SESSION OVERVIEW: The American College of Sports Medicine's new position stand and guidelines promote exercise programming for persons with chronic diseases and co-morbid health conditions. Session attendees will learn how to use and apply new exercise guidelines and resources to develop comprehensive, population specific exercise programs for medically cleared persons with controlled and co-morbid health conditions. A case study approach will help attendees apply these tools and concepts.

TAKE AWAY POINTS:
1. Personal trainers should understand the medical/health needs of their clients
2. New exercise guidelines can facilitate the development of safe, effective exercise programs
3. New online resources can facilitate the development of safe, effective exercise programs

I. SCOPE OF THE CERTIFIED EXERCISE PROFESSIONAL
   • Personal trainers can help a clients with a variety of medical conditions meet the current physical activity guidelines.
   • Additional education certification and training is often warranted!!!
   • Clients are best served by exercise professionals who can work with all of the healthcare providers who care for them (MD, PT, RD, DC, ETC..)!!!
   • Open communication with each of these professionals (if applicable) enhances the quality of services personal trainers can offer their clients and also provides personal trainers with support and guidance!!!
   • Exercise Specialists and Personal Trainers should use general Exercise Program Guidelines Utilizing the F.I.T.T. Principle and Variables with Their Clients!!! (ACSM GETP 9, 2014 pp. 180 & 185)
   • In a number of Instances Modifications based on client symptoms, medications and exercise tolerance might be warranted!!!
   • Medically cleared clients with co-morbid medical conditions can learn valuable information from exercise professionals who can enhance their exercise experience, ensure their safety and improve their quality of life!!
   • Exercise consultations are opportunities to teach clients valuable lessons!!! These are all things that must be discussed during the first meetings with your clients!!!
   • Well educated and certified personal trainers, health/fitness specialists and strength and conditioning specialists can provide valuable information and education to their clients but need to recognize situations where referral and contact to and with another healthcare provider is warranted!!!!!
   • Exercise Professionals who fail to recognize these situations and act appropriately can be held liable for damages and for practicing outside of their scope!!!
II.  PRE-ACTIVITY SCREENING AND RISK FACTOR AND CATEGORY DETERMINATION

- Client safety and risk can best be determined by following these steps and the American College of Sports Medicine Guidelines for Exercise Testing and Prescription 9th Edition are industry standards for performing best practices!!!
- Pre-activity screening will help to determine if at present, exercise is appropriate for your client and help you to determine what type and how much!!! The Algorithms on this and the previous slide help reduce “GUESS-WORK” and can direct your exercise program decisions!!!
- Questions which will help you prepare to work with clients that have a number of co-morbid conditions should include: “Who can I contact to discuss my client’s needs, his or her progress and ask questions”?
- Determine client risk factors for C-V, Pulmonary & metabolic diseases as well as signs and symptoms and special considerations warranting additional precautions
- Determine if any special considerations might warrant additional investigations, exercise modifications and strategies, monitoring scales or education for either you or your client
- AVOID TUNNEL VISION!!! Analyze each condition or risk which a client has and model the program so EVERY factor is addressed appropriately


Mrs. J is a sedentary 48 year old administrative secretary and married mother of two college age boys. Her physician has cleared her to work with you to develop a comprehensive exercise program. She was diagnosed two years ago with hypertension and has dyslipidemia and impaired fasting glucose (MetS). She states wanting to take her six month old Labrador retriever puppy Bailey on long walks at her beach but, “I cannot last for more than 10 minutes without stopping because I get so tired and my muscles feel weak”. She achieved eight metabolic equivalents (8 METs) during a maximal treadmill stress test (Bruce Protocol), a maximal heart rate of 155 beats/minute (90% of age-predicted maximal heart rate) and a rating of perceived exertion (RPE) of 18 out of 20 on the Borg scale. Her peak blood pressure was 180/80 and the treadmill stress test was stopped because of general fatigue. She reported no signs or symptoms of exercise intolerance or physical discomfort and displayed no electrocardiographic abnormalities. Her physician considered the test to be “normal” and “unremarkable”. Her current medications include Atenolol, Lisinopril, Metformin and Atorvastatin. Additional tests revealed the following results:

- **One Repetition Maximum (1-RM) Bench Press**: 90 pounds (40th percentile) She reported an RPE of 18 out of 20!!!
- **One Repetition Maximum (1-RM) Leg Press**: 180 pounds (30th percentile) She reported an RPE of 18 out of 20!!!
• What if she also has a BMD 2.2 SD < the mean for normal younger women at the femoral neck and 2.0 < the mean for normal younger women at the lumbar spine?
• What if she is also taking Alendronate Phosphate (Fosamax)?
• *** After reviewing her medical and health history, what Cardiac, pulmonary and metabolic disease risk factors are present?
• What other disease processes are operating here?
• What types of medications is she on?
• Is exercise appropriate for her at this time?
• What special precautions and monitoring are warranted when she exercise?
• What types of exercises might be indicated and contraindicated for her.
• What special education do you want to give her? Are there any other things she needs to know?
• **What might be appropriate exercise program goals?**

IV. **BASIC PATHOPHYSIOLOGICAL CONSIDERATIONS FOR MRS. J.**
A. Metabolic Syndrome (MetS)
   • Hypertension *E.T. and ** R.T. Considerations  
     *E.T. = Endurance Training
   • Dyslipedemia E.T. and R.T. Considerations  
     ** R.T. = Resistance Training
   • Obesity Considerations

B. Osteopenia
   • E.T. Considerations, Indications and Contraindications
   • R.T. Considerations, Indications and Contraindications

V. **EXERCISE GOALS** *(ACSM GETP 9, 2014 pp. 278-287, 296-299, 309-311, 315-322)*
A. Hypertension E.T and R.T., Flexibility
B. Dyslipidemia E.T. and R.T. “ “
C. Obesity E.T. and R.T. “ “
D. Osteopenia E.T. and R.T. “ “

VI. **EXERCISE GUIDELINES** *(ACSM GETP 9, 2014 pp. 278-287, 296-299, 309-311, 315-322)*
A. Hypertension E.T. and R.T. and Flexibility
B. Dyslipidemia E.T. and R.T. and Flexibility
C. Obesity E.T. and R.T. and Flexibility
D. Osteopenia E.T. and R.T. and Flexibility

VII. **SPECIAL EXERCISE CONSIDERATIONS/PRECAUTIONS**
A. Signs & Symptoms
B. Exercise /Effort Monitoring
C. Special Analogs (Pain Diagrams, BORG RPE, OMNI Resistance-10 RPE, )
D. Progression
E. Movement Biases and Body Positioning, Posture, and Exercise Tolerance
F. Exercise Modifications and Strategies

VIII. **SAMPLE RESISTANCE TRAINING PROGRAM**
IX. Sample Endurance Training Program

Q & A