

**Title:** How Concussion, Infection, Stress, and Nutrition Are Related

**Instructor:** Cindy M. Howard, DC, DABCI, DACBN, FIAMA, FICC

**Total Hours:** 4 hours

**Topic:** Nutrition, Concussion

**Description:** In this 4-hour presentation, we will discuss how athletes and non-athletes are affected by TBI and concussion, which are more than just neurological symptoms. Commonly, infection and stress before TBI can exacerbate the injury. The opposite is true as well when we see a concussed patient, infection and symptoms related to stress may present for weeks, months or years following. After injury, infection, or adrenal stress, nutrition can play a crucial role in the healing process and may drastically speed up recovery and prevent future debilitation. Ways to manage stress and identify triggers and ways to treat common infections will be discussed. Nutritional recommendations you can use in practice will be provided. Case studies will be presented in which success was achieved, demonstrating the areas we are covering.

**Course Objectives:**

- The practitioner will understand the connection between stress, infection, and concussion.
- The practitioner will learn how to identify stressful triggers that can slow the healing process of a concussion.
- The practitioner will learn how to identify and treat infections as a sequelae from concussion.
- The practitioner will have nutritional techniques to aid and speed up the healing process while lowering the inflammatory load.
- The practitioner will have nutritional recommendations they can use in practice on patients who have experienced a concussion and in the prevention of concussion.

**Hour 1:**

- Review post-concussion symptoms with associated GI infection.
- Discuss neurotoxicity affecting gait from prescription drug use with associated adrenal stress.
- Evaluate a youth athlete with 10-plus years of chronic infection, musculoskeletal injury, and autoimmune disease.

**Hour 2:**

- Discuss the role of infection in the brain, gut, and mouth.
- Review how injury to the brain results in infection.
- Discuss why mouth health is important in this and is just as important as gut health.

**Hour 3:**

- Review how chronic stress will alter adrenal function and the association with neurotransmitter function.
- Discuss how to identify and affect trigger for stress in your patients.

Hour 4:

- Review details on case studies, treatment, and outcomes.
- Review research to support treatment.

### Instructor Methodology

Lecture: The instructor will deliver content through informative lectures, providing background information, statistics, and case examples.

Visual Aid: Slides will be used to visually reinforce key points, provide data, and showcase examples.