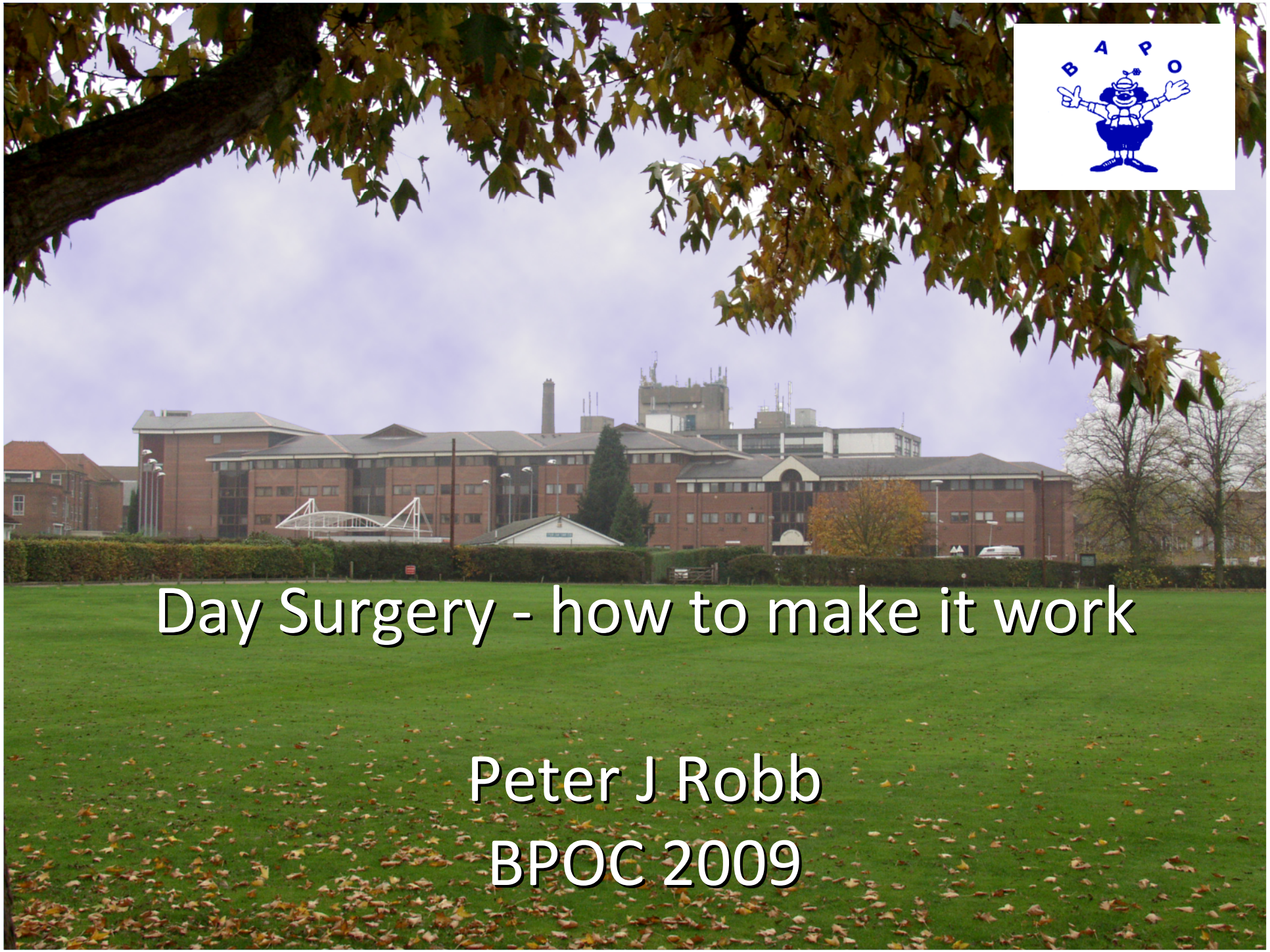


Day Surgery - how to make it work

Peter J Robb

BPOC 2009

Why day case surgery?

Psychological advantages for child

Parental preference

Efficient use of facilities

Efficient use of staff

Retention of staff

Reduced risk of cross infection

Cost efficient – up to 50% saving?

Parental preference

80% satisfaction rating

Audit Commission

“The patient’s view of day surgery” 1991

95% satisfaction rating <16 wks post-op

T’s or T’s & A’s

Kanerva et al IJPO 2003

DATA BRIEFING

SIMON JONES AND MIKE DAVIES

Elective procedures: all in a day's work?

In July 2005, the Healthcare Commission set a target for all elective procedures: 75 per cent had to be day-case rates. While trusts should be striving to approach this figure, some still fall far short of this target.

Of the list of procedures judged suitable for day-case surgery by the Healthcare Commission, tonsillectomy has had a high level of clinical resistance. The first graph compares the day-case rates for all elective admissions with that for tonsillectomy. The overall rate shows a gradual rise, but despite a marked increase from 2005-06, tonsillectomy still remains substantially less than the overall rate.

The second graph shows trusts' day-case rates for tonsillectomy. The shading represents conversion rates: the number of patients who were intended to be treated as day cases but ended up being treated as inpatients. It can be seen that trusts with high day-case rates tend to have low conversion rates and vice versa.

Trusts with high day-case rates tend to have above average levels of readmissions (see final graph). However, the five trusts with the highest day-case rate manage to combine low conversion rates with average readmission rates. Where trusts have a good patient selection process for day cases and excellent surgical and anaesthetic services, they are able to achieve high day-case rates with low readmission and conversion rates.

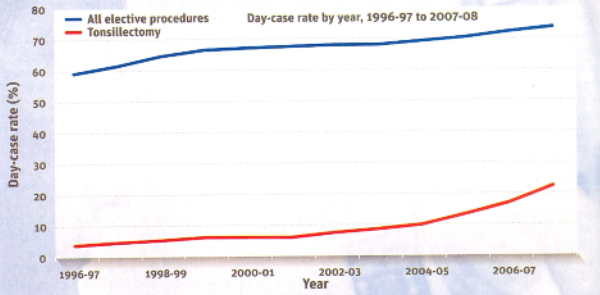
In many cases, a change in culture and attitude is all that is required. The Royal National Throat, Nose and Ear Hospital, for example, has improved its day-case rate for tonsillectomy procedures from 0 per cent to 90 per cent within two years. The results of these surgeries have remained unchanged.

But trusts with large rural areas may have a higher proportion of patients living too far away from the hospital to be eligible for day-case surgery. A wide variation in percentages of day-case procedures could be explained by poorer quality management and processes as well as the presence of intransigent clinicians.

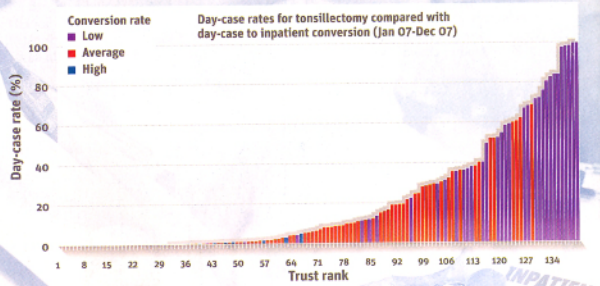
As with day-of-surgery admission rates, day-case rates are a marker of the overall effectiveness and quality of a healthcare trust. However, as trusts increase their day-case rate, they must monitor measures such as conversion and readmission rates to ensure changes are not impacting negatively elsewhere on performance. ●

Simon Jones is head of analytical services at Dr Foster Intelligence and a senior research fellow at King's College, London. Mike Davies is an anaesthetic specialist registrar at the Royal National Throat, Nose and Ear Hospital.

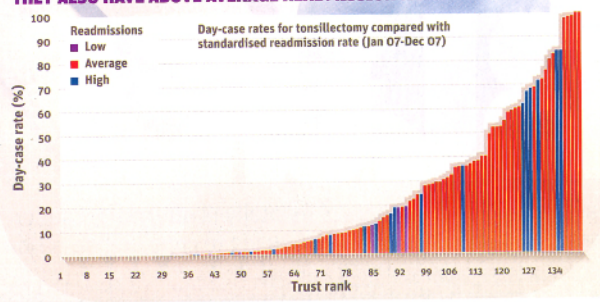
THE DAY-CASE RATE'S STEADY RISE OVER 12 YEARS



TRUSTS WITH HIGH DAY-CASE RATES HAVE LOW CONVERSION RATES



THEY ALSO HAVE ABOVE AVERAGE READMISSION RATES



HSJ
June 2008
DH Target for day surgery
75%

P

The Royal College of Surgeons of England

OTOLARYNGOLOGY

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doi 10.1308/003588409X359358

Ear, nose and throat day-case surgery at a district general hospital

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ABSTRACT

INTRODUCTION In 2000, *The NHS Plan* in the UK set a target of 75% for all surgical activity to be performed as day-cases. We aim to assess day-case turnover for ENT procedures and, in particular, day-case rates for adult and paediatric otological procedures together with re-admissions within 72 h as a proxy measure of safety.

PATIENTS AND METHODS Retrospective collection of data (procedure and length of stay) from the computerised theatre system (Galaxy) and Patient Information Management System (PIMS) of all elective patients operated over one calendar year. The setting was a district general hospital ENT department in South East England. All ENT operations are performed with the exception of oncological head and neck procedures and complex skull-base surgery.

RESULTS Overall, 2538 elective operations were performed during the study period. A total of 1535 elective adult procedures were performed with 74% (1137 of 1535) performed as day-cases. Of 1003 paediatric operations, 73% (730 of 1003) were day-cases. Concerning otological procedures, 93.4% (311 of 333) of paediatric procedures were day-cases. For adults, we divided the procedures into major and minor, achieving day-case rates of 88% (93 of 101) and 91% (85 of 93), respectively. The overall day-case rate for otological procedures was 91% (528 of 580). Re-admission rates overall were 0.7% (11 of 1535) for adults and 0.9% (9 of 1003) for paediatric procedures. The most common procedure for re-admission was tonsillectomy accounting for 56% of all adult re-admissions and 78% of paediatric re-admissions. The were no deaths following day-case procedures.

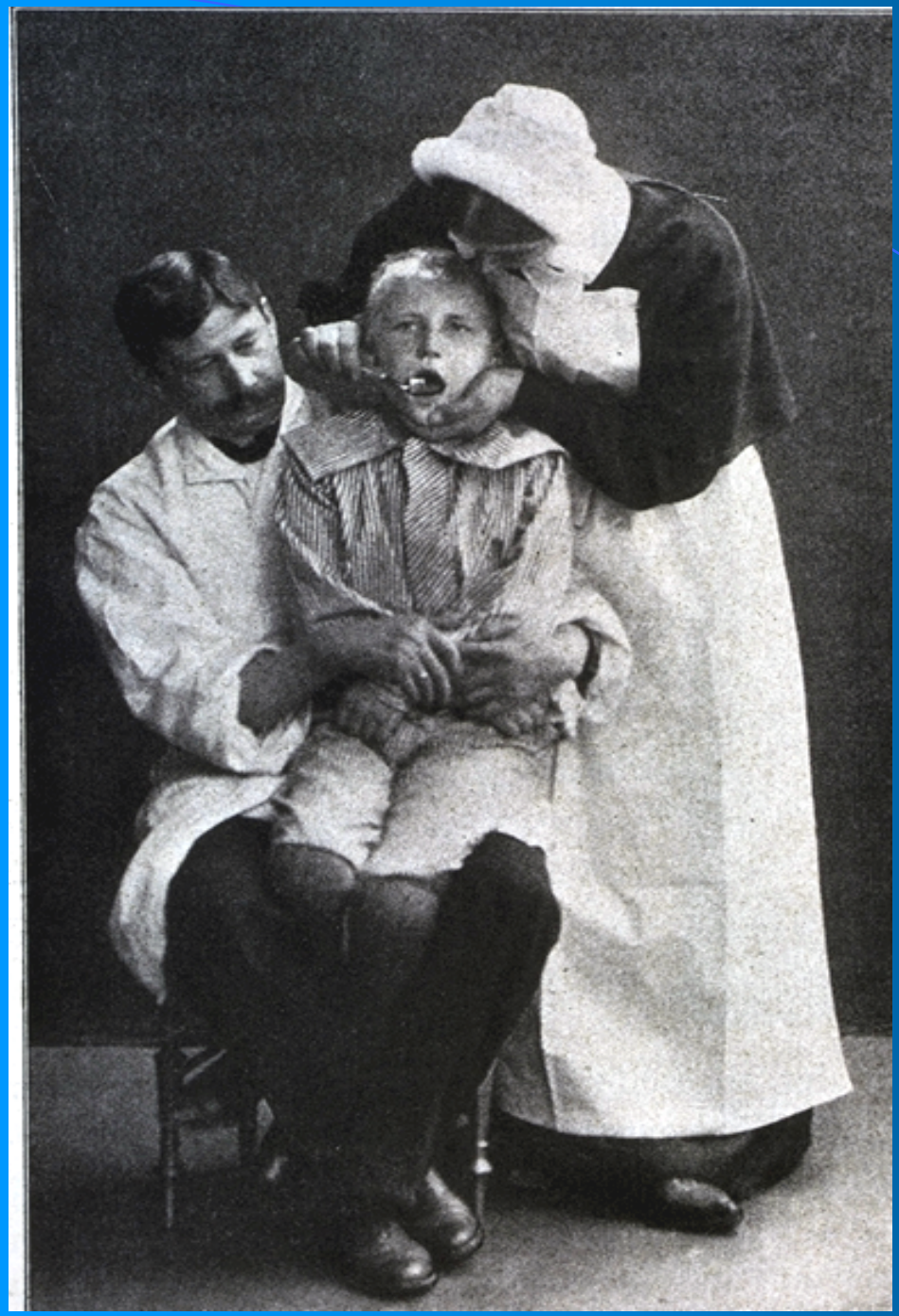
DISCUSSION ENT surgery is well-suited to a day-case approach. UK Government targets are attainable when considering routine ENT surgery. Day-case rates for otology in excess of targets are possible even when considering major ear surgery.

Disadvantages of day case surgery

Unplanned postoperative admissions

Delayed treatment of post-op complications

Medical, social and geographical constraints



Nurse practitioner
Day Case
Adenoidectomy
1911

What are the problems?

Morning operating sessions

Post-operative morbidity

Social/Geographical/Medical

Resistance to change

Mind set of parents

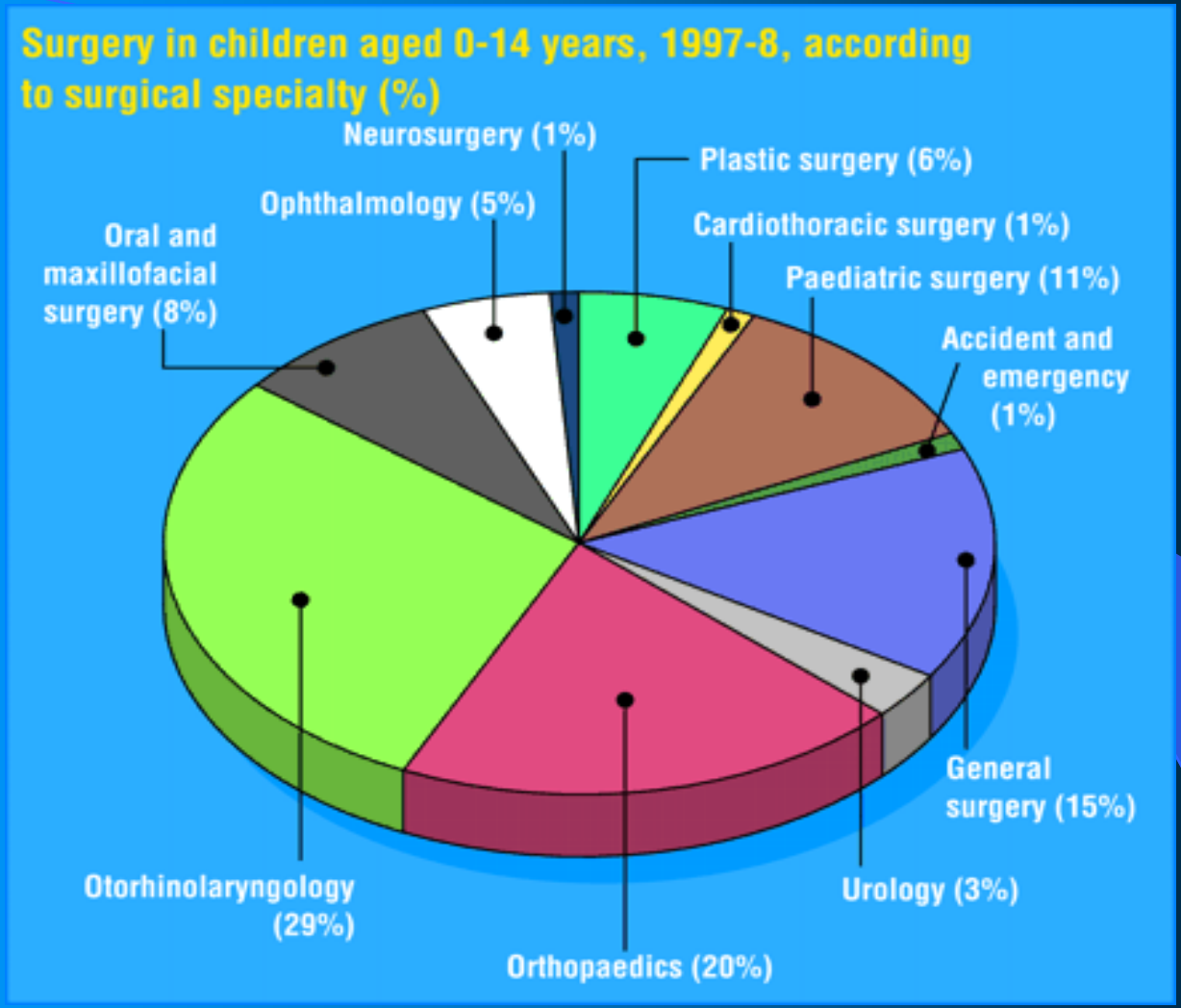
Mind set of nurses

Mind set of surgeons

Mind set of GP's

The operation may be in the Audit Commissions' basket of 25 cases, but the patient may not be suitable……

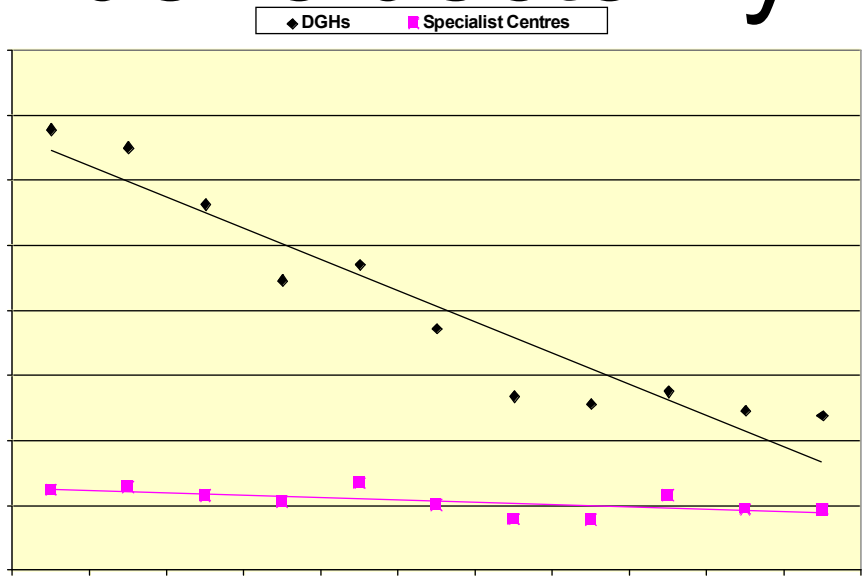
P



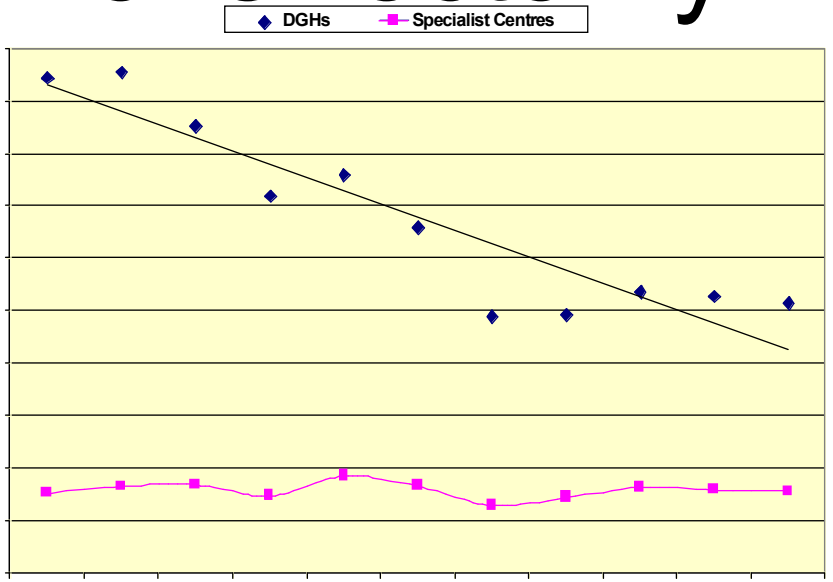
~ 30% of DGH children's surgical activity

Children's ENT surgery

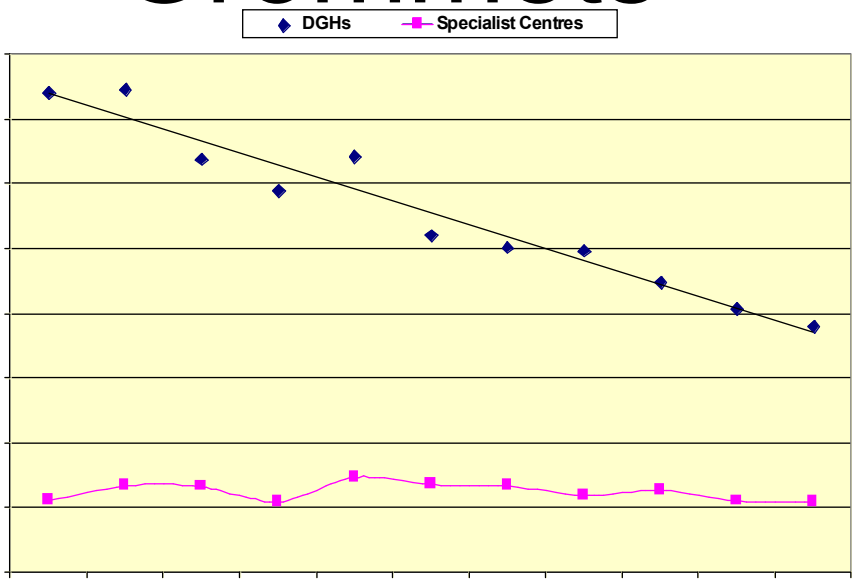
Adenoidectomy



Tonsillectomy



Grommets



Criteria for day-case surgery

ASA 1 & 2

No history/FH of bleeding or bruising

Sickle or Thalassaemia status known

Drug allergies/sensitivities known

Care at home

Access criteria – time/distance

Telephone access

Paediatric ENT day surgery infrastructure

Children's dedicated day case ward

Staffed by children's nurses

On-site access to paediatricians

Children's anaesthetists

Morning operating lists

Post-op access to ward by parents

Community paediatric nurses

No additional burden to primary care

Contraindications to safe ENT day case surgery

- Bleeding disorder (?)
- Sickle cell (?)
- Immunosuppresion
- OSAS (?)
- Obesity (?)
- Type 1 diabetes mellitus (?)
- Brittle asthma
- Epilepsy (?)
- Social/geographical/communication

Pre-operative assessment

Generally at out patient appointment

No routine bloods

FBC/G+S in theatres if < 20kg

Anaesthetic pre-assessment prn

Nurse-led admission on morning of op

Pre-op ENT/anaesthetist ward round

Pre-operative management

Solid food - 6 hours pre-op

Clear, flat fluids - 2 hours pre-op

EMLA / Ametop

rLMA for Ts & As

Correct size and placement
One size larger Doughty blade
Resists denting by the Doughty blade
No muscle relaxants
Reduced laryngeal stimulation and trauma
No mis-placed ETT
Protects the trachea
Less pollution
Improved recovery profile

rLMA disadvantages

Aspiration of gastric contents following vomiting or regurgitation

Reduced surgical access in some children under 3 years of age

Airway displacement by gag particularly with wrong size or poor placement

Anaesthesia, 2006, **61**, pages 116–122 doi:10.1111/j.1365-2044.2005.04463.x

Postoperative pain, nausea and vomiting following paediatric day-case tonsillectomy

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1 Department of Anaesthesia, 2 Department of Otolaryngology and 3 Department of Paediatric Day Care Service, Epsom & St Helier University Hospitals NHS Trust, Epsom, Surrey, KT18 7EG, UK

Summary

More than 30% of all surgical activity for children in England and Wales is accounted for by routine ENT operations. There is known to be a high incidence of postoperative pain, nausea and vomiting following paediatric tonsillectomy with or without adenoidectomy. This prospective study examined the incidence of these complications in 100 children admitted for routine, elective day-case tonsillectomy, with or without adenoidectomy. The children were anaesthetised in accordance with our standard paediatric day-case protocol. The incidence of vomiting on the day of surgery was significantly less in the group anaesthetised in accordance with the protocol, compared to those in previously published studies. Postoperative pain was well controlled, with 88% of the children having minimal pain on the day of surgery, and reporting a pain score of 0–2. Modifying the anaesthetic care to a protocol designed to reduce postoperative pain, nausea and vomiting achieved measurable improvements in the recovery of this group following surgery. It has enabled us to evolve from a 100% inpatient stay for these operations to 98% day-case discharge rate, with minimal post anaesthetic or surgical morbidity. We describe the protocol and discuss the implications of implementing such a protocol for children undergoing these common operations.

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Accepted: 14 September 2005

Tonsillectomy, with or without adenoidectomy, is one of the most frequently performed surgical procedures in children.

Ear, nose and throat (ENT) day surgery rates have slowly increased from 21% in 1991 to 33% in 1998. In 1993, the Chief Medical Officer for England and Wales set a target, aiming for 50% of surgery to be day cases by 2000. Despite this guidance, the majority of paediatric adenotonsillectomies are performed as in-patient procedures in the great majority of institutions [1]. Over the past 5 years, our multidisciplinary children's day surgery service has achieved a 98% day-case discharge rate for children undergoing routine elective ENT procedures. The day-case protocol is presented in Table 1.

The benefits of day surgery include cost effectiveness, reduced pressure on inpatient beds and less psychological trauma for parents and for children undergoing surgery. Parental attitude favours going home on the day of operation rather than staying in hospital [2, 3]. Conversely, limitations on day-case surgery treatment include managing unplanned admissions postoperatively and the consequences of delayed treatment of complications. There are also medical, social and geographical constraints that may preclude eligibility for day-case tonsillectomy.

Published data indicate that admission to hospital following ENT day surgery is due to vomiting (30%), inadequate recovery from anaesthesia (22%), bleeding (20%), inadequate pain control (14%) and pyrexia (9%). The overall re-admission rate for adult and paediatric ENT day-case surgery was found to average 2.8% in a national audit of 121 surgeons and nearly 4000 operations [4]. Postoperative haemorrhage is rare, but is occasionally life threatening. Since reactionary haemorrhage usually occurs within the first 6 h following surgery, afternoon operating sessions limit the ability to discharge children following tonsillectomy on the same day. The Royal College of Surgeons of England has published guidance for day surgery, to encourage patient safety, efficiency and an expected re-admission rate of no higher than 2–4% [5].

The incidence of postoperative nausea and vomiting (PONV) following paediatric surgical procedures is high, and up to 41% of patients may be affected [1, 6, 7]. In

Epsom Protocol

Day Case

Paediatric tonsillectomy

Anaesthesia 2006

Epsom GA Protocol -1

No pre medication

Sevofluorane/propofol induction

No narcotics

Codeine 1mg/kg im
Diclofenac 1mg/kg pr
Paracetamol 25-30mg/kg pr **OR** 15-20mg/kg iv

Epsom GA Protocol - 2

Sevoflurane in air and oxygen

NO N_2O

Spontaneous ventilation

rLMA or uncuffed RAE ETT if small

IV fluids – Hartmanns deficit bolus then

4ml/kg/hr 1st 10kg + 3/2/1 formula

Postoperative management

Continue ivi

Free fluids + food

Observation 2-6 hours [Gs/As vs Ts]

Consultant ward round

PONV

Most common cause for delayed discharge

(29000 children)

<u>Surgical:</u>

Trigeminal nerve stimulation

Swallowed blood

Diathermy

<u>Anaesthetic:</u>

Tracheal intubation

Opiods

Nitrous Oxide

Reducing PONV

Sevofluorane vs Halothane

Ondansetron

Dexamethasone

IV Fluids and 2 hour rule pre-op

Risk of haemorrhage

Statistically low risk on day of surgery

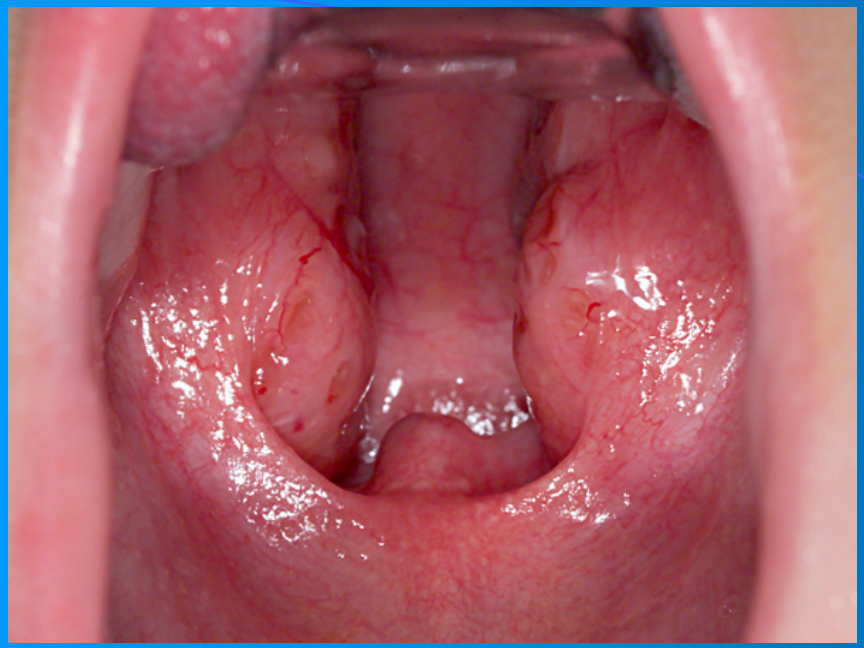
0.8% of 1516 (Prim et al IJPO 2003)

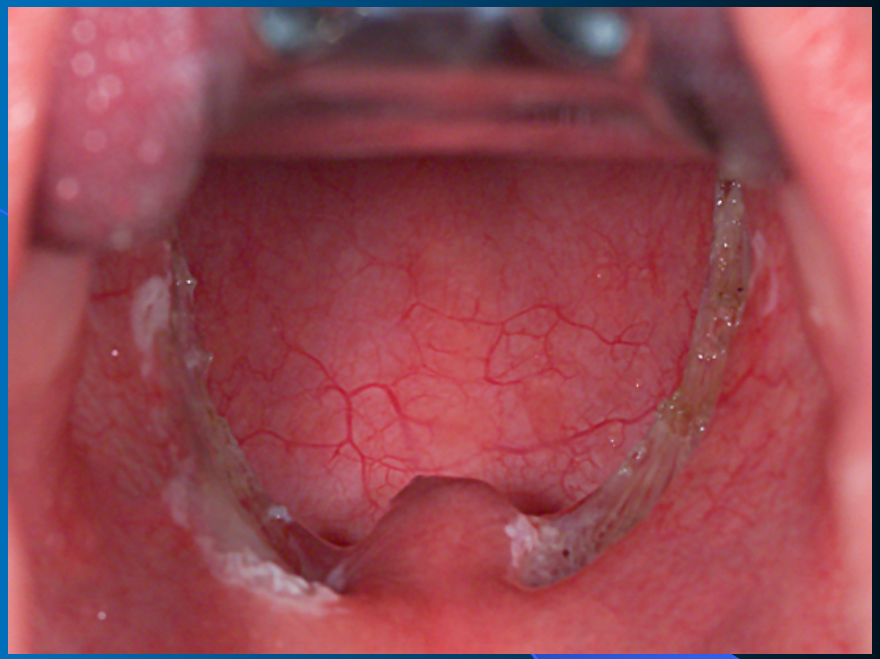
Pre-op APTT/PT/Platelets/FBC/Fibrinogen [N]

50% of cases undetected VWD

VWD 1.0% – 1.5% of population

HISTORY IS THE MOST HELPFUL






Imogen.
MR Robb.


BODY

Discharge home

Discharge medications

Azithromycin 10mg/kg/day three days

Paracetamol + ibuprofen as before

Codeine linctus as before

Computer generated summary to GP

Ward telephone follow-up 48 hours

Open access to ward post op

Burden on primary care

5% visited a physician

13% called for advice

Kanerva et al 2003 IJPO

(excludes post-op bleeds)

Follow-up telephone contact

Community paediatric nurses

Open access to day ward

Paediatric back-up protocol

Conclusions

Day case paediatric ENT surgery

- ✓ Is safe for the majority of children
- ✓ Is well-liked by their parents
- ✓ May have cost savings
- ✓ Reduces the risks of cross-infection
- ✓ Requires the best GA and techniques
- ❖ Is not always suitable for junior trainees
- ❖ Is resisted for many different reasons