

# Case Studies in Paediatric ENT Head and Neck Surgery

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# Overview

- Sleep Disordered Breathing / Tonsillitis
- Nasal obstruction
- Otitis Media

# Case 1: Snoring Child

- 4 year old boy snoring and mouth breathing
- Other questions relevant in history:
  - - allergy
  - - dental
  - - learning
  - - speech
  - - ?trial of nasal steroids



# Examination

- Nasal Endoscopy
- Per-oral





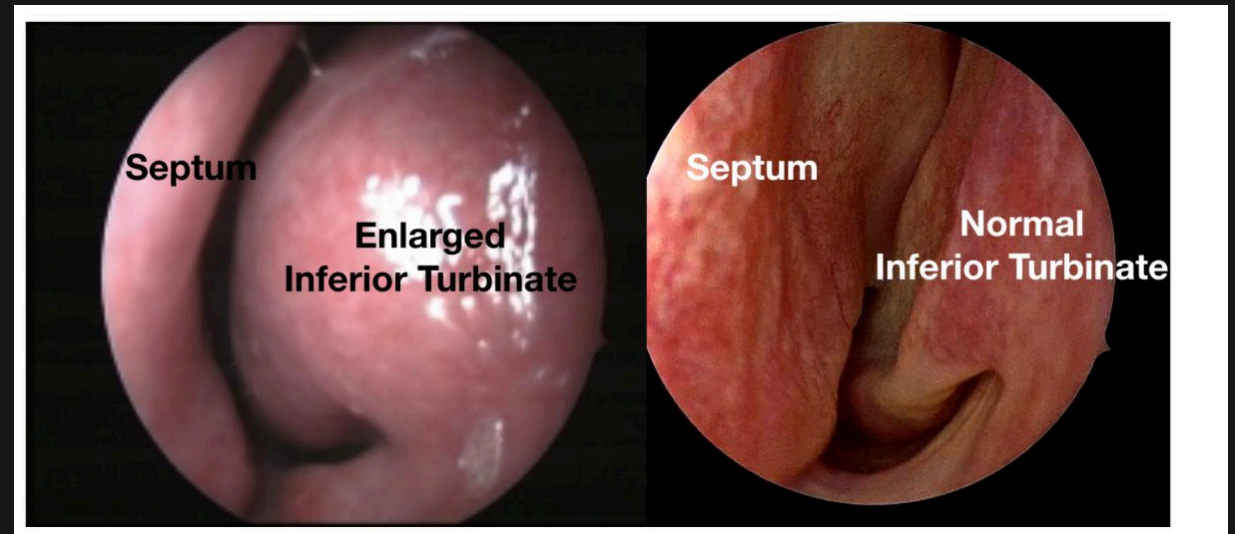
# Sleep Study

- Child less < 3
- Other medical comorbidities
- Discordant examination
- Treatment Surgery



# Role of Nasal Steroids

- >50 % of children with SDB have rhinitis
- Optimisation of rhinitis may help
  - Determine need for surgery
  - Determine urgency of surgery
  - Delay surgery
  - Improve asthma
  - Improve daytime symptoms

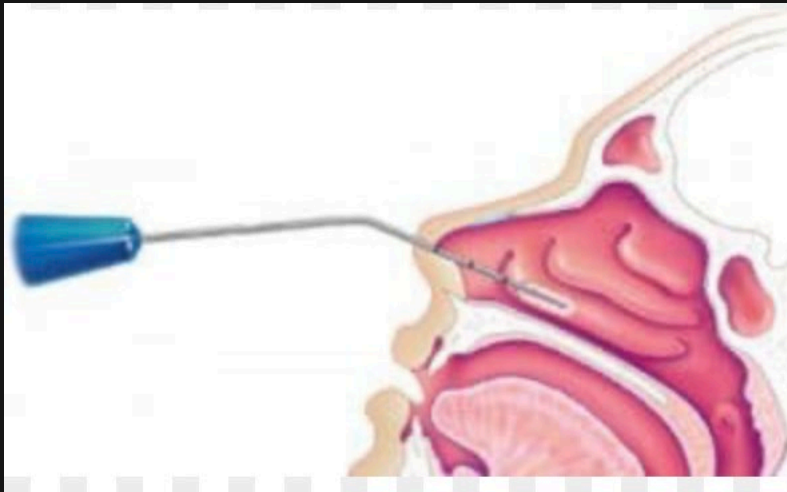


# What about addressing turbinates

- Huge role of turbinates in nasal obstruction management (up to 15% of children attending GPs have rhinitis)
- Improve nasal obstruction score + mouth breathing compared to T/A alone
- Safety has improved
- Some children just can't tolerate nasal steroids
- Sometimes turbinates are just too big to deliver steroids

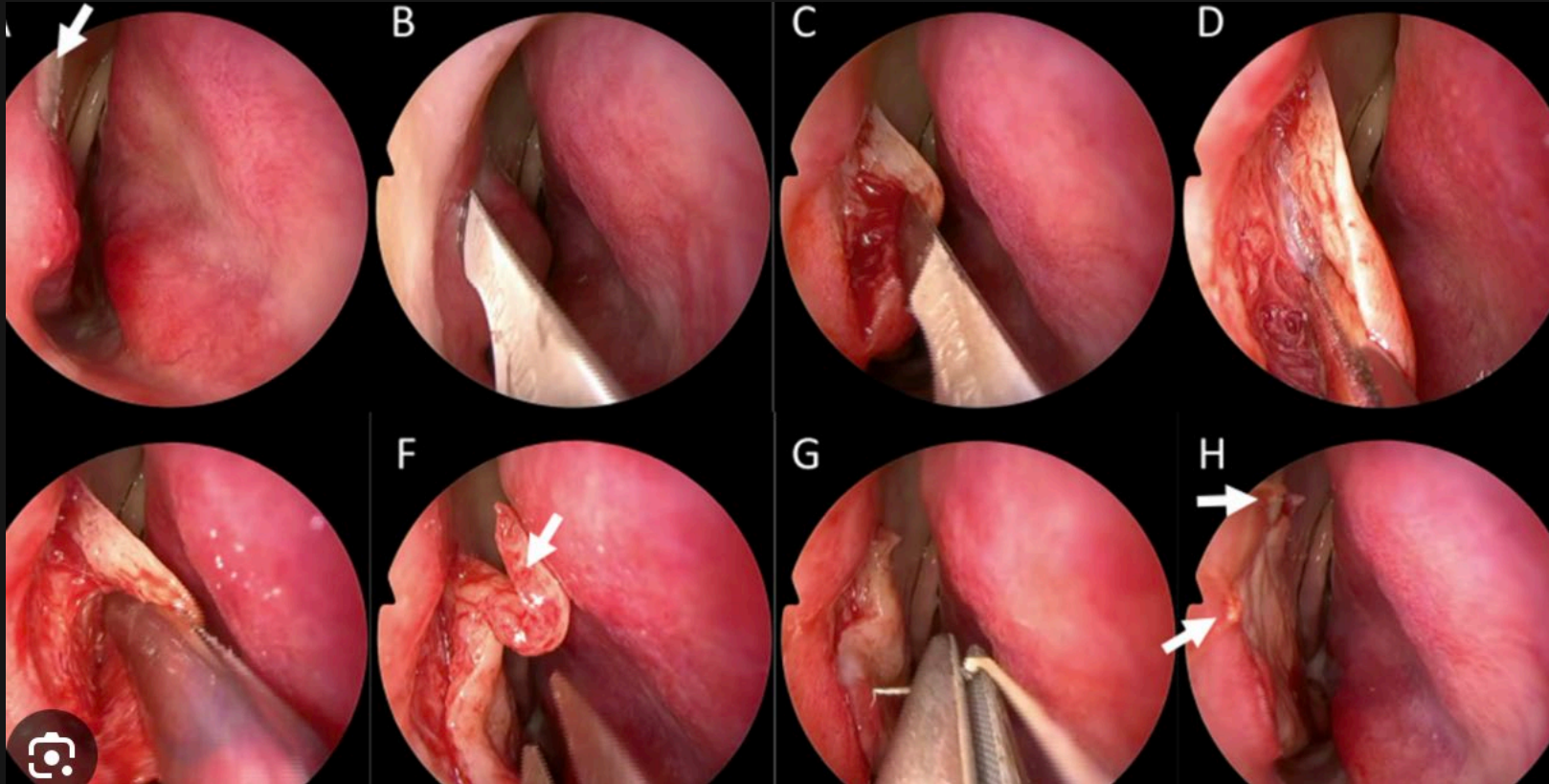
# Turbinate Surgery

- Children less than 5 – coblation techniques





# Older children turbinate surgery



# Urgency of surgery

- Demand exceeds supply
  - Cat 1 severe OSA proven by sleep study often with sig daytime symptoms + other comorb
  - Cat 2 moderate OSA (>4x a week), nil sig daytime symptoms
  - Cat 3 all else
- 42000 done in Australia – rates increasing why?

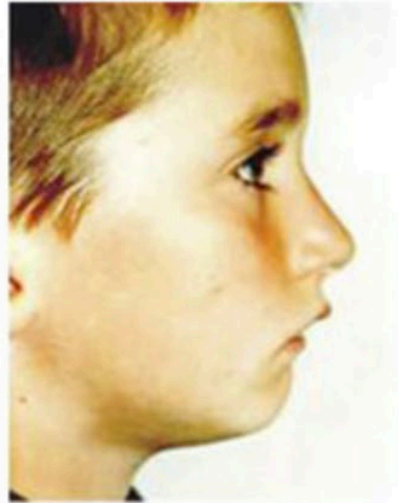


# Behavioral effects of OSA

- Increased parental awareness
- Daytime symptoms
  - Increased somnolence
  - Hyperactivity and irritability
  - ?impaired learning – proven for OSA data equivocal for less severe disease (may have mitigating SE factors)
- Bedwetting
- Oro-dental issues

# Dental concerns

Mouth breathing results in vertical growth which damages faces



Ben age 8



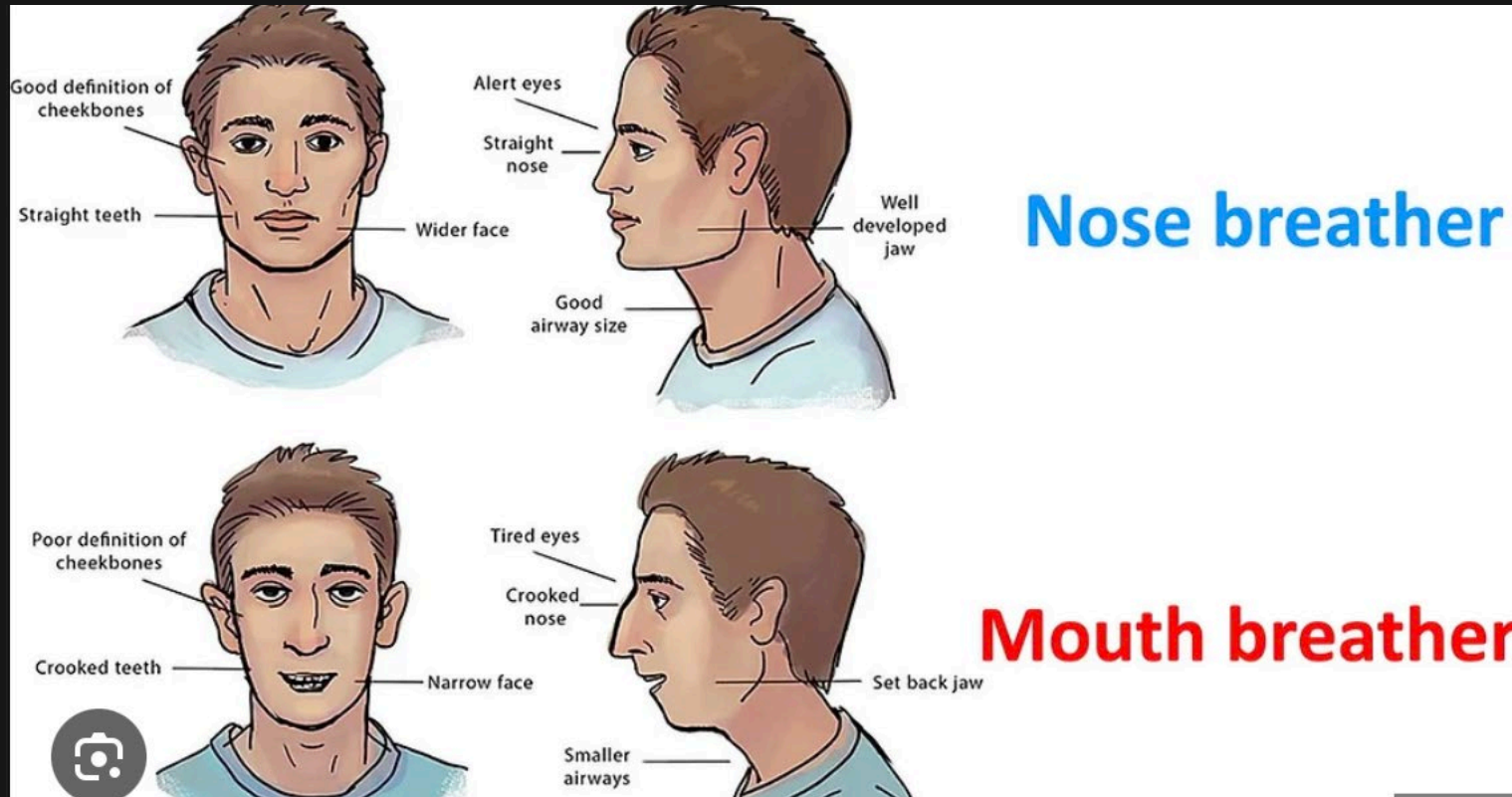
Mouth breathing is corrected, resulting in horizontal growth which improves faces



Age 11



# Facial Growth (genetic vs env factors)







## Post tonsil queries for GP

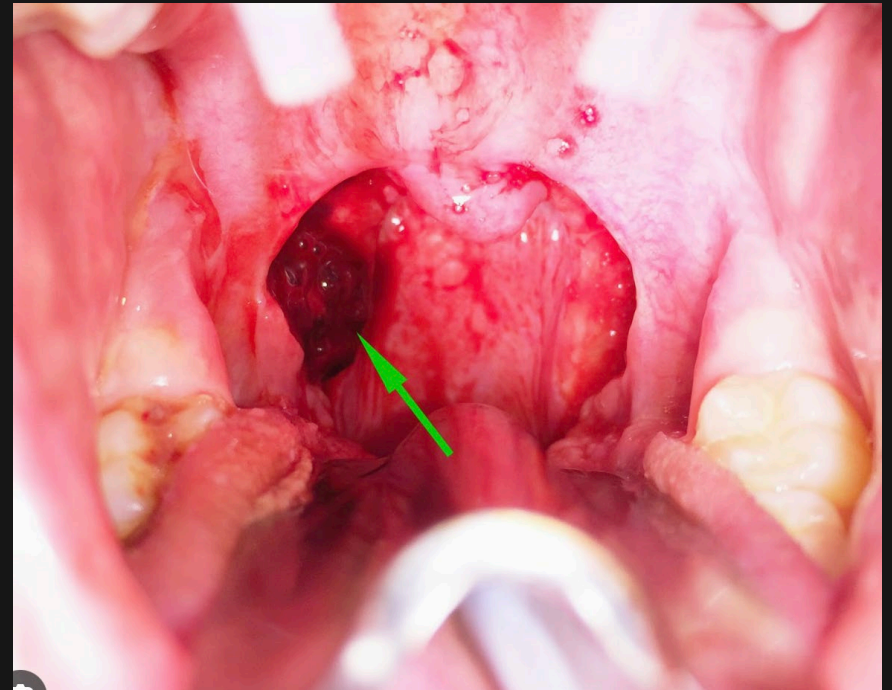
- Parents will often call you
  - Pain
    - Expect for up to 10 days
    - May need oxycodone
    - Ibuprofen is safe and does not increase secondary bleeding
    - Ear pain is common
  - Smell
  - “Throat looks infected”
  - Fever common day 1-3

# What can my child eat doctor?

- Short answer – anything!
- Nil evidence for any diet
- Most children prefer soft cool food (ice cream, ice blocks....)
- Hydration is crucial – tell parents to watch urine colour

# What about post tonsillectomy bleeding?

- 1-2% rate
- Management depends on several factors
  - Age and weight of child determines reserve
  - Volume of bleed
  - Parental concern
  - Distance from hospital/ENT care
  - Examination findings local and systemic
    - Hemodynamic assessment





# Options for management

- Bleed stopped – older child – engaged parents – normal exam
  - Reassure
  - Cochrane r/v rebleeds unlikely
- Bleed stopped – younger (<5) child – engaged parents – normal exam
  - Generally admit for obs
- Bleed stopped – older or younger child – clot visible
  - Refer for ED admission
  - TXA oral/IV
  - Hb levels
  - Fluids / Ab's
- Bleeds ongoing – refer ED – likely OT for control

# Tonsillitis

- Less than 20% of childhood procedures for tonsillitis
- Nil Australian guidelines
- US Paradise criteria
  - 7 episodes a year
  - 5 over 2 years
  - 3 over 3 or more years
- Diagnostic criteria
  - Sore throat with pustular tonsils
  - Fever / Lymphadenopathy
  - Throat swab / ASOT

# Parental perceptions

Consumers' understanding of the options, and risks and benefits of tonsillectomy may affect variation. Parents may not understand that symptoms might resolve without treatment. They may also have unrealistic beliefs that tonsillectomy will always cure OSA.<sup>6</sup> (Tonsillectomy does not resolve around 17–40% of uncomplicated cases of OSA.<sup>21</sup>)

Similarly, an Australian study found that most online consumer health information about adenotonsillectomy for children with OSA was highly favourable about the potential benefits of surgery and downplayed potential complications or non-surgical options.<sup>35</sup> Since this study, Safer Care Victoria has published a fact sheet to help GPs and families discuss the risks and benefits of tonsillectomy.<sup>36</sup>

## Case 2: Ear pain

- 7 year old waking up at night with recurrent ear pain
- Occasional discharge from ear
- “delayed speech” when younger
- Nil referred ear pain: 5 T’s teeth, tongue, tonsil, throat (ie larynx), TMJ
- Audiogram

# Examination

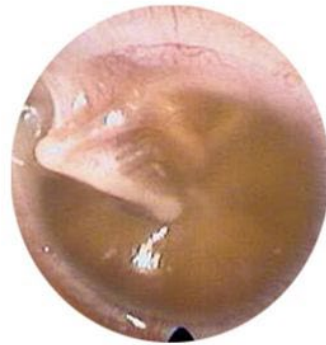
## Serous Otitis Media



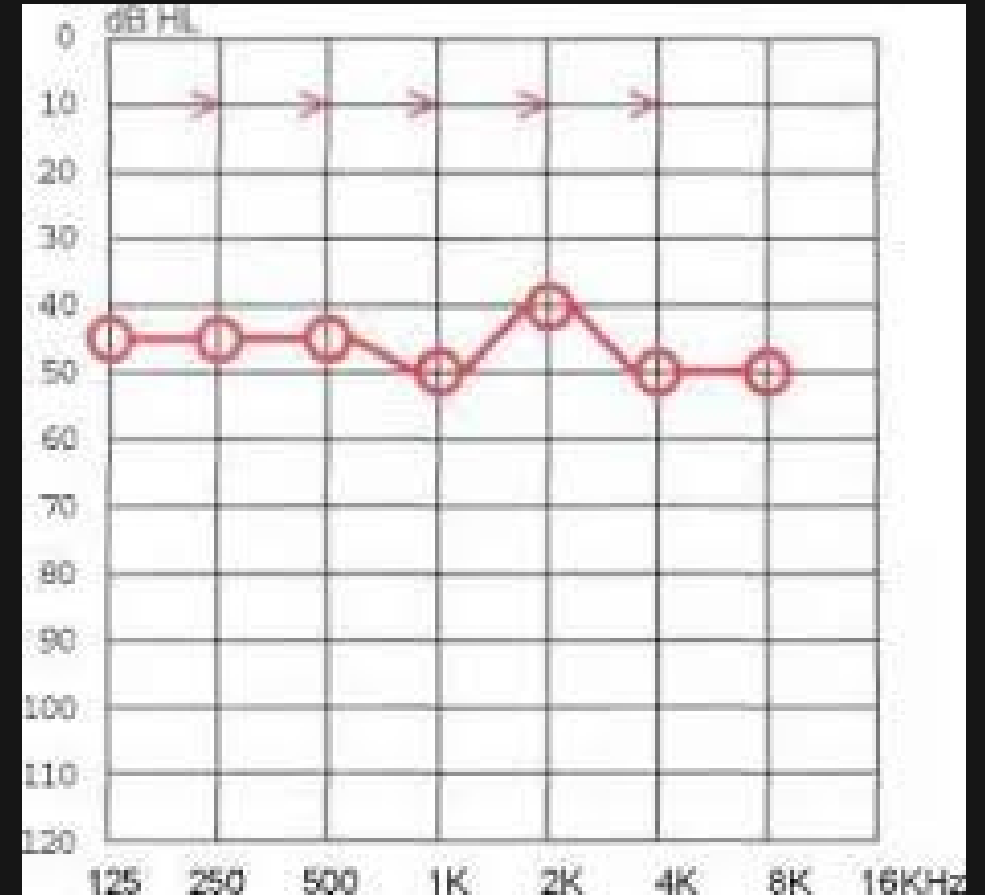
Normal Ear  
(no fluid)



Some Fluid  
(air-fluid levels)



Effusion  
(full of fluid)





# Glue Ear

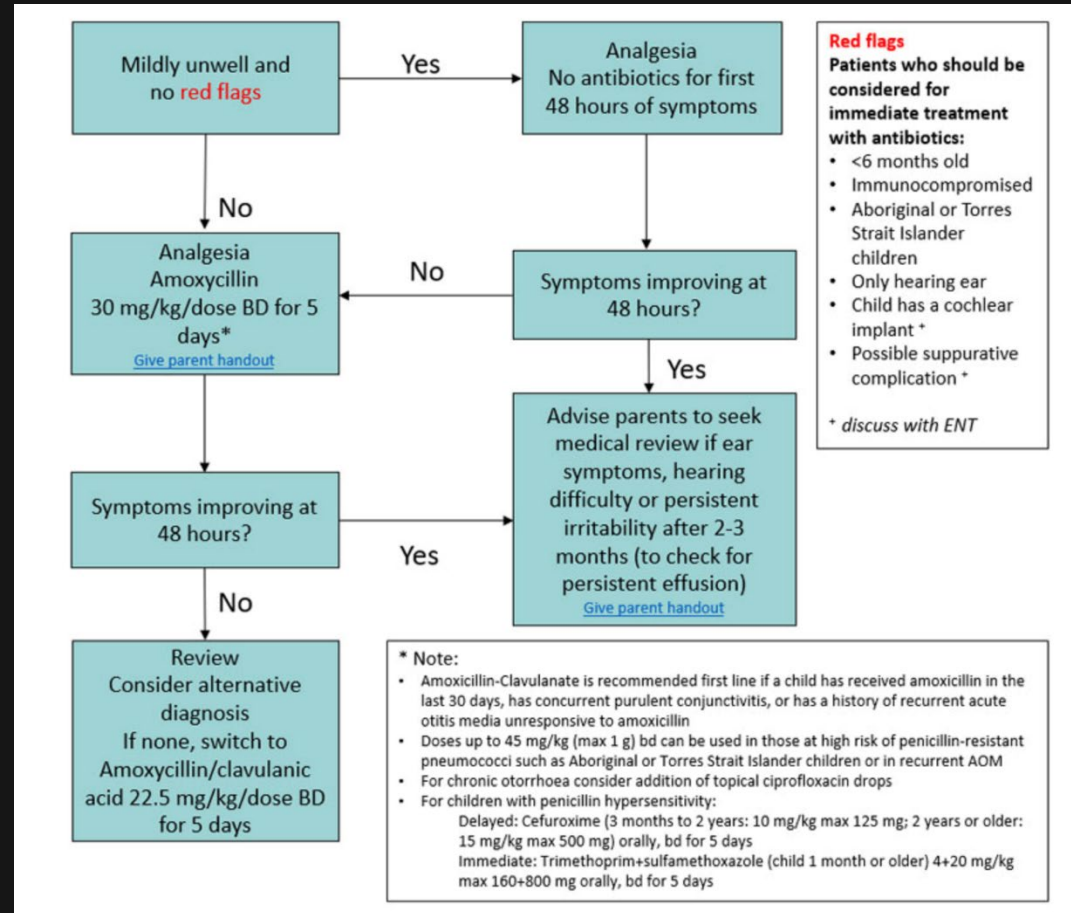
- Glue ear, or otitis media with effusion, is a collection of fluid in the middle ear due to blockage of the eustachian tube.
- This fluid tends to be watery at first, but eventually can become thick, like glue.
- Glue ear may follow an acute ear infection, an upper respiratory tract infection or 'cold', or other conditions such as adenoiditis, allergic nasal disease or sinusitis. Children with Down syndrome or cleft palate have a much higher than average incidence of glue ear.



# Recurrent Otitis Media

- Greater than 5 episodes of acute otitis media in a 12 months period
- Significant impact on child's education or parental attendance at work
- May co-exist with glue ear

# Community management of AOM



# Non antibiotic adjuncts

- Antihistamine – may help rhinitic symptoms but no evidence for reduction of AOM or resolution of glue ear
- Long Term amoxicillin / Bactrim – nil high level evidence
- Nasal steroid vs oral steroid
  - Both help
  - No stat difference in trials
  - Speed up clearance vs saline/decongestant
  - May improve ET oedema / adenoid size



# Treatment

- Antibiotics
- Nasal Steroids
- Drainage

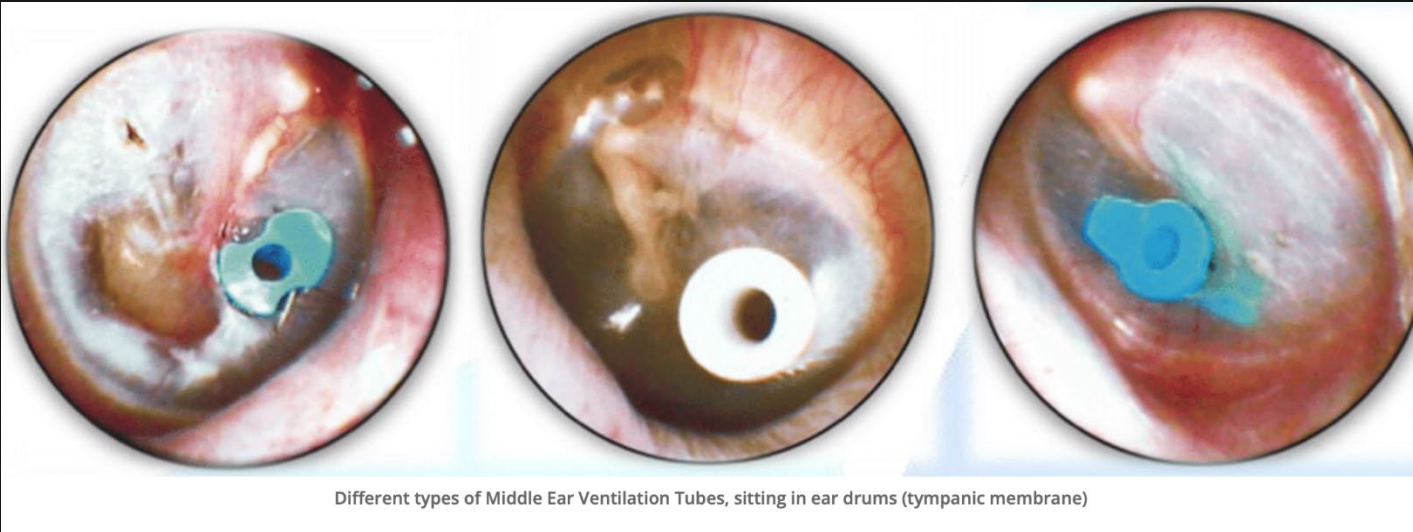
Endoscopic  
Myringotomy & Grommet  
Insertion.

<http://klentspecialist.com>



# Post Grommet Care

- “Water precautions” – commonly done but little evidence
  - Ear putty, blu tac, ear plugs, headbands
  - Useful when children swim with head immersion



# Blocked Grommet (5%)

- Common – often seen on otoscopy
- Early loss of hearing
- Hydrogen peroxide 1ml syringe tragal pumping





# Discharging Grommet (up to 20%)

- Tissue spear
- Reduce water exposure
- Oral antibiotics of limited benefit
- Can swab the ear (pseudomonas)
- Ear drops most useful
  - Peroxide
  - Acetic acid
  - Ciproxin HC
- Chronic discharge – may need removal +/- change



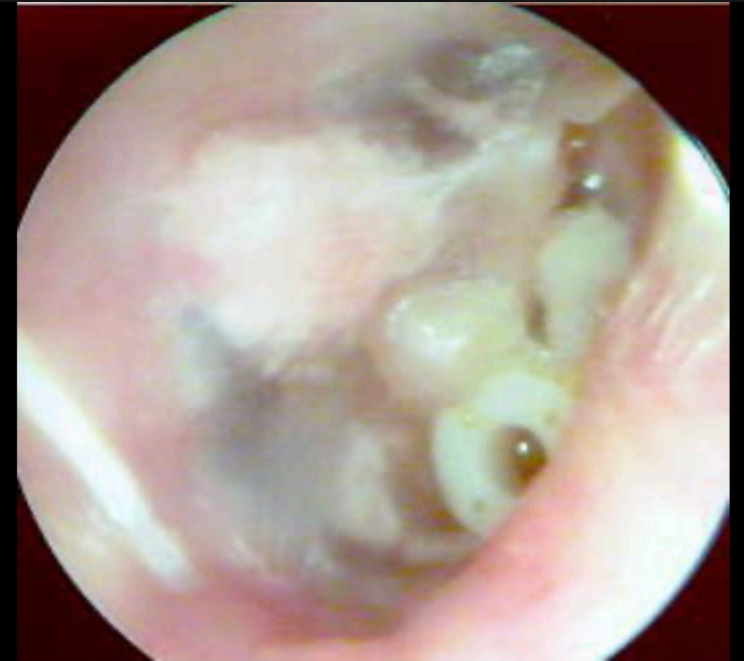
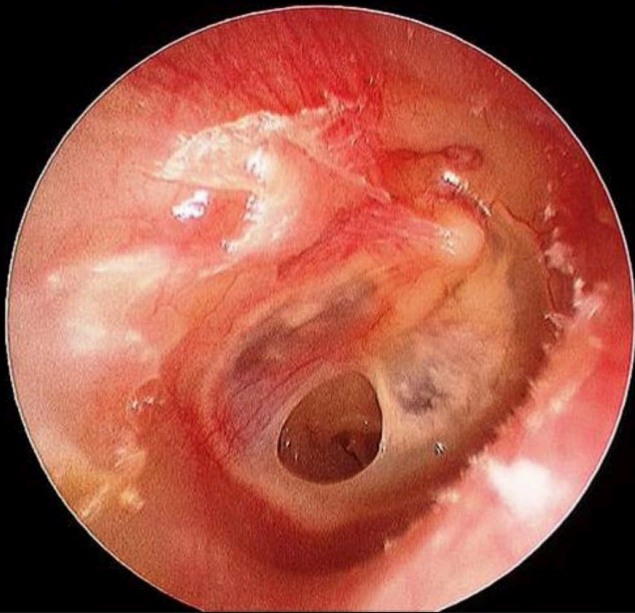
# Extruded Grommet (up to 5%)

- Early < 3 months
- Factors – ongoing discharge, TM weakness (Chronic/adhesive/atelectatic TM)
- May require reinsertion if glue ear recurs vs acute suppurative OM
- Watchful waiting for 3-6 months post extrusion



# Retained grommet (2%)

- 2-3 years upper end of recommendation
- Granulation, biofilm, perforation, cholesteatoma





# Complicated otitis media

- Hearing loss
- Adhesions
- Perforation
- Mastoiditis
- Facial nerve palsy
- Meningitis
- Neck Abscess





# Take home pearls for OME

- 25% persist
- Observe for at least 3 months
- Intervene earlier for speech delay (neuroplasticity)
- Increase threshold for intervention in AOM in healthy children without speech issues or effusion at the time of assessment even with parental pressure

Clinicians may recommend watchful waiting in line with clinical guidelines, but ultimately parents make treatment decisions and may push for surgical intervention, often after months of experiencing the social, financial and emotional impacts of caring for a child with recurrent otitis media.<sup>25</sup>

A qualitative study of Australian parents who had a child booked to have grommet surgery found that parents had been frustrated with watchful waiting and the requirement for a minimum number of episodes of otitis media a year before referral to an ear, nose and throat (ENT) surgeon. Some parents who were unhappy with their GP's response had pushed for a referral or had shopped around for another GP who would refer for surgery. All parents in the study expected that surgery would improve their child's symptoms and quality of life; some parents believed that surgery would cure their child.<sup>25</sup>

# Thank you

- Questions