

“The Concussion-Subluxation Complex”

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Objectives:

This course will discuss the features of concussion as they are currently understood, including clinical assessment and management.

Statement of Purpose:

The doctor of chiropractic can and should play a key role in the assessment and management of the concussion victim. The nature of this role is not well understood either by the lay public or the professional community. It is hoped that this understanding will help advance the profession's cultural authority in the care of the concussion victim.

Overview of Course:

The course will open with the definition of concussion according to the Zurich conference. Further characterization of concussion will be drawn from information available from the Centers for Disease Control and Prevention (CDC).

The mutual impact of the vertebral subluxation complex (VSC) and concussion on each other will then be explored. This issue is the organizing concept of this course: the concussion-subluxation complex.

After this introduction, the clinical assessment of concussion will be undertaken, beginning with history, red flags for emergency care, complicating factors, and relevant forms. Then, physical examination will be discussed, including balance examination, memory and attention assessment, visual assessment, reaction time, and upper limb coordination.

The discussion of concussion management will include considerations for return to play, return to work, and return to class. A review of the literature on the effect of chiropractic adjustments on selected components of concussion will further elucidate the nature of the concussion-subluxation complex.

Non-pharmaceutical adjuncts relevant to concussion management will be reviewed. Two complications of chronicity are explored: post-concussion hypopituitarism and post-concussion stroke. These topics are discussed as they relate to the chiropractic adjustment.

Hour-By-Hour Outline

- Hour 1: The definition of concussion according to the most recent Zurich conference will be discussed in detail. The groundwork for understanding the potential for mutual exacerbation between the vertebral subluxation complex (VSC) and concussion will be established.
- Hour 2: The discussion of the potential influence of VSC and concussion on each other continues. The concussion history begins with a discussion of mechanisms of injury.
- Hour 3: The most relevant signs and symptoms to look for in the history are discussed. Indicators of potential emergency situations and complicating factors are reviewed. Physical examination of balance is discussed and demonstrated. Attention and memory assessment is discussed and demonstrated.
- Hour 4: Visual assessment, testing of reaction time, and assessment of upper limb coordination are discussed and demonstrated.
- Hour 5: Return to play, return to work, and return to class are discussed. The implications of concussion manifestations that persist beyond 10 days in adults and 4 weeks in children are addressed. Chiropractic perspectives on concussion management are discussed in terms of attention deficit.
- Hour 6: The discussion of chiropractic perspectives continues, with a focus on vestibular dysfunction, visual dysfunction and slowed reaction time. Possible future chiropractic research and clinical directions are discussed.
- Hour 7: Non-pharmaceutical adjuncts of possible utility in the chiropractic management of concussion are discussed, beginning with the role of oxygen as an inorganic neuroprotective nutrient, and appropriate activities related to this nutrient.
- Hour 8: Discussion of neuroprotective nutrients continues with water and the nutrients that support ATP synthesis and neurotransmitter function. Nutrients and activities that help regulate inflammation are introduced.
- Hour 9: Discussion of inflammation continues. Exercises related to balance and cognitive functions are discussed. The topic of post-concussion hypopituitarism is introduced.
- Hour 10: Discussion of post-concussive hypopituitarism continues. The role of opioids and alcohol in exacerbating hypopituitarism is discussed.

Hour 11: Evidence-based practice, as it applies to the concussion-subluxation complex, is discussed.

Hour 12: The role of the clinician as a practitioner of descriptive research is discussed. This is followed by general discussion and conclusion.