

3rd International Conference on

SPORTS MEDICINE AND FITNESS

October 05-06, 2017 Barcelona, Spain

Ways physicians can improve athlete's human performance by the earliest detection, intervention and prevention of abnormal spring stiffness

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Efficient, stress and strain free movement with efficiency is an essential aspect of survival for living things. Therefore understanding normal movement and how the human organism accomplishes normal movement is vitally important for physicians to understand so they can determine what is normal and abnormal movement is. The medical model and approach to the earliest detection intervention and prevention of musculoskeletal conditions, is over 300 years old. In this presentation I will present a more logical and accurate model for the way the human body moves, absorbs collisions, recycles energy and provides joint spaces and tunnels for safe movement and passage of blood vessels and nerves. With this new model, I will reveal ways the physician can improve human performance of patients in sport by examining and treating the human body based on the integrated spring-mass model of biomechanics. The perfect stress and strain-free movement is controlled by a constant interplay between the sensory cells like the spindle cells, the brain and the muscles. The athletes sensory system is constantly sending the newest afferent copy's to your brain for processing and patterning. However, the bodies neural feedback system can also over modulate spring stiffness by over controlling muscle tension that may cause friction, internal compressive forces and locking of the bodies spring mechanism. Optimum medical management of athletes health mandates an understanding of the underlying cause(s) of the over modulation and control. If your goal is to provide clinical management of the athlete that is intended to insure or improve human performance you must know the earliest detection and intervention of the over modulation by examining for abnormal movement patterns with gait evaluation and through table examination for the changes in the muscles, tendons, and joints. By evaluating patients this way a physician can fairly accurately predict where these compressive forces will be, thus predicting where compressive injuries will occur before the onset of symptoms.

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