

Pre-requisites for Ambulatory Day Tonsillectomy



Dr Victor James Abdullah
Chief of Service ENT UCH/TKOH Kowloon East Cluster
Honorary Clinical Associate Professor
Chinese University of Hong Kong

Acknowledgement

Dr CC Luk (CCE)

Dr David Lam (HCE TKOH)



Day Tonsillectomy

SAFE!

Day Tonsillectomy Rate

In the UK:	31%
In the US:	94.8%
In Asia:	Reserved

Brown PM, Fowler S, Ryan R, Rivron R.
J Laryngol Otol. 1998 Feb;112(2):161-5.
ENT day surgery in England and Wales--an audit by the Royal College of Surgeons (Eng.) Comparative Audit Service.

Hospital-Based Ambulatory Surgery, 2007.
<http://www.hcup-us.ahrq.gov/reports/statbriefs/sb86.jsp>.

Ambulatory Surgery in U.S. Hospitals, 2003: HCUP Fact Book No. 9.
<http://archive.ahrq.gov/data/hcup/factbk9/factbk9c.htm>

Prevalence – Day Surgery Tonsillectomy (HK) 2003

Table 4 Percentage of day surgery procedures ENT, ophthalmic and oral surgery.

	Myringotomy	Tonsillectomy	Rhinoplasty	Broncho- mediastinoscopy	Cataract surgery	Squint correction	Tooth removal
Australia	82 %	4 %	22 %	48 %	89 %	80 %	92 %
Belgium	94.6 %	93.6 %	18 %	24.9 %	87 %	81 %	96.8 %
Canada	99 %	66.8 %	91.6 %	67.4 %	99.4 %	99.1%	94.8 %
Denmark	81 %	30 %	52.5 %	67 %	98 %	65 %	91.7 %
England	82 %	7 %	17 %	3.5 %	90 %	80 %	87 %
Finland	-----	24 %	-----	-----	91.5 %	-----	-----
France	90 %	20 %	9 %	32 %	45 %	19 %	52 %
Germany	61.4 %	18 %	16.6 %	85.8 %	42 %	46 %	96 %
Hong Kong	60.7 %	0.7 %	-----	14.5 %	53.5 %	31 %	-----
Italy	50 %	15.7 %	5.7 %	22 %	62 %	21 %	58 %
Nether- lands	98 %	64 %	56 %	92 %	90 %		
Norway	87 %	28 %	64 %	27 %	93 %	50 %	96 %
Poland		ENT 0.9 %	Eye 4.7 %				
Portugal	15 %	9.2 %	1.5 %	-----	31 %	29 %	44.8 %
Scotland	61.4 %	18 %	12.6 %	85.8 %	42 %	46 %	5.9%
Spain	0-78 %	1-42 %	-----	1-10 %	42-90%	2-69 %	-----
Sweden	80 %	14.3 %	32.5 %	48 %	97 %	65 %	95 %
USA	98.6 %	89.2 %	94 %	34 %	99.7 %	85 %	-----

(Toftgaard C, 2003)

Prevalence – Day Surgery (HK)

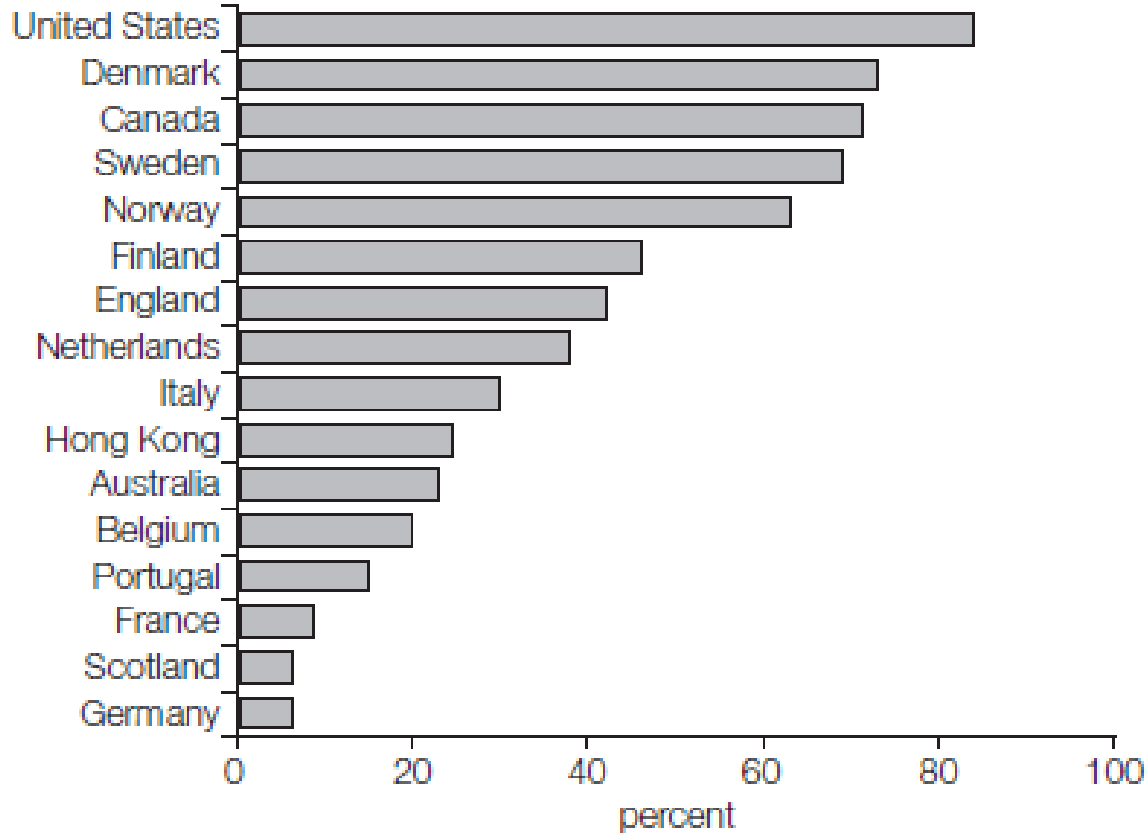


Figure 1: Percentage of hernia repairs performed as day cases (2002-2004)

Source: Toftgaard (2003)

(WHO, 2007)

10 KEY RECOMMENDATIONS IN MAKING DAY SURGERY HAPPEN

1. Consider day surgery, rather than inpatient surgery, the norm for all elective procedures
2. Separate flows of day-surgery patients from inpatients
3. Design day-surgery facilities according to local needs, structurally separate from inpatient facilities whenever possible
4. Provide day-surgery units with independent management structures and dedicated nursing staff
5. Take advantage of motivated surgeons and anaesthetists to lead the change
6. Achieve economies by ensuring that expansion of day-surgery facilities is accompanied by reductions in inpatient capacity
7. Invest in educational programmes for hospital and community staff
8. Remove regulatory and economic barriers
9. Align incentives
10. Monitor and provide feedback on results (including patients' views)



Anaesthesia

Dedicated Day
Case Centre

24 Hour Easy
Access
Information
Admission

DAY CASE SURGERY / TONSILLECTOMY

Surgery

Pre – Post
Operative
Counseling

Home

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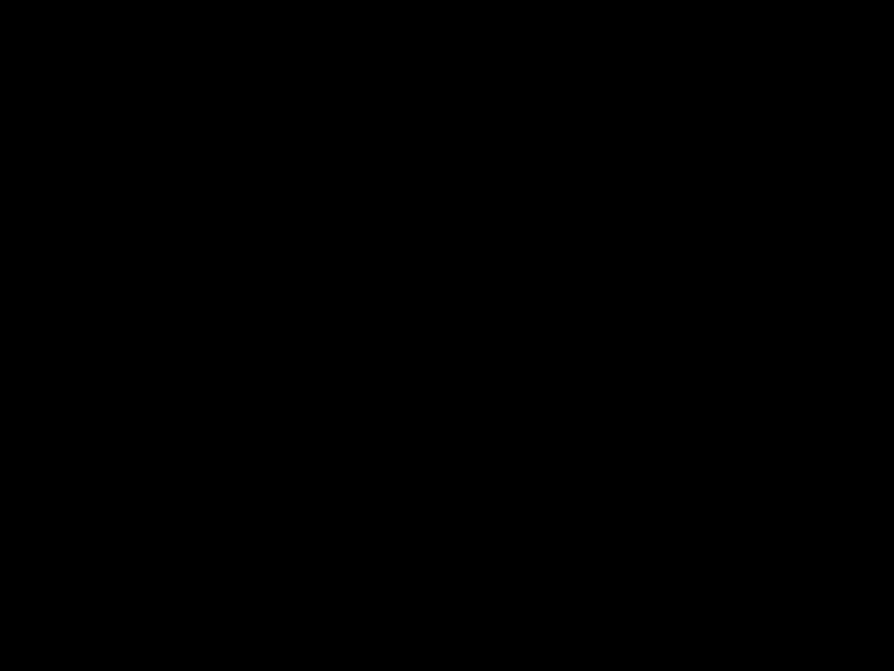
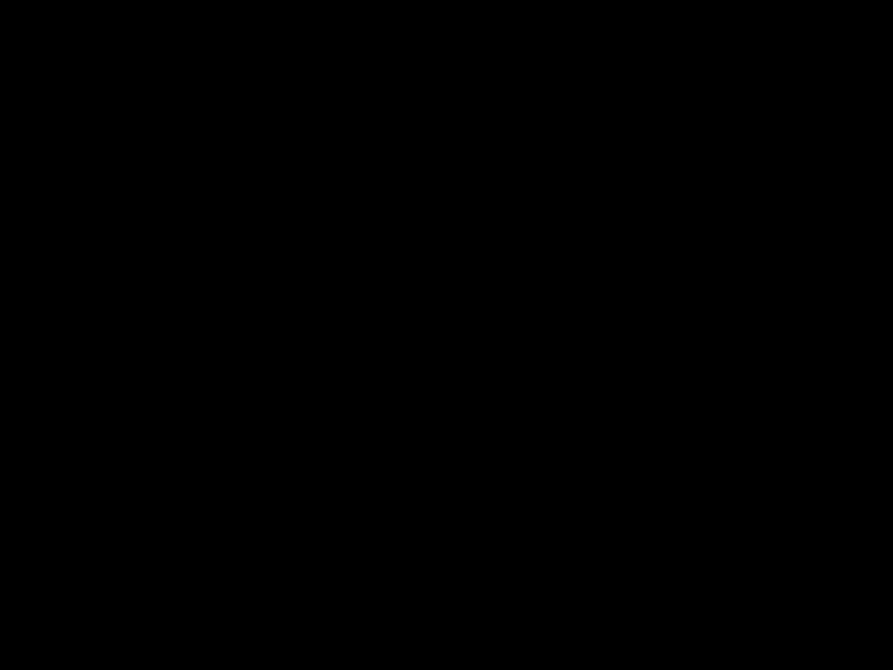


登記處
Registration Counter

← 更衣室
← Changing Rooms
← 護士站
← Nurse Station

EXIT









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Counseling

Assessment of sequelae at home following adenotonsillectomy. A basis for day-case management?

R.BENSON-MITCHELL & A.RICHARD MAW

Department of Otolaryngology, Royal Hospital for Sick Children, Bristol, UK

Clin. Otolaryngol. 1993, 18, 282-284

The results of the post-operative parental survey by telephone have important implications for day-case surgery in the UK. More time must be spent with the parents prior to admission and discharge if they are to be confident enough to accept day-case adenotonsillectomy. Based on the above results, there is an argument for a pilot study including day-case adenoidectomy only. The lessons from this would be

Pre-op and Post-op



Pre-op assessment and counseling
Seen on admission



Monitored for at least 6 hours
Assessed
Counseled by nurses
pamphlets
24-hour phone line

Pamphlets



日間手術中心

扁桃腺切除出院指引

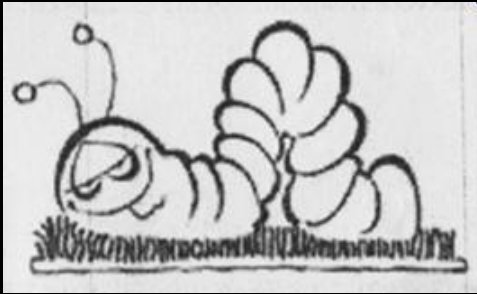


日間手術中心

兒童扁桃腺切除
出院指引



Pamphlets



如有下列情況發生，請即往本院或就近急症室求診：

手術部位服藥後仍持續劇痛

傷口持續大量滲血、紅腫或滲膿

呼吸困難

持續發熱 (體溫持續高於 38°C)

持續嘔吐

全身麻醉或注射鎮靜劑後24小時，可能仍有睡意，固此：

麻醉後當天不應駕駛及操作任何機械器具，以免發生危險。

麻醉後當天不應作任何需思考、判斷或重要的決定及簽署任何重要文件。

手術後當天不應飲用任何含酒精飲品。

在舒適範圍內，可恢復慣常之活動。

飲食

如無不適，可恢復正常飲食，無需戒口。



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Anaesthesia

Sevoflurane

Propofol

Fentanyl

Zofran (for nausea)

Dexamethasone

Anaesthesia

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DAY CASE SURGERY / TONSILLECTOMY

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Patient selection guidelines

No acute tonsillitis or URI in the past 3 weeks

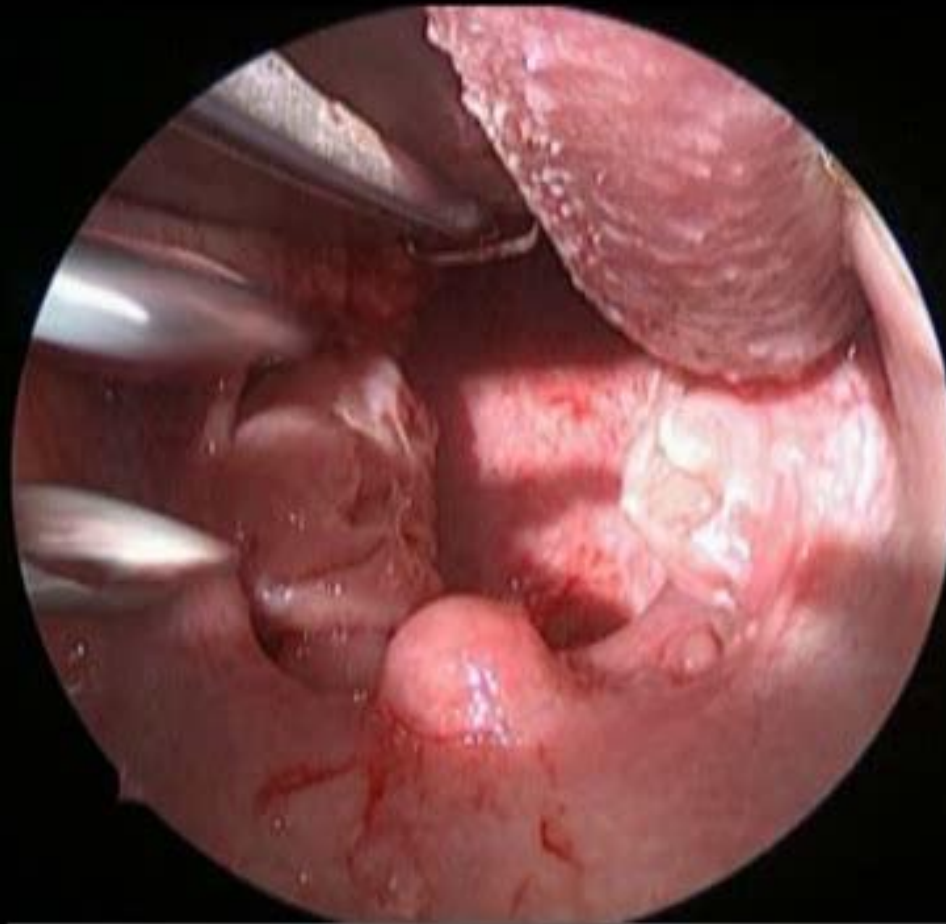
No chronic medical diseases, bleeding tendency or pregnancy

Social criteria- access to phone, transport access

Parental criteria for children

Surgical Procedure

Bipolar Diathermy Dissection



With Lux forceps or tonsillar forceps

Training Video for Day Case
Bipolar Tonsillectomy dissection

Anaesthesia

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DAY CASE SURGERY / TONSILLECTOMY

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Home Environment

Frank discussion with patient

Transport Pre-requisites

Travel Distance

- Nikki Mills 2004 (NZ)
 < 1 hour drive from hospital
- Mervi Kanerva 2003 (Finland)
 < 1 hour drive from hospital
- A. PANARESE 1999 (UK)
 Reasonable distance
- A. K. TEWARY 1993 (UK)
 30mins from hospital
- Priya Achar 2009 (UK)
 Within 30 minutes from hospital
- J.E.FENTON 1994 (Ireland)
 Not far from hospital

KEC – Easy access to both
UCH and TKOH A&E

Review

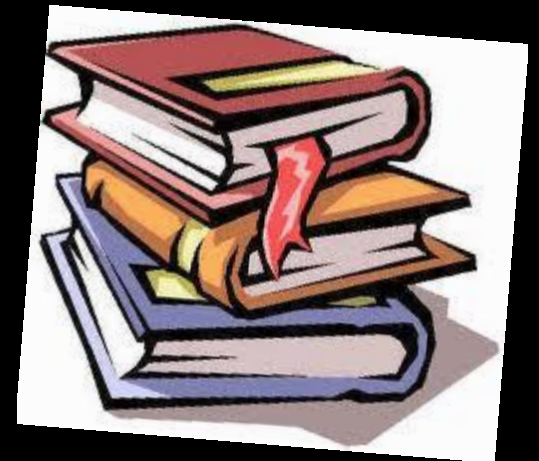
Retrospective analysis of our data
Approved by the Ethics Committee

January 2008 to February 2012

Retrieved through

CDARS

Case notes and ePR



Method

All day tonsillectomy cases were included

Cases further analyzed in detail:

Failed day case (admitted overnight)

Visit to AED after discharge (in 1 month)

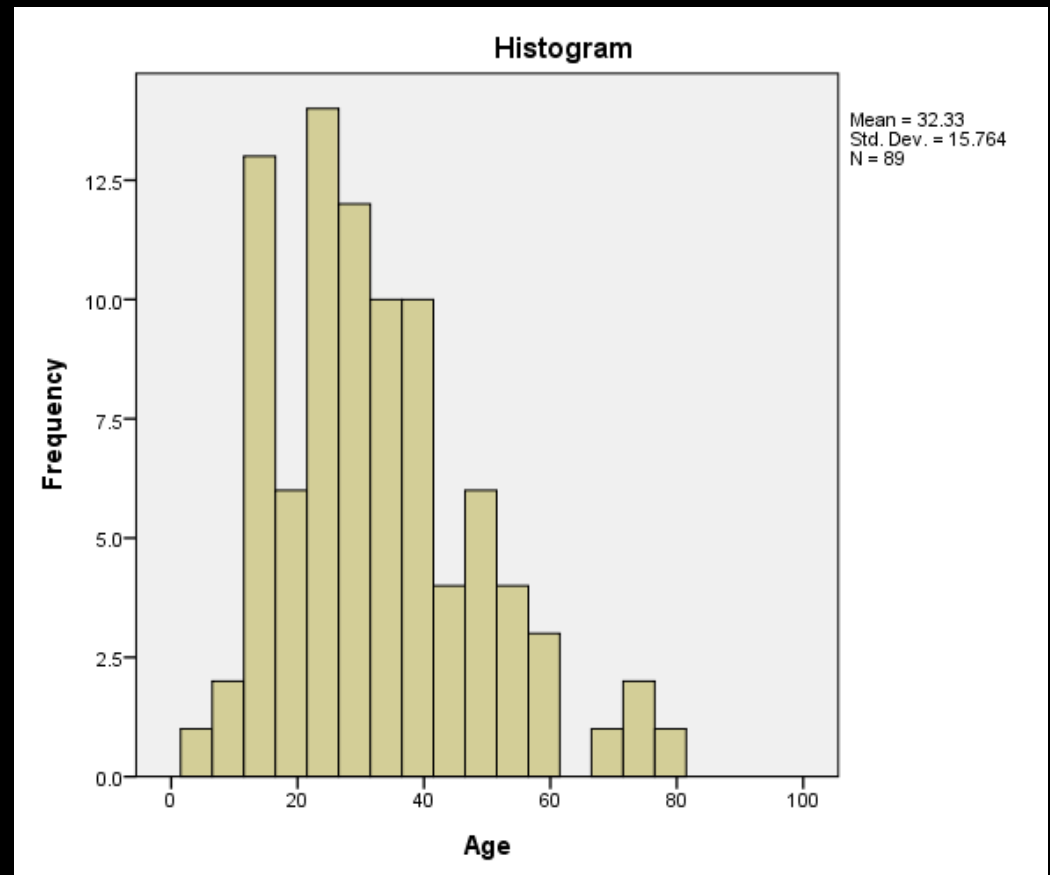
Demographics



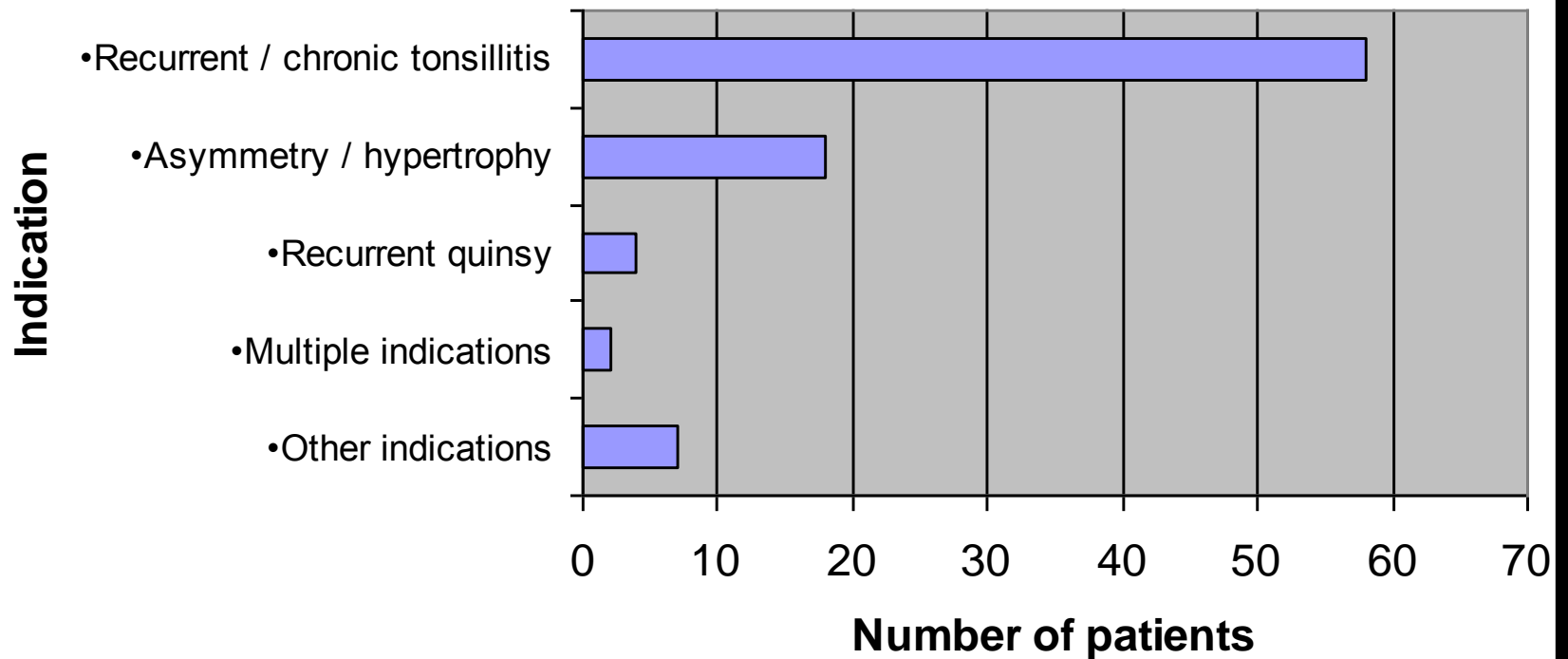
89 cases

Median age 29

M:F = 48:41

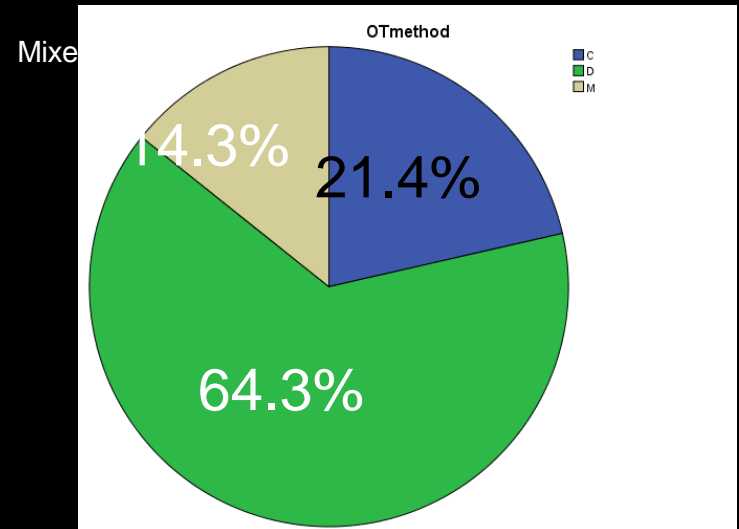


Indications



OT method

- Methods
 - Bipolar diathermy 54 (64.3%)
 - Cold instruments 18 (21.4%)
 - Mixed 12 (14.3%)
 - Missing data 5

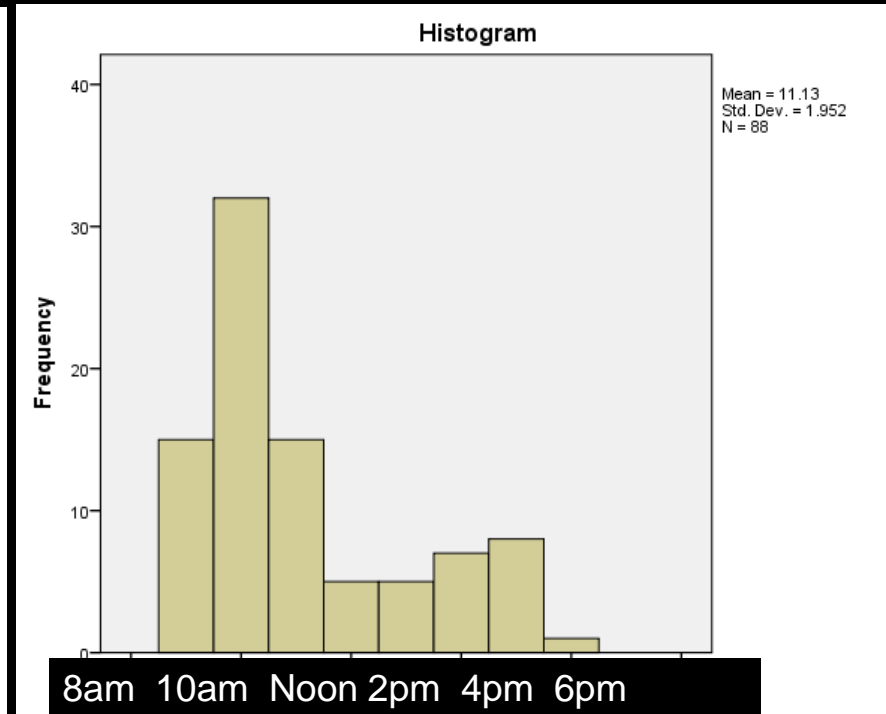
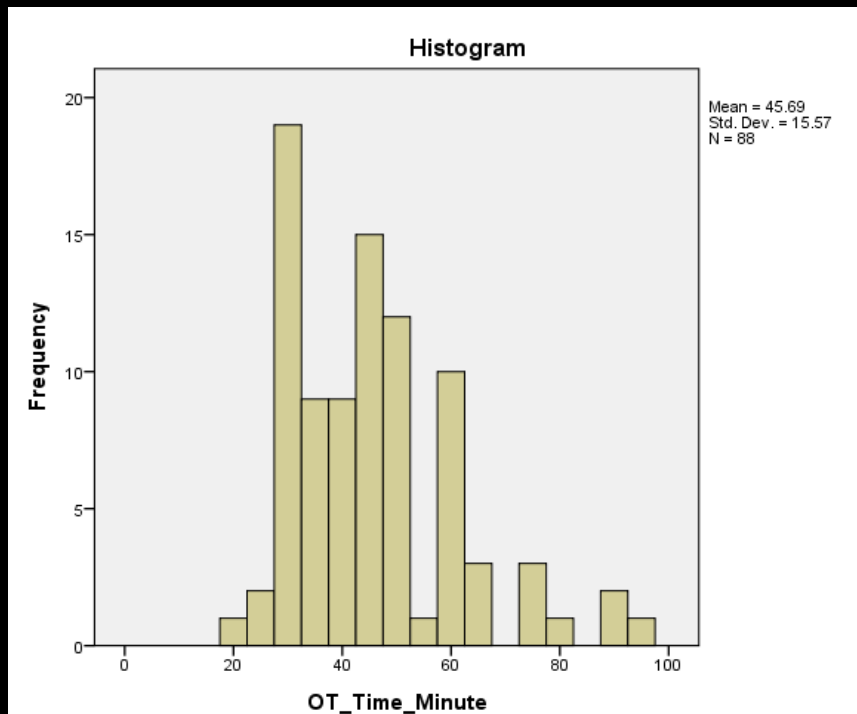


OT time

Op time 25 mins – 45 mins

Arranged early in the list

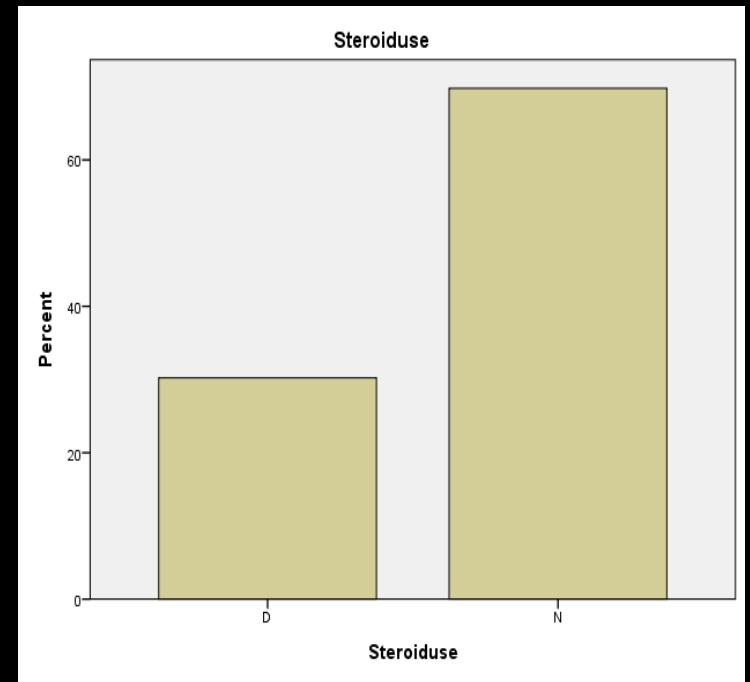
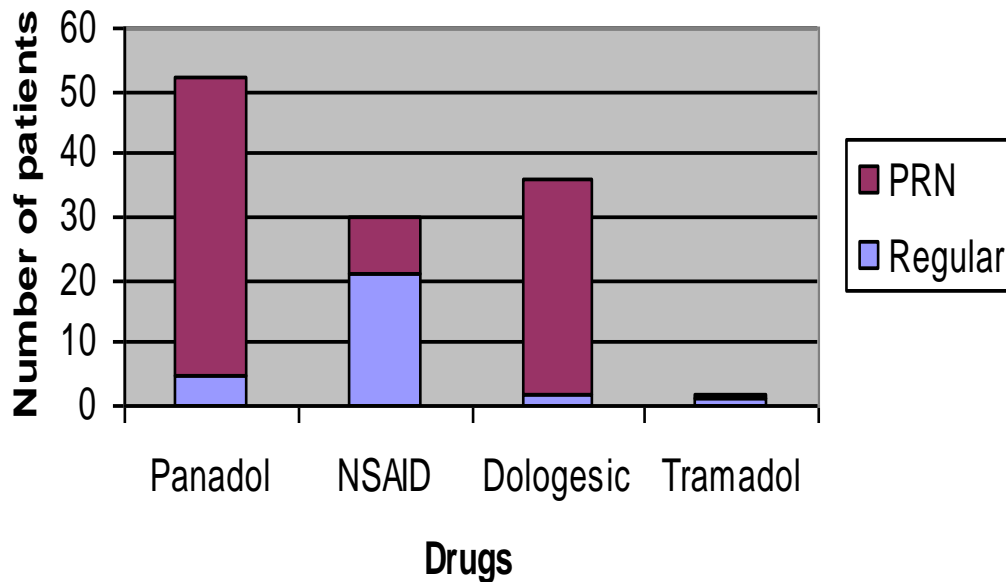
Most finished before 3pm



Medications

Intravenous Dexamethasone: 26%

Analgesics prescribed:



Within Day 0 - 1

Admitted overnight 2 (2.2%)

Decreased oral intake

Newly diagnosed OSAS before the operation

Primary Haemorrhage 0

Attend AED on Day 0-1 6 (6.7%)

Pain 4

Others: - vomit

- subjective breathing difficulty

Within first 16 days

28 (31.5%) attended AED

Pain: 17

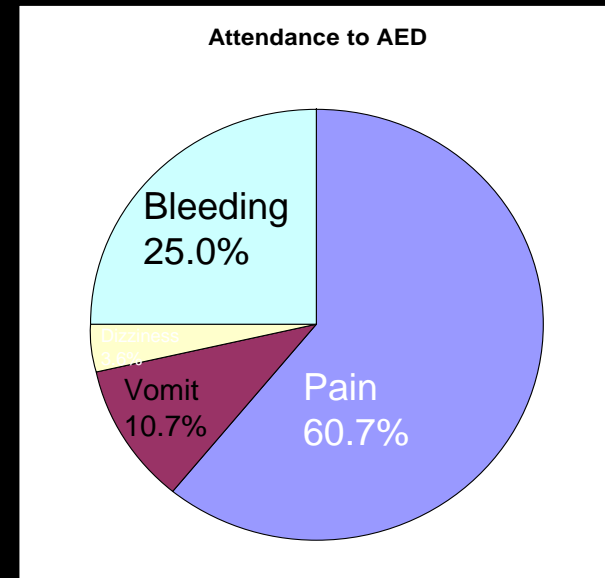
Vomiting: 3

Dizziness: 0

Secondary Bleeding: 7

All between 3-7 days

3 required haemostatic procedures



Relationship between Indications and Pain

Laryngoscope. 2007 Apr;117(4):717-24.

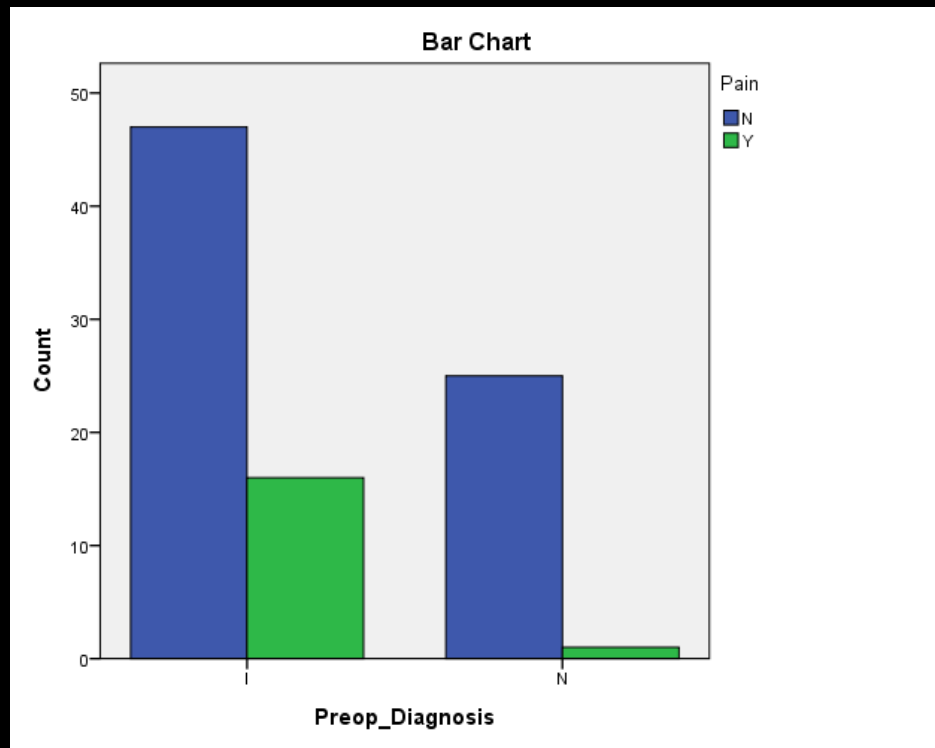
Key messages from the National Prospective Tonsillectomy Audit.

Lowé D, van der Meulen J, Cromwell D, Lewsey J, Copley L, Browne J, Yung M, Brown P

Indication and Risk of Reattendance due to Pain

	Pain	
	Yes	No
Recurrent Tonsillitis or Quinsy	25.4%	74.6%
Non Inflammatory Conditions	3.8%	96.2%

P value = .019



Recurrent Tonsillitis or Quinsy

Non-inflammatory Conditions

Bleeding

Primary haemorrhage

- 1995 (UK) (n=2157): 0.8%
- 1997 (Ireland) (n=48): 0%
- 2005 (Finland) (n=294): 2.3%
- 2004 (New Zealand) (n=4850): 0.9%
- 2012 (Pakistan) (n=225): 0.45%

- Review paper
 - 1993 (n=8889): 0.14% to 1.16%
 - 2005 (n=27305): 1.4%

Primary haemorrhage

TKOH 0%

(n=89, Jan 2008-Feb 2012, Median age 29,
M:F = 48:41)

Secondary haemorrhage

1993 (UK) (n=8889): 0.14% to 6.4%

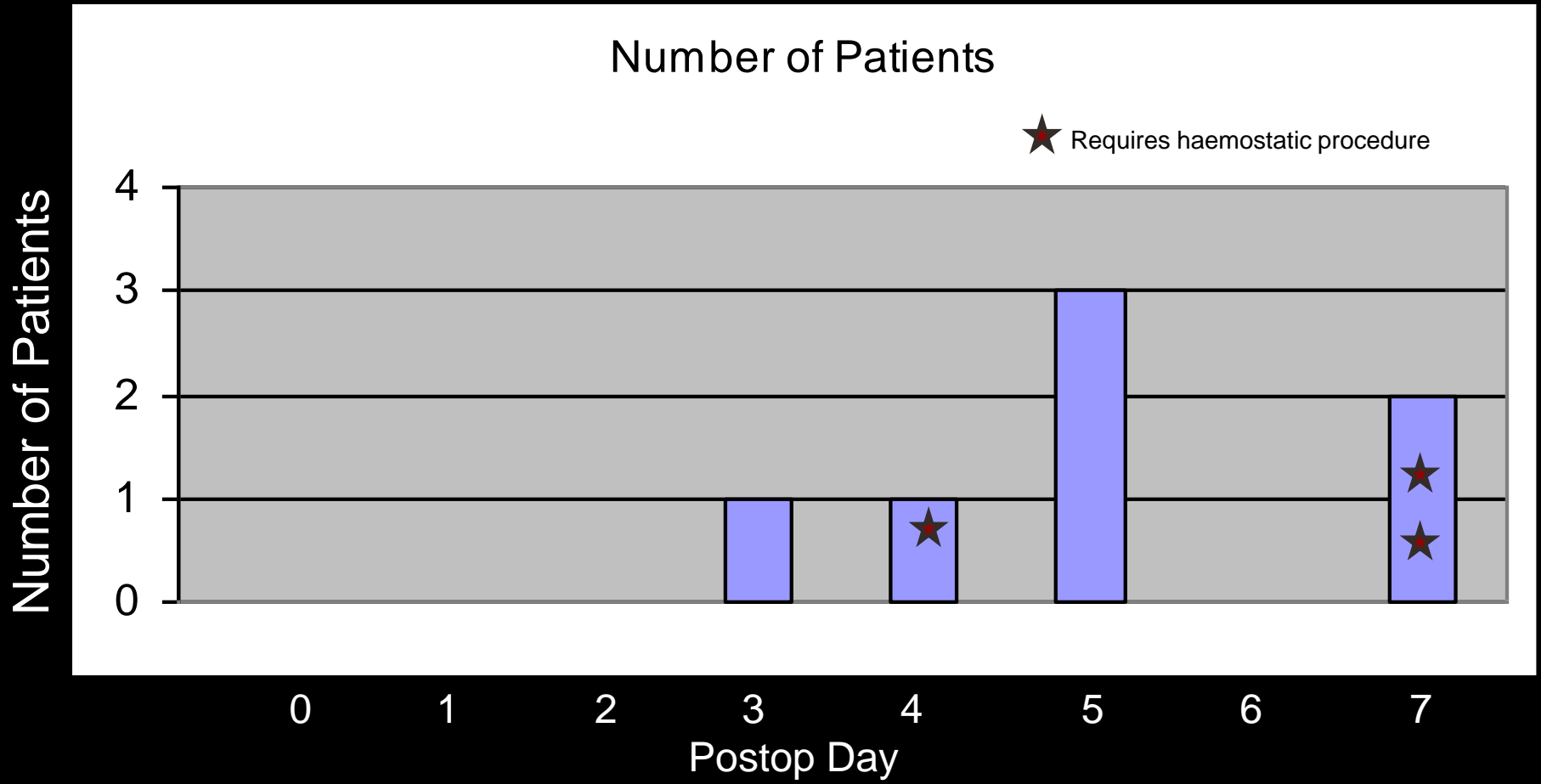
1997 (Ireland) (n=48): 2.1%

2012 (Pakistan) (n=225): 2.65%

TKOH: Jan08 – Feb12 (n=89): 7.9%

[3 required haemostatic procedures]

Timing of Haemorrhage



Relationship between Indications and Bleeding

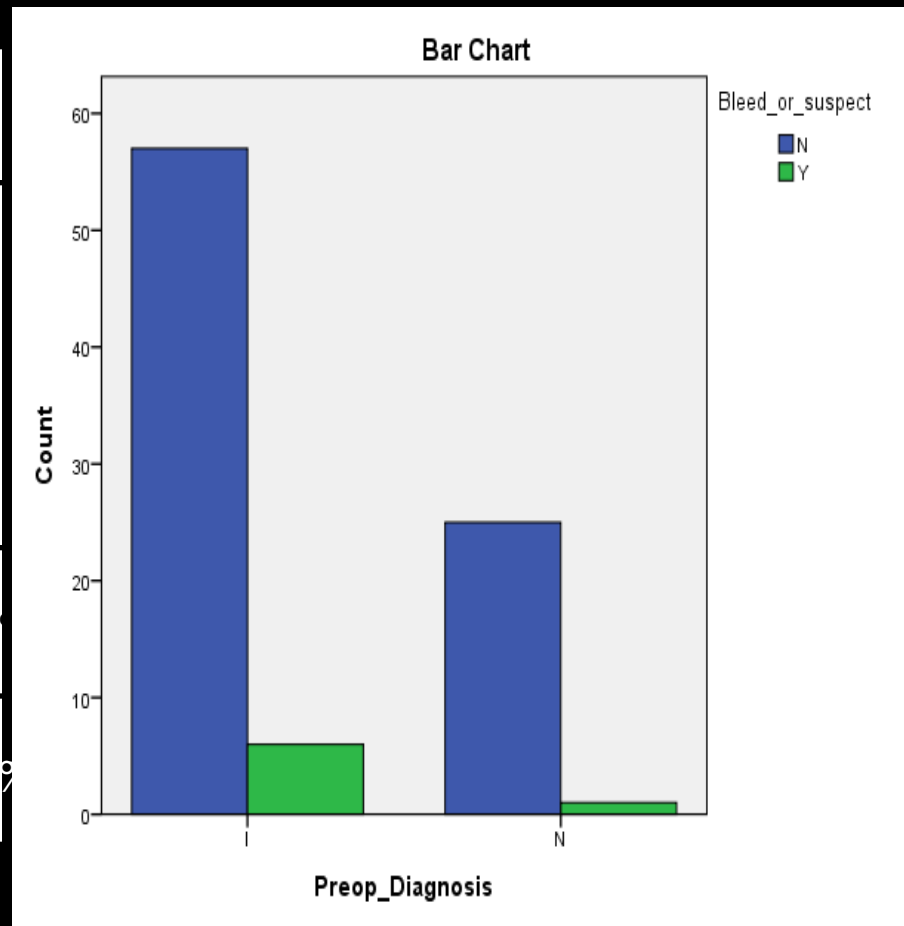
Laryngoscope. 2007 Apr;117(4):717-24.

Key messages from the National Prospective Tonsillectomy Audit.

Lowe D, van der Meulen J, Cromwell D, Lewsey J, Copley L, Browne J, Yung M, Brown P

Indication and Risk of bleeding			
		Bleeding	
		Yes	No
Recurrent Tonsillitis or Quinsy		9.5%	90.5%
		3.8%	
Non-inflammatory Conditions			

P value = .366



Recurrent Tonsillitis or Quinsy

Non-inflammatory Conditions

Relationship between Indications and Bleeding

TABLE III.
Patient and Treatment Characteristics and Overall Hemorrhage Rates.

	Number of Patients	Percent of Total	Hemorrhage Rate (%)
Indication for surgery			
Recurrent acute tonsillitis	25,691	75.7	3.7
Chronic tonsillitis	2,552	7.5	4.1
Previous quinsy	677	2.0	5.4
Pharyngeal obstruction/OSA	3,217	9.5	1.4
Other	594	1.8	2.4
Not specified	1,190	3.5	2.9

Laryngoscope. 2007 Apr;117(4):717-24.

Key messages from the National Prospective Tonsillectomy Audit.

Lowe D, van der Meulen J, Cromwell D, Lewsey J, Copley L, Browne J, Yung M, Brown P.

Outcomes

Total number of cases	89	
Successful day case	87	(97.8%)
Failed day case	2	(2.2%)



Conclusions

No primary haemorrhage

(if no haemorrhage after 6 hours of post-op observation)

Day tonsillectomy is **safe and feasible** in HK

Importance of pain control

especially in recurrent inflammation

Patient Satisfaction

Patient Satisfaction (Adult)

	N	Time	Day-case	Preferred	No preference	Not preferred
J.E.FENTON, 1994 (Ireland)	48	Before discharge	Y	20 (41.7 %)	19 (39.6%)	9 (18.8%)
M.B.PRINGLE 1996 (UK)	52	2-wk post op	N	5 (9.6%)	1 (1.9%)	46 (88.5%)
Zahoor Ahmad 2010 (NZ)	79	0-2 yrs post op	Y	36 (45.6%)	28 (35.4%)	15 (19%)

Patient Satisfaction (Parents)

	N	Time	Day-case	Preferred	No preference	Not preferred
Mervi Kanerva 2003 (Finland)	100	1-day post op	Y	100%	0	0
M.B.PRINGLE 1996 (UK)	65	2-wk post op	N	4 (6.2%)	0	61 (93.8%)
A. K. TEWARY 1993 (UK)	74	2-day post op	N	34 (45.9%)	1 (1.4%)	39 (52.7%)
Fredelius L 1999 (Sweden)	200	NA	Y	91%	NA	NA
Zahoor Ahmad 2010 (NZ)	354	0-2 yrs post op	Y	214 (60%)	82 (24%)	58 (16%)
R.BENSON- MITCHELL 1993 (UK)	58	2-wk post op	N	6 (10.3%)	6(10.3%)	46 (79.3%)

Patient Satisfaction

- TKOH
- June, 2008 – Feb, 2013

Total Patients Participated = 95



Phone Survey

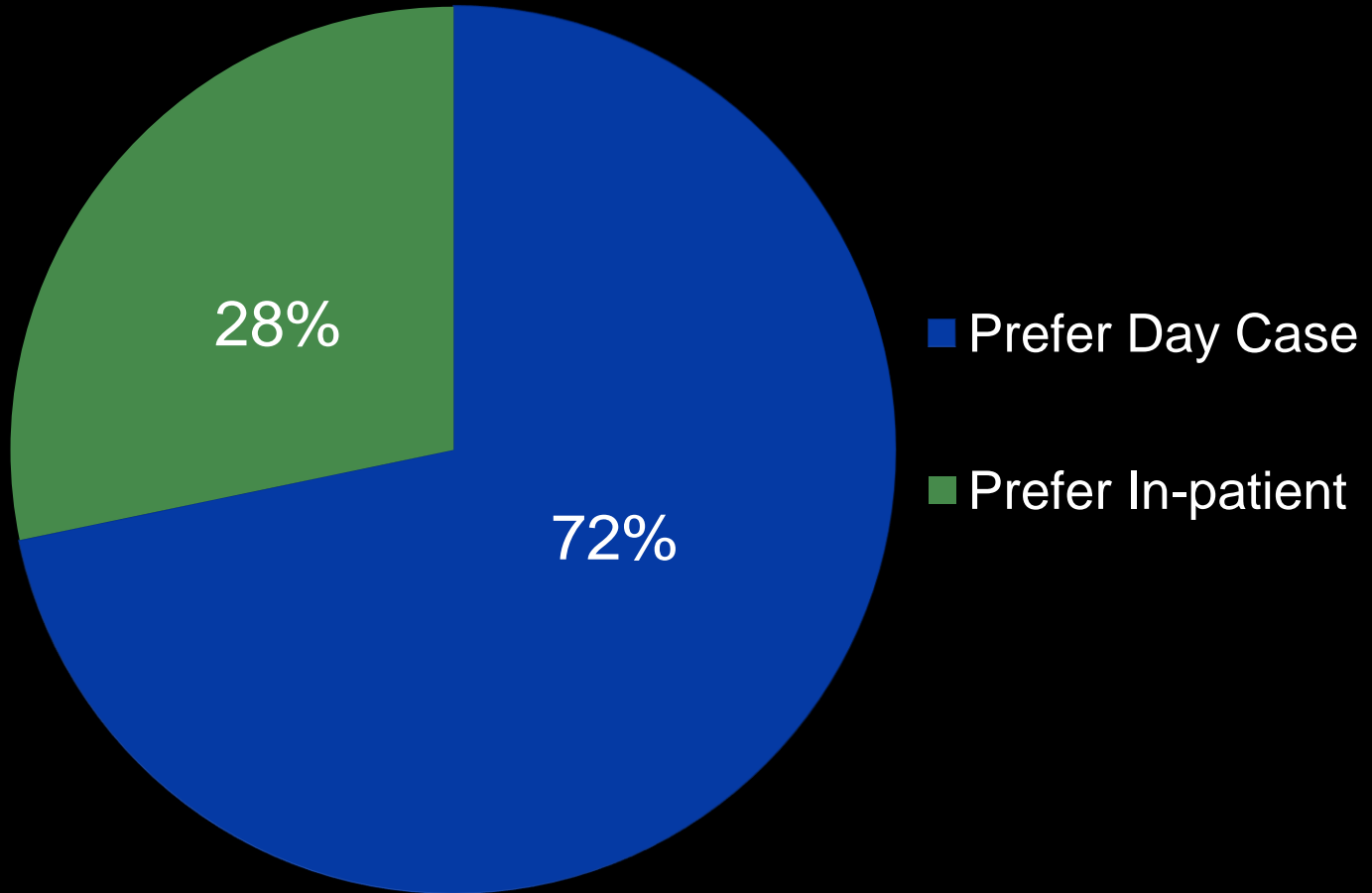
92 patients out of 117 successfully contacted.

Mean age = 32.7 years

50 (75.76%) of them are male.

Mean post-op time 2.5 years

Phone Survey



Top two reasons for in-patient preference

感覺上比較放心

A more secure feeling
(with in-patient care)

12 / 26 = 46%

麻醉藥未過

Anaesthetic medication has not worn off

11 / 26 = 42%

TKOH 2008-2013

Children (<18 yrs)

144 tonsillectomy done

21 day case (14.6%)

Adult (≥ 18 yrs)

135 tonsillectomy done

95 day case (70.4%)

0.7% in 2003

Costs

Costs

89 patients

87 discharged same day

6 visited AED on day 0-1, 2 of them readmitted

Inpatient bed cost saved

$$= \$3660 \times (89 - 2 - 2)$$

$$= \$311,100$$

‘No In-patient Ward’

Paramount pre-requisite

The Patient

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