

Warming up



Decision Making in Paediatric ENT

Dave Albert

Great Ormond Street Hospital

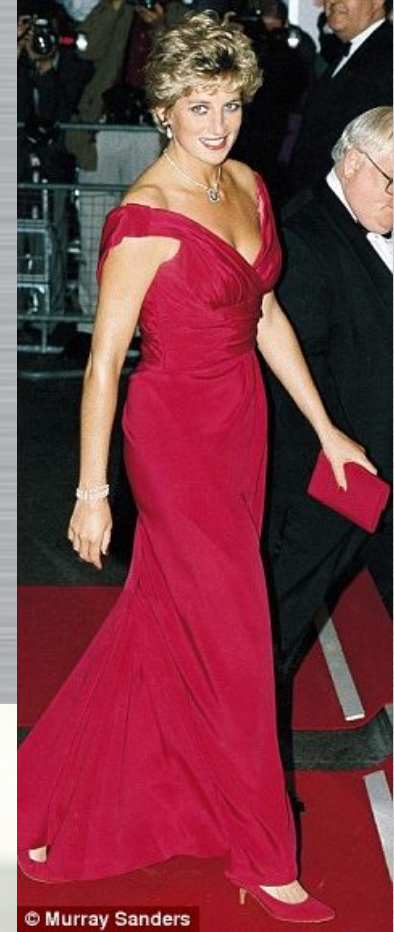


History of Great Ormond Street Children's Hospital, London

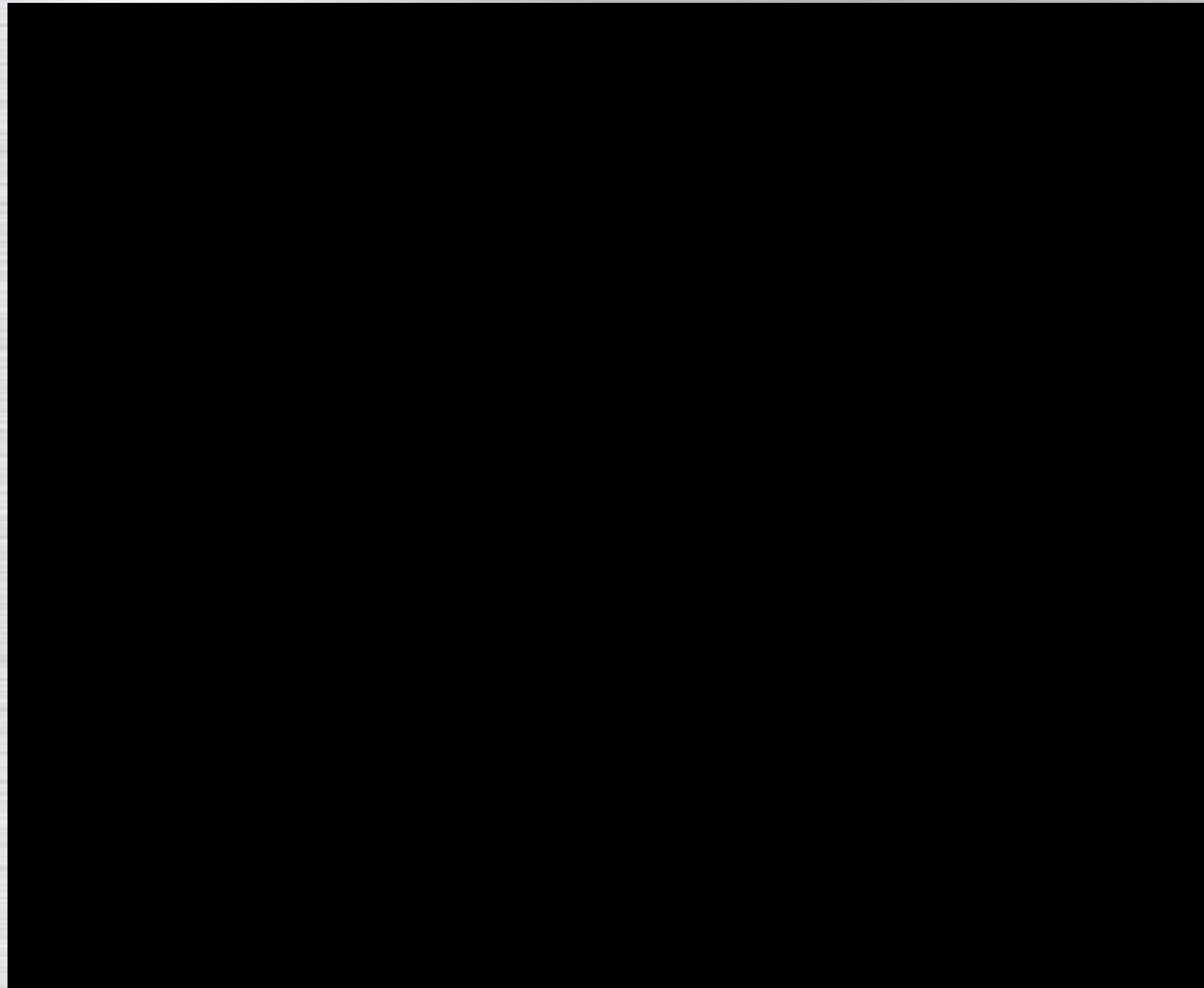
Founded 1852



Great Ormond Street Hospital



Paediatric Airways- Most of my life



Decision making in Paediatric ENT

Introduction

How do we make decisions in medicine?

Evidence vs experience

Decision making in Paediatric ENT

OME, Tonsillectomy, Stenosis

Dealing with variation

Gathering the best evidence

The evidence for our guidelines

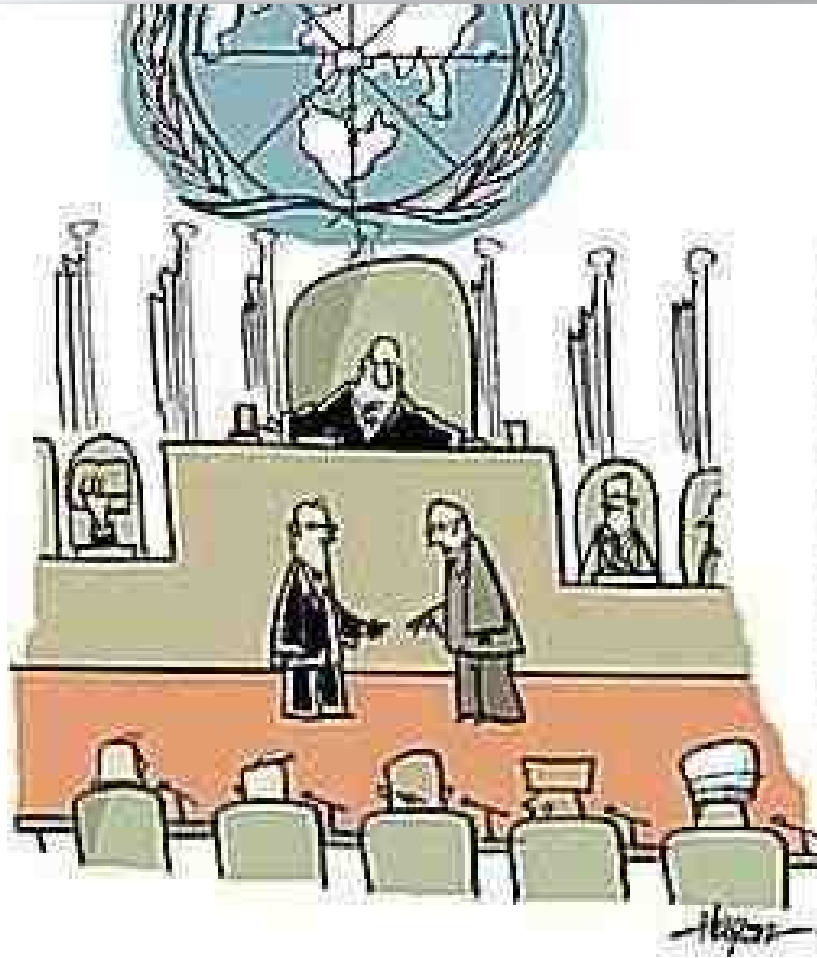
Scenarios – to help apply guidelines

DECISION MAKING



Decision making process





ROCK BEATS SCISSORS, SANCTIONS IT IS!

Is medicine an Art or a Science?



Decision making process

Experience or evidence

Experience *and* evidence

“Experidence”

Decision Making

Recognition Primed Decision Making

Relies on remembering an effective response to previous situations of a similar type

Advantages

- Very fast
- Requires little conscious thought
- Can provide satisfactory workable option
- Useful in routine situations

Disadvantages

- Requires user to be experienced
- May be difficult to justify after the event

Rule Based Decision Making

Involves identifying the situation and remembering or looking up in a manual the rule or procedure that applies

Advantages

- Good for novices
- Can be rapid if rule has been learnt
- Easy to justify i.e. followed the procedures

Disadvantages

- Time-consuming if the manual has to be consulted
- Not easy to recall or locate relevant procedures
- Rule may be out of date or inaccurate and therefore may cause skill decay
- Does not develop higher level understanding and skills

Choice Through Comparison of Options

Involves identifying options, weighing up their relevant features in terms of a match to the requirements of the situation. Useful in contingency planning and allows for faster recognition-primed decision making

Advantages

- Fully compares alternative course of actions
- Can be justified
- More likely to produce optimal solution

Disadvantages

- Requires time
- Not suited to noisy, distracting environment
- Can be affected by stress
- May produce cognitive overload and 'stall' the decision-maker

Creative Decision Making

Requires devising a novel course of action for an unfamiliar course of action - rarely used in high time-pressure environments unless there are no alternatives.

Ideally forms part of contingency planning where there is time to design and evaluate novel courses of action.

Advantages

- Produces solutions to unfamiliar problems
- New solutions may be invented which have wider application

Disadvantages

- Time consuming
- Untested solutions
- Difficult under noise and distraction
- Difficult under stress
- May be difficult to justify

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Experienced consultant
“Old School”

Specialist Nurse
eg grommet clinic

Multi disciplinary Team
meeting

“Rogue surgeon”
Innovative

Decision making process

Randomised Controlled Trial for Everything?



Advocates of evidence based medicine have criticised the adoption of interventions evaluated by using only observational data.

We think that everyone might benefit if the most radical protagonists of evidence based medicine organised and participated in a double blind, randomised, placebo controlled, crossover trial of the parachute.

DECISION MAKING IN PAEDIATRIC ENT



Decision making process

Common ENT Problems

Great to have easy “sound bite” message

“Tonsillectomy does not work”

“Grommet Insertion is unnecessary”

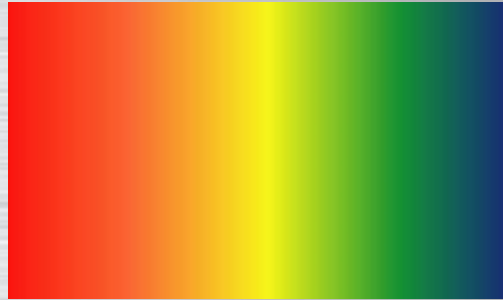
“You don’t need antibiotics for ear infections”

Is this a fair assessment of the state of our knowledge?

Often not challenged because of high satisfaction

So... how should we approach our parents?.....

ENT decisions – a spectrum



Spectrum: Those at either end easy

Most are in the middle

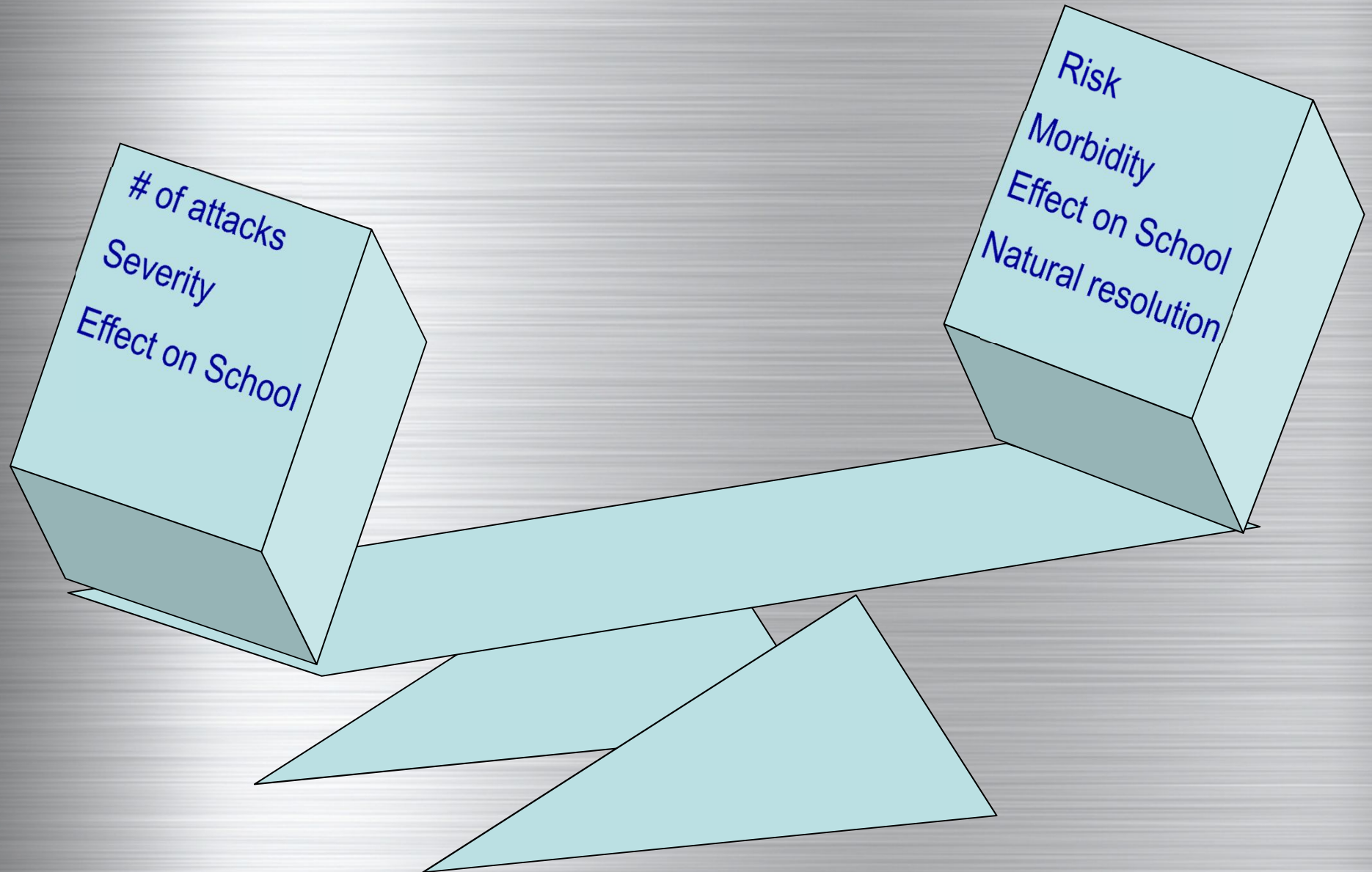
Could argue either: Wait

“they grow out of it”

Medical

Surgical

A Question of Balance



These are not easy decisions?

Need to offer **alternatives**

Be up front: **no perfect option** for an individual

Decision based on evidence and **guidelines**

BUT..

Individualised, include as many factors as possible

Even before the consult

Website information for parents www.albert.uk.com



Listening and Looking – gathering the evidence

TIME TO TALK ABOUT YOUR CHILD'S ENT PROBLEMS

Dave Albert believes that the best way to find out what is really going on with your child's ENT problems is in a child friendly room which is fun for the child and allows time for a careful in depth discussion.



“Time to Talk” in the paediatric consultation
“Child first and always”

ENT Examination of children
Video–otoscope
Flexible endoscopy
Oral exam



History

Hgt & Wt
School
Speech & articulation
3x AOM indichh
Rix Abs - longest 10 1/2
shoe Noosa.
Mucky Nose

Bil Blue Ear
Ads. 90% endos.



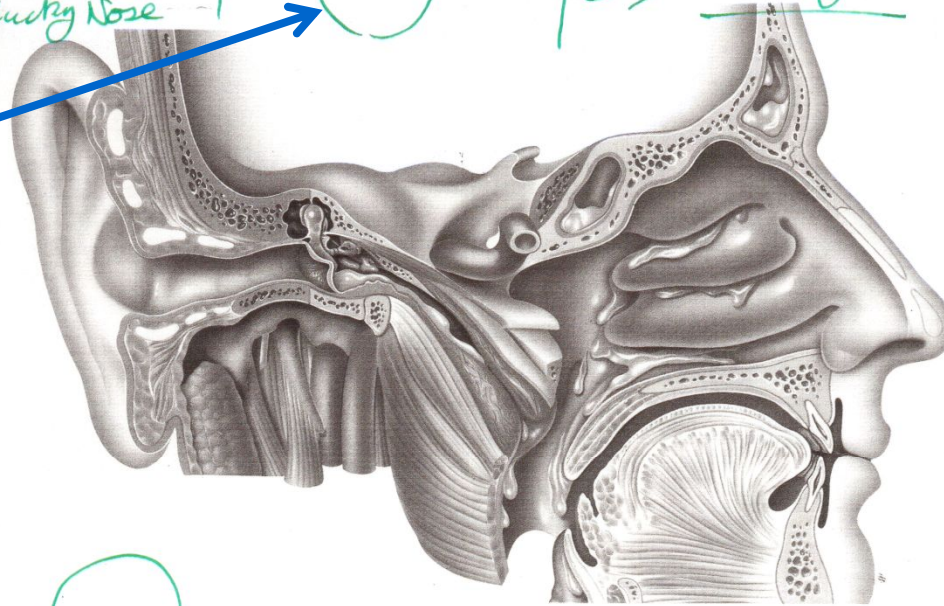
GEORGE
WAIT.

6/52 Aug 00.

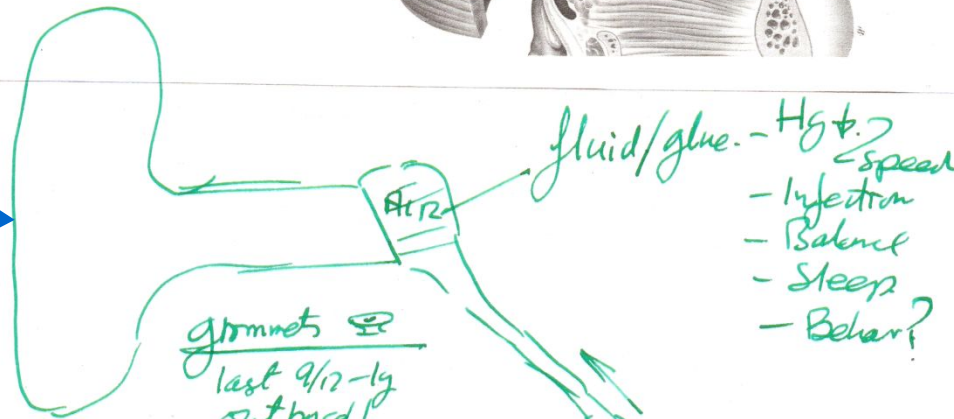
Ads + g.

Alternatives

Exam



Diagram



Glue Ear

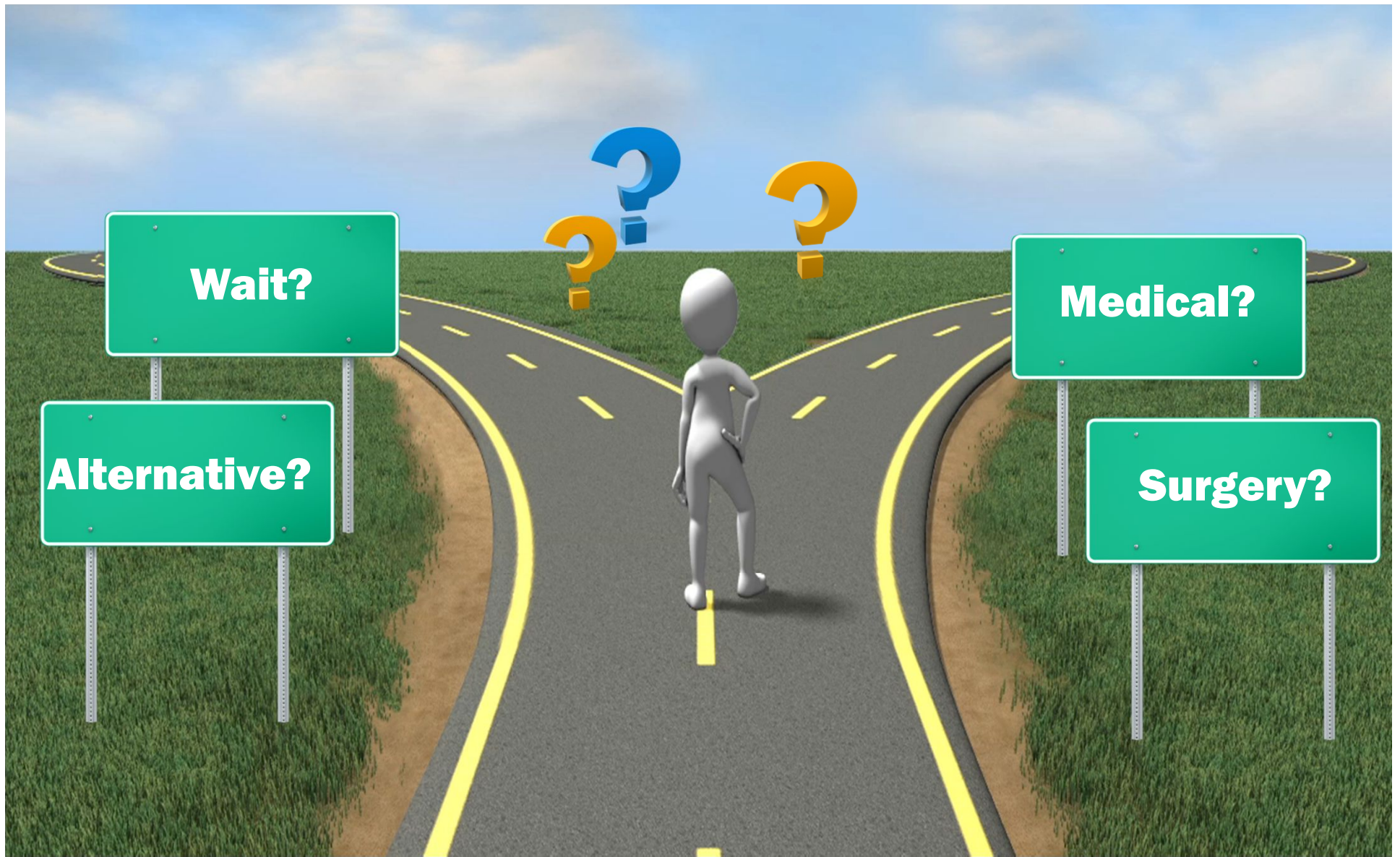
Operative details

Ads
Block.
Swell.
No Blood.
Temp.

grommets
last 9/12 - 1y
out by self
10% 2^o set
can swim
? discharge → stops
GA // Day Case

fluid/glue. - Hgt. & speech
- Infection
- Balance
- Sleep
- Behav.?

Ads



If uncertain – come back later!

But what would you do for your son?



Final word of warning.....

Routine is a dangerous word



Summary of how to approach the parent consultation – the evidence

Getting good data to base your decision on

Pre visit information

Child friendly environment

Include/distract the child

Endoscopes and photodocumentation

Also:

Global Assessment

Seasonal variation/allergies/pets/home environment

Day Care/frequent travel

FH/Gen development

Summary of how to approach the parent consultation – the decision

Discussions and Diagrams

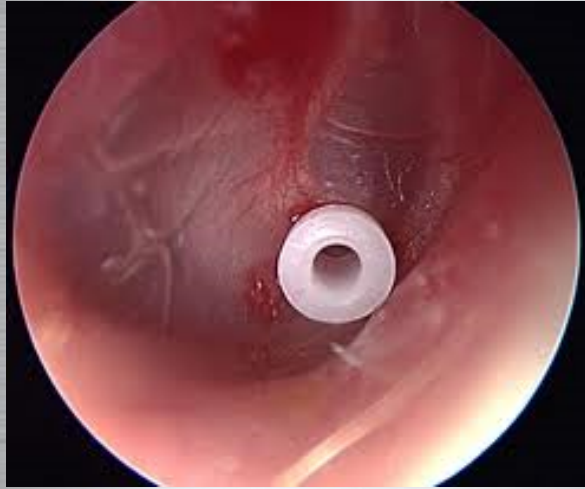
Explain

Spectrum

Question of balance

Not easy

No perfect answer for individual



DECISION MAKING IN PAEDIATRIC OME

Decision making process

Decision making in OME

Media Attention in the UK

Evidence for OME decisions?

Current UK guidelines?

Improving the application of guidelines

OME in UK

The need of surgeons to fill the vacuum caused by the decline in the number of adenotonsillectomies, and the fact that a diagnosis of glue ear legitimises the continued use of these operations, may also have contributed to the increase. Finally, glue ear may provide parents with a medical explanation of their children's poor educational performance, as the term dyslexia did in the past. The high social and public costs of this operation demand a reappraisal of its increasing use.

audiometry; greater recognition of the presence of fluid in the middle ear by general practitioners; the availability of more otolaryngologists; and technical advances such as the availability of antibiotics to treat postoperative infections and of flanged tympanostomy tubes (grommets). The need of surgeons to fill the vacuum caused by the decline in the number of adenotonsillectomies, and the fact that a diagnosis of glue ear legitimises the continued use of these operations, may also have contributed to the increase. Finally, glue ear may provide parents with a medical explanation of their children's poor educational performance, as the term dyslexia did in the past. The high social and public costs of this operation demand a reappraisal of its increasing use.

1985

Nick Black

1992

“Jennifer’s Ear”

1995

EH Bulletin

2008

NICE Guidelines

Effective HEALTH CARE

The Treatment of Persistent Glue Ear in Children

- ▶ Glue ear is the most common cause of hearing impairment and is associated with otitis media with effusion in children. It is not clear whether current high levels of surgery are necessary.
- ▶ The average absolute rate of surgical treatment for glue ear is 1 in 1000 children under the age of 10. There is no clear evidence of a benefit of surgical treatment for glue ear.
- ▶ Most episodes of glue ear are of short duration and spontaneously resolve. There is insufficient evidence to determine a causal link between glue ear and significant disability.
- ▶ Generally mild and self-limiting, glue ear in combination with otitis media with effusion may have a negative impact on hearing, but this is not clear. There is a large variation in the effect between children. The clinical significance of a mild impairment is uncertain.
- ▶ Management advice and risk-benefit advice in combination, are ineffective interventions.
- ▶ Identifying a period of useful waiting is likely to increase surgical activity for glue ear, with possible savings but improved access to quality audiology may increase resource use.
- ▶ Physicians should develop protocols in conjunction with relevant professionals which should include: development of audiology services for general practice, and the use of psychometric testing for diagnosis of significant hearing loss.
- ▶ Large scale randomised trials are necessary to evaluate the effectiveness of a range of interventions using broader outcome measures as required.

NOVEMBER 1992 NUMBER 4

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General Editor: Professor David G. Altman, London School of Hygiene & Tropical Medicine, Keppel Street, London WC1E 7HT, UK. Email: d.g.altman@lshtm.ac.uk
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NHS
National Institute for Health and Clinical Excellence

DOI: 10.1136/nic.2008.016125

Surgical management of otitis media with effusion in children

NICE clinical guideline 60
Reviewed by the National Collaborative Centre for the Health of Children and Youth

Daily Mail

Operation for glue ear may be useless

by JENNY HOPE, Daily Mail

[Comments \(0\)](#) | [Share](#)

An operation carried out thousands of times a year to help children with glue ear may be useless, according to a group of doctors.

The condition, in which fluid accumulates in the middle ear, is thought to hamper the youngsters' learning and speech development.

But the doctors found that the operation to insert grommets - tiny plastic tubes - into the eardrums of the children did not 'measurably' improve language abilities up to the age of three.

They added, however, that advantages could emerge as the children grew older.

The study is likely to put a question mark against an operation carried out annually on about 12,000 children under five and almost twice as many between five and ten in England alone.

The procedure was introduced 30 years ago to drain fluid that can build up behind the eardrum because of infections.

Research has suggested that children with persistent infections of the middle ear are slower to talk and learn new skills because they find it more difficult to hear and

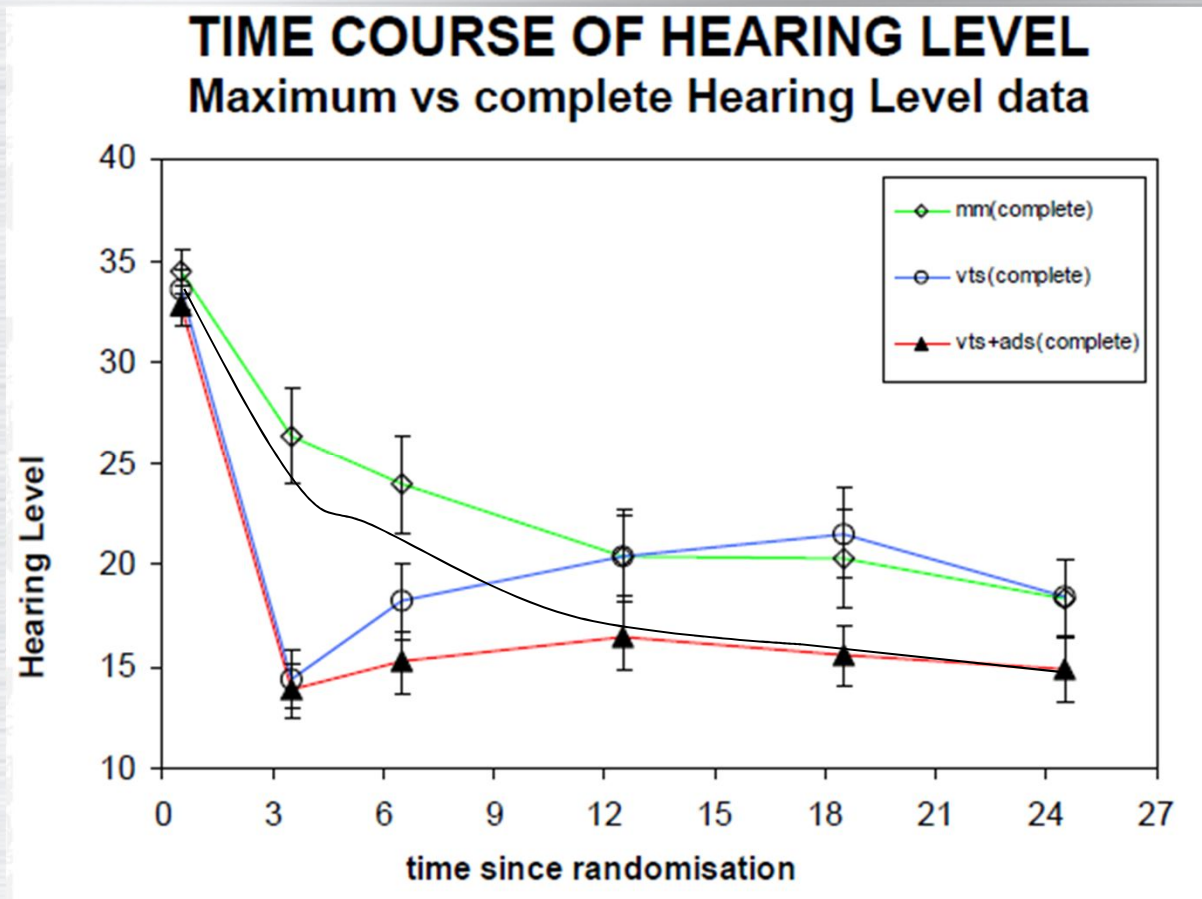
OME EVIDENCE



Decision making in OME: The Evidence

2003 TARGET Trial

(Trial of Alternative Regimes for Glue Ear Treatment)



OME: VT's +/- Ads; Maw 1999

Maw Lancet 1999, 353;960-3

Early surgery compared with watchful waiting for glue ear, effect on language development in pres school children

Important study- showing benefit in not just hearing, but also in development of speech and language (measured objectively) at 9 mths. This difference disappeared at 18 mths

Grommets sequelae

Kay et al Otol & H N Surg 2001;124: 374-80. Meta analysis of tympanostomy tube sequelae

Early postop otorrhoea	16%
Tympanosclerosis	31.7%
Atrophy/retraction at the site of VT	25.5%
Recurrent acute otorrhoea	7.4%
Chronic otorrhoea	3.8%
Chronic perforation short term VT	2.2%
Displacement into middle ear	0.5%
Cholesteatoma short term VT	0.8%

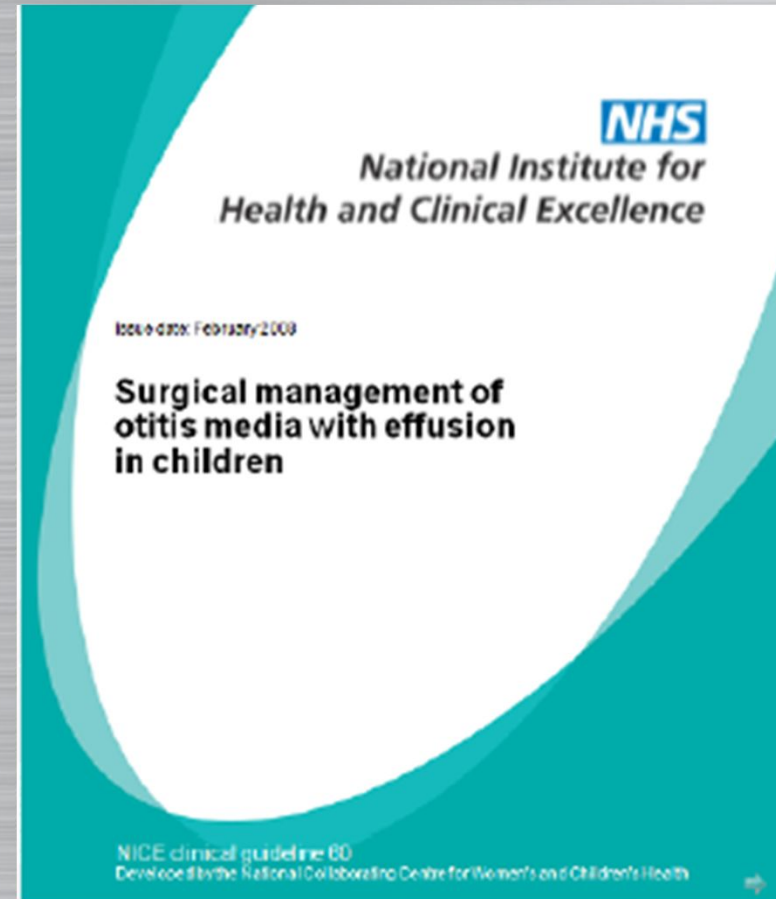
OME GUIDELINES



UK Guidelines

2001 TARGET (Trial of Alternative Regimes for Glue Ear Treatment)

2008 NICE Guidelines

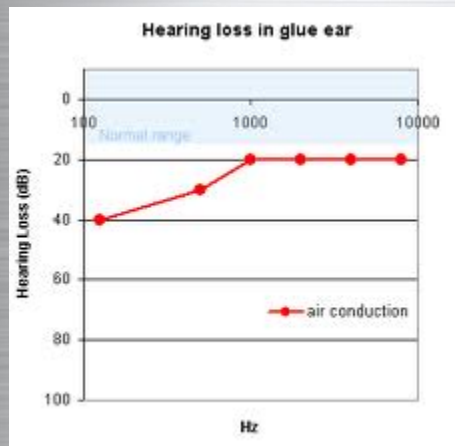


NICE Guidelines

25dB HL 3 months

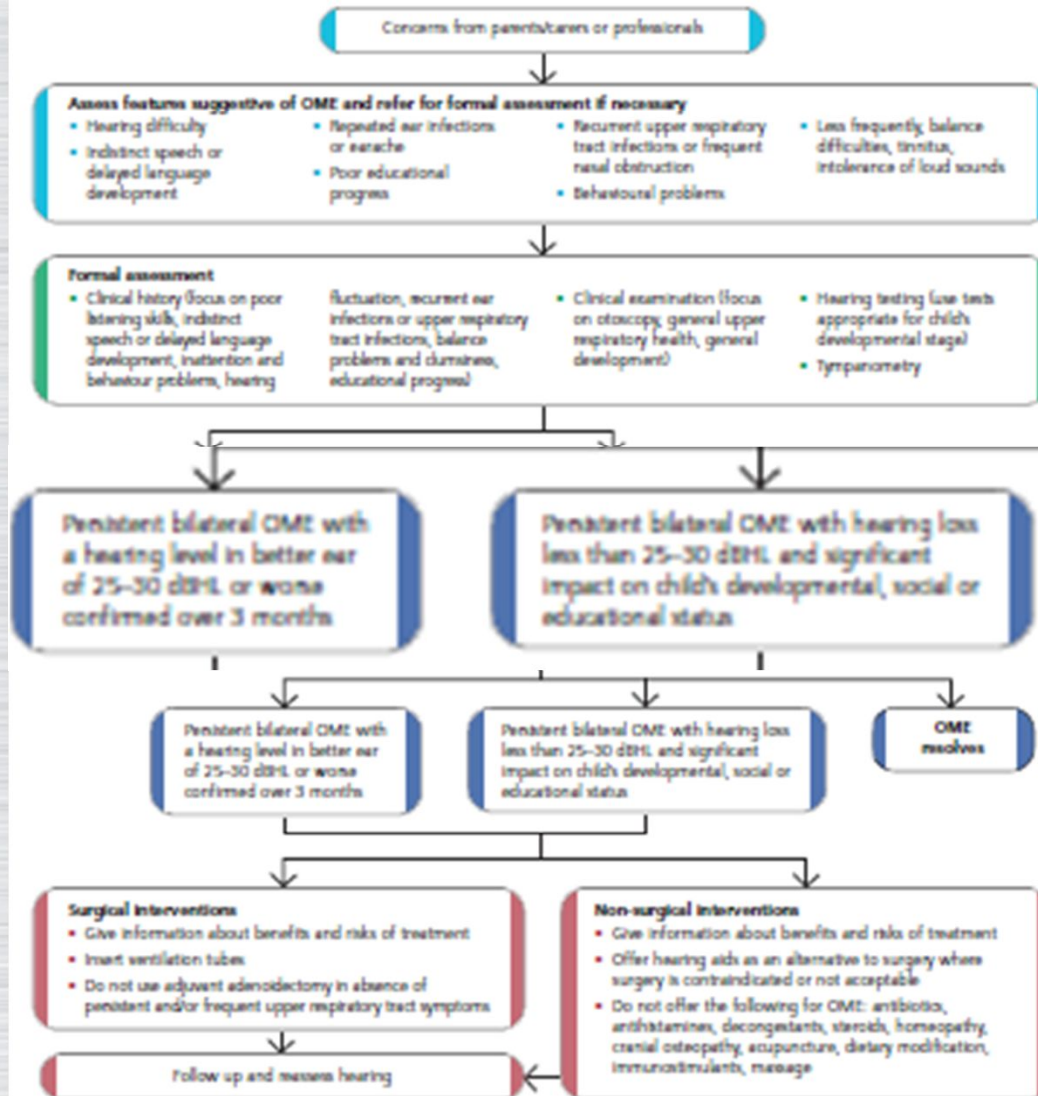
Special cases:

- Rec AOM
- Downs
- Cleft
- Turners

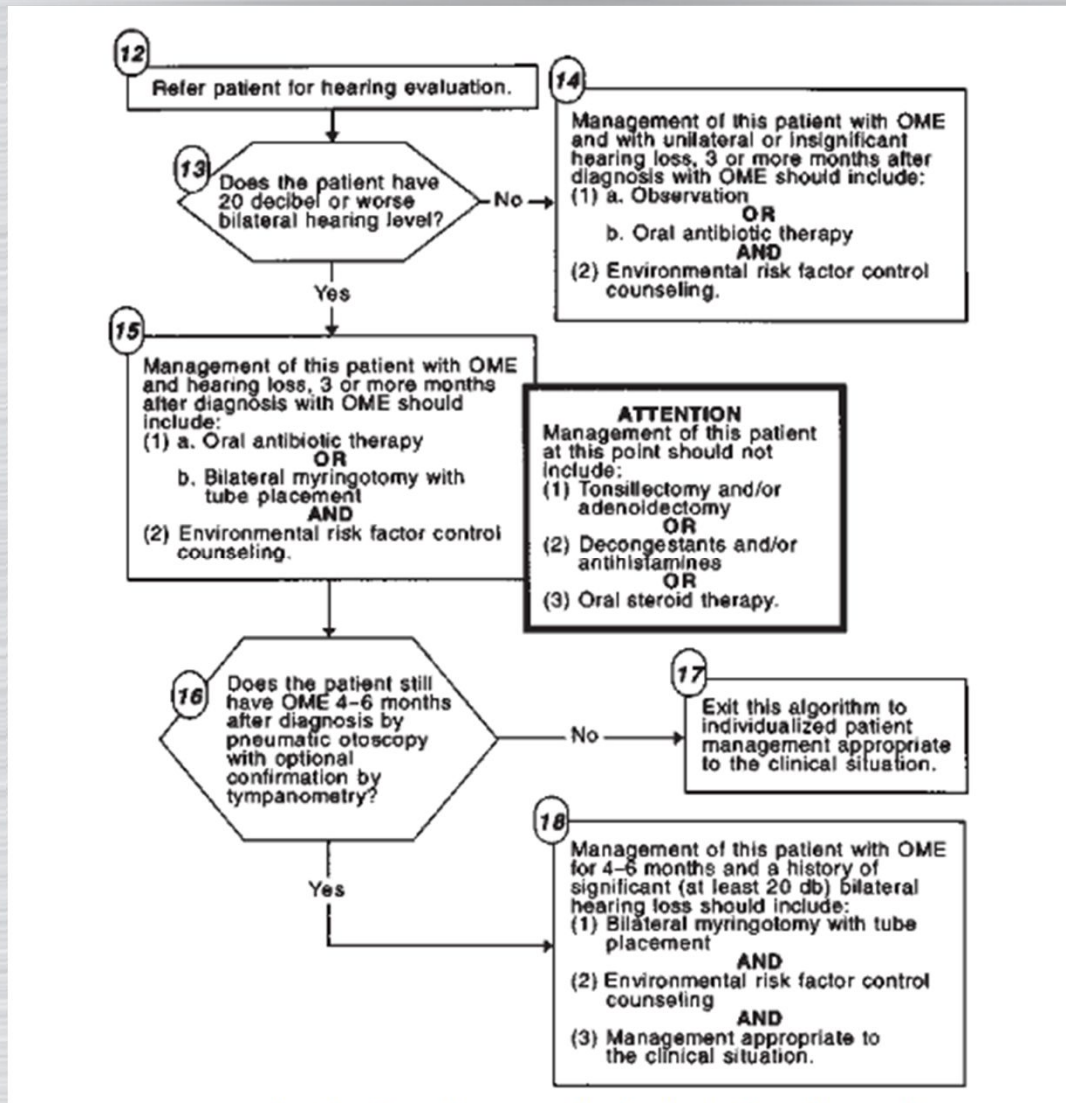


Care pathway 1. Children with suspected OME

Information provision: Give verbal and written information to parents/carers and children on nature and effects of OME.



2004 American Academy of Pediatrics (AAP) guidelines on otitis media with effusion (OME)



UK GUIDELINES

- ALL VERY WELL BUT....



Why 25 dB?

Best guess at flip-point in risk/benefit, but

No formal analyses of functions & ratios

No relation to absolute cost-per-QALY

Continues traditional reliance on Hearing Level

some PCTs' commissioning rules have even suppressed

NICE's list of supplementary clinical considerations

Rationing ? - A rough guess at the level of activity that NHS should pay for in the light of the above

Incorrect assumptions from 1980s that we should now leave behind

“intervention is very rarely justified”

But also

“in OME, Pure Tone HL is an adequate surrogate for disease impact”

?speech in noise more appropriate to child’s needs

How to optimise the decision...

Few abrupt boundaries in nature, so have guidelines rather than cut-offs in protocols

Guidelines need to be based on evidence and not subject to financial or professional prejudice

Decisions need to be based on more than just hearing level

A spreadsheet will be necessary that allows entry and evaluation of *multiple factors* in the clinical decision; may be streamlined later

OME SCENARIOS



Decision making in OME: The Evidence

Scenarios

A way of humanising complex guidelines

Including additional factors

Looking at external pressures (PCT etc)

Scenario 1: case study

Joshua is a 5 year old boy

Maternal concerns about hearing.

School noticed deterioration in performance.

No ear infections or nasal symptoms.

3/12 ago PTA of 25dBHL with type B tympanograms.

Scenario 1: case study

Joshua's repeat hearing assessment today demonstrates a **PTA of 25 dbHL** and type B tympanograms.

How should you proceed?

Scenario 1: NICE guidance

Joshua has

Had a **3 month period of active observation** for OME between initial testing and repeat **with 25dB HL loss**.

Therefore options:-

Insertion of ventilation tubes

(Adjunctive adenoidectomy is not indicated in the absence of frequent/ persistent upper respiratory tract symptoms)

Hearing aids as an alternative

Scenario 1: TARGET summary

Section 5: Benefits to hearing

Good **short term benefit with ventilation tubes** (despite parental expectancy bias) has been demonstrated

However, benefit **decreases** over time

The lesser but more enduring further average benefit of 3-4 dBHL from **adjunctive adenoidectomy over 2 years** roughly doubles the benefit.

Scenario 1: TARGET summary

Section 2: The present pressures and dilemmas

Pressures from PCTs:

Some areas are not funding grommet insertion unless the 25dBHL NICE criteria is met.

In some areas a suggestion of **6 months** watchful waiting has been recommended by PCT commissioners

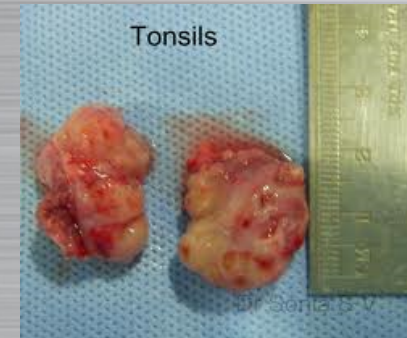
OME - Summary

Grommets offer short term benefit

Adenoidectomy offers long term benefit

25 dB seems reasonable balance of cost benefit

Decision should involve more than just HL



TONSILLECTOMY

Tonsillectomy for recurrent tonsillitis

Paradise 1984 Parallel RT

Effective over 2 years within guidelines



SIGN Guidelines 1999/2010

7 episodes: 1 year

5 episodes: 2 years

3 episodes: 3 years

Schilder Paper 2005

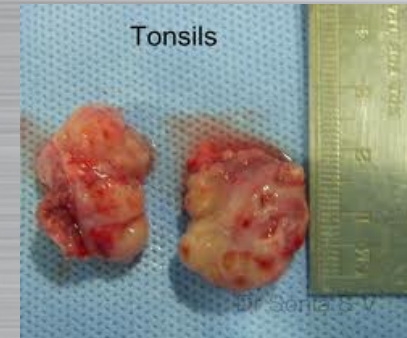
Not effective for mild sore throat

Tonsillectomy for OSA

“OSA-are we doing enough?”

Rob Black: Meta analysis of effects of OSA on children

“an increase in the access to adenotonsillectomy..for children with OSA is urgently required” Position Paper



Satisfaction Studies UK T14

How to control for expectancy bias

Tonsillectomy: complications

CJD: Government reassurances

- John Gummer
 - Minister for Agriculture
 - 4 year old daughter Cordelia
 - 1990
- Sir Donald Acheson
 - Chief Medical Officer
- Jan 2001 recommended single use instruments



“Beef can be eaten safely by everyone,
both adults and children,
including patients “
1990

Tonsillectomy: complications

National Audit 2003-4; reported 2005

Rate of Complications in 40,000 patients
related to technique

Reduction in complications following advice

Greater supervision of trainees

Reduction in diathermy settings (original paper 8W)

Restrictions on coblation technique

No deaths during study of 40,000 patients

Mortality- reducing

1965 2.69:10,000 above 15
 0.82:10,000 below 15 years

1990 1:16,000 to 1:35,000

2010 ?<1:40:000

Tonsillectomy : Position Paper 2009

Typical attack: 5-14 days
 3-5 days off school
 35M days lost (school/work)
 GP consults \equiv £60M

Indications as per SIGN guidelines

Intervention rates Lowest in Europe

Change in practice	1950's	200,000 operations
	1994	77,000 (56K under 15)
	2008	49,000 (27K under 15) (25% OSA)

Increase in admissions for tonsillitis/quinsy

+ve QoL research UK/USA

Decision making: Tonsillectomy

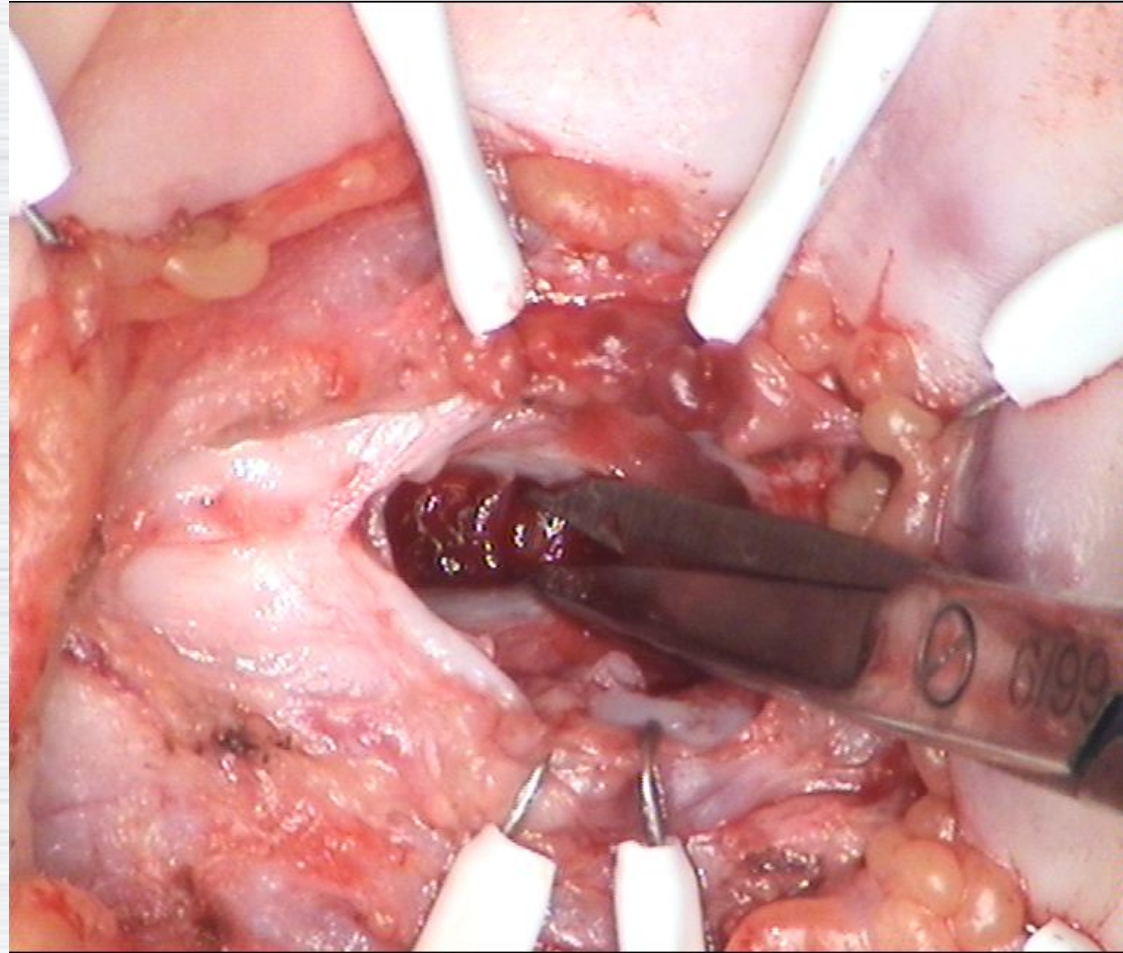
OSA affecting school, energy, growth etc – not improving

Severe, troublesome recurrent tonsillitis within guidelines – not improving

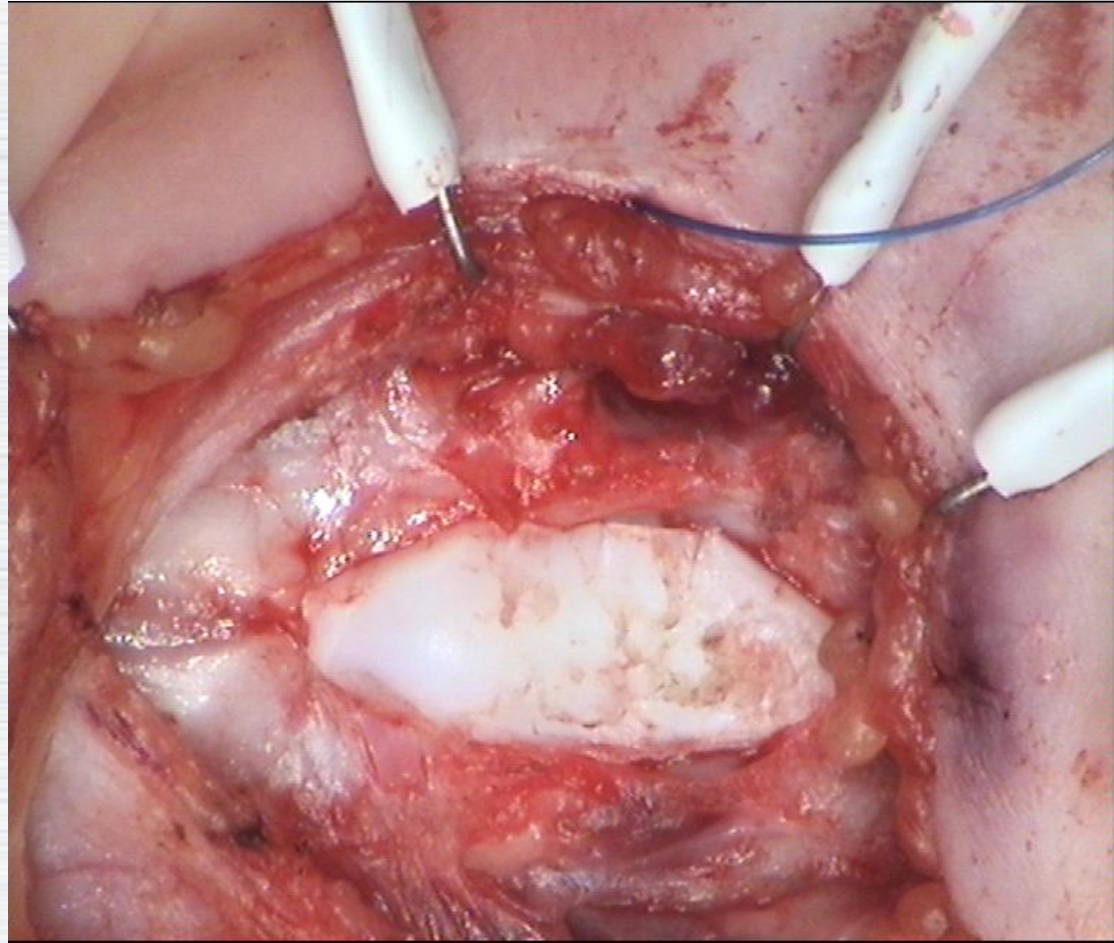
Explain morbidity and risks – balanced decision with option of long term antibiotics

STENOSIS

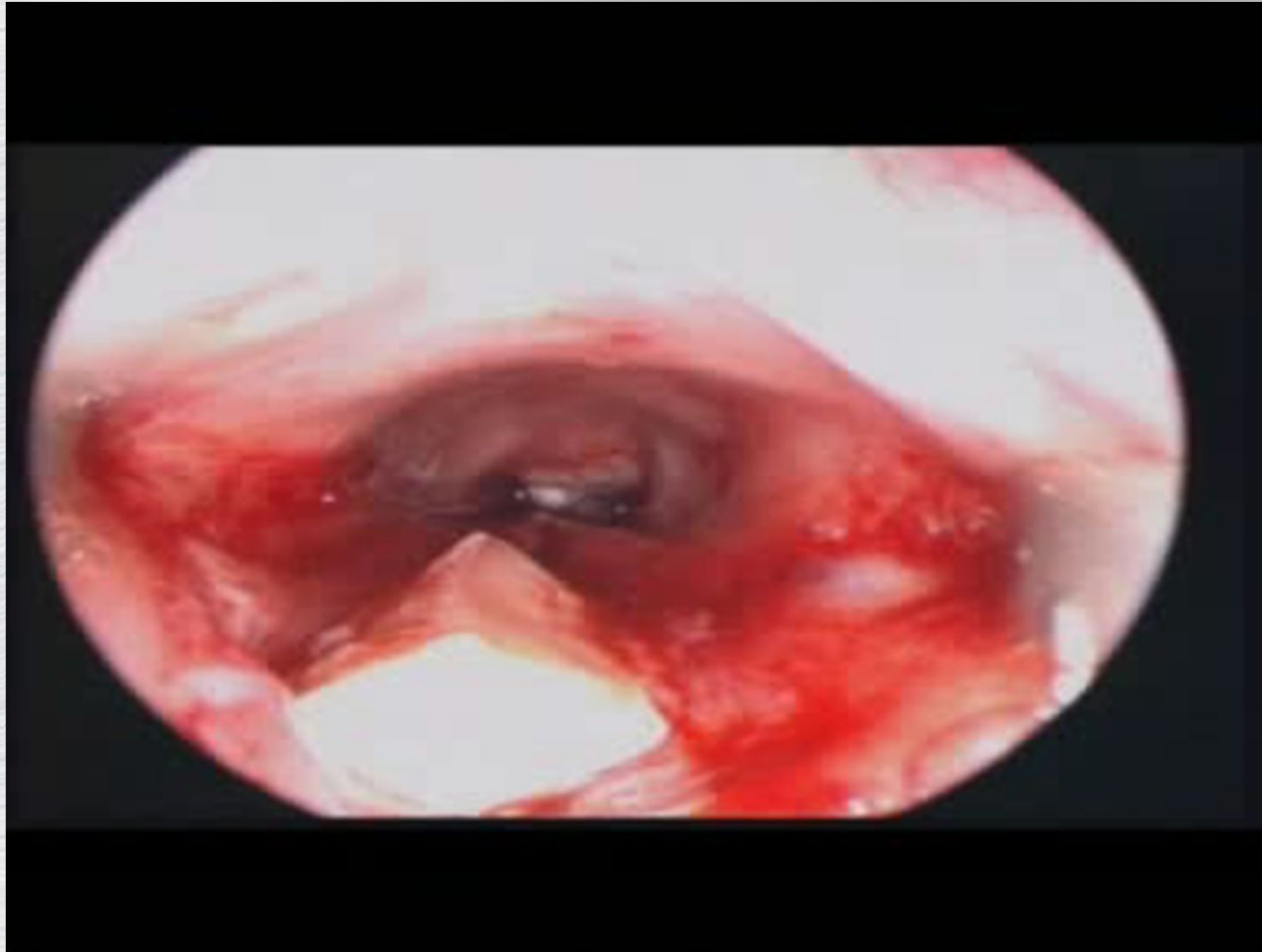
Posterior split



Anterior graft



Endoscopic posterior graft



Results of LTR - GOSH

266 procedures

Grade 2 94%

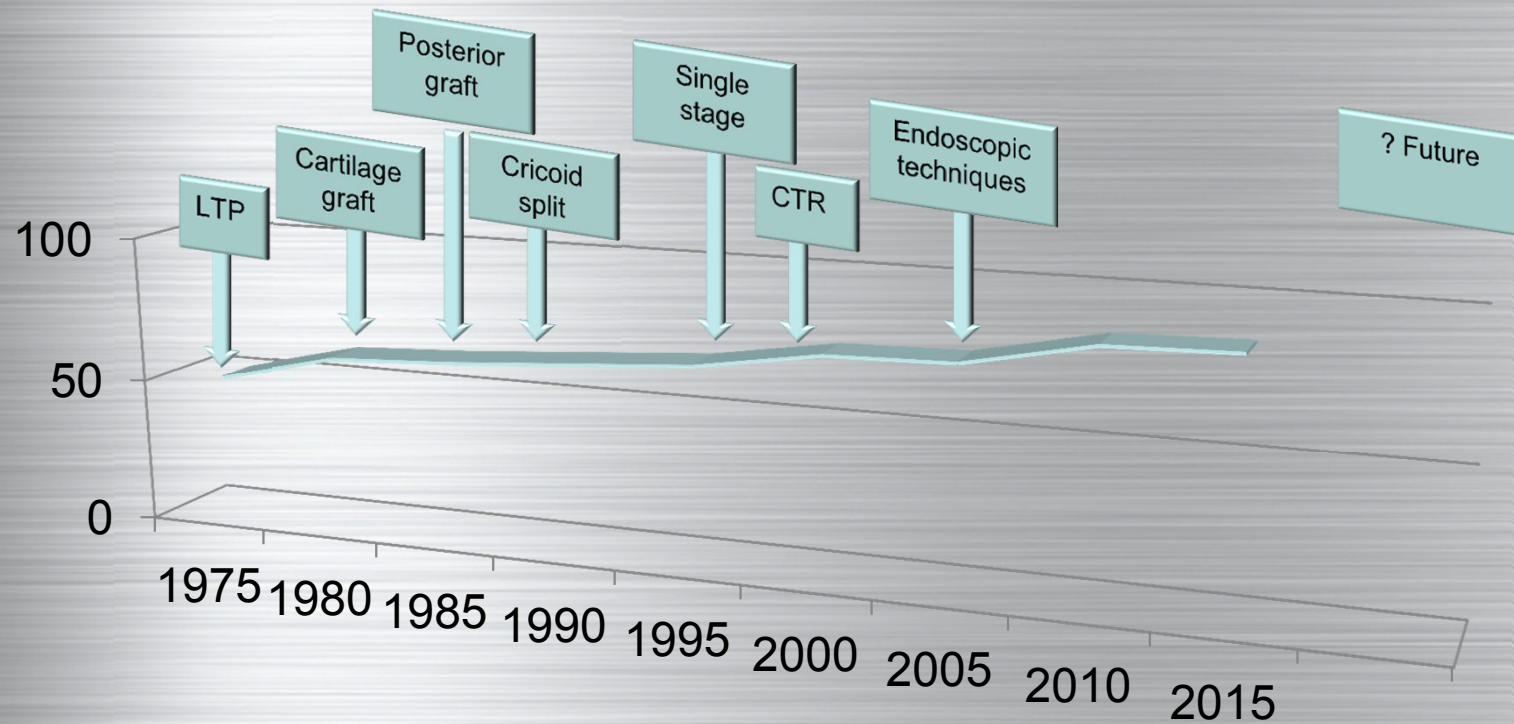
Grade 3 90%

Grade 4 66%

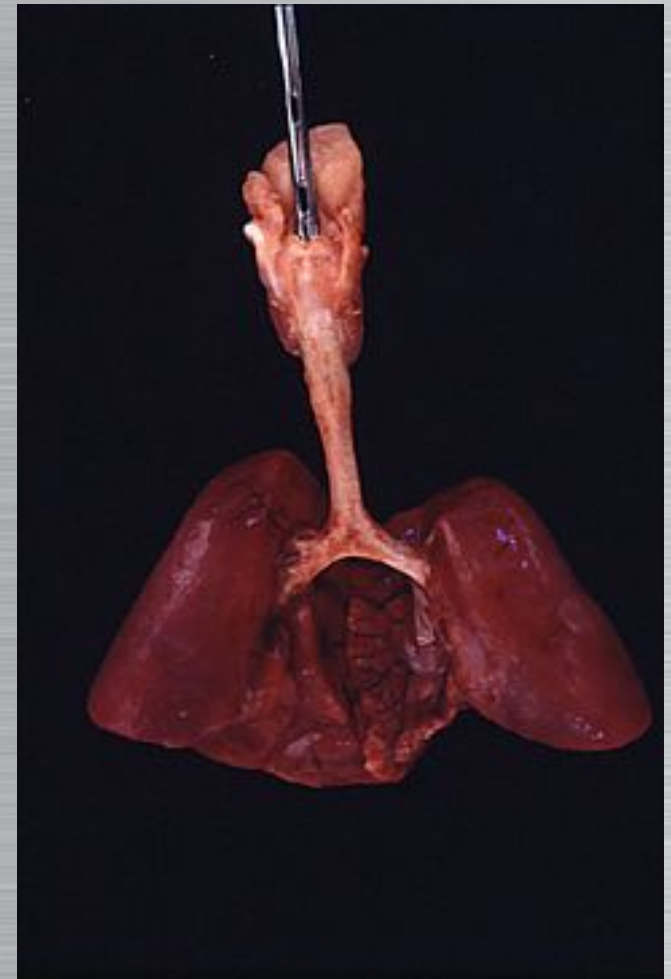
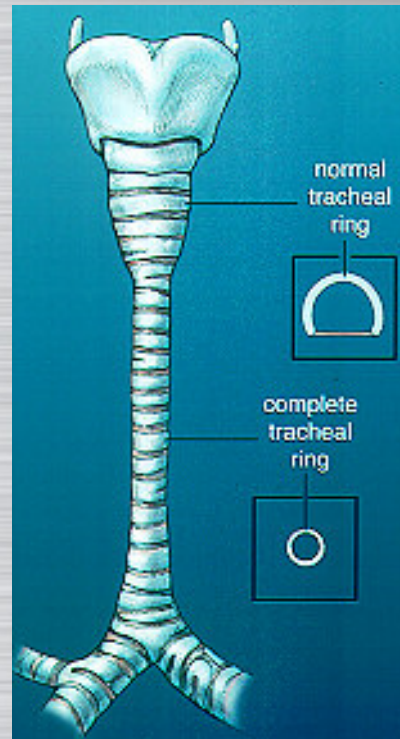
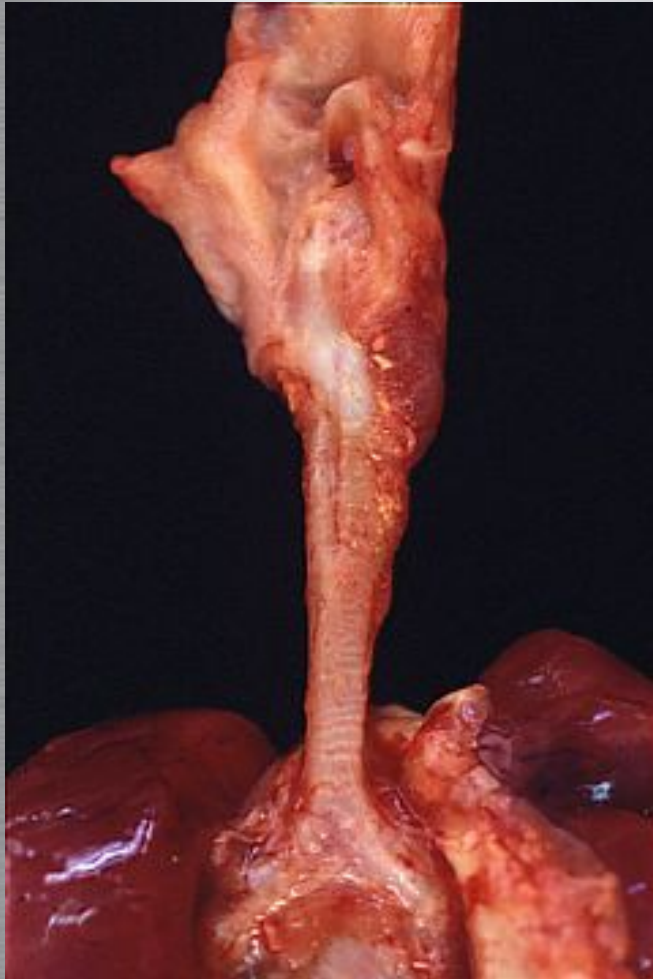
My current guidelines

Grade		
I	Conservative	
II	Endoscopic if soft	LTR once established
III	LTR	CTR if severe and clear of cords
IV	LTR	CTR if clear of cords

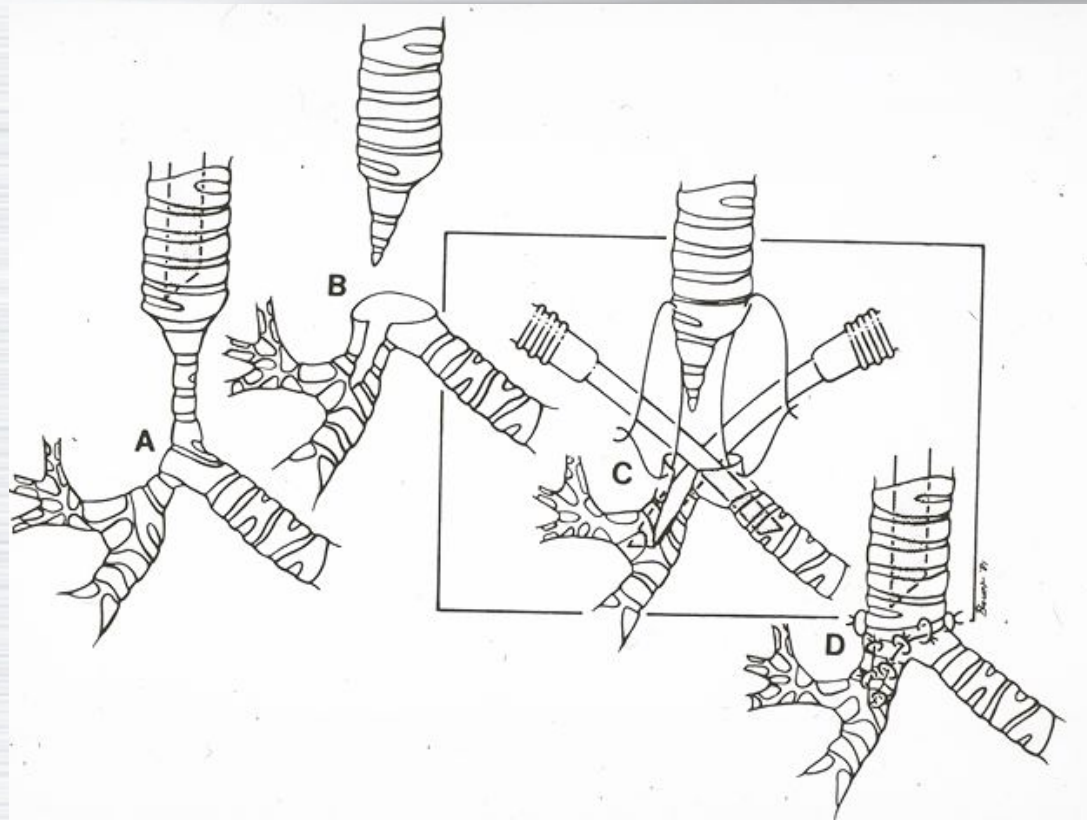
Has progress reached a plateau?



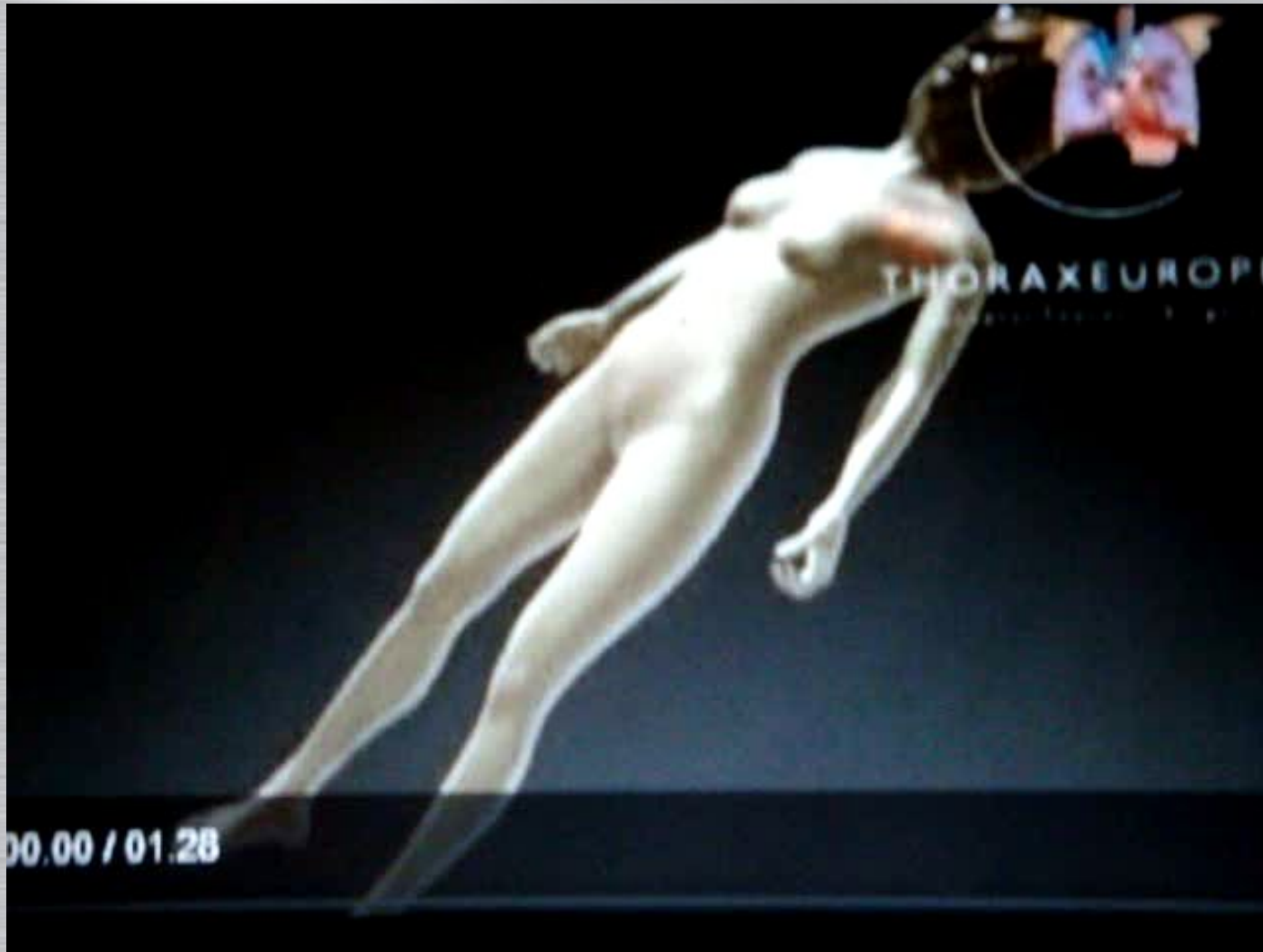
Complete Tracheal Cartilage Rings



Slide Tracheoplasty



Tissue engineered trachea



Decision making

OME

At what level to
intervene

Multiple factors

? Cost rather than
risk

Tonsillectomy

Is 2 year reduction
worth 1:40,000
mortality

Stenosis

Multiple factors

Role of endoscopic
techniques?

Why some fail?

Personal

Time to Talk

Child Friendly

Alternatives

Long term Antibiotics

Diagrams

Concept: “not easy”



DATE FOR YOUR DIARY

Saturday 31st May – Tuesday 3rd June 2014

The Convention Centre, Dublin, Ireland



12th INTERNATIONAL CONGRESS OF THE EUROPEAN SOCIETY OF PEDIATRIC OTORHINOLARYNGOLOGY







