<td>Repeat for 1 minute</td>
</tr>
<tr>
<td><strong>3) Step-Up-Lunge Combo</strong></td>
<td>Step up 2 x with jump</td>
<td>Alternating step up jumps</td>
</tr>
<tr>
<td>Stand in lunge position, 1 foot in center of dome, other leg in lunge w/knee on dome</td>
<td>Repeat for 1 minute</td>
<td></td>
</tr>
<tr>
<td>Step up 4 x R/Switch</td>
<td>Repeat for 1 minute</td>
<td></td>
</tr>
<tr>
<td>Step up 4 x L</td>
<td>Repeat for 1 minute</td>
<td></td>
</tr>
<tr>
<td>Repeat for 1 minute</td>
<td>Repeat for 1 minute</td>
<td></td>
</tr>
<tr>
<td><strong>4) Straddle-Diagonal Lunge Combo</strong></td>
<td>Jump straddle up, step down R, diagonal lunge R</td>
<td>Jump up/jump down</td>
</tr>
<tr>
<td>Standing astride dome: Straddle up R/L - diagonal lunge back R</td>
<td>Jump straddle up, step down L, diagonal lunge L</td>
<td>Jump diagonal lunge R</td>
</tr>
<tr>
<td>Repeat L</td>
<td>Repeat for 1 minute</td>
<td>Repeat for 1 minute</td>
</tr>
<tr>
<td>Repeat for 1 minute</td>
<td>Repeat for 1 minute</td>
<td>Repeat for 1 minute</td>
</tr>
</tbody>
</table>
### BOSU® HIIT Extreme Surge Intervals

**Goal:** Improve steady state max at LT, which results in an ability to work at a higher % of VO2 max and LT

**Effort/Recovery Ratio:** 1:1

**RPE:** 8-9

**Protocol:** 60-second effort with a surge during the last 15-seconds, followed by a 60-second recovery using balance and core challenges.

#### Equipment: Balance Trainer = BT; Ballast Ball = BB; Med Ball = MB

<table>
<thead>
<tr>
<th>Interval Type</th>
<th>Goal</th>
<th>Effort/Recovery Ratio</th>
<th>RPE</th>
<th>Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURGE INTERVALS</td>
<td>Improve steady state max at LT, which results in an ability to work at a higher % of VO2 max and LT</td>
<td>1:1</td>
<td>8-9</td>
<td>60-second effort with a surge during the last 15-seconds, followed by a 60-second recovery using balance and core challenges</td>
</tr>
</tbody>
</table>

#### BOSU® HIIT Extreme Surge Intervals

1) **Leap Frog Ballast Ball Slam (BT – BB)**
   - Stand behind BT holding BB. Jump up, stick landing. Slam BB on floor in front of BT. Leap Frog over. ½ turn jump. Repeat other direction
   - **Surge:** Lift BB overhead, jump higher, slam harder

2) **Straddle Down Touch Down (BT-BB)**
   - Stand on BT holding BB. Jump straddle down, touch BB on BT, jump up/touch BB R/L side of BT
   - **Surge:** Lift BB overhead, jump higher

3) **Across the Dome Lateral Leap (BT)**
   - Standing beside the BT, lateral leap, lateral over the top
   - **Surge:** Add two quick ski jumps to side + BIG over the top

4) **Side Squat Quick Feet (BT)**
   - Side Squat quick feet run 1-2-3 over the top laterally
   - **Surge:** Jump side squat side to side

#### Effort Interval

<table>
<thead>
<tr>
<th>Effort Interval</th>
<th>Balance/Core Recovery Interval</th>
</tr>
</thead>
</table>
| 1) Leap Frog Ballast Ball Slam (BT – BB) | Stand on dome holding BB. Squat and rotate, touching the BB to floor beside the BT. Repeat to the other side
   - Vary the intensity by adding an overhead lift |
| 2) Straddle Down Touch Down (BT-BB) | BT PSU holding a plank with feet straddling the BB. Slowly walk feet up to BB
   - Vary the intensity by jumping up and/or down |
| 3) Across the Dome Lateral Leap (BT) | Side lying balance with hands in a variety of positions
   - Vary the intensity by holding a soft fitness ball in a variety of positions |
| 4) Side Squat Quick Feet (BT) | Stand Dome side performing a 1-legged balance while moving the Soft Fitness Ball in a variety of positions.
   - Vary the intensity by visually tracking the ball |
<table>
<thead>
<tr>
<th>Interval Type</th>
<th>Goal</th>
<th>Effort/Recovery Ratio</th>
<th>RPE</th>
<th>Protocol</th>
</tr>
</thead>
<tbody>
<tr>
<td>BURST INTERVALS</td>
<td>Improve power above LT, at VO2 max and at LT with all out efforts; improve ability to repeat hard efforts and recover quickly</td>
<td>2:1</td>
<td>9-10+</td>
<td>20-seconds all out effort followed by 10-seconds of complete recovery; one cycle = 4 minutes (repeat sequence of 4 drills 2x)</td>
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<td>OR</td>
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<td></td>
<td>30-seconds all out effort followed by 15 seconds complete recovery; one cycle = 6 minutes (repeat sequence of 4 drills 2x)</td>
</tr>
</tbody>
</table>

**BOSU® HIIT Extreme Short Burst Intervals**

Equipment: Balance Trainer = BT; Ballast Ball = BB; Med Ball = MB

1) **20/10 Intervals** (BT)
   - a. Quick switch jumps + leap up
   - b. Straddle tuck jumps
   - c. Alt 1-legged jump stick/1-legged plank
   - d. Alternating side power squat

2) **20/10 Intervals** (BT)
   - a. 1-2-3 over the dome quick feet
   - b. Knee hop/jump switch
   - c. PSU plank diagonal jumps
   - d. Jump fwd/straddle jump touch/quick feet

3) **30/15 Intervals** (BT - MB)
   - a. Knee hop mountain climber switch
   - b. X-over fast runs
   - c. Forward jump straddle down/shuffle back
   - d. Knee hop straddle down

4) **30/15 Intervals** (BT - MB)
   - a. PSU burpie/jack/lift BT overhead
   - b. Bulgarian jump lunge
   - c. Freestyle jumps
   - d. Lateral leap + 2 runs (from behind)

**Sequencing Options for Variety:**

- a/b/c/d + a/b/c/d = 1 cycle
- a/b + a/b + c/d + c/d = 1 cycle
- a/a + b/b + c/c + d/d = 1 cycle

Mix and match to create endless options!

Find us on Facebook at “The Official BOSU® Fan Page”
Follow us on Twitter @BOSUFitness
BOSU.com

Rev. 1/3/13
Social Media in the Fitness Industry: Money-maker or Time-waster?

A moderated panel discussion with integrated Q&A for an interactive session with panelists and attendees.

Thursday, March 14 (10:45-11:45am)

Panelists:

Michael R. Bracko, Ed.D., CSCS, FACSM: Exercise Physiologist, Fitness Educator, and Media Consultant, Calgary, AB www.drbrackosfitness.com drbrackofitness@aol.com

Heather Chambliss, Ph.D., FACSM: Faculty member in Health Promotion in the Department of Health and Sport Sciences at The University of Memphis hchmbliss@memphis.edu


Amanda Vogel, MA human kinetics (panelist & moderator): Certified fitness professional, fitness writer, social-media consultant, Vancouver, B.C. www.ActiveVoice.ca

Social Media & Time Management

- What social media platforms do you think work best for reaching people, and why?
- What are the best ways to manage time spent on these platforms?
- How often do you need to be on social media platforms: multiple times a day, every day, a few times a week, a few times a month?
- What are tips and tricks for making the most of your time on popular social media sites like Facebook, Twitter and LinkedIn?
- How to use social media properly: What works, what doesn't?

Social Media & Making Money

- What can and do fitness professionals, associations and educational institutions "sell" through social media?
- Should we be focusing on indirect or direct selling and revenue? What works best on social media?
- Should you be spending money to advertise through social media?
- Who's making money through social media platforms, and how?
- What are the best practices for gaining followers, friends and fans as a way to reach a wider target audience?
ACSM Health & Fitness Summit  
March 15-17, 2013

*ACSM's Guidelines for Exercise Testing and Prescription the Ninth Edition - A Preview*

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I. Introduction  
A. Presentation outline/objectives

II. The History of *ACSM's Guidelines for Exercise Testing and Prescription* (GETP)  
A. Important facts  
   1. See Appendix A for *ACSM’s GETP* Chairs and Editors Since the First Edition  
B. Reference texts  
   1. See Selected References VI.

III. The New Features and Content of *ACSM's GETP, the Ninth Edition* (GETP 9)  
A. New Features  
   1. Introduce the editorial team, contributing authors & reviewers  
      a. See Appendix B for *ACSM’s GETP 9* contributing authors  
      b. See Appendix C for *ACSM’s GETP 9* reviewers  
   2. More strongly supports the public health message that all people should adopt a physically active lifestyle  
   3. Reduces the emphasis on the need for medical evaluation in healthy, asymptomatic persons  
   4. Emphasizes identifying those with known disease because they are at greatest risk for an exercise-related cardiac event
5. Introduces a New Chapter, Chapter 11 on Behavioral Theories and Strategies for Promoting Exercise
6. Includes summary boxes throughout to highlight important information, and take home messages and key online resources now conclude each chapter
7. Appendix A Common Medications is now authored by registered pharmacists from the University of Connecticut with clinical expertise in the pharmacology of medications likely to be used by patients and clients in exercise testing and programmatic settings

B. GETP 9 Content Overview
   1. Section I: Health Risk Appraisal and Risk Assessment
      a. Chapter 1 Benefits and Risks Associated with Physical Activity
      b. Chapter 2 Preparticipation Health Screening
   2. Section II: Exercise Testing
      a. Chapter 3 Preexercise Evaluation
      b. Chapter 4 Health-Related Physical Fitness Testing and Interpretation
      c. Chapter 5 Clinical Exercise Testing
      d. Chapter 6 Interpretation of Clinical Exercise Test Results
   3. Section III: Exercise Prescription
      a. Chapter 7 General Principles of Exercise Prescription
      b. Chapter 8 Exercise Prescription for Healthy Populations With Special Considerations and Environmental Considerations
      c. Chapter 9 Exercise Prescription For Patients With Cardiovascular and Cerebrovascular Disease
      d. Chapter 10 Exercise Prescription for Populations With Other Chronic Diseases and Health Conditions
      e. Chapter 11 Behavioral Theories and Strategies for Promoting Exercise
   4. Section IV: Appendices
      a. Appendix A Common Medications
b. Appendix B Medical Emergency Management

c. Appendix C Electrocardiogram Interpretation

d. Appendix D ACSM Certifications

e. Appendix E Contributing Authors to the Previous Two Editions

IV. Interact with the Authors
A. Question and Answer Period

V. Take Home Messages
A. Learn about the history of ACSM’s GETP
B. Become familiar with the new features and content of ACSM GETP 9
C. Interact with the authors
D. Access GETP 9 and certification information from
   http://certification.acsm.org/get-certified

VI. Selected References
I. Concept #1
Distance running performance is determined by 3 factors: running economy, VO₂max, & acidosis (lactate) threshold.

A) Running Economy
    volume of O₂ used to maintain a specific running speed

B) VO₂max
    maximal volume of O₂ muscles consume per minute

C) Acidosis (Lactate) Threshold
    fastest aerobic speed above which lactate accumulates and acidosis develops

D) Training Methods

II. Concept #2
To run fast, you must first spend a lot of time running slow.

A) Physiological benefits of mileage and long runs

III. Concept #3
Easy runs must be easy.

A) Reasons for running easy
   i) it decreases the chance of injury
   ii) it enables you to get more out of your harder days because there will be less residual fatigue
   iii) it enables you to increase your overall weekly mileage

IV. Concept #4
Train to your strengths.
V. Concept #5
"Before picking up the pace, have a solid aerobic base."

A) Creating the Aerobic Base
B) Threshold Training
C) VO₂max Training
D) Anaerobic Capacity Training
E) Summary of Year-Long Training

VI. Concept #6
"There are identifiable predictors of injury."

A) Previous Injury
B) Large Increases in Training Load
C) Strength Imbalances
D) Lack of Running Experience
E) Inappropriate Running Shoes
F) Low Energy (Caloric) Availability
G) Female Athlete Triad
H) Rules for Not Getting Injured

VII. Concept #7
"To run your best race, run even or negative pace."
Session Outline
ACSM Health and Fitness Summit
March 14, 2013

Get Ready! Get Set! Let's Go!

Anne Lindsay
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It’s been nearly 20 years since the first initiative was released by the federal government declaring physical activity as a major risk factor for disease. Why aren’t we healthier and more physically active after all this time? We are still a sedentary population. This session will provide an expanded, practical approach model for promoting physical activity in sedentary individuals including the difference between increasing physical activity and decreasing sedentary behaviors. The value of incidental physical activity and recreation will be addressed including validation of effort rather than judgment of performance.

1) Who am I? Who are you!

2) “All dressed up, just hoping for a ride!” (well informed but unable to execute)
   - Evidence-based physical activity guidelines and initiatives in place since 1996
   - We know what we need to do, we know it will improve our health
   - So why does physical activity still remain a pressing public health issue?
   - Ideally change the built environment, then the person.
   - But it can’t wait.

3) What does a public health issue have to do with me?
   - How effective are you?
   - Are you reaching the whole population?
   - Why do some people always “quit”?
   - Even the lazy have needs and $. They just don’t want to buy what you’re selling.
   - How can you engage those individuals?
   - New marketing strategy for un-gymed population (the January do-gooders!)

4) Stop singing to the choir!
   - Reaching the un-gymed population
   - What do they look like?
   - How do we increase their physical activity?
   - Or should we? What about decreasing their sedentary behavior?
   - What’s the difference?
5) “Inactivity physiology” is not “exercise physiology” gone wrong!
   - Physiology of increasing physical activity vs decreasing sedentary activity
   - What is “Inactivity Physiology”?
   - Is too much sitting the same thing as too little exercise?
   - Is too much sitting hazardous to one’s health even if they work out?
   - If I’m not sedentary, does that make me active by default?
   - What about the value of cardiovascular training and muscular strength and endurance?
   - Dynamic energy balance – a new direction for health, nutrition and fitness professionals

6) Take a new ride in an old Model T (well... TM for Transtheoretical Model)
   - A look at the traditional 5 Stages of Change model
   - A new expanded and practical approach for stages of change
   - Get Ready! Get Set! Let’s Go!
   - Every stage is its own goal with its own acceptable client-centered criteria

7) Get Up! Get Out! (Getting off the couch)
   - “Treat yourself to your favorite activity; you deserve it”
   - Play more
   - The health burden of sedentary time
   - The health benefits of recreation

8) Get Moving! (Getting more out of daily living)
   - “Step up your daily activity”
   - If people can’t commit to more steps teach them to add steps to their commitments!
   - Increasing footsteps yields improved health
   - Increasing total caloric expenditure yields improved health

9) Get Active! (Getting somewhere is better than nowhere)
   - “Adopt a fun new activity”
   - Short bouts of physical activity have health benefits & improve quality of life
   - Self-efficacy is key in this stage
   - The action must have value to the person
   - Variety can make the difference

10) Get Fit! (Getting it done)
    - “Turn your activity into fitness”
    - Meeting the ACSM Guidelines
    - Getting a complete program
    - Alternatives to the traditional approach – what are you selling?

11) Get Regular! (Getting it done for life)
    - “Enjoy lifelong activity”
    - Choosing lifelong fitness
    - Developing an effective maintenance plan
    - Alternatives to the traditional approach – what are you selling?
12) So what?

- What does that mean for trainers, educators, teachers, managers, researchers?
- One size fits all doesn’t work
- Don’t make it difficult (a hard sell vs an easy sell)
- Setting goals that lead to success
- Basing goals on self-efficacy
- Using motivational interviewing
- Final thoughts

At the end of this session, participants will be able to:

1. Identify the readiness of clients/participants to accept a physical activity plan
2. Utilize an expanded and practical approach to encourage physical activity through validating the performance effort rather than judging its quality
3. Understand the role and teach individuals successful goal setting

Physical Activity & Other Resources

- University of Nevada Cooperative Extension Publications www.unce.unr.edu
- Choose to Move http://www.choosetomove.org/
- America on the Move www.americaonthemove.org
- President’s Council on Fitness, Sports and Nutrition www.fitness.gov
- ACSM Exercise Is Medicine www.exerciseismedicine.org
- National Coalition for Promoting Physical Activity www.ncppa.org
- Active Living Research www.activelivingresearch.org

Citations to data or references provided during the presentation available on request.
**Childhood Obesity ACSM Summit Outline**

**Lindy Moore, M.S.**

**March 13-14th, 2013**

Audience: Physicians, RDs, Exercise Physiologist, Fitness specialists, Psychologists, Nurses

A. Quotes of Teens

B. Childhood obesity statistics

C. Medical Causes of Obesity

D. Determination of Overweight / Obesity -- BMI

E. Medical Complications

F. What can I do? (as a provider)
   
   Recommendations – Expert Committee Guidelines, CHA Rx Group
   
   85-94%, >95%
   
   6 things: “The Role of Pediatricians in the Coordinated National Effort to
   
   Address Childhood Obesity”
   
   When to refer to weight management center

G. Nutrition related to obesity prevention
   
   Recommendations and how obesity can occur
   
   Portion Distortion
   
   Nutritional Counseling checklist

H. Exercise Prescription and how to make it effective in kids
   
   Why use the Prescription, why exercise is important for obesity in kids
   
   How to encourage exercise in a youth population

I. Psychology of behavior change in kids
   
   How body image can get distorted and dangerous
   
   How can one help a child make permanent behavior changes

J. What does Florida Hospital’s Center for Child and Family Wellness /
   
   Healthy 100 Kids do?
   
   Providing answers, solutions and hope
   
   Description of process
   
   Workshops, grocery store tours, etc...

K. Suggested practice tools for making change and compliance
   
   Nutritional checklist, motivational interviewing, exercise prescription

**What do YOU want to do when you are 100?**

Take Away Points:

1. Childhood obesity epidemic is on the rise and a multidisciplinary approach is needed to truly make an impact on the prevention and reversal of pediatric obesity
2. Nutritional changes can begin in the office and with clients through teaching of awareness of healthy and poor food choices
3. Body image and acceptance is primary for change to occur in an obese child
4. Exercise should be encouraged daily and emphasize fun
5. Working together change can allow for permanent change in child obesity
Objectives:

Medical - Providers learn to recognize the signs of childhood overweight and obesity early in order to provide both recommended prevention and treatment guidelines in their office and when to refer to a weight management program.

Nutrition
To understand how trends in dietary intake are affecting childhood obesity and the importance of addressing these factors in well visits and our communities to help encourage healthy, lifelong dietary habits.

Psychology
Raising provider awareness of psychological challenges encountered with overweight child and families including self-esteem, negative body image, and mood issues; exploring techniques effective in dealing with those challenges including motivational interviewing, mindfulness, and cognitive behavioral therapy.

Exercise / Activity - Providers learn about the benefits of exercise, including the physiological, mental and community benefits. Reasons why activity is not prevalent in society today and how exercise can impact the obesity epidemic for children and adults.

Filling the Gap
Childhood obesity is a relatively new problem area in Pediatrics presenting with its own major health-related complications. In this current healthcare system, primary care providers find it extremely challenging on many levels to fully address childhood obesity and its related medical, nutritional, psychological, activity and behavioral complications in order to not only prevent but treat this growing epidemic. Providers would find it beneficial to know how they can identify overweight and obese patients and what in-office and community resources are available to provide much-needed support and education to the families.

Team References / Bibliographies
- “Pediatric Obesity Clinical Decision Support Chart”. Hassink, Sandra G. Adapted from keep Me Healthy flip chart – Maine Center for Public Health and the Maine Chapter of the AAP.
- The Nutrition Care Manual® (NCM/PNCM). American Dietetic Association,
2010.
- Alliance for a Healthier Generation
- American Academy of Pediatrics
- American Dietetic Association - Evidence Analysis Library, Pediatric Overweight section
- American Psychological Association.
- American Society of Bariatric Physicians
- Centers for Disease Control (CDC)
- Children’s Hospital Association (formerly NACHRI-National Association of Children’s – Hospitals and Related Institutions) FOCUS on a Fitter Future III
- The Obesity Society
- www.mypyramid.gov
Moving People into Action:
Improving your skills to help your clients make measurable progress

What’s happening with your clients: Stages of Behavior Change (Prochaska)

1. Precontemplation  never
2. Contemplation    maybe sometime
3. Preparation      very soon
4. Action           now
5. Maintenance      habitually, relapse possible
6. Termination      forever

Skill Sets you need ~ Support Skills and Process Skills

Support Skills

1. Let client know you care and you believe they can make this change
2. Listen with your head and your heart
3. Keep responsibility with the client, not you
4. Give advice sparingly, only when requested. Know what your client knows.
5. Question effectively

Process Skills

1. Help client with decision and setting SMART goal, assess determination
2. Help client prepare for success: equipment, time management, practical challenges
3. Help client select strategies

   - What worked in previous behavior changes
   - What are their ideas for starting this change
   - View strategies as flexible, use as long as they work
   - Plan rewards both extrinsic and intrinsic
   - Plan record keeping
4. Help client expect and plan for lapses

Asking Effective Questions
Purposes: to get client to think about behavior, to solve problems, to take and keep responsibility for the change

When possible, phrase questions in open ended format, i.e, a question that requires more than a short answer

Examples

*What benefits do you expect from this change?*

*How are you going to make this work for you this time?*

*Talk to me about the time management challenges you anticipate*

*Show me your progress chart for last week; tell me about what you did*

*How would you like my support as you make this change?*

*Tell me about problems you encountered and how you solved them*

*Would you summarize the benefits you’ve seen so far?*

Your job is to talk as little as possible, and get your client to figure things out. Keep the focus away from yourself and on them. However, do not hesitate to give safety information, and to provide resources for information needed. Handouts with web addresses, *You Tube* videos, and text references will be something you regularly use. Send your client research articles, success stories, and other helpful materials.

<table>
<thead>
<tr>
<th>STRATEGIES FOR BEHAVIOR CHANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record Keeping</td>
</tr>
<tr>
<td>Phone, tablet, computer</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>Calendar</td>
</tr>
<tr>
<td>Progress Chart</td>
</tr>
<tr>
<td>Other (describe)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Accountability</th>
<th>Time Management</th>
<th>Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meet with trainer</td>
<td>Schedule new behavior</td>
<td>Read success stories</td>
</tr>
<tr>
<td>Report to friend</td>
<td>Increase _________</td>
<td>Use role model</td>
</tr>
<tr>
<td>Make records public (on line, post on fridge)</td>
<td>Decrease _________</td>
<td>Maintain awareness</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental Control</th>
<th>Support Systems</th>
<th>Relapse Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove temptation</td>
<td>Do new behavior with friend</td>
<td>Plan for time crunch</td>
</tr>
<tr>
<td>Make healthy choices convenient (fruit within reach)</td>
<td>Join a support group</td>
<td>Plan for stress management</td>
</tr>
<tr>
<td>Avoid or minimize being around unhealthy behaviors</td>
<td>Surround self with others doing healthy behavior</td>
<td>Identify and plan to avoid relapse triggers</td>
</tr>
<tr>
<td>Recruit others to join you</td>
<td>Focus on progress</td>
<td></td>
</tr>
</tbody>
</table>
Recovery Sports Nutrition: What is It? Who Needs It?

Martica Heaner, PhD, MA, MEd
Research Associate, Columbia University & Adjunct Ass. Professor, Hunter College, NN, NY
DrMartica@gmail.com • Twitter: @DrMartica • Facebook: ‘Martica Heaner PhD’

Long gone are the days when you could tell someone to munch on a banana, sip a sports drink, or nibble on a protein bar after their workout. There is no one-size-fits-all prescription for if and how a person should refuel after a workout. If and how much an individual should replenish after a workout for optimum recovery depends on many factors.

Key points:

- Refueling post-exercise depends upon the goals of the client and their current state of energy balance, as well as the energy expenditure, intensity and/or duration of the workout.
- Keeping the body in energy balance, even during long or hard fitness training sessions may ameliorate some of the negative aftereffects associated with high intensity, long-duration workouts. Within-day nutrient timing may provide a novel and highly-effective way for you to help clients with energy balance. See http://NutriTiming.com/
- Adequate fluid intake before, during and after exercise, depending upon the intensity and duration of the workout is key to performance and recovery.

At the end of this session, participants will be able to:
1. Identify which types of workouts and exercise participants need, or don’t need, refueling and/or rehydration.
2. Describe the current recommendations for food and fluid intake before, during and after exercise.
3. Understand the physiological mechanisms involved in exercise and recovery, and the role of exercise immunology.
4. Understand the differences between daily energy balance and within-day energy balance.
5. Understand the key differences between different sports drinks and energy/protein bars.

Recommended References:

Websites:
www.eatright.org American Dietetic Association
www.scandpg.org Sports Cardiovascular Wellness Nutritionists
www.acsm.org American College of Sports Medicine
www.ais.org.au/nutrition Australian Institute of Sport
### Official Guidelines:

<table>
<thead>
<tr>
<th>Organization</th>
<th>Year</th>
<th>Guidelines</th>
<th>Reference</th>
</tr>
</thead>
</table>

### Books:


This presentation will evaluate the role of protein and amino acids in adult health and physical performance, including repair and maintenance of skeletal muscle. Dr. Layman will review mechanisms for the actions of amino acids in metabolism and discuss the importance of quality, quantity and timing of protein intake with emphasis on branched-chain amino acid leucine in muscle development and energy metabolism. The talk will provide research evidence and application to athletes, weight management and aging as well as address questions regarding use of protein supplements.

Outline:
1. Overview of the controversy about macronutrient choices
   - How do we make choices about the balance of protein, carbohydrates and fats?

2. Benefits of protein-rich diets
   - Effects of protein on body composition, energy expenditure, satiety and glycemic regulations

3. Understanding protein and amino acid roles in metabolism
   - Amino acids as building blocks versus metabolic signals

4. Protein needs depend on protein quantity, quality and distribution
   - The quantity and quality of protein at individual meals are the keys to muscle health.

5. Applications of protein-rich diets for athletes, weight management and aging
   - Getting the balance of protein and carbohydrates correct for athletic performance and adult health.

Selected References:


Sun Salutation (Surya Namaskar)

Overview
Surya Namaskar is used in traditional yoga practices to warm the body by creating heat and warmth in the body. Or as practice in themselves. It is a preparation for the practice both mentally and physically and teaches linking breath with movement. The movement sequence is designed to take the spine through a variety of ranges of motion to increase the awareness of our spines specific to range of motion or limitations.

One of the means of honoring the sun is through the dynamic asana sequence Sun Salutation (Surya Namaskar). The Sanskrit word namaskar stems from namas, which means "to bow to" or "to adore." (The familiar phrase we use to close our yoga classes, namaste—te means "you"—also comes from this root.) Each Sun Salutation begins and ends with the joined-hands mudra (gesture) touched to the heart. This placement is no accident; only the heart can know the truth. (Yoga Journal,

Sun Salutation A (Surya Namaskar A)

1. Tadasana (Mountain pose) hands in Anjali Mudra (reverse seal)
2. Inhale, reach the arms overhead: Urdhva Hastasana (Upward Salute)
3. Exhale, hip hinge forward: Uttanasana (Standing Forward Bend)
4. Inhale, extend the spine: Ardhach Uttanasana (Half Standing Forward Bend)
5. Exhale, lower into push up: Chaturanga Dandasana (Four-limbed Staff Pose)
6. Inhale, extend the spine to up dog: Urdhva Mukha Svanasana (Upward-Facing Dog Pose)
7. Exhale, lift the hips to down dog: Adho Mukha Svanasana (Downward-Facing Dog Pose)
8. Take 5 deep breathes
9. Inhale, walk or jump your feet to your hands: Ardha Uttanasana (Half Standing Forward Bend)
10. Exhale, fold into the legs: Uttanasana (Standing Forward Bend)
11. Inhale, stand up bringing the arms overhead: Urdhva Hastasana (Upward Salute)
12. Exhale, the arms back down to your side: Tadasana (Mountain Pose)

Variations and modifications:
Sun Salutation B (Surya Namaskar B)

1. Tadasana (Mountain pose) hands in Anjali Mudra (reverse seal)
2. Inhale, reach the arms overhead as you lower to chair pose: Utkatasana
3. Exhale, hip hinge forward: Uttanasana (Standing Forward Bend)
4. Inhale, extend the spine: Ardha Uttanasana (Half Standing Forward Bend)
5. Exhale, lower into push up: Chaturanga Dandasana (Four-limbed Staff Pose)
6. Inhale, extend the spine to up dog: Urdhva Mukha Svanasana (Upward-Facing Dog Pose)
7. Exhale, lift the hips to down dog: Adho Mukha Svanasana (Downward-Facing Dog Pose)
8. Turn the left heel inward and step the right foot forward between the hands to a lunge, Inhale the arms up to Virabhadrasana A (Warrior A)
9. Exhale the arms down and step back to the plank and lower down to the pushup: Chaturanga Dandasana (Four-limbed Staff Pose)
10. Inhale, extend the spine to up dog: Urdhva Mukha Svanasana (Upward-Facing Dog Pose)
11. Exhale, lift the hips to down dog: Adho Mukha Svanasana (Downward-Facing Dog Pose)
12. Turn the right heel inward and step the left foot forward between the hands to a lunge, Inhale the arms up to Virabhadrasana A (Warrior A)
13. Exhale the arms down and step back to the plank and lower down to the pushup Chaturanga Dandasana (Four-limbed Staff Pose)
14. Inhale, extend the spine to up dog: Urdhva Mukha Svanasana (Upward-Facing Dog Pose)
15. Exhale, lift the hips to down dog: Adho Mukha Svanasana (Downward-Facing Dog Pose)
16. Take 5 deep breathes
17. Inhale, walk or jump your feet to your hands: Ardha Uttanasana (Half Standing Forward Bend)
18. Exhale, fold into the legs: Uttanasana (Standing Forward Bend)
19. Inhale, sit back to chair pose as you bring the arms overhead: Utkatasana
20. Exhale, stand up and lower the the arms back down to your side: Tadasana (Mountain Pose)

Helen Vanderburg.com
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Build a Block Dance Inspired Cardio
Presented by Carol Murphy

Workshop Description: If you ever wondered how to motivate people to move, dance-inspired cardio is for you. It’s the ideal combination of energy, creativity and fun in a workshop that shows you how to create and successfully teach an endless array of heart-pumping, calorie-burning cardio workouts. You’ll learn the base moves, movement transitions and choreography building methods that are critical to class success. Experience a master class that will excite and delight, plus take away key strategies for creating a winning workout experience for all.

Benefits of Dance Based Fitness Classes
- Physical
- Mental
- Emotional

Build A Block Workshop:
- Base Moves
- Movement Transitions
- Creating Mini Blocks - 16 counts
- Variables of complexity – within each mini block
- Assessing Level of Blocks
- Organizing your combos

Teaching Methods
1. Linear Progression
2. Pyramid method
3. Add-on method (Building Block)
4. Link method (Part to whole teaching)
5. Layering

Warm up for Dance Inspired High-Low
- Benefits of the Warm-up
- Warm-up design tips
- Putting it all together in a class

Music: Mixed Impact 145-165 BPM
Low Impact 135-145 BPM
Movement Transitions

Circle of Choreography
- All moves within a circle transition well
- Moves within circles that overlap transition well
- Moves between circles that do not overlap will not transition well

OTS= on the spot  FB= front back  RL= right left  N= neutral  RPT= repeat
LDF= left diagonal front  RDF= right diagonal front  C= count  RTN= rotation
C= clockwise  CC= counter clockwise

Inspired Energy  Master Class Choreography

<table>
<thead>
<tr>
<th>Block</th>
<th>Move</th>
<th>Foot Strike</th>
<th>Counts</th>
<th>Direction / Travel</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>a.  Walk Forward 4x, rock side 4c</td>
<td>RRLR, RLLR</td>
<td>1-4, 5-6, 7-8</td>
<td>Forward, OTS</td>
</tr>
<tr>
<td>32</td>
<td>b. Mambo cha-cha-cha 2x, pivot</td>
<td>RRR, RRR, RLLR, RLLR</td>
<td>1-2, 3-4, 5-6, 7-8</td>
<td>Backward</td>
</tr>
<tr>
<td>32</td>
<td>c. Tap 3 (f,b,f) ; hop on r // rpt with lead</td>
<td>RRR, RRR, RLLR, RLLR</td>
<td>1-4, 5-8</td>
<td>Ldf ; rdf</td>
</tr>
<tr>
<td>32</td>
<td>d. Cross step touch 2x (R, L) + jump 5-6-7-8</td>
<td>R, L; L, R; RLLR</td>
<td>1-4, 5-8</td>
<td>Forward, backward</td>
</tr>
<tr>
<td>Two</td>
<td>a. Grapevine 2</td>
<td>R, L</td>
<td>1-4; 5-8</td>
<td>&quot;L&quot;</td>
</tr>
<tr>
<td>32</td>
<td>b. Mambo cha cha cha + 4c march or turn</td>
<td>RLLR, LRLR; RLLR, LRLR; RLLR, LRLR</td>
<td>1-2, 3-4, 5-8</td>
<td>1st to front; 2nd to bk on &quot;6</td>
</tr>
<tr>
<td>32</td>
<td>c. 6c mambo 2x + cha 2x</td>
<td>RLLR, LRLR; RLLR, LRLR; RLLR, LRLR</td>
<td>1-2, 3-4, 5-6, 7-8</td>
<td>back, front, rtn forward</td>
</tr>
<tr>
<td>Three</td>
<td>a. Agility shuffle 4c + 2 JU; rtp with lead</td>
<td>RLLR: NN; LRLR, NN</td>
<td>1-4, 5-8; 9-16</td>
<td>Lateral travel</td>
</tr>
<tr>
<td>32</td>
<td>b. Step curl 6 &quot;u&quot; + dbl curl</td>
<td>RRR, LL, LRR</td>
<td>1-16</td>
<td>OTS</td>
</tr>
<tr>
<td>32</td>
<td>b. 6ct reverse mambo 2 + reverse turn</td>
<td>RLLR, LLLR, RLLR</td>
<td>1-4, 5-8, 7-8</td>
<td>OTS, ROTATE C</td>
</tr>
<tr>
<td>32</td>
<td>c. Alt reach RLLR, HH, roll-up; 4 c turn R, 4c L</td>
<td>N 1-8, RRLR, LRLR</td>
<td>1-2-3, 4-5-6, 7-8</td>
<td>OTS, ROTATE C; CC</td>
</tr>
</tbody>
</table>

Thank you for attending Dance Inspired Cardio

website: [www.carolmurphy.com](http://www.carolmurphy.com)  email: [murphfit@rochester.rr.com](mailto:murphfit@rochester.rr.com)
Schwinn will be providing copies for the attendees and handing them out in the room onsite for Schwinn Cycling, Workshop and workout sessions. Thank you.
TRX will be providing attendees with access to session materials onsite.
The Secret to Fitness is in the Bedroom – Sleep!

Mike Bracko, Ed.D., CSCS, FACSM
Dr. Bracko’s Fitness & Institute for Hockey Research
Fitness Educator & Sports Physiologist
Calgary, AB., Canada
drbrackofitness@aol.com

Four Take Away Messages:
1) Define what healthy sleep is and how many hours are needed for optimal health and fitness.
2) Evaluate the risks of poor sleep and lack of sleep relating to being overweight and unhealthy eating habits.
3) Discover the benefits of proper sleep for improved fitness, weight loss, and sports performance.
4) Identify the key components of counseling clients to improve their sleep.

Introduction

Sleep has been called an athlete’s steroid. The forgotten component of fitness is without a doubt sleep. When our clients get proper sleep, they are healthy and fit. When they don’t get proper sleep, their health and fitness suffer. There is compelling evidence that chronic lack of sleep can alter hormones in the blood that control appetite and promote weight gain (Chamorro, et al, 2011, Chaput, et al, 2012, Knutson, 2012, Kobayashi, et al, 2012). Research indicates that poor sleep, or a lack of sleep, increases signals to the brain to eat, and decreases signals telling the brain we’ve eaten enough. The culprit is the hormone cortisol, which increases cravings for high fat “comfort” foods.

The Merriam-Webster dictionary defines sleep as “the natural periodic suspension of consciousness during which the powers of the body are restored.” Most adults need seven to nine hours of uninterrupted sleep per night. Moreover, when athletes get proper or increased sleep, their performance can improve (Mah, et al, 2011). Most likely, this can be carried over our fitness clients. Cheri Mah, a researcher in the Stanford Sleep Disorders Clinic and Research Laboratory is quoted on the Stanford University Medical School web site, “sleep is an important factor in peak athletic performance,” “athletes may be able to optimize training and competition outcomes by identifying strategies to maximize the benefits of sleep.” One of the primary reasons performance, and probably fitness, can improve is because during deep sleep, our bodies release human growth hormone, which stimulates the healing and growth of muscle and bone. As such proper sleep helps athletes and fitness in two ways: 1) it boosts performance due to improved cognitive function, reaction time, and hand-eye coordination, and 2) it aids recovery from tough games and workouts.

Overview of Healthy Sleep

- 5 stages of sleep: 1) light sleep, begin to lose muscle tone, muscle twitches, loss of self awareness, 2) loss of nearly all muscle tone, a light dreamless sleep, we spend half our sleep in Stage 2, 3) beginning of deep sleep, 4) deepest kind of slow wave sleep, replenishes physical and mental energy, 5) Rapid Eye Movement (REM, because eyes dart back and forth) 25% of night, onset of dreaming, important to healthy brain functioning, provides energy to brain and body, creation of long-term memories.
- Our genes act as internal clocks and release hormones according to circadian rhythms, which are triggered by darkness and light and alternate over 24-hour periods.
- Proper sleep helps contribute to a healthy immune system.
- During stages 3 and 4 the body produces and secretes human growth hormone which helps maintain and repair muscle and cells and is key to improving fitness and sports performance.
- Most adults need 7 – 8 hours of healthy sleep each night whereas teens and school-aged children need around 9 - 11 hours.
Why Do We Sleep?

- Two primary theories of why we need sleep: 1) Restorative Theory - sleep restores what happens when we are awake, the brain integrates new information, organizes memory, and the body repairs nerve cells and tissues, and 2) Adaptive Theory - an evolutionary adaption that kept us away from predators while we were vulnerable at night, sleep may have evolved as an adaptive and protective function, ie: we searched for food during the day and hid at night for protection.

Importance of Sleep

- When Bracko doesn’t get enough sleep his face looks like an old boot, but this is just the tip of the iceberg as it relates to the other adverse effects of poor sleep.

- Poor sleep, or lack of sleep, causes impaired cognitive functions, and makes it difficult to perform the simplest of tasks and including difficulty remembering things. There is a link between sleep deprivation and many psychological disorders, including depression.

- Some of the most common symptoms of chronic poor sleep include: irritability, memory loss, high blood pressure, headaches, and muscle aches. A lack of sleep can also cause overall fatigue, and health conditions such as hypertension and diabetes.

- As this relates to our clients, it is difficult to improve fitness when experiencing the symptoms of poor sleep. How can our clients get a “bang on” work-out when they’re tired, irritable, have a headache, and fatigued? As such, if we know a client is not getting enough sleep or has impaired sleep, it is diligent for us to discuss how they can improve their sleep. When this is done, the client will see remarkable results from our work-outs.

- Human growth hormone (HGH), helps build and repair muscle mass, tissue and cells. It is secreted during stages 2 and 3 of sleep. Melatonin, a hormone that is released during the onset sleep until around 2:00 – 3:00am boosts immune function and helps fight infections.

Sleep, Obesity, and Health

- We might think that people who sleep less have more time to get more exercise and reduce the risk of being overweight. The reality is that reduced sleep time has been linked to an increased risk of being overweight or obese.

- Why? Sleep deprivation decreases levels of leptin, a satiety-promoting hormone (makes us feel full or satisfied after eating), and increases levels of ghrelin, an appetite-promoting hormone.

- There is compelling evidence that chronic lack of sleep can alter hormones in the blood that control appetite and promote weight gain (Chamorro, et al, 2011). Research indicates that chronic poor sleep, or a lack of sleep, increases signals to the brain to eat, and decreases signals telling the brain we’ve eaten enough. The culprit is the hormone cortisol, which increases cravings for high fat “comfort” foods.

Can Sleep Improve Fitness and Sports Performance

- Mah (2008) found that when college swimmers got extra sleep (10 hours per night for six to seven weeks) they swam a 15-meter sprint 0.51 seconds faster, reacted 0.15 seconds quicker off the start blocks, improved turn time by 0.10 seconds, and increased kick strokes by 5.0 kicks.

- Mah, et al (2011) found that when college basketball players extended their sleep to a minimum of 10 hours per night their performance on the following tests improved: faster timed sprint, shooting accuracy improved, free throw percentage increasing by 9%, and 3-point field goal percentage increasing.
addition the subjects improved their scores on Psychomotor Vigilance Task (PVT), Epworth Sleepiness Scale (ESS) and Profile of Mood States improved with increased vigor and decreased fatigue subscales.

- During deep sleep, our bodies release human growth hormone, which stimulates the healing and growth of muscle and bone. As such proper sleep helps athletes and fitness in two ways: 1) it boosts performance due to improved cognitive function, reaction time, and hand-eye coordination, and 2) it aids recovery from tough games and workouts. A sure bet for our clients wanting the added advantage from their work-outs.

- By extension, our clients will get a better work-out because good sleep helps with productivity and concentration, increased energy, and improved mood.

**Tips to Help Our Clients Get Better Sleep**

- Limit caffeine, especially in the afternoon and evening.
- Limit alcohol, especially excessive consumption before bed.
- Try to quit smoking or tobacco because nicotine is a stimulant.
- Don’t use a computer, cell phone/hand held device 1.5 hours before bed, they stimulate the brain.
- Limit TV before bed.
- Decrease the temperature in the house or bedroom before and during sleep.
- Get lots of daylight, but avoid bright light before bedtime.
- Use the bed for sleeping and lovemaking, and perhaps reading before sleep.
- Only nap 15 to 20 minutes in the early afternoon, if necessary
- Wind down late in the day.
- Get clients to complete a Sleep Diary.
- Eat three to four hours before bed, and avoid heavy meals.
- If you don’t fall asleep within 30 minutes, get out of bed and do something else until your body and mind feel tired.
- If you have trouble falling asleep, try meditation, listening to soothing music, a warm bath or other nighttime rituals that signal it’s time to sleep.

**References**

Session Outline
ACSM Health and Fitness Summit
March 12-15, 2013

Quit Carbs? Are You Kidding?!?
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Session Overview: Athletes, in particular endurance athletes, often focus on consuming a diet high in carbohydrates. However, current research encourages Americans to cut back the amount of sugar (in essence “carbohydrates”) they are ingesting for overall health improvement. These guidelines can become confusing for an athlete, especially due to the fact that this macronutrient is essential for optimal athletic performance. This presentation will review the current research on sugar consumption and chronic disease and then discuss how athletes can balance the recommendations for carbohydrate intake for performance versus those for the best sources of carbohydrate for overall health.

I. Introduction and Overview

II. Defining Carbohydrates
   a) Simple Carbohydrates
      i) Monosaccharides
      ii) Disaccharides
   b) Complex Carbohydrates
      i) Oligosaccharides
      ii) Polysaccharides

III. Sugar Consumption Research Review
   a) Obesity
   b) Heart Disease
   c) Diabetes

IV. Importance of Carbohydrates for Overall Health
   a) Role in the Body
   b) Disease Prevention

V. Importance of Carbohydrates for Athletic Performance
   a) Role in the Body
   b) “Hitting the Wall”
   c) Glycemic Index

VI. What Does This All Mean?
   a) Calculating Carbohydrate Needs
   b) Practical Applications of Balancing Carbohydrate Recommendations
i) Before, During and After Exercise
   (1) Food Sources
   (2) Sports Drinks, Energy Bars, and Gels
ii) For Overall Health

VII. Take Away Points
   a) Sugar intake should be limited to make a difference in the overall health of Americans.
   b) Adequate carbohydrate intake can impact athletic performance.
   c) It is important to balance the consumption of various types of carbohydrates to improve athletic performance, as well as overall health.

VIII. Resources
Habit Making; Habit Breaking
by
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Habit: definition according to Webster’s Dictionary: a) a thing done often and hence, usually, done easily; a practice or custom b) a pattern of action that is acquired and has become so automatic that it is difficult to break.”

I. The Science of Habit Formation
   A. Habits are chunked and are primarily formed in the basal ganglia of the brain. Chunking: the brain’s way of saving effort.
      ● Some habits are performed unconsciously, as if the brain were on autopilot
      ● Habits protect us from “decision fatigue” once a habit loop has been formed. This has advantages and disadvantages.
      ● Habits never completely disappear once encoded into the brain.
      ● Habits can emerge without our permission.
   B. Characteristics of habits:
      ● Often automatic
      ● Usually emotionless
      ● Situational
   C. The partial reinforcement extinction effect: we learn to accept no rewards along with occasional, unexpected, and unpredictable rewards (e.g. slot machines, the 1 email out of 50 that is interesting). Variable-ratio intervals are powerful habit-makers.
   D. 21 days to form a habit?
   E. Habitual ways of behaving can be organized on a continuum

II. Marketing Strategies for Consumer Habit Formation
   A. Create a craving: find a simple and obvious cue, a routine, and then, provide a clear reward
   B. Particularly strong habits can produce addiction-like reactions—wanting evolves into obsessive craving, forcing our brains into autopilot

III. Changing (or Breaking) a Habit
   A. A habit cannot be eradicated; it can only be replaced.
   B. A habit is a formula our brain automatically follows: when I see CUE, I will do a ROUTINE in order to get a REWARD
   C. Keep the old cue, deliver the old reward, but insert a new routine. Almost any behavior can be transformed if the cue and reward stay the same. The Golden Rule of habit change.
D. The process of habit change is well established, but that still doesn’t mean it’s easy. Real effort and determination are required. You must make a conscious decision to change. However, with time and effort, almost any habit can be reshaped.

E. Committing to change as part of a group is powerful and increases the odds of success. (Think AA).

F. Psychologists use habit reversal training: 1) develop an awareness of the bad habit, 2) learn a competing response

G. Awareness (mindfulness or living in the moment) is key at first, since many habits are unconscious

H. Suppressing thoughts and rigid behaviors usually backfire when trying to break a bad habit

I. Strategies for success:
   - Pre-commitment: making a hard decision when self-control is high.
   - If possible, change the context.
   - Use environmental interventions or reminders.
   - Use implementation intentions, a form of goal setting.

J. There are thousands of formulas for changing habits, depending on the individual and the specific habit. Each person’s habits are driven by different cravings.

K. A framework for habit change:
   1. identify the routine—what’s your loop?
   2. experiment with rewards
   3. isolate the cue (almost all habitual cues fit into the following:
      location, time, emotional state, other people, immediately preceding action)
   4. have a plan

IV. Making a New Habit

A. If you want to start a new habit (e.g. running each morning), you must choose a simple cue and a clear reward, and the cue must trigger a craving for the reward. Craving drives the habit loop (a 3-step loop with a cue, routine, and reward)

B. Have a plan to get the habit going.

C. Consider motivation: why do you want the new habit?

D. Goal-setting is important; use short-term goals to reach the long-term goal (process of shaping behavior).

E. The ideal time to establish a new habit is immediately after another habit has occurred (e.g. take out the trash after washing the dinner dishes, or flossing after brushing teeth)

F. WOOP strategy (wish, outcome, obstacle, plan)

G. Satisfaction with the new habit is key to keeping it going (if you don’t feel you’re getting anywhere, it’s hard to continue). The habit must eventually become intrinsically motivated and done for its own sake.
V. What about acquiring the Exercise/Physical Activity Habit?
   A. The laziness habit is hard to break.
   B. Self-monitoring techniques have proven to be the most successful (e.g. pedometer use).
   C. Exercise is a hard habit to acquire because there’s no regular cue. It’s important to find the right slot in your day, the right type of exercise, the right location, and solutions for barriers—in order to make the habit stick.

Good News: understanding and working with the unconscious, automatic nature of habits can help people to make changes!

Take-away Points:
1. Identify negative triggers and have management strategies at the ready.
2. Work on one habit at a time and start small.
3. Adapt your habits individually to fit your lifestyle for maximum sustainability.

References:
* T.F. Heatherton’s work on willpower: [http://www.dartmouth.edu/~health/#Pubs](http://www.dartmouth.edu/~health/#Pubs).

Resources:
* Ryan, M.J. (2006) *This Year I Will . . . . how to finally change a habit, keep a resolution, or make a dream come true*. New York: Broadway Books.
You Built It, So Why Don’t They Come?
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Participation vs engagement
- Participation: you do it
- Engagement: you want to do it

Creating Engagement
- Authentic connections, mutual respect
- Strong healthy relationships
- Manage expectations
- Leaders set the example
- Involve others in sharing a common vision
- Build on strengths!

Programming to the unreachable
1. Program to participant needs
2. Program messages to reach each stage
3. Program plans designed to engage
4. Program outcomes to show change

1. Program to participant needs: Re-examining motives
   Whose program is it—yours, ours or theirs?
   - Who built it? Why?
   - What role did employees play?

Understanding the culture
- Environment
- Leadership/ management
- Unwritten rules
- Expectations

Programming to, not at
- What makes them tick?
- What are barriers?
- Seek out their goals

Is the model you chose, the right fit?
- Traditional
- Outcomes driven
- 5 Pillars of Wellbeing
- Blue Zones
- Zero trends
2. Program messages to reach each stage

Weaving together theory and practice to reach all
- Stages of Readiness
- Learning preferences
- Intrinsic motivation

Adult Learning—adults want self management and control
- Adults learn at different rates and in different ways
- Adults want efficient use of their time
- Adults want to be active participants in learning
- Adults operate from problem solving mode and want practical solutions

Health Belief Model
- Aware and understand the risk/s
- Care about consequences
- Understand benefits
- Know the barriers

Prochaska’s Stages of Change
- Pre-contemplation/Contemplation
- Preparation
- Action
- Maintenance/Relapse

If we only offer programs to those in the action phase, we not only miss large portions of the population, we also ignore employees that have made change.

Creating Intrinsic Motivation
- Goals and rewards that are meaningful
- Learning/activities that are important
- Engage people in the change process
- Customize programs based on where individuals are at
- Change requires leaders to recognize, encourage and deepen their team’s insights

3. Programs designed to engage

What works: examining strategies?
Tools: online, paper, apps, seminars
Approach: social connection, groups, readiness, topics
Plan design: is your program designed to all levels of readiness and interests?

Program Ideas
- Too Tired to Move
- Personal Transformation
- Get in Shape to Hunt
- Stand up for Health
- Retire on $10 a day
- Park and Walk
- Parenting: Where’s the instruction manual?
- Balancing Life’s Stressors
- Shout outs
- Venison cook-off
Weaving into an annual plan
- Communication
- Programs
- Environment
- Relapse

Use Stages of Change to reach everyone
- Lay out annual calendar
- Cross check against stages
- Brainstorm holes

Have you reached past the action/maintenance people?
Are you making them come to you?

4. Program Outcomes

Evaluation: Asking the right questions, measuring both objective and subjective
- Participation
- Satisfaction
- Self efficacy
- Barriers
- Testimonials
- How can we support you?

Reaching the unreachable
What more have you done?
- Follow-up
- Expand your menu
- Address barriers
- Support confidence

Strategies to reach out
- Get in Touch
- Walk the talk
- Collaborate
- Know Barriers
- Show case success
- Capitalize on teachable moments

Celebrating Success: Do they know what has been achieved?
- Leadership
- Management
- Wellness committee
- Employees

Take Away Points:
- Program to your people
- Communicate to the pre-contemplator/contemplator and preparers
- Transition from wellness to wellbeing to engage the unreachable
Exercise is Medicine (EIM) on Campus

Presenters: Dr. Len Kravitz; Dr. Carol Kennedy-Armbruster, Dr. Mary E. Sanders & Dr. Dixie Stanforth

I. Introduction of Panel – Dr. Len Kravitz

II. Four Take-Away Messages
   A. Provide university professionals and interested allied professionals with an opportunity to learn what other universities are doing to promote physical activity through EIM on campus.
   B. Learn from faculty within four major universities (University of New Mexico, Indiana University, University Reno, University of Texas) initiatives on their campus’s
   C. Discuss and hear ideas for funding sources on campus for EIM service contracts.
   D. Hear ideas and/or share your own idea from other campus EIM initiatives.

III. EIM at University New Mexico and other Universities – Dr. Len Kravitz
   A. Example initiatives at UNM through the Exercise Science program
   B. EIM on Campus ideas from other universities

IV. EIM at Indiana University – Dr. Carol Kennedy-Armbruster
   A. Discussion on finding funding resources on campus and externally to sustain EIM
   B. IU Navy SHAPE Service Contract: http://www.navyfitness.org/shape/
   C. Healthy IU Service Contract: http://www.iu.edu/~welliu/
   D. Recreational Sports as EIM: http://www.iurecsports.org/

V. EIM at University of Texas/Austin – Dr. Dixie Stanforth
   A. Fitness Institute of Texas: http://www.edb.utexas.edu/fit/
   B. Division of Housing and Food Service Wellness Initiative http://www.utexas.edu/student/housing/index.php?site=24&scode=0&id=3300
   C. Recreational Sports: http://www.utrecsports.org/
VI. EIM at University of Nevada/Reno & Clinical examples of EIM – Dr. Mary E. Sanders

A. Student Services Health Education:
   http://www.unr.edu/shc/services/Health-Education.html

   Campus Wellness and Recreation: http://www.unr.edu/campusrec,

   ACSM’s Health & Fitness Journal articles: Pedometer Trekking with Expedition N-ergy, 2009; Extreme Conditioning on Campus, Cracking Open a University Box, 2012.

   Article links expire 5/1/13: Go to http://www.acsm.org/ click on “Topical Collections,” then on “Exercise is Medicine on Campus.”

B. Campus Medical School Interdisciplinary Clinical practice:
   http://www.medicine.nevada.edu/weightmanagement/

C. ACSM affiliate, Clinical Exercise Physiology Association (CEPA):
   www.acsm-cepa.org

VII. Sharing from the audience of EIM initiatives on campus.
Introduction and Overview

Critical Domains of a Brain Healthy Lifestyle: Physical Activity, Proper Nutrition, Stress Management, Socialization, Mental Stimulation, Spirituality

Review of the Anatomy & Physiology of the Brain
1. Lobes of the Brain
   a. Frontal
   b. Temporal
   c. Parietal
   d. Occipital
2. The Cerebellum
3. Limbic System
4. Neurons, Neurotransmitters, Neurotrophic Factors

Exercise for Brain Health!
1. Thirty Minutes of Moderate to Vigorous Aerobic Exercise
   a. Stimulates BDNF causing neurons to fire more efficiently
   b. Increases neurogenesis in the hippocampus
   c. Gets oxygen and glucose to the brain faster
   d. Repetitive gross motor movement strengthens dendritic branching
   e. Reduces obesity
   f. Balances brain chemicals, hormones and system functions

Research and Brain Boosters:

Optimizes Learning and Cognition Through the Lifespan
1. Exercise causes nerve cells to multiply, nerve connections to strengthen, protecting neurons from harm
2. Exercise increases neuronal connections
3. Exercise fuels the brain with oxygen and glucose
4. Exercise increases the number of capillaries surrounding the neurons
5. Exercise strengthens the cerebellum
6. Exercise strengthens the corpus callosum
7. Exercise increases levels of neurotransmitters dopamine, serotonin, norepinephrine, and neurotrophic factors like BDNF

Research and Brain Boosters:
Effectively Manage Stress, Anxiety, & Mood

1. Exercise and Stress
2. Exercise and Depression
3. Exercise and Anxiety

Research and Brain Boosters:

THREE TAKE HOME MESSAGES:

1. Exercise plays a vital role in brain health through the lifespan.
2. Exercise optimizes learning and cognition through the lifespan.
3. Exercise is a key component to managing stress, anxiety, and mood.


Friedland, R.P. et al. (2001). Patients with Alzheimer's disease have reduced activities in midlife compared with healthy control group members. Proceedings of the National Academy of Sciences. 98, 3440.


In the News: Mind/Body Research
by
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I. Yoga
A. Study by Wang et al (2013) quantifies physical demands of yoga in seniors
C. Yoga has been found to reduce high BP; it has also been demonstrated to effectively reduce blood glucose levels, cholesterol levels, and body weight (Okonta, 2012). Regular yoga practice is associated with mindful eating and attenuated body weight. (Kristal et al, 2005)
D. For low-back pain, yoga is more effective than using a self-care book, but is no more effective than stretching (Sherman et al, 2011)
E. 2009 study by Williams et al found that Iyengar yoga decreased pain, disability, and depression in people with chronic low-back pain.
F. Meta-analysis found that yoga may be useful for several pain-associated disorders, including back pain, arthritis, and headaches/migraines (Büssing et al, 2012)
G. Iyengar yoga may improve fatigue in breast cancer survivors (Bower et al, 2012)
H. Significant and positive effects were found in patients with neurological and psychiatric disorders by practicing yoga (Meyer et al, 2012).
I. Review article on yoga found reduced incidence of pre-term labor, decreased low birth weight, decreased pregnancy discomfort and sleep disturbances, and increased quality of life in pregnant women (Babbar et al, 2012).

II. Meditation
A. Compassion meditation training increases compassion and decreases depression (Desbordes et al, 2012).
B. Mindfulness-based stress reduction meditation results in positive changes in the brain’s gray matter concentration in the left hippocampus—the part of the brain involved in learning, memory and emotional control (Hölzel et al, 2011).
C. Meditation improves the ability to sustain attention (MacLean et al, 2010).
D. Meditation increases telomerase activity; this has potential implications for a stronger immune system and increased longevity. Negativity indicators also decreased (Jacobs et al, 2011).
III. Pilates
   A. Pilates improves abdominal endurance, upper-body muscle endurance, and hamstring flexibility (Kloubec, 2010).
   C. Pilates improved balance and reduced the incidence of falls in women over 65 (Irez, G.B. et al, 2011).
   D. Review of Pilates exercise finds benefits (Cruz-Ferreira et al, 2011).
   E. Pilates claims not yet proven: 1) results in longer, leaner muscles, 2) improves posture, 3) prevents injury, 4) enhances functional fitness, 5) increases body awareness, 5) easy on the joints, 6) improves performance in sports, 7) improves coordination, and circulation, 8) helps with weight loss. Pilates training may or may not address these claims—however, no studies have yet shown them to be true (Weil, 2013).
   F. Pilates, Tai chi, and Gyrokinesis classes increase student mindfulness (Caldwell et al, 2010).

IV. Tai Chi
   A. Tai chi helps Parkinson’s patients with balance and fall prevention (Li, et al, 2012)
   B. Review shows several beneficial health effects from the practice of Tai chi and Qi gong (Jahnke et al, 2010).
   C. Tai chi is a valuable method by which to enhance or maintain a healthy state of psychological functioning (Zhang et al, 2012)

References:
- Desbordes G, Negi LT, Pace TW, Wallace BA, Raison, CL, Schwartz EL. Effects of mindful-attention and compassion meditation training on amygdala

TRX For Everyone: How To Introduce Suspension Training To Your Clients

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Three Take Away Points

At the end of this workshop, attendees will be able to:

1. Overcome client fears and other barriers to adoption of the TRX.
2. Develop a research-proven senior fitness exercise program using the TRX.
3. Demonstrate, cue, and correct 1 exercise for each of the following exercise domains: joint mobility, muscle strength/muscle power, and dynamic balance/gait enhancement.

I. Introductions and Overview
   A. Arrangement of groups at TRX stations
   B. Three questions for the audience
      1. Use the TRX with clients/patients (or other ST systems)?
      2. Functional level of clients/patients?
      3. Issues/barriers with new clients concerning ST systems?
   C. Objectives for session

II. Rationale for Using TRX
   A. Principles of suspension training
      1. Stability principle
      2. Vector principle
      3. Practice and experiential time (5 mins)
   B. Benefits to novice and older clients
      1. Can unload body to reduce joint stress
      2. Can provide external balance support
      3. Practice and experiential time (5 mins)
   C. Evidence of TRX intervention effectiveness for novice exercisers
      1. Study at USF
2. Study findings

III. Introducing novice and older clients to the TRX
   A. N.A.P.S.M.R. cueing strategy
      1. N = Name of exercise
      2. A = Adjustment of TRX
      3. P = Position of body for exercise
      4. S = Starting position
      5. M = Movement of exercise
      6. R = Return to starting position
      7. Practice and experiential time (10 mins)
   B. Cueing strategies
      1. Visual - demonstration
      2. Verbal - individual exercise components
      3. Tactile - movement assistance & biofeedback
      4. Practice and experiential time (10 mins)
   C. Progression & regression guidance

IV. Novice & Older Exerciser TRX Program Design Components
   A. Joint Mobility
      1. Ankle Circles
      2. Hip Circles
      3. Shoulder Circles
      4. Ta-Da’s
      5. Practice and experiential time (10 mins)
   B. Muscle strength & Muscle Power
      1. Squat
      2. Row
      3. Chest Press
      4. Practice and experiential time (10 mins)
   C. Dynamic Balance & Gait Enhancement
      1. Multiplanar Lunge Patterns
      2. Side Steps
      3. Practice and experiential time (10 mins)

V. Questions & Comments
I. Introduction
   A. Presentation outline/objectives

II. The Health Benefits of Physical Activity
   A. Irrefutable evidence regarding the health benefits of routine physical activity and exercise.
   B. Concerns remain regarding the risks for exercise-related adverse events.
   C. Pre-participation screening is advocated widely.

III. Pre-Participation Screening
   A. Originally, an exceptionally conservative approach was taken.
      1. In the 1970s, physicians often recommended a stress electrocardiogram for men over the age of 35 yr who wished to become more physically active.
      2. This approach was deemed to be too costly and prohibitive.
   B. The Physical Activity Readiness Questionnaire (PAR-Q) was developed in the early 1970s by a series of leading Canadian researchers (including Dr. Don Bailey, Dr. Roy Shephard, and Dr. Don Chisholm).
      1. In 1974, Bailey and colleagues suggested a simple, self-administered screening process as part of the Canadian Home Fitness test.
      2. Chisholm and colleagues (circa 1976) created a 19 question screening battery
         a. From this process, 7 questions were identified (based on expert opinion) that had the most relevance for exercise screening.
         a. The Physical Activity Readiness Questionnaire (PAR-Q)
      3. More than 35 years of experience has demonstrated the remarkable ability of the PAR-Q to safely and effectively screen participants who seek to become more physically active.
   C. The Physical Activity Readiness Medical Evaluation (PARmed-X; also developed by Chisholm and colleagues) was designed for use by physicians to assist them in addressing medical concerns for physical activity participation.

IV. Recently, the medical community has challenged the PAR-Q and related PARmed-X.
   A. Opinion-based not evidence-based.
      1. The lack of evidence-based support has limited the endorsement of the original forms (in particular the PARmed-X) by health care professionals and medical organizations.
   B. Purposely conservative.
   C. The PARmed-X is not user friendly.
      1. Physicians often find the exercise clearance process cumbersome and time consuming.
   D. Fail to recognize the advancements in training within the exercise sciences.
   E. Limited usefulness for clinical populations.
1. Automatically sends patients with heart disease to seek a physician, despite the fact that these individuals may be at a low risk for an adverse exercise-related event.

2. May clear intermediate to higher risk individuals living with a chronic medical condition (such as diabetes).

3. As many as 95% of individuals with a chronic medical condition that answer YES to one or more of the PAR-Q questions do not receive or seek medical clearance for physical activity.

F. Age restrictions (15-69 yr)

1. Creates barriers for children and the elderly

V. A systematic and evidence-based approach was taken to create a new physical activity participation and risk stratification strategy.

A. Over 540,000 were retrieved, and more than 1,000 were used to form the foundation for more than 60 evidence-based recommendations.

B. Systematic reviews were conducted to establish the exercise-related risks and effective risk stratification in prominent medical conditions (Orthopaedic Conditions, Cancer, Heart or Cardiovascular Conditions, Metabolic Conditions, Psychological Conditions, Respiratory Conditions, Spinal Cord Injury, and Stroke).

C. Additional systematic reviews were conducted to evaluate the risks associated with exercise testing and training in the general population, the role of the qualified exercise professional (including the requisite core competencies required for working with varied chronic medical conditions), and the risks associated with exercise during pregnancy without complications.

D. The process adhered to the international standards established by the Appraisal of Guidelines for Research and Evaluation (AGREE) Instrument.

VI. Key findings of this evidence-based process:

A. The health benefits of physical activity far outweigh the transient small risks seen after an acute bout of exercise for the vast majority of individuals (including those with established chronic medical conditions).

B. Recent advancements in training within the exercise sciences has allowed for appropriately trained and certified exercise professionals to take an increasingly greater role in both health- and performance-related settings.

C. The age restriction of the PAR-Q and PARmed-X was not warranted.

D. An evidence-based risk continuum was created wherein: 1) Low risk persons may exercise at low to moderate intensities with minimum (or no) supervision. 2) Intermediate risk persons should exercise under the guidance of an appropriately trained qualified exercise professional. 3) High risk persons should exercise in a medically supervised setting that includes a qualified exercise professional.

VII. A new pre-participation physical activity clearance and risk stratification process was created (i.e., the new Physical Activity Readiness Questionnaire for Everyone (PAR-Q+) and the electronic Physical Activity Medical Readiness Questionnaire (ePARmed-X+)).

A. The new PAR-Q+ is a 4-page document that contains a wide range of questions to identify any possible restrictions or limitations to physical activity participation.

B. Those identified as intermediate to higher risk (via the PAR-Q+) are sent to a qualified exercise professional and/or the ePARmed-X+ for further evaluation.

C. New process leads to a marked reduction in the barriers to becoming more active.
1. Only a small proportion of clients are referred for additional medical screening.
2. Persons normally screened out of physical activity participation are screened (often self-screened) back into physical activity.

VIII. Selected References


Key Take Home Messages

1. The new risk stratification and physical activity participation clearance strategy (i.e., PAR-Q+ and ePARmed-X+) has served to reduce greatly the barriers to physical activity participation.
2. Persons normally screened out of physical activity are now able to be screened (often self-screened via the PAR-Q+ and ePARmed-X+) back into activity/exercise.
3. Qualified exercise professionals now have a greater role in effective risk stratification and physical activity clearance.
4. Numerous knowledge translation resources have been developed to facilitate the uptake of research information into clinical practice.
I. Goals for Today  
- Exposure to Something New, Realization That There is Another Way

II. (5) Checkpoints  
- Foot/Ankle, Knee, Hips, Shoulder/Thoracic Spine, Head/Neck

III. (11) Myofascial Lines  

IV. Assessing Without Guessing

V. (8) Kinetic Chain Tests  
- Supine Pelvic Lift, Supine Plank, Prone Plank, Side Lying Abduction, Side Lying Adduction, Shoulder Extension, Push-up, Pull-up

VI. Testing Procedures  
- The How  
- Scoring System (0, 1, 2, 3)

VII. Acute Variables  
- Progression Based on Quality of Movement  
- Grading the Workload Principles  
- 3-4 Sets and 3-6 Reps  
- ~30 Seconds of Rest
Evidence Based Recovery Strategies to Prevent Fatigue and Over-Reaching

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E-Mail: dpadau@email.unc.edu, bsfrank@email.unc.edu

I. Presentation Overview:
   a. Fatigue vs. Overtraining
      i. Influencing factors and mechanisms
      ii. Effects on performance and injury
   b. Evidence based solutions for combating fatigue & over-training
      i. 3R’s (Re-Fuel, Rest, & Restoring Movement)
   c. Implementing an integrated and systematic recovery program

II. Effects of Fatigue
   a. Sport & athletic performance depends upon ability to produce and sustain high level of performance throughout competition and training
   b. Fatigue can deteriorate physical, technical, decision-making, and psychological skills and lead to long-term performance deficits if not managed appropriately
      i. Magnitude and duration of performance deficits dependent upon management

III. Fatigue and Performance
   a. Muscle Performance (strength, power, contraction velocity)
   b. Exercise Performance (speed, power, balance, stability, movement)
   c. Competition/training Performance (work rate during competition/training, decision making, anticipation)

IV. Mechanisms of Fatigue
   a. Peripheral / local - (muscle biochemistry)
   b. Central - (neural drive to the muscle: voluntary & involuntary)

V. Strong correlation between training load & injury rates

VI. Over-Training & Over-Reaching
   a. Disturbed stress-regeneration balance
      i. Stress: physical and/or mental

VII. Over-training is a misnomer
   a. With appropriate recovery practices/strategies over-training can be prevented

VIII. Optimum Recovery
   a. Re-Fuel Strategies
      i. Meals
         1. Eat breakfast, regularity/consistency, balanced
ii. Hydration
   1. Water (3-4 L / day), electrolytes (sodium, potassium, calcium)

iii. Pre-Training
   1. Higher carbohydrate, moderate protein, lower in fat

iv. Post-Training
   1. Timing (within 30 minutes) & water replacement

b. Improper Re-Fuel Consequences
   i. Inadequate energy intake relative to expenditure will compromise performance and result in negative catabolic response
      1. Loss of lean tissue mass (strength and endurance)
      2. Compromised immune, endocrine and musculoskeletal function
   ii. Long-term improper re-fueling results in poor nutrient uptake, especially micro-nutrients
      1. May result in metabolic dysfunctions and lowered resting metabolic rate
   iii. Have a nutritional consultant to tailor a re-fueling plan according to the individual’s needs

c. Rest Strategies
   i. 7-8 hours of sleep (minimum) – sleep extension has performance benefits
   ii. 60-minutes of relaxation per day
   iii. Minimize psycho-social stress

d. Inadequate Rest Consequences
   i. Physical performance (weight training, cardiorespiratory functioning)
   ii. Weight loss (% fat loss vs. % lean muscle mass)

e. Restore Movement Strategies
   i. Muscle balance is key
      1. Identify movement impairments & determine underlying causes
         a. Single leg squat, overhead squat, landing error scoring system
      2. Corrective exercise (3x/wk) – Mobility, Stability, Neuromuscular Control
   ii. Dynamic warm up & cool down
   iii. Monitor training load
      1. (RPE x Training/Competition Duration (min))

IX. Recovery - Supplemental Behaviors
   a. Implemented in addition to best practices (not in place of) – there’s no “magic bullet”
      i. The application of the following recommendations may be dependent on:
         1. Time of season/schedule
         2. Training load
         3. Injury status
         4. Practicality
   b. Supplemental recovery behaviors application:
i. Reduction of s/s associated with exercise-induced muscle damage
   1. Tissue disruption & catabolism
   2. Delayed onset muscle soreness (DOMS)
   3. Decreased muscle force output between bouts of activity
ii. Improved fatigue resistance during strenuous activity
iii. Reduction in immunosuppression post strenuous activity
c. Nutrition-based
   i. Antioxidants – Vitamin C, Vitamin E, Coenzyme Q10
   ii. Phytochemicals – Tart Cherry Juice
   iii. Amino Acids – l-Carnitine, Leucine/HMB, Beta-Alanine
   iv. Fatty Acids – Omega 3 (EPA & DHA)
d. Modality-based
   i. Whole body vibration
   ii. Massage
   iii. Compression garments
   iv. Cryotherapy

X. Planned recovery requires an integrated and systematic approach
   a. Educate your clients & athletes – consistent messaging
   b. Provide access / remove barriers to best practices
   c. Monitor movement efficiency, training loads, recovery behaviors

XI. Five Take-Away Points
   a. Fatigue is a physiologic stimulus for anabolic response if recovery is optimized
   b. Foundation for optimum recovery = 3R’s
      i. Re-fuel, Rest, Restore Movement Efficiency
   c. Supplemental recovery behavior (nutrition & modalities) must be combined 3R’s
   d. Monitoring of training load and recovery behaviors is necessary to direct behavior
   e. Recovery behaviors are best applied in a systematic & integrated approach

XII. Selected References
Summary: Aspiring young athletes need to participate in preparatory conditioning programs that are purposely designed to enhance their muscular strength and motor skill performance. In this lecture, the latest advances in training children and adolescents will be reviewed, common questions from parents will be answered, and program design considerations for developing age-related fitness programs for aspiring young athletes will be explored.

I. Introduction
   A. Trends in fitness conditioning and sports participation among children and adolescents
   B. Current public health recommendations
   C. Opportunities for the fitness industry

II. Secular trends in youth physical activity
   A. Are we in the midst of an “unfitness” epidemic among youth?
   B. Are contemporary youth prepared for sports practice and competition?

III. FUNdamental Integrative Training (FIT) for aspiring youth athletes
   A. Health and skill-related fitness components: Integrate don’t isolate
   B. Importance of developing muscular strength and motor skills
   C. The hypothetical “proficiency barrier”
   D. “Exercise deficit disorder” in youth: Play now or pay later

IV. Exercise is Sports Medicine
   A. Thoughts from the International Olympic Committee
   B. The vortex of physical inactivity during childhood and adolescence
   C. Strategies for reducing sports-related injuries in young athletes
   D. Modifiable risk factors associated with training in youth
V. Resistance Training for Young Athletes
   A. Why lift? Scientific evidence and clinical impressions
   B. Keys to success:
      1. Qualified instruction
      2. Safe environment
      3. Technique-based progression
   C. Program design considerations
      1. Youth resistance training program variables
      2. Periodization and program progression
      3. Value less intense training (L.I.T) sessions
      4. Importance of dynamic movement preparation
      5. Strategies for keeping the fun in fitness
      6. Tips for successful youth programs

VI. The Coaches Eye
   A. Muscular fitness
   B. Skill development
   C. Effective teaching
      1. Learning
      2. Assessment
      3. Reflection
   D. Mental engagement
      1. Mindset
      2. Attitude
      3. Enjoyment

VI. The Expanding Role of the Pediatric Exercise Scientist
   A. Activating inactive youth
   B. Who is a pediatric exercise scientist?
VII. Common Questions from Parents

A. At what age can my child start to lift weights?
B. Should my child play only one sport or different sports?
C. My child is active during sports practice…right?
D. What are the characteristics of a good youth fitness class?
E. What should I look for in a youth fitness coach?

VIII. Four Take Away Messages

A. A growing number of contemporary youth are ill-prepared for the demands of sports practice and competition and the fitness industry is in an inimitable position to have a positive influence on this trend.

B. Qualified health and fitness professionals should consider physical inactivity during the growing years a modifiable risk factor that should be identified and “treated.”

C. FUNdamental Integrative Training (FIT) can enhance both health- and skill-related components of physical fitness while reducing the risk of sports-related injuries in young athletes.

D. In addition to enhancing muscle strength and improving motor skill performance, health and fitness professionals should consider the critical importance of effective teaching and mental engagement when working with children and adolescents

IX. Selected References

In December of 2006 ACSM’s Health & Fitness Journal published its first worldwide fitness trends survey with commentary by four well known international experts within the commercial, community, clinical, and corporate wellness sectors. The trend analysis was repeated in 2007, 2008, 2009, 2010, 2011, and 2012. Now in its 7th year, the 2013 survey reveals trends within the fitness industry to help club owners and practitioners establish direction for their programs in the coming year. The results of the 2013 survey are summarized below, compared against the previous years’ survey results. The commercial health club (for profit) can use this information to build exciting new, high-volume, low-cost, and profitable innovative programs. Corporate health promotion programs can develop stimulating novel approaches to improving employee fitness and morale while decreasing absenteeism. Recognizing the clinical characteristics of this survey, medical fitness centers can capitalize on the growing trends of medical referrals, especially those dealing with childhood obesity. Community-based programs (not-for-profit) will find the survey results to be of benefit because of its public health implications.

I. Definitions

Fad - A fashion that is taken up with great enthusiasm for a brief period of time; a craze (http://dictionary.reference.com).
Trend - a general development or change in a situation or in the way that people are behaving (http://dictionary.cambridge.org).

II. Survey Construction

A. 37 entries (The final list was potential trends that could be applicable in commercial, community, clinical, and corporate settings)
B. Used “Survey Monkey” (www.surveymonkey.com)
C. The survey was designed so that the respondent could finish within 15-20 minutes.
D. As a bonus incentive, respondents were able to leave their mailing information and compete for a free copy of ACSM books and $100 gift card.
E. Survey was constructed using a Likert-type scale ranging from a low score of 1 to a high score of 10 (plus additional space for comments).
III. Survey Dissemination
   A. There were 29,630 surveys sent out (an increase of 37% from the previous year)
   B. 3,346 responded for a return rate of 11%.
   C. Responses were received from all over the world including Asia, Europe, Australia, Africa, North America and South America.

IV. The final step was to collate the responses and rank-order them from highest to lowest and determine the fitness trends for 2013.

V. International experts commented on the fitness trends including Osnat Fliess Douer, Ph.D. (Wingate College, Israel), Paul Sorace, MS, RCEP (Cardiac Prevention and Rehabilitation, Hackensack Medical Center, New Jersey), Desirée Nathanson, MS, DTR (Atlanta, Georgia), and Trudy Moore-Harrison, Ph.D. (University of North Carolina, Charlotte).

“Take Away Messages”

The 2013 world-wide survey of fitness trends helps the health and fitness industry make critical programming decisions. The results are applicable to commercial, clinical, corporate, and community fitness programs. While no one has been able to accurately predict the future, this survey helps to track trends in the field that will help program directors and personal trainers make important business decisions. Around the world, the health & fitness industry continues for the most part to be unregulated by either local or federal law. This sometimes leads to practices within the industry that prove to be unsafe to clients. In the past two years, there has been an escalation of reports that clients are getting seriously injured by unqualified health & fitness instructors (mostly by personal trainers who are not properly educated and inexperienced). At some point, the industry will need to either develop its' own best practices or someone will do it for them.

As is listed in the study, there are several organizations that are attempting to help the industry regulate itself. ACSM does this study each year to determine if trends identified in the past continue to be trends and to identify any new trends in the health & fitness industry. This helps owners of health clubs (regardless of type) to either continue offering the same types of programs or to develop new ones. For example, since Pilates fell out of the top 20 trends for 2011, many clubs are now considering dropping them in favor of Boot Camp types of programs since they seem to be more popular. Pilates may have outlived its usefulness as an exclusive exercise program. It is a bit more expensive for health clubs to deliver a Pilates program and in this world-wide economic recession in which we still find ourselves, clients have less discretionary income to use for exercise programs. It appears as though people are looking for a basic exercise program that still contains the kind of regiment of Pilates. So, two reasons seem to be in play: people are looking for more basic exercise programs and club owners are looking for ways to deliver programs more economically. Health clubs should seriously consider two groups of potential clients: the elderly and children who are overweight or obese. People are generally living longer (the elderly) and children are getting fatter. These two facts are not going away any time soon. Fitness professionals should consider these two groups as new potential sources of income.
Top 10 World-Wide Fitness Trends for 2007 through 2013

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<tr>
<th>Year</th>
<th>2007</th>
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References
Introduction
Team USA Goals for Summer and Winter Olympics
VANCOUVER 2010 Recap
LONDON 2012 Recap

Use of Sport Science in the Preparation of Team USA Athletes
Talent ID
Periodization of Training
Altitude Training
Recovery
Monitoring of Overtraining
Sport Nutrition
Technical Analysis
Mental Training

Sport Science and Sports Medicine Support at the Olympics
BEIJING 2008
LONDON 2012

Looking Ahead
SOCHI 2014 Winter Olympics
RIO 2016 Olympics
PYEONGCHANG 2018 Winter Olympics
TBD 2020 Olympics
**Yoga to the Core**

**Introduction**
Add a core focus to your yoga classes with strong sequences of asanas that will build core strength. Help your participants develop strength, endurance and flexibility in this powerful blend of yoga postures. Learn yoga sequences to bring awareness to the core, strengthen the core through integrated movement sequences and release undue stress that limits the core from optimal function.

<table>
<thead>
<tr>
<th>The 5 Step System of a Fusion® Class Format</th>
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<tbody>
<tr>
<td><strong>Intention</strong></td>
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<td><strong>Warm up</strong></td>
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<tr>
<td>Standing integrated exercises and postures</td>
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<tr>
<td>Floor integrated exercises and postures</td>
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<td>Calming/ Relaxation</td>
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**Yoga to the Core Class**
Total time: 60 minutes  
Class level: Mixed level  
Class intention: Breath

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<tr>
<th>Class Design Steps</th>
<th>Length of Time</th>
<th>Exercises</th>
<th>Transitions, Cues and Modification</th>
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<tr>
<td>Warming:</td>
<td>7 mins.</td>
<td>Seated breathing exercises, Cat and cow, all 4’s, rotation, low lunge, lunge with twist, down dog, standing forward bend, mountain pose, standing yogic core breathing</td>
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<td><strong>Modified Sun Salutation</strong></td>
<td>7 mins.</td>
<td>Sun Salutation A: Integrate core challenges into the series. For example add extra pushups, side planks, plank variations, lateral flexion</td>
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<td><strong>Standing 1:</strong></td>
<td>5 mins</td>
<td>Crescent lunge, warrior 3, figure 4 Repeat on the other side *transition to other side with vinyasa</td>
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<td><strong>Standing 2:</strong></td>
<td>5 mins</td>
<td>Extended side angle (unsupported), triangle, ½ moon pose, revolve angle Repeat on other side *transition to other side with vinyasaas</td>
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<td><strong>Standing 3:</strong></td>
<td>5 mins</td>
<td>Chair pose, balanced chair, revolving chair, dance pose balance *transition to other side with vinyasa</td>
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<td><strong>Floor 1:</strong></td>
<td>7 mins.</td>
<td>3 legged dog, dog with twist, side T-stand, push-ups Repeat series with plank tree pose and T-stand with balance *transition to floor</td>
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<td><strong>Floor 2:</strong></td>
<td>5 mins</td>
<td>Locust, full body hover, cobra, up dog, down dog, hand balance *transition down dog</td>
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<td><strong>Floor 3:</strong></td>
<td>7 mins</td>
<td>Seated forward bend, reverse plank, boat pose, oblique pike, dynamic boat pose, roll back, supine leg stretch (core challenge), abdominal curls, bridge pose (arm/ leg variations)</td>
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<tr>
<td><strong>Calming/relaxation</strong></td>
<td>5 mins</td>
<td>Savasana</td>
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Helen Vanderburg
www.fusionfitnesstraining.com
637 11th Avenue. SW Calgary, AB T2R 0E1
Follow me on facebook and twitter
Body leverage training is a hot trend in fitness. Exercising using body weight has been used for thousands of years, and is emerging as a popular work-out again. Plenty of research exists on the effectiveness of exercises such as push-ups (Cogley, et al., 2005), abdominal/core training (Monfort-Pañego, et al., 2009), and plyometrics (Markovic & Mikulic, 2010). This presentation will present, discuss, and demonstrate what the research indicates are the best exercises to enhance fitness using body weight. Body leverage training takes on many forms including push-ups, abdominal/back/core training, jump training, and partner resistance training. Body leverage training is at the forefront of innovative programming in the fitness industry. The research and efficacy of this form of training will be discussed with demonstrations of most of the exercises that appear in the research.

1) Warm-up

2) Push-Ups and Upper Body
   a) Research on effectiveness of push-ups with hands in different positions: “for greater muscle activation during exercise, then push-ups should be performed with hands in a narrow base position compared with a wide base position (Cogley, et al., 2005),
   b) “Perfect Push-up.” Perfect body position.
   c) “V” Push-up.
   d) Wide Hands Push-up.
   e) Plyo-Push-up.
   f) Modified Push-up.
   g) Multiple variations for hand placement for push-ups.
   h) Partner holding feet in air push-up (“Push-ups with the feet elevated produced a higher ground reaction forces than all other push-up variations, Ebben, et al., 2011).
   i) Plyo-Push-Ups: “fall push-ups required kneeling subjects to drop and then attempt to return to their initial position exercise achieved higher levels of muscular activation in the agonist and synergist muscle groups, and greater impact forces and impact force development rates.” (García-Massó, et al., 2011)
   j) Vertical Partner Push-Up
   k) Dips on partners knees with partner doing curl-ups and/or back bridge.
   l) Self-resistance – arm curls/tricep extension.
   m) Partner Standing Row and Partner Lat Pulldown

3) Abdominal/Back/Core
   a) Research on effectiveness of abdominal/core/back training.
   b) Neutral spine core training.
   c) Modified core training, Standing Front & Side Planks and Standing Bird Dog. For beginning exercisers and workplace training.
d) Front Plank, Modified on knees and normal with elbows under shoulder.
e) Right & Left Side Plank, Modified on knees and normal with elbows under shoulder.
f) Front plank and side plank pushing on partners hands . . . “Plank Arm Wrestle.”
g) Bird Dog, modified and regular to advanced.
h) Vertical core training – Arm Chops.
i) Pelvic stabilization exercises, Standing Cat Camel, Standing Pelvic Tilt, Pelvic Tilt with Ab Contraction, Pelvic Tilt-Ab Contract, Kelgal exercise (contracting and relaxing the muscles that form part of the pelvic floor, improve the tone and function of the pelvic floor muscles)
j) Pelvic stabilization: single leg pelvic stabilization.
k) Practice all exercises.

4) Legs
a) Self-resistance for single joint exercise, open kinetic chain: quads and hamstrings with self-resistance.
b) Hamstring partner exercise (Nordic Hamstring Exercise: Lorenz & Reiman, 2011) for increasing eccentric strength and injury prevention.
c) Closed Kinetic Chain Leg Exercises: Partner Squats, Squat Jumps, Single Leg Squats, and Lunges with different arm movements and positions. How does arm position challenge the core?
d) Jump Training & Plyometric exercises: “stimulate the series elastic component of the muscle, a small amount of volume is required to bring about these positive changes i.e. 2-4 sets of 10 repetitions per session.” (Matavulj, et al., 2001, Blackey & Southard, 1987) or “4 sets of 8 repetitions.” (Gehri, et al, 1998).
e) Practice all exercises.

5) Compound Exercises
a) Partner Pull-Up Dead Lift

6) Periodization of Body Leverage Training
a) Endurance training for all body parts, reps or holding contraction for higher counts.
b) Why we need endurance for the core; endurance throughout the day.
c) Developing muscle strength with body leverage training, reps, static contraction, and speed of movement.
d) Power training for upper and lower body with jump training and Plyometrics, speed of movement.
e) Practice a periodization model.

Take Away Messages
a) Understand the multiple ways that body leverage training can be used for all clients.
b) Understand the research justification for body leverage training.
c) Understand how to periodize a body leverage training program.
d) Get a great work-out!!
Research Citations & Web Sites for Body Leverage Training


Web Sites

The Best Mind-Body Exercises: ACSM

Lawrence Biscontini, MA
Mindful Movement Specialist, International Spa and Wellness Consultant
Mission: “wellness without walls™”

I. INTRODUCTIONS
1. Nämaste! (“My inner peace meets, greets, and salutes your inner light”)
2. Gratitude
3. Our Purpose Today: (stability and mobility)
4. This program is really about:
5. Resources/Equipment:
6. Theme:

II. THEORY
1. definition of mind-body fitness
2. most popular forms of mind-body fitness today
3. what research exists regarding these forms
4. how research is established and published
5. irony of time: these are the oldest exercise forms on the planet which are just gaining scientific study!

III. PRACTICAL
1. yoga
   • research sources available:
   • common published trends:
   • take-home theoretical message:
   • take-home practical implementation of example:
     • strength/flexibility: warrior crescent lunge low and high
     • flexibility: kneeling camel pose
     • strength: chair pose

2. Pilates
   • research sources available:
   • common published trends:
   • take-home theoretical message:
   • take-home practical implementation of example:
     • evolved swimming
     • standing articulation to floor and back

If I can be of assistance to you in wellness in any way, please contact me. Nämaste!
3. T’ai Chi/Chi Gong

- research sources available:
- common published trends:
- take-home theoretical message:
- take-home practical implementation of example:
  - painting the wall
  - flying bird
  - wise owl gazes backwards
  - galloping horse

4. Feldenkrais

- research sources available:
- common published trends:
- take-home theoretical message:
- take-home practical implementation of example:
  - tell, show, IMAGINE, do
  - getting up and down

---

**Homework:**

**Summary:**

**Resources:**

**Final Take-Home Messages:**
No Outline Available.
TRX will be providing attendees with access to session materials onsite.
ACSM Health & Fitness Summit  
March 12-15, 2013

Small Group Personal Training  
Irene Lewis-McCormick, M.S., C.S.C.S.  
E-mail: irenemccormick3@gmail.com

Introduction

- IDEA Health and Fitness surveyed fitness business and program directors who confirm that small group training is a steady trend that continues to rise. Small group training was the number-one trend in 2010, growing in the past 9-years from 43% to 76% followed by boot camps (28% to 67%) and Zumba 14% to 28%.
- Fitness professionals are drawn to small groups because it is time-saving for both clients and trainers; it is cost-effective for clients and represents a decreased workload for trainers, as they can see more clients in less time. It also tends to increase motivation levels for the clients.
- However, trainers wanting to move into group training need to acquire a specific set of skills. Being a fantastic trainer one-to-one will not necessarily translate to excellence when training small groups.

Consider the Pro’s and Con’s of Small Group Training

Pro: With the group approach, trainers can apply their knowledge of fitness to a wider audience generating more personal revenue while charging clients lower per-session fees.

Con: Generally speaking, personal trainers are most familiar with managing single clients at a time, not groups. While many training skills will cross over, many skills critical to being successful in small groups do not.

Pro: Trainers are creating boot camps or assembling small-group training sessions to meet more client’s needs, serving more people and creating a “fun” dynamic and motivating environment.

Con: Lack of group dynamics know-how or experience with coordinating multiple clients with diverse needs in a motivating and effective manner can spoil a potentially viable and extremely successful program.

Small Group Training Requires the Following Considerations

- Trainers need to think of themselves first as a group leader, rather than a personal trainer leading a group.
- Trainers need to learn to differentiate between individual attention one-on-one versus individual attention in a group, as these two definitions differ.
- Certain formats and ratios lend themselves best to small groups, and having the skills to use equipment or techniques in these areas are required (i.e.; medicine balls, kettle bells, suspension training, etc.)
- Consideration of fees and policies need to be reconsidered.
- Consideration of marketing, lead time and which programs are best suited for small groups need to be considered.

Trainers Managing Groups in Real Time
• Group Observation to meet individual needs
  o Trainers need to learn how to give individual feedback without spending too much time with one individual

• Practicing with Groups
  o Controlling a group and commanding their attention requires the trainer to motivate and engage without talking too much or “over-cuing.”
    ▪ Trainers need to learn the important skill of “moving clients, and then cuing clients” as opposed to detailing the exercises/s, demonstrating the exercise/s and then detailing the exercises again.

• Group Think
  o Trainers need to learn how to divide their attention equally among the entire group
    ▪ Don’t spend too much time with one person
      ● Create repoire and nurture individual relationships
    ▪ Avoid falling into your comfort zone by having too many sidebar conversations with a single client known to you

• Handling the Needy
  o Adapt to diverse fitness levels and needs
    ▪ Be keenly aware of exercise regressions an progressions
      ● Even your most advanced exercisers need to earn their progressions
      ● Be VERY GOOD at offering on the spot regressions or progressions with minimal instruction
  o Be prepared to deal with significantly different fitness levels
    ● Be aware of using labels such as beginner, advanced, new or de-conditioned.
      o These are appropriate in our industry but people are sensitive to labels
        ▪ Use words such as “new to you” or unfamiliar, or anything that will fit the situation that allows for clients to feel that you understand their needs without calling them out

• Time Management
  *Keep the group under control. A confused group leader = a disaster*
  o Setting up the training stations or circuits can get out of hand quickly if participants do not flow seamlessly from one station to the next, or if there is a lack of communication or understanding of the expectations
  o Think ahead and pre-plan the set up
    ▪ QUICKLY tell students “this is what is happening today…”
    ▪ Avoid taking more than 60-seconds to explain the exercise/s
- Use filler exercises for fitter people when they complete an exercise quickly
- Use the same piece of equipment for 2 or 3 exercises
- Multitask with eyes on the back of your head
- Use a Stopwatch but don’t stare at the stopwatch
  - Get one that beeps or purchase music that has bells or signals in it

- **Communication and Cueing**
  - You don’t have to scream, yell or be a boisterous cheerleader BUT do command the group:
    - Chatty Cathy/s
    - Slow and Confused/Helpless
    - Totally Kinesthetically Unaware
    - Overachiever
    - Running Their Own Show/Doing their own thing
  - It’s required that you communicate to the entire group, so learn how to say things in many different ways.

- **Learn the Ropes**
  - Start Small
    - Keep your groups 2-3 max until you feel confident, then try an all-out in the park boot camp

- **Lend A Hand**
  - Volunteer or ask to assist an established trainer

- **Speak Up**
  - If you are not comfortable speaking in front of large groups this may not be the route for you

- **Join In**
  - Sign up for classes and be a participant

- **Cost and Time**
  - Anywhere from $7-$25 a class
    - It depends on what you are teaching and how experienced you are

- **Small Group Formats**
  - Use unique toys and tools and interesting formats to differentiate yourself
    - TRX and Trampoline
    - Kettle Bells Tabata Style
    - Tabata Boot Camp

**Three Take Away Points:**
1. Small group training requires a specific skill set not unlike those of large group training instructors.
2. Use unique formats that will attract clients and make sure they feel valued and special.
3. Learn how to “move and cue” your clients as opposed to “detail, demo, detail.”
willPower & grace® is a formatted cardio-sculpt format based in functional drills and postures. Our goal is to help students build muscular strength, endurance, flexibility and neuro-muscular connection through a repetitive sequence of smart exercises for the entire body, including the feet. willPower & grace® is a barefoot workout; we've been teaching people foot fitness for over a decade.

Barefoot Training vs. Minimalist Foot Training
willPower & grace® is typically practiced in a clean, safe and predictable environment. In this case we believe that barefoot is best. However, effective foot fitness can be practiced with a true minimal shoe.

What is foot fitness?
Muscular strength, endurance, flexibility and neuro-muscular awareness in the feet and ankles: we believe that it's an important piece of all exercise; keeping your body connected from head to toe.

Benefits include:
- Increased strength & endurance in the lower kinetic chain
- Reduced risk of injury
- Toes, feet, and ankles move more naturally, improving circulation, flexibility and general foot health
- Greater integration of more neuro-receptors leads to better balance and agility
- By eliminating heel lift, bodyweight is more evenly distributed; leading to better posture & alignment
- Body moves more functionally - it just FEELS good.

willPower & grace® fundamentals:

1. Repetition produces results. willPower & grace® is a formatted program. Maintaining simplicity within our choreography allows our students (and instructors) to focus on foot fitness exercises.

2. willPower & grace® is multi-level, full-body workout.
   - Level 1 students should be safely barefoot, learning the major movement patterns.
   - Level 2 students become more aware of foot-fitness, while enhancing precision in full-body.
   - Level 3 students will leap and land, without a sound, challenging their thresholds

3. willPower instructors guide students with positive, uplifting philosophy to increase their self confidence and lead them to recognized results.

4. Each willPower & grace® workout begins with a foot specific warm-up, which includes:
   - Dorsi and plantar flexion
   - Eversion and Inversion
   - Toe Grip, and Arch Doming
   - Toe lifts, toe spread, toe tap

Be patient. Gradual acclimation will ensure safe progression. When initiating a foot fitness program feet may be weak, stiff, and generally unfit.

We have trained willPower & grace® instructors all around the world! Contact us to learn more about our education pathway, or to bring willPower & grace® to your facility.

info@willPowerMethod.com
SHAKTI: the experience

Lawrence Biscontini, MA
Mindful Movement Specialist, International Spa and Wellness Consultant
Mission: “wellness without wallsTM”

I. INTRODUCTIONS
1. Namaste! (“My inner peace salutes your inner light”)
2. Gratitude
3. findlawrence.com, L’s Background & Biscontini Scholarship
4. Our Purpose Today: The purpose of Shakti is trifold:
   a. To give a work-in experience fusing mindbody disciplines
   b. To celebrate non-verbal loving communication
   c. To celebrate a year in music
5. Music: inspirations from the year in review
6. Resources:
7. Workshop/Masterclass
8. World Class Fitness Conference 2006, Moscow, Russia
9. MMVP
10. The 5 people to consider in every experience:
   5. _____

II. THEORY
1. THE DEFINITION OF SHAKTI:
2. the purist’s task and the finger drill
3. Land: Ideal Mat Placements
4. Research: Neurolinguistic Programming (NLP) and books:
   “Communication” defined as “response you get regardless of intention” NLP says
   communication is only 7% words, 38% tone, and rest body language. “Teaching” defined as
   bringing about an independent change in behavior or thought.
5. Optional Practical drills with partners teaching silently.
   Partner Names: A + 1
   Skill 1: A teaches 1. Reverse.
   Skill 2: 1 teaches A. Reverse.
6. Types of Cues:
   B R A N D S M A S H
   Skill 3: A teaches 1 INCLUDING 4 Maximum Cues Possible. Reverse.

THEME:

A. Yoga (stability): YOGA ALLIANCE
   “Tension is where you THINK you should be; relaxation is where you are.”

B. Pilates (mobility): PILATES METHOD ALLIANCE
   “All new ideas are revolutionary and when the theory responsible for them is proven through practical
   application…such revolutionary ideas simply cannot be ignored. They cannot be kept in the background” JP

C. T’ai Chi/Chi Gong (ability): DR. TAI CHI
   “He who needs the most can do the best with the least.” LT

D. Feldenkrais (awareness): ATTEMPTING ANY SERIES WITH EYES CLOSED
   “Through awareness we can learn to move with astonishing lightness and freedom—at any age—and thereby
   improve our living circumstances, not only physically … but emotionally, intellectually, and spiritually.” Moshe
   Feldenkrais

E. Gyrating Disciplines (twisting)
   “Strength and stability through contrast, joint mobility, sensory awareness, and breath integration.” Juliu
   Horvath

F. NIA (celebrating the human cycle): NIANOW.COM
   Rooted in a somatic (body-based) approach to learning, Nia education is designed to allow students to develop and participate in their own
   way. The Body is used for exploration, discovery, and sensory-based experience. The Mind is used to focus, witness and direct attention;
   Emotion is used to create a personal connection to experience, and thus becomes a conduit of body-mind connection; Spirit (that which is
   unique to a person) is used to recognize personal power, foster self-healing and expand each person’s potential.
III. PRACTICAL

Teaching Suggestion for Each Song:
1. Establish breathing technique suggestion.
2. Set up stability.
3. Add mobility: teach the song including 8 Positions of the Body:
   - staples moves from pt and rehab: standing (biped, unilateral)
     kneeling, sitting, side-lying, prone, supine, plank, quadruped
   - balance, triplanar, functional work
   - attention to the lyrics where appropriate
4. Address core.
5. Indicate where sensation occurs.
6. Conclude the song/track with your signature move.

Agenda Legend Key for reading Choreography:
XS = ‘times’ of repetitions.
Y = Yoga    P = Pilates    Tai Chi and Qi Gong = TC
G= Gyrating movements w/rotation    F = Feldenkrais
(S) = slow    (F) = fast    R = Right    L= Left
EQ = EQUIPMENT
ROS = Repeat Other Side
O/RE- = Regression (making a movement easier)
O/PR = Progression (making a movement harder)
MC = Motivational Cues
MB = Mouth Breathing    NB = Nose Breathing
NMB = Nose and Mouth Breathing

<table>
<thead>
<tr>
<th>TRACK</th>
<th>WHERE? DISCIPLINE</th>
<th>BREATHING</th>
<th>MUSIC &amp; MOVES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GOOD MORNING SUN</strong></td>
<td>STANDING YOGA VARIATIONS ON SUN SALUTATION</td>
<td>NB</td>
<td>SECTION A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1-8 Y CHAIR POSE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9-16 Y TABLE POSE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>17-24 Y CHAIR POSE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>25-32 Y MOUNTAIN POSE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>CHORUS: UPWARD FACING DOG + PLANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(O/RE: with Knees on floor)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ROS</td>
</tr>
</tbody>
</table>

Summary:

Home-Work: 1. What is your current state of mind in music? What is your “year in music?
2. Record Yourself 3 Times: 1. to watch, 2. to listen, 3. to feel
3. Watch Cirque du Soleil
4. Watch a mime/pantomime.
5. Listen to a reading for the blind.
6. Take a Zumba® class for the methodology of nonverbal cueing.
7. Attend a class of almost anything for the blind.

Resources:

Final Take-Home Messages:

MMVP:

findLawrence.com
Powerful Teaching Dance Inspired Cardio
Presented by Carol Murphy  murphfit@rochester.rr.com
Friday, March 15th, 2013  6:45-7:45a

Workshop Objectives:
• Learn 5 Teaching Methods
• Explore application of methods - Linear, Pyramid, Add-on, Link and Layering
• Experience a Master Class

Teaching Method
1. Linear Progression
   The simplest way of teaching where a combination or routine is not developed
   Involves making one small change at a time when sequencing moves together.
   This change could be an arm line, a leg pattern or base move, or by adding an element of variation.
   No particular pattern is developed

   Practical Application – Linear progression
<table>
<thead>
<tr>
<th>Counts</th>
<th>Move</th>
<th>Lower Body</th>
<th>Travel</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-32</td>
<td>A 16x step touch</td>
<td>OTS</td>
<td>Face front</td>
<td>none</td>
</tr>
<tr>
<td>1-32</td>
<td>A 16x step touch</td>
<td>OTS</td>
<td>Face front</td>
<td>Bicep curls</td>
</tr>
<tr>
<td>1-32</td>
<td>B 8x double step touch</td>
<td>OTS</td>
<td>Face front</td>
<td>Bicep curls</td>
</tr>
<tr>
<td>1-32</td>
<td>B 8x double step touch</td>
<td>OTS</td>
<td>Face front</td>
<td>Side raise</td>
</tr>
<tr>
<td>1-32</td>
<td>C 8x grapevine</td>
<td>OTS</td>
<td>Face front</td>
<td>Side raise</td>
</tr>
<tr>
<td>1-32</td>
<td>C 8x grapevine</td>
<td>OTS</td>
<td>Face front</td>
<td>Front raise</td>
</tr>
<tr>
<td>1-32</td>
<td>D 2x 3 chasse + 2 alt. leg curls</td>
<td>OTS</td>
<td>Face front</td>
<td>Overhead press</td>
</tr>
<tr>
<td>1-32</td>
<td>D 2x 3 chasse + 2 alt. leg curls</td>
<td>OTS</td>
<td>Face front</td>
<td>Circular</td>
</tr>
</tbody>
</table>

   Option: reverse order back from the chasse with 2 alt. curls back up to the first move

   Considerations for Linear Progression:
   • Effective transitions – consider entries and exits
   • Cue in advance and know where you are going
   • Variety in base moves
   • Balance all aspects of movement patterns and planes of motion
   • Balance low impact and high impact
   • Minimize repetitive stress – When doing high impact moves, do no more than 32 reps per foot strike pattern and no more than 8 hops on one leg or 8 repeater lift moves.
   • Direction and Travel- when adding travel, combine forward, backward, lateral, rotational and on-the-spot (OTS) variations.

2. Pyramid method
   Repetition reduction– reduction of repetitions, leading to increasing the complexity of the combination.

   Practical Application Pyramid Method
<table>
<thead>
<tr>
<th>Counts</th>
<th>Move</th>
<th>Lower Body</th>
<th>Travel</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-32</td>
<td>A 8x grapevine</td>
<td>OTS</td>
<td>Face front</td>
<td></td>
</tr>
<tr>
<td>1-16</td>
<td>A 8x alt. leg curl</td>
<td>OTS</td>
<td>Face front</td>
<td></td>
</tr>
<tr>
<td>1-16</td>
<td>B 4x dbl. leg curl</td>
<td>OTS</td>
<td>Face front</td>
<td></td>
</tr>
</tbody>
</table>

   Reduce repetitions to 4, 4, 2; then to 2,2,1

   Considerations for Pyramid method:
   • Start with enough repetitions (typically 4-8) to allow for cueing of proper form and execution of move
   • Add the movements together prior to reducing the repetitions of each movement
   • Add the movements in order (or at least close to the order) that they will be used in the final combination
3. **Add-on method** *(Building Block)*
   Only one move is added at a time (A, A+B, A+B+C, A+B+C+D). Always restart from ‘the top’ (A).
   Can also Add-on in blocks of choreography, e.g. Block A + Block B.
   A simple process for teaching and learning
   Can be both physically and mentally challenging. Keeps participants thinking and stimulating
   Adding too many moves = difficult to recall the sequence. A maximum of 4-8 moves is recommended.
   A one-hour cardio focused class will typically allow for the building of 3-5 32-count add-on patterns.

**Practical Application – Add-on method**

<table>
<thead>
<tr>
<th>Counts</th>
<th>Move</th>
<th>Lower Body</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teach A 1-8 face front</td>
<td>A</td>
<td>jump rock rlr, chasse rock</td>
</tr>
<tr>
<td>Teach B 1-8 face front Join A+B leading right then left</td>
<td>B</td>
<td>2x double curl llrr</td>
</tr>
<tr>
<td>Teach C 1-8 face front Join A+B+C+C leading right then left. (Move C is repeated so that a 32-count block is completed)</td>
<td>C</td>
<td>4x single curl lrlr</td>
</tr>
<tr>
<td>Teach D 1-8 face front Join A+B+C+D leading right then left</td>
<td>D.</td>
<td>2x V-step 'X'</td>
</tr>
</tbody>
</table>

**Considerations for Add-on method:**
- Requires quite a bit of pre-class planning and practice
- Be aware of balance and symmetry
- Smooth transitions from one combination to the next
- Use different base moves to begin each combination
- Watch the group for signs of add-on ‘overkill’ and be willing to back down a bit to simpler patterns

4. **Link method** *(Part to whole teaching)*
   Teach moves A and B and then link together, Do the same for C and D
   Join moves (A+B) to moves (C+D) to develop a four-move combination.

**Practical Application – Link method**

<table>
<thead>
<tr>
<th>Counts</th>
<th>Move</th>
<th>Lower Body</th>
<th>Travel</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teach A 1-8</td>
<td>A</td>
<td>6 ct grapevine cha cha</td>
<td>Lat</td>
<td>face front</td>
</tr>
<tr>
<td>Teach B 1-8 Join (A+B)</td>
<td>B</td>
<td>step tap lrlr</td>
<td>OTS</td>
<td>face front</td>
</tr>
<tr>
<td>Teach C</td>
<td>C</td>
<td>dbl hop ll + 6c mambo</td>
<td>OTS</td>
<td>face front</td>
</tr>
<tr>
<td>Teach D 1-8 Join (C+D)</td>
<td>D.</td>
<td>dbl hop rr + 6c mambo</td>
<td>OTS</td>
<td>face front</td>
</tr>
</tbody>
</table>

Finally, join (A+B) and (C+D)

5. **Layering**
   Once the basic combination has been learned, your participants should be able to repeat the combo with less cueing from you. This is a good time to gradually layer in variations to add excitement and gain more mileage from the original combination.
Layering allows for a logical, easy transition from a simple to a complex routine. As a result of these gradual changes exercise intensity is not compromised.

**Practical Application – Layering**

<table>
<thead>
<tr>
<th>Counts</th>
<th>Move</th>
<th>Lower Body</th>
<th>Travel</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-8</td>
<td>A</td>
<td>double grapevine</td>
<td>OTS</td>
<td>face front</td>
</tr>
<tr>
<td>9-16</td>
<td>B</td>
<td>4 alt leg curl</td>
<td>OTS</td>
<td>L</td>
</tr>
<tr>
<td>17-24</td>
<td>C</td>
<td>mambo cha cha cha, 4 marches</td>
<td>fwd, bk</td>
<td>face side</td>
</tr>
<tr>
<td>25-32</td>
<td>D</td>
<td>double curl, single, single curl</td>
<td>OTS</td>
<td>face front</td>
</tr>
</tbody>
</table>

1. A = stomp 1, hold 2, cross behind 3, cross front 5, rock bk 6, turn 7-8
2. B = 1st 2 leg curls face back wall, 2nd 2 leg curls face front
3. C = marches = rock bk, rev turn * teach facing fwd, layer to face side wall
4. D = dbl curl = tuck behind, single curls turn in reverse

**Considerations for Layering:**

- The layers should be gradual and made one at a time
- After layering move A, go back and repeat the combination several times over. Once the participants are confident with the last change, add the next layer and so on until the sequence has been learned.
- Other changes that can be layered include rhythm, direction, shapes, arm variations and sound effects.

**Summary** — Not just one, but a number of teaching methods can be applied to develop the final product, as follows:

- Teaching methods can be used in each phase of the workout (warm up, cardio, strength and cool down)
- Each participant will benefit from the time you spend developing (building) your combinations.
- Practice will make each teaching method easier to use.

**Music:**

- Mixed Impact 145-165 BPM
- Low Impact 135-145 BPM

Thank you for attending Powerful Teaching Dance Inspired Cardio 2013

Website: [www.carolmurphy.com](http://www.carolmurphy.com)

Email: [murphfit@rochester.rr.com](mailto:murphfit@rochester.rr.com)
Metabolic Surge  
Presented by Helen Vanderburg

Introduction
Learn a new group-training format to challenge your intermediate to advance participants. Metabolic training is showing fantastic results and you know that is what your clients want. This style of conditioning consists of very high intensity done with very sort bouts of rest. Using you body weight resistance exercises or whatever equipment you have available to develop a challenging workout.

Metabolic Surge Workout

<table>
<thead>
<tr>
<th>Warm up</th>
<th>Interval structure</th>
<th>Sample exercises</th>
</tr>
</thead>
<tbody>
<tr>
<td>(5-7mins)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Descending Interval</td>
<td>1:00/1:00</td>
<td>Lunge press with strides</td>
</tr>
<tr>
<td>(total time: 10:00)</td>
<td>:45/:45</td>
<td>Power lateral leg lifts</td>
</tr>
<tr>
<td></td>
<td>:30/:30</td>
<td>Drop squat power</td>
</tr>
<tr>
<td></td>
<td>:15/15</td>
<td>Squat power jumps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 cycles</td>
</tr>
<tr>
<td>Little Interval</td>
<td>:45/ 1:00</td>
<td>Cardio skate with jump shot</td>
</tr>
<tr>
<td>(total time: 7:00)</td>
<td>X4 – 1 Cycle</td>
<td></td>
</tr>
<tr>
<td>Little Interval</td>
<td>:30/:45</td>
<td>Switch Lunges</td>
</tr>
<tr>
<td>(total time: 5:00)</td>
<td>X4 – 1 Cycle</td>
<td></td>
</tr>
<tr>
<td>Tabata Interval</td>
<td>:20/10</td>
<td>Burpee variations</td>
</tr>
<tr>
<td>(total time: 16:00)</td>
<td>X8 – 4 Cycles</td>
<td>Squat variations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cardio burst</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Push up variations</td>
</tr>
<tr>
<td>Cool down</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:

info@helenvanderburg.com
Fusionfitnesstraining.com
Follow me on facebook and twitter
I. Goals of session
   A. Increase awareness of the growing population of gastric bypass athletes who
      1. Aspire to be marathoners, triathletes, and century bike riders
      2. Become compulsive exercisers (walkers, “gym rats”)
   
   B. Address sports nutrition concerns of the gastric bypass athlete
      1. Help these novice athletes reach their athletic goals
      2. Keep these athletes safe and out of the medical tents!

II. Background: About 6% of GB patients become “highly active”

III. Standard nutrition advice for GB patients:
   A. Target 1,200-1,600 kcal/day in many small meals and snacks
   B. Eat slowly (30 minutes per meal)
   C. Do not drink when eating or for 30-60 minutes after eating
   D. Avoid concentrated sweets (to avoid dumping syndrome)
   E. Sip 8-12 oz. fluid each waking hour (~12 cups/day)
   F. Target 60 to 80 grams of protein per day
   G. Take vitamin and mineral supplements

IV. GB athletes confront many challenges:
   A. Standard challenges of a very low calorie diet:
      1. Fatigue, feel cold, mood changes, dry skin, hair loss
   
   B. Additional challenges for bypass athletes:
      a. Intolerance to certain foods (sugar/refined carbs)
      2. Dehydration
      3. Hypoglycemia
      4. Vitamin and mineral deficiency (iron, calcium)
      5. Biggest challenge: Dumping syndrome

V. GB athletes want to know:
   A. What should I weigh?
      1. Hard to determine an appropriate weight
         a. Distorted body image
b. Excess flesh
c. Unrealistic weight loss expectations

2. Focus on health, not weight

B. How much should I eat?
   1. Estimate energy needs of obese person using Mifflin-St. Jeor equations
   2. Appetite Increases with distance from surgery

C. Should I eat before I exercise?
   1. Fears about eating
   2. Learn through trial and error to find tolerable carbs

D. What should I eat during extended exercise?
   1. Learn through trial and error to find tolerable carbs
   2. Swishing: a “safe” fueling tactic?

E. How can I keep myself from getting dehydrated?
   1. Learn sweat rate
   2. Drink on a schedule
   3. Monitor urine
   4. Experiment with a variety of fluids to learn what is best tolerated
   5. Hyponatremia - a potential concern

F. Am I getting enough protein?
   1. Athletes require about 1.2-1.7 g Pro/kg

G. Do I need extra vitamins?
   1. Common nutritional deficiencies include iron, B-12, D

IV. Unanswered questions
   A. What are the most effective fueling and hydration tactics/protocols--
      1. for GB patients less than one year post-surgery?
      2. for GB athletes 1 to 2 years post-surgery?
      3. for GB athletes more than two years post-surgery?

   B. Carbohydrate needs: How much glycogen depletion occurs in GB patients--
      1. with low intensity exercise?
      2. with moderate intensity exercise?
      3. with high intensity exercise?

   C. What are the sodium needs during endurance exercise for GN athletes?

   D. Is anyone collecting data from medical tents?
V. Case study #1: Aspiring bike racer

“I want to race better as a cyclist. I now place in the top 70% at races. I want to lose 10 pounds to change my power to weight ratio, but I’ve hit a plateau. “ ... “I’m not feeling right. I feel tired and run down. I’m getting cold sores and I’ve never had them before. I’m wondering if I’m not absorbing certain nutrients due to the bypass? Maybe I’m not eating enough protein?”

Teaching points:
--Food is fuel, not the “fattening” enemy
--The lightest athlete may not be the best athlete
--The cost of losing more weight might hurt his performance
--Perhaps his body is “good enough” the way it is?
--Is his fatigue related to iron-deficiency anemia?

VI. Case study #2: Ultra-distance runner and cyclist

“My fitness is no longer the issue with my performance. My limiting factor is nutrition. I have continued to treat food as a reward for my hard workouts.” ... “I have intense cravings for sweets. I’ve always loved to eat. Food has a magnetic pull.” ... “I knew my eating was wrong so I started tracking my food. I’m eating about 2,300 calories and am exercising vigorously at least 1 hour every day.” ... “My current eating plan is hard to maintain. I don’t want to white-knuckle my self through the rest of my life.”

Teaching points
• The purpose of exercise should be to train to improve performance, not to burn calories.
• Food should be consumed for fuel; what non-caloric ways could he reward himself?
• Hunger is physiological—and very powerful
• Would he be able to perform better at a higher weight if that meant being better fueled?
• Is this eating-style conducive to sustained fat loss?

VII. Time for questions and discussion
Many health and fitness professionals are working with people with individual cardiometabolic risk factors or a clustering of cardiometabolic risk factors known as Metabolic Syndrome. This presents the health and fitness professional with what is often a missed opportunity to develop evidence-based exercise programs for individuals with cardiometabolic disorders that have been medically cleared to exercise independently. Regular physical activity, reducing sedentary behavior, higher levels of cardiorespiratory fitness, and maintaining desirable body weight are factors that have been shown to ameliorate many cardiometabolic health risks and reduce the risk of Metabolic Syndrome. New evidence on the favorable impact muscular strengthening activities may have on cardiometabolic health increases the breadth of tools health and fitness professionals can utilize in working with individuals with Metabolic Syndrome or any of the individual cardiometabolic risk factors defining the syndrome.

I. Welcome and Presentation Objectives

II. Chronic Conditions

Cardiometabolic disorders – Brief description of each
- Obesity
- Prehypertension and Hypertension
- Dyslipidemia
- Impaired fasting glucose/impaired glucose tolerance and diabetes
- Metabolic Syndrome

III. Obesity
- Briefly discuss the progression to obesity and the metabolic health risks along this progression.
- Illustrate to the health and fitness professional how and where along this progression continuum there are a plethora of opportunities to intervene.
- Illustrate the physical activity patterns of underweight, overweight, and obese individuals. Providing the fitness professional with surprising information regarding underweight adults.
- Muscular strengthening activities
- Recommendations and prescriptions

IV. Hypertension
- Briefly discuss the etiology of prehypertension and hypertension
  - 90-95% essential (no known cause) - 5-10% etiology is known
  - The stethoscope speaks…..
Illustrate the JNC VII guidelines and briefly convey important numbers
  o Pre-hypertension - Stage 1 and Stage 2
Muscular strengthening activities
Recommendations and prescriptions

V. Dyslipidemia
Briefly discuss the progression to dyslipidemia and the health risks along this progression.
HDL-C – How exercise impacts this important component of dyslipidemia and what the values really mean.
  o <40 mg/dL in men
  o <50 mg/dL in women
Triglycerides
  o ≥150 mg/dL
Muscular strengthening activities
Recommendations and prescriptions

VI. Diabetes
Briefly discuss the progression to diabetes and the metabolic health risks along this progression.
  o Cardiovascular disease
  o Metabolic Syndrome
  o Type 2 Diabetes
Illustrate to the health and fitness professional how and where along this progression continuum there are a plethora of opportunities to intervene and who are exercise responders and non-responders.
Muscular strengthening activities
Recommendations and prescriptions

VII. Metabolic Syndrome
Exercise and Metabolic Syndrome - What works?
What’s up with waist?
Recommendations and prescriptions

VIII. Physical Activity/Exercise
Leisure time physical activity (LTPA). LTSB?
Sedentary time? Different than physical inactivity?
Fitness

IX. Three Tips To Take Away And Implement In Your Job From This Presentation

Following this presentation the health and fitness professional should have an optimal understanding of today's most prevalent chronic cardiometabolic health disorders.

Following this presentation the health and fitness professional should understand and be able to discuss with clients or patients the relationships between cardiometabolic health risks and physical activity, sedentary time, and fitness.
• Following this presentation the health and fitness professional should know how to best prescribe physical activity and exercise, including muscular strengthening activities in individuals with cardiometabolic health disorders based on the most recent evidence and recommendations.

X. Selected References


Global Trends in Worksite Health Promotion

Wolf Kirsten
International Health Consulting, Tucson, AZ / Hamburg, Germany
E-mail: wk@wolfkirsten.com

1. The International Association for Worksite Health Promotion (IAWHP) – Who are we?
2. Presentation overview and objectives
3. Global Disease and workplace trends
4. The growing significance of worksite health promotion worldwide
5. Business and health drivers for worksite health promotion in different countries
6. Top wellness program offerings
7. Fastest growing wellness program elements
8. Tools and channels used to communicate wellness programs
9. Measured outcomes and impact of worksite health promotion programs
10. The World Health Organization Healthy Workplace Framework & the Global Healthy Workplace Awards
11. Summary and conclusions

Take away points:
1. Varying business and health issues are driving worksite health promotion programs internationally (beyond health care costs).
2. Specific cultural traits and nuances impact the implementation of workplace programs.
3. A growing number of employers have recognized key health challenges and developed business strategies to overcome these.

4. Evaluation of worksite health promotion programs is still lacking on a global scale and needs to be focused on more.
Summary: Fitness professionals need creative and effective methods to impact the health and physical fitness of individuals, organizations and communities by using low and no cost resources and by identifying useful resources within existing organizational budgets. This presentation will describe the development and implementation of fitness programs that have demonstrated success even when faced with limited or no financial resources. Presenters will identify free or low-cost methods to conduct environmental inventories, acquire equipment, deliver assessments, and establish programs for children and adults.

I. Global Recommendations for Physical Activity

A. Physical activity guidelines for children and adults

B. Global sloth: where do we go from here?

B. Why move? Why Play?

II. Overcoming Barriers to Physical Inactivity

A. Limited financial resources

B. Environmental considerations

C. Limited access to equipment, facilities, and qualified fitness professionals

D. Lack of time and motivation

E. Misperceptions about “exercise”

III. Promoting active lifestyles in adults and older populations

A. Need for creativity
1. When fitness centers work and when they don’t

2. Alternate locations for fitness programs

B. Joint use agreement
   1. Necessity
   2. Content
   3. Example

C. Developing and implementing adult programs on a limited budget
   1. Finding partners
   2. Identifying appropriate locations
   3. New assessment tool(1)
   4. Other resources
   5. Recruiting members/clients
   6. Maintaining relationships

D. Sample programs
   2. Physically Active Residential Communities and Schools

IV. Activating Inactive Youth

A. Children are not miniature adults
   1. Fundamental principles of pediatric exercise science
   2. Identifying youth with “exercise deficit disorder”

B. Developing a partnership with schools and community centers
   1. Service learning for college students
2. Role of physical education teachers and health care providers

C. Developing and implementing youth programs on a limited budget

1. Visit existing programs
2. Think big but start small
3. Effective program design and instructional strategies
4. Examples of no (or limited) budget activities for youth
5. Advertising youth programs with no budget
6. Get “connected”

D. Sample program ideas

1. Project JUMP: A community-based intervention for underserved youth
2. FIT for youth: A school-based program for children and adolescents

V. Four Take-Away Messages

A. Fitness professionals need to be aware of common barriers to physical activity and develop creative and cost-effective strategies to overcome them in order to promote physically activity lifestyles for all youth and adults.

B. Existing resources in most communities can be used to begin and maintain exercise programs for children and adults at little or no cost to the fitness professional and program participants.

C. Both resources and partnerships can be identified to increase the visibility and effectiveness of both the fitness professional and the exercise program.

D. There are simple assessments available to assess participant progress and show program success.

VI. Selected References


Physically Active Residential Communities and Schools
http://www.youtube.com/watch?v=QaYJ6xS6P5Y

Chase Near Eastside Legacy Center (The 2012 National Football League Super Bowl Legacy Project)
http://www.youtube.com/watch?NR=1&v=udGVHeF8t7I&feature=endscreen
I. Introduction
   A. Presentation outline/objectives
   B. Overview of moving from manager to researcher/evaluator
   C. What I wished I had known and measured as a fitness manager

II. Why Measure health outcomes? How are we measuring outcomes related to health and wellness?
   A. How does measuring outcomes relate to marketing/validation of programs?

III. Learning what participants want physical activity/exercise to do for them.
   A. Example of analysis utilizing the questions below:

   **Exercise/Physical Activity History**
   What do you want exercise to do for you? Please rate the importance of each item from the scale listed below.

<table>
<thead>
<tr>
<th>Extremely Important</th>
<th>Somewhat Important</th>
<th>Not at all Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>4</td>
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<td>9</td>
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<td>10</td>
<td></td>
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</tbody>
</table>

   _____ Improve cardiovascular fitness
   _____ Improve performance for a specific sport
   _____ Weight loss
   _____ Ability to cope with stress
   _____ Improve muscle definition
   _____ Improve flexibility
   _____ Increase strength
   _____ Increase energy level
   _____ Feel better
   _____ Improve daily functioning
   _____ Improve performance on the PRT/PFT/CFT
   _____ Improve overall health and wellness

IV. Sitting time research
   A. How to measure sitting time and how sitting time relates to other health measurements:

   **Circle** the amount of time you spend sitting during the course of most days of the week:

   a. Almost none of the time
   b. Approximately ¼ of the time
   c. Approximately ½ of the time
   d. Approximately ¾ of the time
   e. Almost all the time
V. Simple fatigue measurements: Fatigue Severity Scale (FSS)
Circle the response which represents how strongly you agree or disagree with the following questions:

<table>
<thead>
<tr>
<th>Question</th>
<th>Disagree</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. My motivation is lower when I am fatigued.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>2. Exercise brings on my fatigue.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3. I am easily fatigued.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>4. Fatigue interferes with my physical functioning.</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<td>7</td>
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<tr>
<td>5. Fatigue causes frequent problems for me.</td>
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<tr>
<td>6. My fatigue prevents sustained physical functioning.</td>
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</tbody>
</table>

VI. Sleep survey – Epworth Sleepiness Scale
Circle the response which most accurately answers the following questions:

How likely are you to doze off or fall asleep in the following situations?

<table>
<thead>
<tr>
<th>Situation</th>
<th>Never</th>
<th>Slight chance</th>
<th>Moderate chance</th>
<th>High chance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting and Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watching TV</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Sitting, inactive in a public place (e.g., a theater or a meeting)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>As a passenger in a car for an hour without a break</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Lying down to rest in the afternoon when circumstances permit</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitting and talking to someone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitting quietly after a lunch without alcohol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In a car, while stopped for a few minutes in the traffic</td>
<td></td>
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</tbody>
</table>

VII. Functional Movement Screening in relation to traditional biometric screening of clients to measure outcomes.

A. What is functional movement screening?

B. How does it relate to traditional biometric screening/Analysis of a five year study of FMS/health outcomes with the US Navy.

http://www.navyfitness.org/shape/
VIII. Four Take-Away Messages

A. Acquire four surveys to analyze physical activity/exercise history, sitting time, fatigue and sleep in order to enhance program analysis/validity of health outcomes.

B. Analyze FMS results in reference to traditional biometric screening of a five year data project with the US Navy.

C. Connect the importance of positive health messaging, outcome analysis, and research with program delivery.

IX. Selected References

Sitting time:


Fatigue:


Sleep:

- [http://epworthsleepinessscale.com/](http://epworthsleepinessscale.com/)

Functional Movement Screening: FMS:


- [http://www.functionalmovement.com/](http://www.functionalmovement.com/)
In December of 2006 ACSM’s Health & Fitness Journal published its first worldwide fitness trends survey with commentary by four well known international experts within the commercial, community, clinical, and corporate wellness sectors. The trend analysis was repeated in 2007, 2008, 2009, 2010, 2011, and 2012. Now in its 7th year, the 2013 survey reveals trends within the fitness industry to help club owners and practitioners establish direction for their programs in the coming year. The results of the 2013 survey are summarized below, compared against the previous years’ survey results. The commercial health club (for profit) can use this information to build exciting new, high-volume, low-cost, and profitable innovative programs. Corporate health promotion programs can develop stimulating novel approaches to improving employee fitness and morale while decreasing absenteeism. Recognizing the clinical characteristics of this survey, medical fitness centers can capitalize on the growing trends of medical referrals, especially those dealing with childhood obesity. Community-based programs (not-for-profit) will find the survey results to be of benefit because of its public health implications.

I. Definitions
   **Fad** - A fashion that is taken up with great enthusiasm for a brief period of time; a craze (http://dictionary.reference.com).
   **Trend** - a general development or change in a situation or in the way that people are behaving (http://dictionary.cambridge.org).

II. Survey Construction
   A. 37 entries (The final list was potential trends that could be applicable in commercial, community, clinical, and corporate settings)
   B. Used “Survey Monkey” (www.surveymonkey.com)
   C. The survey was designed so that the respondent could finish within 15-20 minutes.
   D. As a bonus incentive, respondents were able to leave their mailing information and compete for a free copy of ACSM books and $100 gift card.
   E. Survey was constructed using a Likert-type scale ranging from a low score of 1 to a high score of 10 (plus additional space for comments).
III. Survey Dissemination
   A. There were 29,630 surveys sent out (an increase of 37% from the previous year)
   B. 3,346 responded for a return rate of 11%.
   C. Responses were received from all over the world including Asia, Europe, Australia, Africa, North America and South America.

IV. The final step was to collate the responses and rank-order them from highest to lowest and determine the fitness trends for 2013.

V. International experts commented on the fitness trends including Osnat Fliess Douer, Ph.D. (Wingate College, Israel), Paul Sorace, MS, RCEP (Cardiac Prevention and Rehabilitation, Hackensack Medical Center, New Jersey), Desirée Nathanson, MS, DTR (Atlanta, Georgia), and Trudy Moore-Harrison, Ph.D. (University of North Carolina, Charlotte).

“Take Away Messages”

The 2013 world-wide survey of fitness trends helps the health and fitness industry make critical programming decisions. The results are applicable to commercial, clinical, corporate, and community fitness programs. While no one has been able to accurately predict the future, this survey helps to track trends in the field that will help program directors and personal trainers make important business decisions. Around the world, the health & fitness industry continues for the most part to be unregulated by either local or federal law. This sometimes leads to practices within the industry that prove to be unsafe to clients. In the past two years, there has been an escalation of reports that clients are getting seriously injured by unqualified health & fitness instructors (mostly by personal trainers who are not properly educated and inexperienced). At some point, the industry will need to either develop its’ own best practices or someone will do it for them. As is listed in the study, there are several organizations that are attempting to help the industry regulate itself. ACSM does this study each year to determine if trends identified in the past continue to be trends and to identify any new trends in the health & fitness industry. This helps owners of health clubs (regardless of type) to either continue offering the same types of programs or to develop new ones. For example, since Pilates fell out of the top 20 trends for 2011, many clubs are now considering dropping them in favor of Boot Camp types of programs since they seem to be more popular. Pilates may have outlived its usefulness as an exclusive exercise program. It is a bit more expensive for health clubs to deliver a Pilates program and in this world-wide economic recession in which we still find ourselves, clients have less discretionary income to use for exercise programs. It appears as though people are looking for a basic exercise program that still contains the kind of regiment of Pilates. So, two reasons seem to be in play: people are looking for more basic exercise programs and club owners are looking for ways to deliver programs more economically. Health clubs should seriously consider two groups of potential clients: the elderly and children who are overweight or obese. People are generally living longer (the elderly) and children are getting fatter. These two facts are not going away any time soon. Fitness professionals should consider these two groups as new potential sources of income.
## Top 10 World-Wide Fitness Trends for 2007 through 2013

<table>
<thead>
<tr>
<th>Year</th>
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### References
Team USA Athletes: Preparation and Performance in Pursuit of Olympic Gold

Randall L. Wilber, PhD, FACSM
Senior Sport Physiologist
United States Olympic Committee (USOC)

ACSM Health and Fitness Summit
Las Vegas, NV
12-15 March 2013

Team USA Athletes: Preparation and Performance in Pursuit of Olympic Gold

Introduction
Team USA Goals for Summer and Winter Olympics
VANCOUVER 2010 Recap
LONDON 2012 Recap

Use of Sport Science in the Preparation of Team USA Athletes
Talent ID
Periodization of Training
Altitude Training
Recovery
Monitoring of Overtraining
Sport Nutrition
Technical Analysis
Mental Training

Sport Science and Sports Medicine Support at the Olympics
BEIJING 2008
LONDON 2012

Looking Ahead
SOCHI 2014 Winter Olympics
RIO 2016 Olympics
PYEONGCHANG 2018 Winter Olympics
TBD 2020 Olympics
I. Change is HARD
   1. Exercise examples: it doesn’t take much to have an impact….why are so few Americans following our advice to “eat less, move more?”
   2. CDC 2010: 33% never exercise, 55% no vigorous activity; even worse in older populations

II. Implementation Intentions: A research based approach
   1. Resolutions….Intentions….
      Why do people who intend to “do” something not get it done?
   2. Intentions indicate you are ready to act
      “Forming a behavioral or goal intention signals the end of the deliberation about what one will do and indicates how hard one is prepared to try, or how much effort one will exert, in order to achieve desired outcomes.” (Webb & Sheeran, 2006)
   3. Intentions = Key Determinant?
      Assumed to contain the essence of motivational factors that influence behavior
      Goal theory, Health behavior models & Attitude-behavior theories point to intentions as a key to behavior change
   4. Theory of Planned Behavior (TPB) targets goal directed, volitional actions
   5. Do both intention AND behavior change? Meta-analyses show that a medium-to-large change in intention (d=0.66) leads to a small-to-medium change in behavior (d=0.36).
   6. How to move from Intention to Action?
      How do you activate and strengthen intentions - change behavior in the real world?
      Having a Goal/Intention ≠ having a Plan to accomplish it
   7. Goals ≠ Implementation Intentions
      Differ on content and structure
      Goal intention = what you intend to do/achieve [I’m going to start exercising]
      Implementation Intention = when, where, and how you intend to achieve it [This Friday, at 10 a.m., I will go to the club for a circuit training class]
   8. Implementation Intentions May bridge the “intention-behavior” gap
      Determine how you intend to implement specific actions to achieve your goal
      Create an “if-then” scenario: you connect a good opportunity to act with defined behaviors in that situation
      “See and Seize” opportunity
   9. Implementation Intentions: Do they work?
      Robust outcomes across variations in study design, measures, and goal domains
      If-then planning facilitated goal striving regardless of self-regulatory problem
      Medium to large effect sizes: initiating goal striving, shielding goals from unwanted influences, disengaging from failing goals, and preserving self-regulatory capability for future goal striving
   10. Sample Research with Implementation Intentions
      Cancer screens? Reproductive health? Sport anxiety?
   11. iPhone App for Behavior Change using Implementation Intentions
      Brisk walk for weight loss? Stress reduction? Better moods?
      It’s simple, easy….so why doesn’t everybody do it?
   12. Study Design/Limitations
      a. Random assignment to one of three conditions: Control, II + Process Reminder, and
II + Goal Reminder
b. External validity = will it generalize to other groups?
   All participants were recruited using an e-mail distributed to a participant database
   that outlined the eligibility criteria and described the study as concerning attitudes &
   behavior relating to walking. Participants were required to exercise less than three
times per week (including brisk walking), not have a medical condition that
prevented them from walking briskly, own a cell phone, and be able to attend a
second (follow-up) session exactly 4 weeks after their first session.
   *Average age of 24, mean BMI = 22 [normal/healthy], and got paid or course credit.

13. Three groups: Controls
   The control group received no text messages and was not required to form
   implementation intentions. However, as with all other participants, they provided their
cell phone number and were informed of the current governmental guidelines for physical
activity (30 min/day of at least moderate-intensity physical activity 5 or more days of the
week) and the benefits of meeting these guidelines. Furthermore, they were told they did
not meet these guidelines. Brisk walking was suggested as a good means to help them
reach these targets, and they were then explicitly asked to try to walk for at least 30 min
on 5 or more days per week (in bouts of at least 10 min).

14. Three groups: II + Plan Reminder
   Participants in this condition received the same text as the control group. Additionally,
   they were informed that it can be “helpful to make very specific plans regarding how you
will walk briskly five times per week and receive text message reminders of these plans.”
   They were also told that they were free to choose the situations in which to walk that
would be easy, convenient, or enjoyable for them, and they were able to decide when they
would receive text message reminders of these plans.

15. Three groups: II + Goal Reminder
   The manipulation received by this group was exactly the same as that presented to those
in the implementation intention + plan reminder condition with the following difference.
   Although participants were requested to formulate implementation intentions, they did
not receive reminders of these plans. Instead, they were informed that it would be helpful
to receive reminders of their brisk walking goal. They were subsequently required to
decide the days and times when they would receive these text message reminders. The
participants in this condition could also log into the system to change the content of the
text message reminders, the number of text message reminders they would receive, or
when these text messages were delivered, and they received text messages for the full 4-
week period.

16. How did it work? Cellphones run the treatment!
   Messages either:
   a. Provided information, but also directed them to specific exercise actions for II +
      PLAN Reminders; or
   b. Provided information + reminded them about their GOAL

17. Bottom Line? Good news!
   Moderate effects on self-reported exercise in both II groups compared to controls
   After one month, 42% and 45% of the II groups reported meeting standards for regular
   exercise compared to 22% for the control group

18. Real bottom line?
   Cheap & easy!
   Set a goal, structure the process of achieving it, and implement the process using
   reminders that link to the plan or the goal itself
III. Change is Hard! Time for a SWITCH

1. Direct the Rider
   Is it resistance? Or lack of clarity?
   Follow the Bright Spots
   Script the Critical Moves
   Point to the Destination

2. Motivate the Elephant
   Is it laziness? Or exhaustion?
   Find the Feeling
   Shrink the Change
   Grow Your People

3. Shape the Path: Is it a people or a situation problem?
   Tweak the environment
   Build Habits
   Rally the Herd

4. Bright Spot Recipe for Vietnamese families
   Gather data on the issue (height/weight of all kids)
   Study data - find the bright spots (some kids healthy, despite being poor)
   Identify the “normal” way to do things (most families serve 2 large bowls of white rice)
   Study bright spots - what are they doing differently? (4 small meals, include potato greens & small shrimp)
   Ensure these actions are not “exceptional” (no “rich uncles” - need scalable strategies)
   Reproduce bright spot practices (cooking circles, shared, learned)

IV. Three Key Take-Aways

1. Change is HARD! We need strategies that help in the real world.
2. Consider Implementation Intentions as a strategy for change: when, where, how you plan to achieve your goal or perform your new behavior.
3. Develop plans for strategic change that targets the head, the heart, and makes the path easier.

Selected References (in order of appearance in talk)


Prestwich, Andrew; Perugini, Marco; Hurling, Robert


I. Brief history of high intensity interval training (HIIT)
A. Hannes Kolehmainen, 1912; Olympic Champion from Finland, Gold medal in 5,000m and 10,000m; world record in 3,000m; used interval training (5-10 repetitions, 1000m or 3min 5sec, 19km/hr or 11.78mph, recovery not known)
B. Pavoo Nurmi, 1920-1930; Olympic Champion from Finland, won 9 Gold medals in 1,500m, 3,000m, 5,000m, 10,000m, and Steeplechase; used interval training (6 repetitions, 400m, 24km/hr or 14.88mph, did this workout within 10km-24km (6-15mile) runs, introduced short intervals)
C. Emil Zatopek, 1952 Olympics 5,000m, 10,000m, Marathon; (up to 100 repetitions, 400m, 20km/hr or 12.4mph, 200m recovery)
D. First scientific publication on HIIT in 1959 by Reundell and Roskamm

II. Brief history of continuous cardiovascular exercise
A. Phidippides in 490 B.C. What is called the Marathon today gets its name from the 280-mile distance he covered in 3-4 days from Athens to Sparta and then back to Marathon. He was sent to gain the help of Spartans against the Persian army in Marathon.
B. Marathon at Olympic Games. Marathon changes to 26 miles in 1908. After 16 yrs., in 1924 the Marathon was established at 26.2 miles. Run in Paris Olympics in 1924 for the first time. Albin Stenroos from Finland was the Men’s Olympic Marathon Champion on July 13, 1924. His time was 2:41:23.
C. Women’s Marathon at the Olympic Games. The women’s Marathon was introduced in the 1984 Summer Olympics (in Los Angeles, CA, USA). It was won by Joan Benoit of the USA. Time 2:24:52.

III. Cardiovascular physiology 101: Key terms
A. Maximal oxygen consumption (VO2max): The maximal rate of consumption, distribution and utilization in ml oxygen/kg/min.
B. Heart rate max (HRmax), maximal HR. The highest heart rate one can achieve during graded exercise. Many estimations: 208- (0.7xAge), 220-Age, 206.9-(0.67xAge)
C. Stroke volume (SV): Blood pumped beat by each heart ventricle. Average at rest from 70ml-80ml each beat.
D. (CO)=HRxSV. Resting CO: 75beat/min x 70ml/beat = 5.2L/min Exercise CO: 180beat/min x 120ml/beat = 22L/min
E. Peak power: The maximal power output measured in watts. Typically performed on a cycle ergometer.
F. Exercise intensity in HIIT: A percentage of maximal effort. Examples are 95% of VO2max (VO2max x .95); 85% Peak Power (Peak Power x .85); 75% HRmax (HRmax x .75)
G. HIIT Intervals: The exercise intervals are the work bouts of exercise that range from 5sec to 8min. The rest interval is the recovery between exercise intervals and can be quite variable.
H. Work/Rest Ratio. Scientists and coaches look at the relationship of the exercise interval and rest interval. An exercise interval of 1min and a rest interval of 4min is a Work/Rest ration of 1-10-4. 5min and a rest interval of 5min is a Work/Rest ratio of 1-1-1.
I. E.P.O.C. represents the Excess Post-Exercise Oxygen Consumption (called the ‘exercise after burn’). Factors that E.P.O.C. include creatine phosphate (CrP) replenishment, metabolism of lactate, temperature recovery, hormones recovery. The oxygen consumed to bring physiological variables (above) to pre-exercise. Research shows that HIIT programs have very high E.P.O.C.
J. Capillary density: a proliferation of capillaries in skeletal muscle (5-15% increase)

IV. Cardiovascular physiology101: Key concepts
A. Overview of heart as it sits in the thoracic cavity
B. Overview of heart pumping blood through the pulmonary and systemic circuits
C. The heart is really two independent pump systems that work simultaneously together. Blood moves along a pressure gradient (higher to lower pressure). It is the pressure that causes the heart valves to open.

D. Video overview of cardiac cycle. Children’s Hospital of Philadelphia (www.chop.edu)

E. View of actual myocardium comparison of right and left ventricle. Overview of sinoatrial (SA) node.

F. Heart rate influenced by medulla oblongata. This is the cardiovascular control system

G. Sympathetic nervous system increases HR and blood pressure. Parasympathetic nervous system inhibits HR and blood pressure. With exercise there is a large increase of sympathetic activity accompanied by a decrease in the parasympathetic systems

H. HR adaptations with chronic exercise. HR in trained individuals will be lower as compared to untrained persons. This is because trained individuals have much GREATER stroke volume adaptations to exercise.

I. EDV represents end-diastolic volume (describing the filling of the ventricles)

J. ESV represents end-systolic volume (describing blood left in ventricles after ejection)

K. EDV = ESV;EDV + ESV = EDV

L. EDV is diastole, also called preload; SV (is systole; afterload describes the pressure that the chambers of the heart must generate in order to eject blood out of the heart).

M. SV, in untrained persons ranges from 40-60% of VO2max; however, it is much higher in trained persons

N. During exercise, the vascular compliance or elasticity of vesicles increases (in healthy persons) thus less mean arterial pressure. This really helps to enhance SV during exercise in trained persons.

O. Contractility affects SV as well. During exercise the peripheral muscles contract harder, thus increasing venous return

P. Contractility of the heart increases too. The heart is a muscle and during CV exercise it contracts harder.

Q. Summary of benefits of CV responses and adaptations to HIIT and endurance training: increased heart size (thickening of cardiac muscle), increased heart contractility, increased cardiac output, enlarged ventricle volume, decreased resting heart rate, decrease submaximal exercise heart rate, increased venous blood return to the heart, improved aerobic capacity in healthy persons and those with cardiovascular disease, lowered resting blood pressure (when elevated), improved stroke volume, increased VO2max

V. Metabolic Adaptations

A. Where is fat completely oxidized in cells? Mitochondrion (think of it as a fat burning fireplace)

B. Cardiovascular and HIIT training mitochondrial density increases: mitochondria get 35% bigger; can reproduce up 15-50% more

C. Metabolic model diagram: In this model calcium-calmodulin kinase (CaMK) and adenosine monophosphate kinase (AMPK) are signaling pathways that activate peroxisome proliferator-activated receptor-g coactivator-1α (PGC-1α). PGC-1α is like a “master switch” that is believed to be involved in promoting the development of the skeletal muscle function (increase in fat oxidation, increase in GLUT4 and glycogen, increase in mitochondrial density, increase in slow-twitch muscle fibers oxidative capacity. High-volume training appears more likely to operate through the CaMK pathway and HIIT appears more likely to signal via the AMPK pathway.

NINE Take Away Programs from the Research!

1) TRACK (OR TREADMILL) HIIT

Warm-up: Light 10min run Interval: 800meter runs at approximately 90% of maximal heart rate 16-17 on 6-20 ratings of perceived exertion scale (RPE scale) which is ‘Hard to Very Hard’ Each 800meter interval should be timed Rest Interval: Light jog or walk for same amount of time it took to run each 800meter Work/Rest ratio: 1-1 ratio. The time for the interval (800meter) and rest interval should be the same Frequency: Try to complete 4 repetitions Modify: The distance of the interval can be adjusted from 200meter to 1000meter. Vary length of the rest interval. Adapted from Musa, D.I., et al. (2009). The effect of a high-intensity interval training program on high-density lipoprotein cholesterol in young men. Journal of Strength and Conditioning Research, 23(2), 587-592.

2) HILL TRAINING HIIT

Warm-up: 10min of light jogging Interval: Set treadmill incline at 5%-8% grade and speed at 3 mph. During each interval increase speed to 5 mph – 6.5 mph, while keeping grade at 5%. The length of the interval should be 1min. Rest Interval: Self-selected speed. Do not adjust incline. Work/Rest Ratio: 1-2 ratio. The work interval is 1min and the rest interval is 2min Frequency: 3-6 intervals

Cool Down: 5 – 10min of easy jogging Comments: This is a hill running interval session. Modify incline, running speed, interval length, and rest interval. Adapted from Seiler, S., and Hetlelid, K.J. (2005). The impact of rest duration on work intensity and RPE during interval training. Medicine & Science in Sports & Exercise, 37(9), 1601-1607.

3) COMBINATION HIIT AND CV CONDITIONING

Warm-up: 10min of light exercise Interval: 30seconds of sprinting (any mode) Rest Interval: 30second rest Work/Rest Ratio: 1-1 ratio. The work interval is 30seconds and the rest interval is 30seconds Frequency: Preformed continuously for 20-30min Note: After completion of interval session perform a 20-30min slow jog or walk at 50% HRmax Modify: Complete on multiple modes (cycling, elliptical training, running, rowing, stair stepping, etc.) Adapted from Seiler, S., and Hetlelid, K.J. (2005). The impact of rest duration on work intensity and RPE during interval training. Medicine & Science in Sports & Exercise, 37(9), 1601-1607.

4) STEP-WISE INTERVAL TRAINING
Protocol: Start at a relatively easy workload (cardiovascular warm-up) for 5 min of exercise and then increase intensity about 10-15 percent. At the end of each subsequent 4 min exercise stage increase the workload by 10-15 percent for the first 4 min training period. This program can be halted when a particular intensity level is reached or a specific duration is attained. Try completing step-wise UP and step-wise DOWN sequence. Intensity: The initial work intensity should be about an RPE of 11. Then, depending on the means of increasing the intensity on the mode (i.e., speed, grade, stride, etc) increase the intensity roughly 1 RPE with each subsequent 4 min stage (i.e., program starts at an RPE of 11; after 4 min the intensity becomes a 12; after 4 min the intensity becomes a 13; after 4 min and intensity becomes a 14. Do until a specific time/intensity is attained. Duration: Duration should follow ACSM (2006) guidelines, which recommend 20-60 min Adapted from Jacobs and Sjodin (1985). Relationship of ergometer-specific VO2max and muscle enzymes to blood lactate during submaximal exercise. British Journal of Sports Medicine, 19, 77-80.

5) CONTINUOUS INTERVAL TRAINING
Warm-up 5-10 min of light exercise 4-8 continuous endurance intervals Each interval is 4 min followed by a 4 min low-intensity rest (12 min/mile) Each successive interval is at a faster pace: Let’s look at an example 1) 10 min/mile 2) 9:30 min/mile 3) 9:00 min/mile 4) 8:30 min/mile 5) 8:00 min/mile Complete on multiple modes Adapted from Akubat, I. et al. (2011) Intermittent exercise alters the heart-rate-blood lactate relationship used for calculating the training impulse (TRIMP) in team sport players. Journal of Science and Medicine in Sport / Sports Medicine Australia, 14(3), 249-53.

6) METABOLIC BASE TRAINING
Warm-up: 5-10 min Protocol: Perform continuous submaximal aerobic exercise on the selected mode Intensity: Intensity is 65% of VO2peak which would be about a 14 RPE (Somewhat Hard) Duration: Duration: is 40-60 min of sustained cardiorespiratory exercise. Called metabolic base training because it increases mitochondrial density Adapted from Burgomaster, K. et al. (2008). Similar metabolic adaptations during exercise after low volume sprint interval and traditional endurance training in humans. Journal of Applied Physiology, 586(1), 151-160.

7) MAXIMAL LACTATE THRESHOLD TRAINING

8) CONTINUOUS CV TRAINING WITH TWO BIG EFFORTS
Warm-up: 10 min of light exercise Workout: A low to moderate intensity 30-50 min continuous run at 60-70% heart rate max. At any time during the workout (beginning, middle or end) perform two Maximal Speed Efforts lasting 2 min. Modify: Complete on multiple modes Adapted from Smith et al. (2003). Optimising high-intensity treadmill training using the running speed at maximal O2 uptake and the time for which this can be maintained. European Journal of Applied Physiology, 89(3-4), 337-343.

9) THE THREE 1-MILE WORKOUT
Warm-up: 5 min of light jogging Workout: Workout is three 1-mile bouts with a 5-minute active rest between each mile. The first mile should be at fast pace (record time). The second mile should be at slower pace and intensity than the first mile. The goal of the final mile is to complete it in the same time as the first mile. Interval: one-mile Rest Interval: 5 min of low intensity running between mile bouts Modify: Any mode of exercise can be substituted for running Babineau et al. (1997). Physiological response of 5/1 intermittent aerobic exercise and its relationship to 5 km endurance performance. International Journal of Sports Medicine, 18(1), 13-19.

QUESTIONS AND FABULOUS FEATS
Q: How many times per week can HIIT be completed?
A: Research says that three times per week may produce the best results while limiting injury. Interval training is very demanding and it is important to be fully recovered between sessions. Fabulous Feats: The official International Association of Athletics Federations world Marathon record for men is 2:03:59, set by Haile Gebrselassie of Ethiopia. The women’s record holder in the marathon is Paula Radcliffe of the United Kingdom in a time of 2:15:25.

Q: If a client has been inactive for several months is it safe to start an exercise program with HIIT?
A: There should be a careful progression of activity when re-starting any exercise program. Beginning with HIIT may increase the chance for injury and muscle soreness. A better approach would be to start with continuous aerobic exercise at a low intensity level. Once able to run for 30 min at a moderate intensity he/she can then progress slowly into interval training. More Fabulous Feats: The longest certified road race in the world is the 3,100 mile Self-Transcendence Race in NYC. The longest bicycle race is the Tour d’Afrique, which is 12,000 km (7500 miles) and 120 days traveling from Cairo, Egypt to Cape Town, South Africa. One of the longest swims ever was recorded by Martin Strel in 2009. The Slovenian man swam the length of the Amazon River (3,272 miles) in 66 days.

Final Quiz: Which program do you feel is superior in the following cardiovascular and metabolic adaptations: Stroke volume____, heart contractility_____, cardiac muscle growth_____, maximal aerobic capacity (VO2max)_____, mitochondrial density_____, capillary density_____, fat burning_____, glycolytic enzymes_____, E.P.O.C. (Excess post-exercise oxygen consumption energy expenditure)____
This session will present an effective method to train staff in providing great member service. It will review best practices and new training tools to improve member service among all staff and in all areas of your facility. Beginning with a philosophy that service is an attitude not a department and that it is everyone’s job, the training teaches how developing positive relationships with all members impact everything we do in health and fitness organizations. Staff will learn how service and mission come to life through people, not treadmills, fitness centers, or swimming pools. The learning objectives for this session are to: understand the power of positive relationships with members and its impact on retention; learn several new tools to improve member service in your facility; and learn ways to measure and track member satisfaction in fitness facilities.

**Three take-aways**
1. Understand how building relationships from the first encounter with potential members is critical to their satisfaction as a member
2. Learn a complete staff training program for member service
3. See member satisfaction from the perspective of potential and current members

I. **Introduction and Overview**
   1. Purpose
   2. Learning Objectives
   3. Principles for Success

II. **S.M.A.R.T. Member Service Program**
    1. S.M.A.R.T. Service Survey
    2. Member Service Performance Criteria

III. **Standards for Service Success**
    1. Membership Service Best Practices
       a. In-Person Inquires
       b. Telephone Inquiries

IV. **Prospective Member Interview Process**
    1. Interview Procedures
    2. Using the Interview Card

V. **Secret Shopper Program**
    1. Principles and Guidelines
    2. Case Study
VI. **Member Satisfaction**
   1. Member Loyalty
   2. Overview of Member Satisfaction
   3. Measuring Member Satisfaction

VII. **Handling Member Complaints**
   1. Dealing with Complaints and Problem Solving
   2. Ten Steps for Handling a Complaining Member
   3. My Complaint Action Log

VIII. **Closing**
   1. Personal Commitment
   2. Staff Pledge to Members
   3. Evaluations

**RESOURCES**

1. “*Fish Philosophy Training*”, Enterprise Media, Cambridge, MA, 1998


4. “*Relationships, Results, Retention, and Referrals*”, Michael McDonald, 2012, Healthy Learning Publishers


6. *YMCA Membership By Design*, 2001, YMCA of the USA
Ten Steps For Handling A Complaining Member

1. Say "I'm sorry." These should be the first words out of your mouth. It costs nothing. It isn't admitting fault. You're just sorry they are feeling inconvenienced. These are the most powerful words you can speak to a complaining member.

2. Honor their perspective. Even if their position is clearly off-base, their perspective is their reality and must be honored.

3. Don't get defensive. This will only make things worse for you and for them. Resist the urge to protect yourself.

4. Don't make excuses or argue. Nobody ever won an argument with a customer. Even if you "win" and prove you are right, we lose.

5. Fully understand the problem. Ask questions and repeat back what you think you've heard. Make sure everything is crystal clear.

6. Tell them what you're going to do next. Seeing you take immediate and logical action will help them feel their situation was handled competently.

7. Tell them when you'll get back to them. Don't leave them hanging and stressed about the problem. If they know exactly when you'll be getting back to them, they will feel their situation was handled well.

8. Thank them for bringing the concern to your attention right away. You especially want to do this with the little things, so they'll keep bringing them up, rather than silently going to the competition.

9. Resolve the problem quickly. Studies indicate that the faster you resolve problems, the less damage is done. Don't let issues sit unresolved.

10. Follow through and follow up. Make sure all residual emotions have been cleaned up.
Get to the Next Level: Strategies to Enhance Your Career

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I. Introductory Remarks
A. Importance of planning your career
B. Presentation outline/objectives

II. Career progression
A. Create a Career Blue Print
   1. Setting: Health fitness, Clinical, Performance, Management
   2. People: Youth, Older Adults, Athletes, Deconditioned
   3. Work Tasks
   4. Values
   5. Travel
   6. Emotional
   7. Compensation
B. Defining a path
   1. Setting goals
   2. Education
      a) Back to school – certificate or degree
      b) Continuing education - importance of strategic selections
   3. Certification
      a) Advanced certifications
b) Advanced credentials

III. Maximizing your value
   A. Teaching vs. Coaching
   B. Communication skills
   C. Identifying strengths and weaknesses
   D. Using research
      1. Products
      2. Programming
   E. Personal growth

IV. Business/Entrepreneurial Skills
   A. Getting started
   B. Business planning
   C. Finance
   D. Management
   E. Promotion & Marketing
      1. Internet
      2. Other applications
   F. Using Technology

V. Career Tidbits from a Wayward Wander

VI. Audience Discussion

VII. Selected References
   A. http://www.acsm.org/find-continuing-education/career-resources
   B. http://www.acsm.org/get-certified
   C. Potteiger, J.A. ACSM’s Introduction to Exercise Science. Baltimore, MD: Lippincott Williams & Wilkins, 2011
   D.
Moving People into Action:
Improving your skills to help your clients make measurable progress

What’s happening with your clients: Stages of Behavior Change (Prochaska)

1. Precontemplation  never
2. Contemplation  maybe sometime
3. Preparation  very soon
4. Action  now
5. Maintenance  habitually, relapse possible
6. Termination  forever

Skill Sets you need  ~ Support Skills and Process Skills

Support Skills

1. Let client know you care and you believe they can make this change
2. Listen with your head and your heart
3. Keep responsibility with the client, not you
4. Give advice sparingly, only when requested. Know what your client knows.
5. Question effectively

Process Skills

1. Help client with decision and setting SMART goal, assess determination
2. Help client prepare for success: equipment, time management, practical challenges
3. Help client select strategies
   
   What worked in previous behavior changes
   What are their ideas for starting this change
   View strategies as flexible, use as long as they work
   Plan rewards both extrinsic and intrinsic
   Plan record keeping
4. Help client expect and plan for lapses

   Asking Effective Questions
Purposes: to get client to think about behavior, to solve problems, to take and keep responsibility for the change

When possible, phrase questions in open ended format, i.e, a question that requires more than a short answer

Examples

*What benefits do you expect from this change?*

*How are you going to make this work for you this time?*

*Talk to me about the time management challenges you anticipate*

*Show me your progress chart for last week; tell me about what you did*

*How would you like my support as you make this change?*

*Tell me about problems you encountered and how you solved them*

*Would you summarize the benefits you’ve seen so far?*

Your job is to talk as little as possible, and get your client to figure things out. Keep the focus away from yourself and on them. However, do not hesitate to give safety information, and to provide resources for information needed. Handouts with web addresses, *You Tube* videos, and text references will be something you regularly use. Send your client research articles, success stories, and other helpful materials.

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**STRATEGIES FOR BEHAVIOR CHANGE**

<table>
<thead>
<tr>
<th>Record Keeping</th>
<th>Logistics</th>
<th>Reward System</th>
</tr>
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<tbody>
<tr>
<td>Phone, tablet, computer</td>
<td>Gather materials needed ~ buy healthy food, pack gear</td>
<td>Extrinsic reward (movie, new T shirt)</td>
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<tr>
<td>Calendar</td>
<td>Create plans B &amp; C</td>
<td>Intrinsic Reward (Feeling proud, seeing desired changes)</td>
</tr>
<tr>
<td>Progress Chart</td>
<td>Make a contingency plan for weather</td>
<td>Disincentives (Delay pleasure, bets, contribute to candidate you don’t like)</td>
</tr>
<tr>
<td>Other (describe)</td>
<td>Include a make up day in schedule</td>
<td></td>
</tr>
<tr>
<td><strong>Accountability</strong></td>
<td><strong>Time Management</strong></td>
<td><strong>Motivation</strong></td>
</tr>
<tr>
<td>Meet with trainer</td>
<td>Schedule new behavior</td>
<td>Read success stories</td>
</tr>
<tr>
<td>Report to friend</td>
<td>Increase ___________</td>
<td>Use role model</td>
</tr>
<tr>
<td>Make records public (on line, post on fridge)</td>
<td>Decrease ___________</td>
<td>Maintain awareness</td>
</tr>
<tr>
<td><strong>Environmental Control</strong></td>
<td><strong>Support Systems</strong></td>
<td><strong>Relapse Prevention</strong></td>
</tr>
<tr>
<td>Remove temptation</td>
<td>Do new behavior with friend</td>
<td>Plan for time crunch</td>
</tr>
<tr>
<td>Make healthy choices convenient (fruit within reach)</td>
<td>Join a support group</td>
<td>Plan for stress management</td>
</tr>
<tr>
<td>Avoid or minimize being around unhealthy behaviors</td>
<td>Surround self with others doing healthy behavior</td>
<td>Identify and plan to avoid relapse triggers</td>
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<tr>
<td></td>
<td>Recruit others to join you</td>
<td>Focus on progress</td>
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Recovery Sports Nutrition: What is It? Who Needs It?

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Long gone are the days when you could tell someone to munch on a banana, sip a sports drink, or nibble on a protein bar after their workout. There is no one-size-fits-all prescription for if and how a person should refuel after a workout. If and how much an individual should replenish after a workout for optimum recovery depends on many factors.

Key points:

• Refueling post-exercise depends upon the goals of the client and their current state of energy balance, as well as the energy expenditure, intensity and/or duration of the workout.
• Keeping the body in energy balance, even during long or hard fitness training sessions may ameliorate some of the negative aftereffects associated with high intensity, long-duration workouts. Within-day nutrient timing may provide a novel and highly-effective way for you to help clients with energy balance. See http://NutriTiming.com/
• Adequate fluid intake before, during and after exercise, depending upon the intensity and duration of the workout is key to performance and recovery.

At the end of this session, participants will be able to:
1. Identify which types of workouts and exercise participants need, or don’t need, refueling and/or rehydration.
2. Describe the current recommendations for food and fluid intake before, during and after exercise.
3. Understand the physiological mechanisms involved in exercise and recovery, and the role of exercise immunology.
4. Understand the differences between daily energy balance and within-day energy balance.
5. Understand the key differences between different sports drinks and energy/protein bars.

Recommended References:

Websites:
www.eatright.org American Dietetic Association
www.scandpg.org Sports Cardiovascular Wellness Nutritionists
www.acsm.org American College of Sports Medicine
www.ais.org.au/nutrition Australian Institute of Sport
## Official Guidelines:

<table>
<thead>
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<th>Organization</th>
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## Books:


