

The Centers for Disease Control and Prevention (CDC) estimate that approximately 1.6 to 3.8 million sports and recreational concussions occur each year (Langlois, Rutland-Brown, & Wald, 2006). Countless more children sustain concussions from nonsports activities such as motor vehicle accidents, falls, and assaults. While not all children who sustain concussions are athletes, all children who sustain concussions are *students*.

Almost everyone understands the rationale for physical rest following a concussion. The cases of second impact syndrome, the phenomenon in which a student can suffer permanent brain damage or death from a second blow to the head during recovery from an initial blow (Cantu, 1998), highlight the importance of not returning to play (RTP) before the concussion is 100% healed. In just the past few years, experts in the field of concussion have come to the realization that cognitive demands, much like physical demands, can worsen symptoms and can delay recovery (Majerske et al., 2008). While the end result of continuing to push through cognitive exertion has yet to cause catastrophic brain damage or death, it would be wrong to believe that there are no risks at all. To date, there are no agreed upon formulas for return to learning (RTL). This is due largely to the fact that the return to school following concussion is an extremely individualized process. In concussion management, both RTP and RTL are common and important terms, but they are not parallel processes. The school psychologist and/or the school nurse are uniquely poised to facilitate the transition of a student with a concussion from the medical setting back to the educational setting.

### **Learn to Read the Symptoms : Symptoms Determine the Return to Learning**

A concussion, no matter how mild it may seem at the time, is a brain injury. We know from animal studies that a concussion disrupts the brain on a cellular level. It challenges the balance between chemicals within the cell (potassium) and chemicals outside the cell (calcium). As a result, the brain cell, whose job is to efficiently supply the brain with fuel (glucose), is compromised. The more demand placed on the brain for fuel, the more potential for the student to flare a symptom (Giza & Hovda, 2001).

Immediately after a concussion, the simplest physical or mental demand can bring about severe symptoms. Pumps in the cells try desperately to reestablish the fragile balance between chemicals. Within a few days, the brain cells begin to heal themselves; therefore, light cognitive activity may still flare symptoms, yet symptoms usually become more tolerable, short-lived, and respond well to intermittent periods of rest.