PAEDIATRIC NEURO-TRAUMA

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Secondary Injury

- Hypoxia
- Hypotension
- Increased Intracranial Pressure
One size doesn’t fit all
**Modified Glasgow Coma Score for paediatric patients**

<table>
<thead>
<tr>
<th>Infant best verbal response</th>
<th>Children &lt; 4 year best verbal response</th>
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</thead>
<tbody>
<tr>
<td>5 coos babbles</td>
<td>5 orientated smiles</td>
</tr>
<tr>
<td>4 irritable cry</td>
<td>interacts follows objects</td>
</tr>
<tr>
<td>3 cries to pain</td>
<td>4 confused disorientated uncooperative</td>
</tr>
<tr>
<td>2 moans to pain</td>
<td>3 inappropriate words</td>
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<tr>
<td>1 no response</td>
<td>persistent cry</td>
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<tr>
<td></td>
<td>inconsolable inconsistent awareness</td>
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<tr>
<td></td>
<td>etc</td>
</tr>
<tr>
<td></td>
<td>Mild</td>
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<tr>
<td>GCS</td>
<td>13-15</td>
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<tr>
<td>PTA</td>
<td>&lt; 1 hr</td>
</tr>
</tbody>
</table>
Fractures
Depressed Skull #
Basal skull #

- 前頭蓋窩 (Anterior fossa)
- 中頭蓋窩 (Middle fossa)
- 後頭蓋窩 (Posterior fossa)
- 骨折 (Fracture)
Battle sign
Growing #
Cross Section of the Brain

- Scalp
- Skull
- Dura mater
- Arachnoid mater
- Subarachnoid space
- Pia mater
- Brain

Intracerebral Hemorrhage
- Bleeding inside the brain

Subarachnoid Hemorrhage
- Bleeding in the subarachnoid space

Subdural Hemorrhage
- Bleeding between the arachnoid mater and the dura mater

Epidural Hemorrhage
- Bleeding between the dura mater and the skull
Extradural Haematoma
Ongoing Problems

- Intellect
- Emotions
- Control
- Fatigue
- Headaches
- Seizures
Key Points

- Listen to the Parents
- Always maintain a high level of suspicion
- Early and accurate diagnosis is essential
- Refer to protocols and guidelines
- Normal CT does not exclude problems
Cont......

- Rapid resuscitation and early transfer to children's trauma centre
- A deteriorating child requires intubation prior to transfer
- Do not over infuse and use hypotonic solution > 2 yrs
- Avoid measures that decrease ICP at expense of cerebral blood flow
Ask the NEUROSURGEON
Prevention of

- Primary Injury
- Secondary Injury
Don’t add insult to injury