Top tips for major elective orthopaedic surgery for CP Patients:

Pre operatively:

1. See all patients in advance of the day of surgery where possible. The paediatricians and ideally pain CNS’s should too (especially if epidural infusion is considered for post-operative pain management). This gives a chance for discussion and optimisation e.g. some children are slim, the brace will dig into their bony prominences-might need a dietician input/brace review by physiotherapist before having their procedure. If you are seeing the day before, inform the paediatricians on 45733. If you think they are pale ask/do a haemocue. If epidural planned ensure patient will be on 7C/7F or PICU post-op. If PICU bed must be booked. 7C preferred ward as nurses there are familiar with ortho. /epidural patients, discuss with parents/carers and if appropriate the child regarding risks and benefits of epidural.

2. Treat all patients as age appropriate be guided by the child/parent. Some children may have communication difficulties/delays but may want to be involved in the pre-assessment, some may have physical disabilities but cognitively appropriate either for age or below age, adapt the communication to suit each child’s need. Look for visual clues during the pre op assessment, some may be made anxious by what you say.

3. Anxiety common in child and parent. Think pre-med /play specialist. Not always accepted by families. Autism/other behavioural disorders also common.

4. Ask about on-going pain and how it is managed. Any pain medication(s) given? if so are they able to take oral analgesia (if appropriate)? Are nappy changes painful, preferred side to sleep? How does the child express their pain? Children with chronic pain require far more input post operatively. If planning epidural infusion for post-operative pain management, it is recommended to assess motor/basic neurology of lower limbs. Questions related to lower limb mobility: does the child walk? Do they have any ‘purposeful’ movement i.e. for transfers, standing frame. Discuss with surgeons if braces and casts will be restricting their baseline movement i.e. has some knee flexion pre-operatively but post operatively unable to so because of the brace/cast, it would be appropriate to monitor for ankle/toe movement. If patient takes thickened fluids then NBM adjustment needed, ensure oral/PEG fluids as long as possible as it helps with cannulation. Any history of constipation and management at home is also useful as it has an impact on post-operative management.

5. Bloods are sometimes taken post induction as veins are very difficult or child needle phobic. Take a haemocue at the same time. Get the bloods taken urgently to the lab and ring. Ext 60344 , so they look out for the specimen .

Per Op

1. For IV access try to avoid dominant hand and over wrists with contractures. If the child is ex-premature, look further up the arms and chest wall often have good veins there and they are more difficult to dislodge. Some nurses require reassurance over these! If the child waves and chews their hands think feet at the end of the procedure. If you are struggling for access, put an extra cannula in. Imagine being the SHO called to put another one in for the child awake.

2. Under heater especially for the slim built children, keep covered at all times. The surgeons and scrub staff will keep exposing the limb/s. During most lower limb surgery the under heater will be turned off and an upper body used. Start as soon as transferred to the operating table.

3.Keep patient covered whilst doing an epidural. Heat loss is a problem, particularly with the slim children. Some CP children have very poor temperature control.

5. For epidurals: apply tegaderm to reinforce filter / line connection to reduce risk of accidental disconnection. If epidural in patient with brace in-situ don’t use locket fixation as risk of pressure and removal difficult

6. For specific analgesia for certain ops look at the BOX App list or ask Uli and Ambia.

7. Give 10mls/kg warmed Hartmanns before surgery starts as you will always be chasing your tail. These children are always a bit on the dry side.

8. Bilateral hip recons **always** need blood. The haemocue may be ok at the end of the procedure, but will drop 2-4 days later and the child will often have tachycardia and tachypnoea requiring a transfusion. Cell salvage in children under 30 kg is not very useful as the blood never gets back when you want it and you end up giving from the fridge. If the BP becomes “saggy” the patient may need more fluids/blood rather than reducing epidural

9. If the child does not walk or have any ‘purposeful’ movement (as per pre-operative assessment) and cast/brace is restricting baseline movement discuss with surgeon to exclude motor block assessment. If this is the case, write “Do not look for motor block” on the epidural chart and the post op instructions.

10. All patients with epidural infusion must have a urinary catheter inserted in theatre

11. Pass a suction catheter to empty the stomach before you extubate. Children with a history of recurrent chest infection need recruiting breaths and suction prior to extubation.

12. Talk to the family as soon as you can after taking the child to recovery. They are often very anxious. If the operation goes on longer than expected, ring the ward so they can let the parents know that it is all OK.

13. Talk to on call registrar and consultant post operatively. If concerned about a patient inform PCOT 45785 for additional nursing input

14. Call the paediatric consultant 45733 if there is blood loss/respiratory issues.

15. Please prescribe post-op fluids. With epidural prescribe oramorph and diazepam on prn side