Neurosurgical Emergencies

Refer EARLY to KIDSNTS for advice - 0300 200 1100

ACTIVATE YOUR HOSPITAL'S **PAEDIATRIC EMERGENCY TEAM** (CARDIAC ARREST, MET, TRAUMA etc)
CALL KIDSNTS ON 0300 200 1100 AFTER INITIAL ASSESSMENT COMPLETE (BEFORE CT IF POSSIBLE)
IF TIME CRITICAL TRANSFER IS DECLARED YOU WILL NEED TO TRANSFER THIS PATIENT

KEEP ASKING, WHAT IS STOPPING US LEAVING?
KEEP THE KIDS CONSULTANT INFORMED
USE THE KIDSNTS SITREP TO UPDATE YOUR TEAM EVERY 15 MINUTES
T "It's been *x* mins since the child arrived in ED"
O "The observations now are…."
P "What's stopping us leaving?"
P "Plan for the next 15 minutes is…"

Head CT scan should be done within 30 minutes of the suspicion of intracranial mass or lesion.
Delay in the transfer to a neurosurgical centre risks serious brain injury or death.
To reduce time delay, transfer to neurosurgical centre should be done by the local anaesthetic team.
Departure to neurosurgical centre should occur within a MAXIMUM of 60 minutes from end of scan.

Responsibilities of Paediatric Team
- Recognition of emergency – raised intracranial pressure.
- CONSULTANT should be present.
- Commence resuscitation & inform anaesthetic team .
- Organise URGENT CT brain, report & send to receiving hospital (most likely Birmingham Children's Hospital).
- Referral to neurosurgery via KIDSNTS referral line (number above) – 'is this a time critical lesion?'
- Contact emergency ambulance service via 999 stating 'Paediatric neurosurgical '**TIME CRITICAL TRANSFER**'
- Support anaesthetic team.

Responsibilities of Anaesthetic Team
- Continue resuscitation.
- Mobilise team: ODP/Consultant/ICU outreach nurse.
- Commence airway & breathing support as needed. Intubate (if indicated/advised) with cardio-stable anaesthetic - Ketamine & Rocuronium as per KIDS drug calculator including ongoing sedation & muscle relaxation.
- Decide who in team will transfer the child.
- Setup transport ventilator.
- Transfer ASAP

Responsibilities of Neurosurgical Team
- Clarify diagnosis i.e. Is this a time critical lesion?
- Liaise with receiving anaesthetic & theatre team. KIDSNTS will add PICU to referral call conference.
- Inform the referring team where in receiving hospital the child should be taken to e.g. A&E, theatre or PICU.

CONTINUE CLINICAL CARE

A Control the airway. If not already present, call for a senior anaesthetist. Intubate if indicated - Discuss with the KIDSNTS Consultant.
B Monitor SaO2 - aim for 94-98%. If ventilated - monitor EtCO2 - aim for 4.5-5.0 kPa. Keep PEEP at 5cmH2O if possible.
C Gain 2 x IV or IO access. Measure NIBP every 2-3 minutes - aim for MAP - <2yrs 60-65 mmHg, 2– 6 yrs 70-75mmHg, >6 yrs 80-85 mmHg. If hypotensive call KIDSNTS for advice on fluid or inotropic usage.
D Keep sedated as per KIDS drug infusion guide. Regularly observe pupils & do not tape eyes. Load with Levetiracetam 40mg/kg (max dose 3000mg) if there is time. Observe for seizures. Prepare 3ml/kg of 3% Hypertonic Saline (or 2.7% if 3% not available). Maintain normal blood glucose.
E Keep 30 degree head up (unless concern over spinal fractures) & in midline. Keep temperature normal. If polytrauma ensure any fractured limbs are splinted where appropriate.

PREPARE TO LEAVE FOR RECEIVING HOSPITAL
- Emergency airway equipment easily available.
- Draw up sufficient drugs & infusions for length of transfer x2.
- Ensure sufficient portable oxygen available for length of transfer x2.
- Send all imaging to receiving hospital via PACS photocopy notes if there is time.
- Ensure parents know which hospital their child is being transferred to if they are not traveling with the team.
- Carefully restrain the child on the ambulance trolley, maintain neuroprotection.
- Call KIDSNTS to inform time of departure & ETA at receiving hospital.