Intracranial pressure monitoring

The monitoring of intracranial pressure is used in treating severe traumatic brain injury.

This process is called intracranial pressure monitoring. All current clinical available measurement methods are invasive and use various transducer systems (most used is insertion of a catheter into the cranium). Some non-invasive intracranial pressure measurement methods are currently being studied; these would facilitate diagnostics of traumatic brain injury or other causes of intracranial hypertension without the risks associated with invasive modalities.

When the brain suffers severe trauma it begins to swell inside the skull. If the brain swelling goes undetected and is not treated the brain becomes deprived of oxygen-rich blood and “starves”. This secondary injury causes permanent brain damage. As ICP monitoring allows doctors to determine how much swelling the brain has sustained, cerebrospinal fluid can be drained accordingly in order to prevent oxygen deprivation.

In the United States surveys conducted in 1995, 2000 and 2006 have shown that since 1995 (the year the TBI Guidelines were published) ICP Monitoring rose from 32% to 78% in 2005.