Preparing children for anaesthesia

1. Build rapport.
2. Physically come down to the child's eye level
3. Use age-appropriate language for explanations. Some examples are given below.
    a. Pre-school: "We're going to blow bubbles."
    b. Primary school going: "We're going to blow into the balloon twenty times. If there's a funny smell, use your mouth to blow it away."
    c. Adolescents: "We'll need you to take slow deep breaths so that you can go off to sleep for your surgery. The gas may smell a little funny."
4. Show the face mask to the child and if appropriate, engage the parent's help in placing the mask on the child's face.
5. Offer the child a choice of scents for the mask as available (e.g., strawberry, mango). Consider premedication if the child is highly anxious. The **anaesthetic consultant should concur with the need for anxiolysis before premedication is administered.** Premedication should be administered only within the operating theatre and not in the wards so that the child can be appropriately monitored.
    a. Parents are to be informed that the child may become more unsteady and needs to be monitored for fall risk, that the medication needs time to work (i.e., delay to the start of operation), and that wake up may be delayed postoperatively.
    b. Inform nursing staff that the child is being premedicated. Once the child is amenable, the child should be placed in a trolley or cot for easier monitoring.
    c. There are various routes for administering premedication.
        i. PO anxiolytics
            1. Midazolam at 0.5mg/kg body weight to a maximum of 20mg (takes 20-30minutes for good effect)

2. other additives like ketamine, clonidine or fentanyl may be added.

ii. Intranasal
1. intranasal midazolam at 0.3mg/kg is effective but painful, so it is best avoided.
2. alternatives include intranasal clonidine and dexmedetomidine.

iii. intramuscular
1. ketamine

d. PO anxiolytics

Preparing parents for their child's anaesthetic

Intravenous cannulation & induction	Inhalational induction
If there has been an inadequate amount of time for intradermal spread of local anaesthetic (45mins) and thus analgesia, reconsider inhalational induction OR offer Entonox for additional analgesia in an amenable child. The parent should be told the following: While Ametop reduces / eliminates pain, pressure sensation will still be felt and may still distress an anxious child. The chemical properties of propofol may make it uncomfortable / painful for the child when given intravenously, but all efforts will be made to reduce that discomfort.	Expose the parents and child to the face mask (±the chosen scent) and assess the child's reaction. A negative reaction usually indicates a need for either the use of a distraction technique OR premedication OR both. Do note it is common for toddlers to cry and reject premedication. The parent should be told the following: The smell of the gas will change as we dial it up and some children may not like it. As the child goes to sleep, he/ she undergoes an excitatory phase before setting into deeper sleep. During this time, the child may appear to kick and move with the eyes closed. This is

The child may fall asleep very rapidly and the parent should support the child accordingly.	normal and the parent should not be alarmed. Avoid using negative words like "struggling". If the child becomes inconsolable and refuses the mask entirely at induction – the options are then (1) for the parent to comfort and hold the distressed child while we expedite induction, OR (2) to back off and premedicate the child OR (3) to postpone the operation entirely. Bear in mind the child's age, size, and considerations for assent and Gillick's competence.

Before the parent is engaged, the anaesthetist needs to be clear on the preferred method of induction based on clinical grounds e.g., intravenous rapid sequence induction when there is significant aspiration risk for the child. If there are no contraindications, explain the 2 methods of induction to the parent and decide together on the preferred method of induction.,

Inhalational Induction Techniques for different age groups

1. In children unwilling or unable to cooperate:
    a. Use **distraction** (e.g., Bubbles / cartoons / interactive games) if child is unable / unwilling to cooperate. Parental presence is useful.
        i. The O_2/N2O/Sevo ratio should be confirmed with your consultant before starting. The usual practice is to start with O_2/N2O before dialling up the Sevoflurane.
        ii. Inducing the child on the parent's lap is useful if the child is light enough to be held in arms (usually less than 20kg). Instil the parent:
            [1] Sit your child on your lap with his/her back to your chest.
            [2] Hug your child with both your arms around him/her as a "seat belt".
            [3] Talk or sing to your child and engage them in the distraction technique being used e.g., Bubbles / interactive video games.
2. In primary school children:
    a. Use challenges or games such as simple math, or a balloon blowing "competition".
    a. Warn them that the smell will change.
    b. Tell them to blow the smell away with their mouth if they don't like it.
3. In adolescents:
    a. Coach child through single-breath induction technique:
        i. Get them to breathe out maximally and breathe in maximally through their mouths (vital capacity breath), and then to hold their breath as long as they can before repeating the manoeuvre again. Practise with them once or twice while they are lying down on the OT table.
        ii. Inform them that the gas may possibly be smelly.

iii. Prime the breathing circuit with 8% Sevoflurane and 100% O_2
iv. Encourage maximal expiration before applying the mask to the child's face with a good seal. Do not press down as it is uncomfortable.
v. Encourage child with positive language and consider counting with them as they hold their breath.

Intravenous Induction Techniques for different age groups

1. If a cannula is in-situ, test the existing cannula to ensure patency.
    a. If the child complains of or demonstrates pain despite a clearly patent line, anxiety is high and can be addressed with reassurance OR IV midazolam or IV lignocaine.
    b. If the line is possibly displaced outside the vein, reconsider an inhalational technique and insert another IV cannula when under GA.
2. Avoid using PICCs as far as possible to avoid disruption of sterility and patency of line. Discuss this with your consultant. The PICC line may still be used if appropriate line asepsis training has been completed.
3. If IV cannulation is required,
    a. ensure **topical local anaesthetic** (EMLA /Ametop) has been applied for at least 45 minutes prior.
    b. In children unwilling or unable to cooperate:
        i. Assess the dorsum of both hands for the best possible site for venous access where Ametop had been applied.
        ii. Position the child on his/her parent's lap with instructions as per **Inhalational Induction Techniques for different age groups** (see previous page)
        iii. Distract the child on the opposite side with bubbles / cartoons / interactive video games.
        iv. Have your AU nurse obscure the hand being cannulated by standing with her back to the child and firmly holding onto the chosen arm, providing adequate tourniquet pressure at the same time.
        v. Keep a firm hold on the child's hand to prevent the child from pulling his/her hand away during cannulation. Perform the IV cannulation quickly.
        vi. You may need to give an induction dose of propofol/ thiopentone quite promptly after insertion. Warn the

parent beforehand as the IV induction agent is being given.

c. In primary school children: depending on their ability to cooperate, choose either distraction or entonox to aid IV cannulation.
d. In adolescents:
    i. Use entonox (O_2:N_2O = 1:1) for IV cannulation if the child is agreeable. Encourage deep breaths while lying on the operating table.
    ii. Teach coping strategies (e.g., deep breathing) for IV cannulation.

4. If using propofol to induce anaesthesia, consider adding lignocaine to the propofol and/or diluting the propofol with normal saline and/or giving small aliquots instead of the complete bolus to reduce the pain on introduction of propofol. Tactile stimulation proximal to the IV site may alleviate pain.