

Children, Adolescents and Concussions

The brain of a child, adolescent and young adult is undergoing significant growth and development, especially when compared to that of 30 year old adult. The younger the brain (after about age ten), the more vulnerable it appears to be to the effects of a concussion during sports activity.

While the younger body, in general, is more resilient and tends to heal more rapidly from most injuries involving the musculoskeletal system, the same does not appear to be true for the brain during concussions. Based on data from neuropsychological testing, such as ImPACT, professional athletes recover from concussions (return to their pre-concussion baseline test levels) faster than college athletes, who in turn recover faster than high school athletes.

Even though the kinetic energy of the collision is related to the size and the speed of the athletes [$KE = 1/2mv^2$] (thus bigger athletes move faster and weigh more and produce much more kinetic energy during their collisions), scientific evidence indicates that the younger brain takes longer to heal from a concussion.

It is important for parents, athletes, coaches, athletic trainers and physicians to be aware of these differences in length of time required to heal the brain after a concussion. Don't expect your child to get back on the field from a concussion as quickly as a professional athlete. Make sure there are no symptoms and full restoration of all brain functions prior to returning to play.

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