

Paediatric head injury

General features:

- **Commonest cause of death from trauma (40%)**
- **In infancy, the most common cause of head injury is child abuse**

Primary brain injury

- **Direct consequence of the impact:**

Secondary brain injury

- **Hypotension**
- **Hypoxia**
- **Intracranial hypertension, when sutures close at 12-18 months**
- **Seizures**

Normal cerebral blood flow = 50ml blood per 100g brain tissue per minute

A fall below 20ml per 100g will cause ischaemia and thus oedema

A fall below 10 will cause cell wall dysfunction

The most common cause of raised ICP is cerebral oedema

Factors suggesting a serious injury at triage

- **Substantial trauma**
- **History of lost consciousness**
- **Focal signs or generalized convulsions**
- **Penetrating head injury**

When do you intubate them (the UK NICE criteria)

- **GCS < 8**
- **Loss of protective laryngeal reflexes**
- **Hypoxia or hypercapnia**
- **Spontaneous HYPERventilation**
- **Respiratory irregularity**

Glasgow coma scale

- **Is modified for the under-4s (mostly verbal response- cooing vs. conversing, crying vs making inappropriate sounds)**
- **The “best grimace” response for the pre-verbals**

What else to look for

- **Retial hameorrhage = child abuse**
- **Limb tone**
- **papilloedema**

Who gets an urgent CT head:

- **GCS less than 13, or 14 at 2 hrs after the injury**
- **Open or depressed skull fracture**
- **BOSF**
- **Focal neuro signs**
- **Multiple vomiting**
- **Amnesia of over 30 minutes of events BEFORE the accident**
- **Dangerous mechanism**
- **Seizure**
- **Coagulopathy**

What else should you do

- **Give analgesia, or they will get hypertensive and develop raised intracranial pressure**

For whom will the neurosurgeon get out of bed

- **Persisting coma GCS <8 after resuscitation**
- **Deteriorating LOC, especially changes in motor response**
- **Focal neuro deficit**
- **Seizures**
- **Penetrating injury**
- **CSF leak**
- **Unexplained confusion for several hours**