It Won't Happen to Me!

by Frank Catt >>

This third part of my cautionary series is very hard to write, as it directly follows Michael Schumacher's accident, with the world's sudden awareness of brain injury accidents. Michael is, of course, not the only injured person lying in a medically induced coma, or a more permanent result of brain damage if the medication has been withdrawn. As I write, Michael is showing little more than reflexive reactions to stimuli, which is not encouraging. There are others, including drivers, lying in similar states after head impact with the framework within their vehicles, and of course those who have succumbed to such potentially fatal injuries.

Medically Induced Coma Can be induced by powerful anaesthetics, and is broadly similar to the sedation and artificial ventilation used during surgery. It is used to shut down many brain functions, and so lower blood flow and pressure.
Taking a patient out of an induced coma by reducing anaesthesia and removing mechanical ventilation is a dedicated process, especially after a prolonged period of sedation. Doctors will be looking for any signs of returning consciousness and recovery. The public perception is that people just wake up and start their everyday activities after a couple of days. THAT'S NOT THE CASE!

There has been a lot written in the media over the last 6 weeks about the Schumacher accident, and however you look at it, and as sad as the results (so far) are, the facts are that he was wearing a helmet, he was travelling in open air and at a substantially lower speed than could be anticipated in an enclosed motor vehicle. This accident is very similar to that to Mark Donohue in 1975 in a F1 car. In both cases, the injured person was cognitive after the accident, was able to talk to their rescuers and was mobile enough to help themselves, but in both cases, the quick onset of deterioration by the build-up of blood pressure within the brain caused rapid decline, and in Donohue's case, death.

Donohue's head injury was officially ruled to be through head impact with a trackside fencing post, but at that time some F1 race cars, which included the car he was driving, had forward-facing roll bar supports very close to the side of the driver's head on each side. At the time it was decided that he was injured by head impact with these bars; this immediately resulted in the ban on such structures.

Of course, both of these guys were wearing crash helmets!

Most of us who have worked on our cars have on occasion moved quickly and knocked our head on a hard surface, and you know it bloody well hurts. Some of us may have fallen from a bike or been knocked out in a sports game, and we laugh it off. Do it just a bit harder and the consequences can be far more serious.

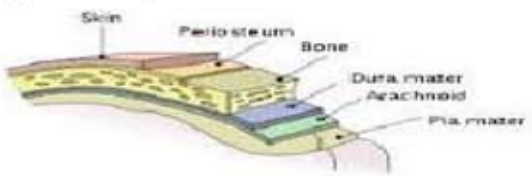
I lost a close friend 3 years ago in a road accident. He and his daughter were travelling together in his road-legal Caterham 7, fitted with a works roll-over cage for his club racing and track day use. In a low speed road accident he was killed, and his daughter is, and will be permanently, unable to carry out even the most basic functions for herself, but continues to fight every day with a determination that cannot be imagined. Both of them were injured by head impact on the foam-covered roll cage steelwork.

We are also aware of other accidents in this last year involving head impact injuries, causing both death and possible lifetime-permanent injuries through head impacts, and it is imperative that all who read this, or are invited to travel in any vehicle fitted with (supposedly) 'safety cage' structures, should be aware of the dangers that may be just around the next corner, and that your life could be materially changed forever in an instant.

The technical and medical description of head injuries is complex, but let me try to make some of that clear below.

As we all know a head injury can be anything from a minor event to a life threatening situation.

Brain tissue is soft and protected by the skull. Below the skin of the scalp lies a layer of *periostium*, which covers the outside of the skull. Below this is the bone of the skull, and below the bone lies the *duramata*. Below this is another layer called the *arachnoid*, with below this, the brain itself.



When we suffer a head injury, there is a risk of *Traumatic Brain Injury* (TBI), which will have consequences ranging from death to permanent or temporary disability.

Brain damage usually occurs as a result of bleeding, with consequent pressure on adjacent brain tissue, which may be deprived of oxygen. Because the brain is surrounded

SUBDURAL HAEMATOMA The arrowed pale grey area is blood putting pressure on the brain