Smith+Nephew

COBLATION◊ Intracapsular Tonsillectomy (CIT) was shown to be more cost-effective than extracapsular tonsillectomy (ECT) for paediatric patients

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Chorney SR, Johnson RF, Mitchell RB. Cost-utility analysis of intracapsular and extracapsular techniques for paediatric tonsillectomy. *Laryngoscope*. Published online July 23, 2025.

Available at: doi:10.1002/lary.32448

Overview

Single-centre, multi-surgeon, prospective cohort study of paediatric patients undergoing CIT or ECT in planned same-day* or planned next-day* discharge setting between January 2020 and April 2024

Primary objective: determine the incremental cost-effectiveness ratio (ICER) in 30 days of paediatric patients receiving CIT or ECT

Secondary objectives: post-operative events, caregiver reported outcomes, obstructive sleep apnoea (OSA) improvements and cost impact analysis

Methodology

Paediatric patients (<18 years old):

Planned same-day discharge patients

367 CIT

2,247 ECT

Planned next-day discharge patients

237 CIT

2,574 ECT

CIT versus ECT

Assess the cost-effectiveness of two tonsillectomy methods, post operative events and cost impact at 30 days

Results

13.5% **cost reduction** (p<0.001)

CIT achieved health benefits at a lower cost compared to ECT for planned same-day discharge cases†

CIT has comparable costs versus ECT in planned next-day discharge cases††

CIT was more cost-effective compared to ECT for planned same-day discharge cases, defined as cost per quality-adjusted life year (QALY)§

CIT remains cost-effective when revision rates are less than 14.5% in planned same-day discharge cases and 0.9% in planned next-day discharge cases¶

Significant reductions in the odds of post-operative events for CIT versus ECT patients (planned same-day discharge cases)

- **88%** reduction in return to hospital for pain (p=0.04)
- **46%** reduction in emergency department readmission (p=0.02)
- **58%** reduction in inpatient readmission (p=0.02)
- **53%** reduction in post-operative problem calls (p<0.001)

No significant differences were observed in caregiver outcomes or OSA improvements for CIT vs ECT in either patient group

Conclusion

CIT was demonstrated to be more cost-effective than ECT for paediatric patients.§ CIT patients also had significant reductions in hospital readmissions and calls related to post-operative problems compared to ECT, with no difference in caregiver reported outcomes and comparable outcomes in OSA.

Abbreviations: CIT = COBLATION Intracapsular Tonsillectomy; ECT = extracapsular tonsillectomy; ICER = incremental cost-effectiveness ratio; OSA = obstructive sleep apnoea; QALY = quality-adjusted life year.

*Planned same-day and planned next-day discharge cases are referred to as ambulatory (no planned 23-h admission) and observational (planned 23-h admission) cases, respectively, in the publication. †Mean planned same-day discharge cost was $4,716 and $5,400 for CIT and ECT, respectively. ††Mean planned next-day discharge cost was $9,462 and $9,544 for CIT and ECT, respectively. §CIT dominated ECT with an incremental cost effectiveness ratio (ICER) of -$100,141/QALY for planned same day discharge cases and -16,453 for planned next day discharge cases. ¶Results of a one-way sensitivity analysis during the 30-day follow-up no CIT cases required revision in either setting.

Post Tonsillectomy Haemorrhage (PTH) is a potentially serious complication that has been reported in literature for both adult and pediatric patients.

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