

Newsletter issued by Forensic Nursing, Inc.

Talking Points



AUGUST-SEPTEMBER 2014



Mary Jane Barrett, M.S., R.N.
Nurse Consultant
Certified Case Manager-CCM
Certified Medical Investigator III

Master of Science (MS)
Bachelor of Science-Nursing (BSN)



“Rabbit’s clever,” said Pooh thoughtfully. “Yes,” said Piglet, “Rabbit’s clever.” “And he has a Brain.” “Yes, said Piglet, “Rabbit has Brain.”
There was a long silence. “I suppose,” said Pooh, “that’s why he never understands anything.”
---A.A. Milne
Winnie-the-Pooh

HEAD INJURY.....The Facts

A head injury can set off a series of events, the first injury, the second injury, & the third injury.

--*First injury* is direct effect of the accident.

--In the next hour or so, the *Second injury* occurs. --In the next day or two, the *Third Injury*. There are three types of First Injury: 1) Closed 2) Open-penetrating 3) Crushed.

First injury occurs in the first two seconds.....the brain is accelerated, decelerated or rotated, nerve fibers stretched, arteries & veins torn, with or without an open wound. Much of the fate of the victim is decided in these first two minutes, but in many people there are at least two further injuries. Many accidents occur in terrible surroundings, at night, in the rain, away from expert help. Other injuries can affect the brain.

The *Second injury* occurs in the first hour. Obstructed breathing deprives brain of oxygen. Blood loss lowers blood pressure & reduces supply of blood & oxygen to the brain. The *Third injury* occurs a day or more later and can include brain bruising & swelling, blood clots. A week or more later, chronic subdural hematoma and/or post traumatic hydrocephalus can occur.

What does acceleration, deceleration & rotation mean? These factors can occur when the head suddenly changes motion. *Such as a car running into a brick wall (deceleration). You are jerked forward when stopped at a traffic light & a car*

runs into yours from behind (acceleration). Another example is a sudden roll of the head with a knock-out punch to the jaw (rotation).

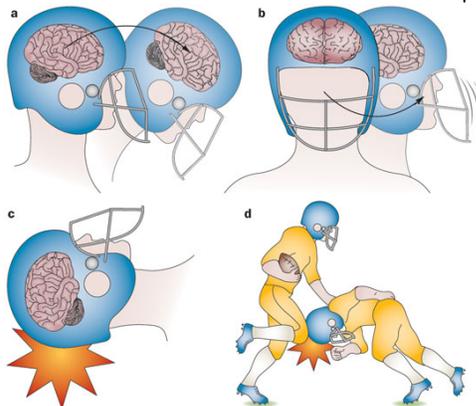
As the head is accelerated, decelerated or rotated the brain is forced to follow the movements of the skull, and as it is soft & jelly-like it gets twisted in the process. The brain is made up from billions of nerve fibres that run from one part of the brain to another, and as the twisting occurs these fibres are stretched & damaged. Even quite mild injuries of this sort can have serious consequences if they affect important and sensitive areas of the brain. Arteries & veins that are damaged can leak fluid out in the brain so that it swells, or they can be torn so that blood runs out. Also, because there *is room for the brain to move* a little inside the skull, with the acceleration it slides on the inner surface of the bone. This surface has ridges & sharp edges which bump & bruise the surface of the brain, causing yet more damage.

Head Injury-The Facts

D. Gronwall, P. Wrightson, & P Waddell-Second Edition.

Examples below of:

- a) Deceleration,**
- b) Acceleration** c) **Rotation**



13 O'Brien Avenue
Whitefish, MT 59937
Phone: (406) 257-8658
Fax: (406) 257-8553
mjb@mjnurse.com
mjnurse.com