Applying Sport Science Principles to Clinical Practice
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Chiropractic Philosophy

Chiropractic Purpose:
- To Optimize Health

Chiropractic Principle:
- The body’s innate recuperative power is affected by and integrated through the nervous system

Chiropractic’s Position:
- Practice of chiropractic focuses on the relationship between structure (primarily the spine) and function (as coordinated by the nervous system) and how that relationship affects the preservation and restoration of health. In addition, doctors of chiropractic recognize the value and responsibility of working in cooperation with other health care practitioners when in the best interest of the patient.

Sport Science Philosophy

Sport Science AKA: Kinesiology, Exercise Science, Sport Health Science, Exercise Physiology, Human Movement Science, Sports Medicine, Health Science

Definition:
- Kinesiology: The Study of Human Movement
- Exercise Science: The study of movement and its associated functional responses and adaptations
  - Includes: Anatomy (structure), Physiology (function), Biomechanics, Psychology, Neurology (motor control and development), Sociology, Nutrition, and more.

Purpose: To understand the underlying exercise-induced responses to movement, injury mechanisms and prevention, to maintain optimal health and maximize peak performance

“What is important to understand is that many different disciplines comprise what is called sports medicine and exercise science. And they work together as a team in order to understand and ultimately improve the health and performance of the whole individual. Without this multidisciplinary approach to the whole person, the end result tends to be less than optimal.”

Sport Science Research Examples

- Core Strength and Lower Extremity Alignment during Single Leg Squats
- The Effects of Concurrent Resistance and Endurance Training Follow A Detraining Period in Elementary School Students
- The Role of Nutrition in Performance Enhancement and Postexercise Recovery
- Chronic Running Exercise Alleviates Early Progression of Nephropathy with Upregulation of Nitric Oxide Synthases and Suppression of Glycation in Zucker Diabetic Rats
- A non-randomised experimental feasibility study into the immediate effect of three different spinal manipulative protocols on kicking speed performance in soccer players
How Do We Put It All Together?

- A Neuromechanical Approach to Movement
  - Consists of feedforward/feedback loop, based mostly in CNS.
  - There is a Neurological Response to Injury and Prevention
  - There is a role for Chiropractic within a Sports Medicine Team

Benefits for Clinical Practice

- Patient Education
  - Explaining what we are doing
  - Consistency of diagnosis across disciplines
- Response to Care/Co-Management of Conditions
  - Active vs Passive Treatment
  - Faster results/More exact timing for response to care
  - Effective referral for faster recovery
- Team Based Approach to Care
  - Communication with Sports Medicine Team
  - Healthy and Happy Referrals

Where To Go from Here

- Learn More.
  - ACBSP, CEA, ACSM, ACA/SC, NSCA, IFSC
  - CEUs, Specializations, Outside Certifications
- Do More.
  - Reach out to providers
  - Utilize movement assessments in exam
    - Incorporate active care plans
- Give Back.
  - Promote research (Donations, Volunteer, etc)
  - Get involved with sport science/chiropractic organizations

Thank You!
Sources
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3 Careers in Sports Medicine and Exercise Science. ACSM  www.acsm.org
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25 ACBSP: American Chiropractic Board of Sports Physicians. www.acbsp.org
26 CEA. Council for Extremity Adjusting.
27 ACA-SC. American Chiropractic Association-sports council.
28 NSCA. National Strength and Conditioning Association.
29 IFSC. International Federation of Sports Chiropractors.