Summary
The popularity of running has never been so high with a seemingly endless number of events such as 5k, 10k, 10-milers, half and full marathons, ultra running, and obstacle running events being offered throughout the year. Reasons for running are numerous. Many run for health to improve cardiovascular fitness and decrease their risk of disease, yet others use running as part of a weight loss/management program. Some run as their job requires a minimum fitness standard (military, first responders). Running is an innate movement begun early in life that is not typically taught or coached. Running injuries will occur to most runners and many strategies can help reduce the risk of injury. One strategy is to modify running biomechanics. This session will give an overview at how one’s running gait plays a role to help keep a runner moving and injury free.

Session Format
I. Introduction
   a. Objectives
   b. Takeaways
   c. Injuries
II. Running Biomechanics and Anatomy
   a. Phases of Gait
   b. Kinematics
   c. Kinetics
III. Gait Analysis
   a. Efficacy of Gait Analysis
   b. Movement Red Flags
   c. Running Shoes and Implications
   d. Gait Analysis Tools
IV. Gait Interventions
   a. Foot Landing Pattern
   b. Stride Frequency
   c. Posture
d. Caution & Contraindications

V. Questions

**Key Take-Away Points**

- Understand basic running biomechanics has implications to injury due to abnormal joint movement patterns and how running shoes are implicated to these injuries.
- Understand how forces influence injuries and provide the ability to identify gait or posture patterns that may lead towards injury.
- Be able to apply simple evidence based techniques for gait intervention to help mitigate the risk of a running injury safely as necessary.

**Selected References**


**Selected Books**


**Useful Websites**

- [http://armymedicine.mil/Pages/Minimalist-Running-Shoes.aspx](http://armymedicine.mil/Pages/Minimalist-Running-Shoes.aspx)
- [www.efficientrunning.net](http://www.efficientrunning.net)
- [www.therunningclinic.ca](http://www.therunningclinic.ca)
- [www.sportsscientists.com](http://www.sportsscientists.com)
- [http://runninginjuryclinic.com](http://runninginjuryclinic.com)