Kids in Day Surgery
Quick Quiz…

1) The following surgery is suitable for Day Surgery:
   a) Strabismus Surgery
   b) Tooth Extraction
   c) Herniotomy
   d) Tonsillectomy

2) Fasting for elective surgery, which of the statements are true?- 
   a) Solid food can be taken up to 4 hrs prior to surgery
   b) Clear fluid can be taken up to 4hrs prior to surgery
   c) Children are best fasted from midnight prior to surgery
   d) Gastric emptying is slower for babies breast fed than for formula fed babies?

3) Post Operative control of nausea & vomiting in an important component of day surgery in kids. Which statement is true?
   a) Ondansertron 0.1mg/kg IV is first choice
   b) Adequate hydration reduces PONV
   c) A combination of 2 or more drugs can be more effective than 1 drug alone
   d) There have been no reported side effects with the use of Dexamethasone as an anti-emetic
What works in Day Surgery??

Examples of types of surgery suitable for Day Surgery:

**General Surgery & Urology** - Circumcision, Herniotomy, Hydrocele repair, Cystoscopy, Endoscopy, Hypospadias repair, Orchidopexy, IGTN, Insertion of PEG tubes

**ENT** - Grommets, Cautery to Turbinates, Adenoidectomy, Tonsillectomy, Bronchoscopy, Reduction of Fractured Nose, R/O foreign Body, EUA of nose, throat, ears

**Ophthalmology** - Squint Repair, Ptosis Repair, Probe & Syringe of Tear Ducts, EUA,

**Orthopedic** - R/O K Wires, Repair of Trigger Thumb, Change of Plaster, R/O Hip Spica, Closed reduction of Fracture or Re-Manipulation of Fracture

**Plastic Surgery** - Correction of Bat Ears, R/O extra digits, Repair of Lacerations, Revision of Scars, Debriding & Grafting to Burns/Scars, Injection of Keloid Scars

**Dental** - Restorations & Extractions of teeth, Drainage of Abscesses, Work that will take longer than 45min in the chair
<table>
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<th>PRO’S</th>
<th>CON’S</th>
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<td>• Less stressful for the child &amp; family</td>
<td>• More extensive surgery then requiring admission overnight</td>
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<td>• Great if no or minimal co-existing</td>
<td>or transfer to another facility</td>
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<td>health conditions</td>
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<td>• Minimal loss of contact with parents</td>
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<td>or carers</td>
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<td>• Cost effective</td>
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<td>• Reduces risks of nosocomial infections</td>
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Pre Op Preparation:

- Surgeon discusses surgery with parents. To reduce stress in the parents the procedure & post op care requirements need to be explained. There needs to be opportunities for the parents to ask questions. Handouts or pamphlets provided by the hospital maybe the a good idea & can be a first contact with the hospital.

- Written information is ideal. Information should include information on fasting times, regular medications.

- Routine pathology/lab work is often not required for kids unless there are clinical indications for it or an existing health problem.

- Ideally, a pre op visit to the hospital is a great idea. It allows the child & family to explore the environment, see the equipment, meet staff, ask questions.
FASTING TIMES...

The ANZCA Guidelines are:

For Healthy Children OVER 6 weeks-
Solid food & Formula 6hrs prior to surgery
Breast Milk 4hrs prior to surgery
Clear Fluids 2hrs prior to surgery

For Healthy Babies UNDER 6 weeks;
Formula or Breast milk 4hrs prior to surgery
Clear Fluids 2hrs prior to surgery
Post Op

- Once the child has met the discharge criteria from recovery, the child can be transferred to the Day Surgery.

- Ideally a parent have been allowed into Recovery with the child, but if not, reuniting child with parent should occur as quickly as possible.

- Offering children diet & fluids as soon as possible. Usually begin with sips of clear fluids, graduating to food, to lessen distress.
**PONV**

- An audit of unplanned hospital admissions to the Royal Hospital for Sick Children, Glasgow (2008), 13,592 children were seen in the DSU, of this 238 were admitted.
- Causes-  PONV 23.5%
  - POST OP BLEEDING 13.9%
  - UNEXPECTED EXTENDED/DIFFICULT SURGERY 11.8%
PONV
Key to Success

- One of the MOST important components to a successful outcome.
- PONV can cause discomfort & distress, will delay recovery & prolong hospitalisation

- Anaesthesia should avoid triggers such as morphine, Nitrous

- Some surgery stimulates PONV such as squint repair, surgery of inner ear, therefore treatment of PONV should be multimodal. Ondansertron is often the first choice, followed by Dexamethasone. Depending on the type of surgery, Stemetil or Maxalon maybe be viable options.
- Provide adequate hydration IV or oral (when able)
Pain Management:

- Adequate & on going post op pain management is essential.
- Pain in recovery & DSU needs to be assessed & treated ASAP
- Ideally the surgeon should use local anaesthetic if possible

However, the Paediatric Patients are “Therapeutic Orphans” Many medications are not licensed by the TGA for use in Paediatrics, resulting in “Off License” use. Practitioners use clinical expertise rather date from clinical trials or studies to provide guidance to administering analgesia.

- Off License use does not mean bad practice, it is acceptable when clinical benefit outweighs potential risks & there are no suitable alternatives available. (Dr Naomi Pearson, 2014)
Paracetamol

- Either oral or IV

NSAID

- Either Oral or IV

Local/Regional Blocks

- Either the surgeon or anaesthetist use L/A to given analgesia, up to 12hrs
Choice of Analgesics

- Type & severity of Pain
- Co morbidities such as OSA
- Route of administration
- Availability of suitable formulation for children
- Child’s ability to take the formulation
Analgesics

- Paracetamol is often the first choice for mild to moderate pain. Orally, the bioavailability is 90%, reaching peak plasma conc within 30mins. Rectal absorption is variable with bioavailability 24-98%
- Dose >150mg/kg
- Dosing should be to lean body mass, beware when dealing with overweight children
- Severe hepatic impairment

- NSAID can be used in children from 3mths age. Works well in combination with Paracetamol
- Oxycodone is increasing in use in paediatrics, but is “off license” Oxycodone acts on Mu receptors in the spine & brain to block pain messages. Comes as tablets or syrup & can last 4-6hrs.
- Tramadol is increasingly used in paediatrics in Europe
Discharge Home

- Parents need clear instructions regarding post op care at home. This includes wound care, analgesia, diet, mobilisation, resumption of normal activities, plus contact numbers for after hour’s assistance.
- Regular pain relief for 24-48hrs
- What to do if nausea & vomiting occurs
- There is a responsible adult at home

**Follow Up:**
- Follow up phone call within 24-48hrs to answer any questions that the parents may have
Environment

- Ideally, special paediatric units would exist but the reality is that paediatric patients are streamed thru the same DSU as adults. If this is the case, a special area should be set aside for kids.
- The environment should be as child friendly as possible. Appropriate sized furniture, toys, activities to keep the children as stress free & entertained pre op, as possible.
- Consider the use of ipads in theatre for the child to watch a favourite video while going to sleep as a diversion from other activities happening in the theatre which might be frightening.
- Keep operating equipment to a minimum until the child is asleep.
References

- Royal College of Nursing Guideline 3: Children & Young People in Day Surgery (June 2013 update)
- ANZCA PS15 Recommendations for the Perioperative Care of Patients Selected for Day Care Surgery (2010)
- Society for Paediatric Anaesthesia Pre OP Fasting Guideline 2014
- Dr Naomi Pearson 2014 Current Trends in Post Operative Analgesia for Day Case Paediatric Surgery ICE Conference
- Dr N Shetty & Dr D Sethi 2010, Paediatric Anaesthesia for Day Surgery