

Summary of findings:



31. Adenoidectomy +/- tympanostomy tubes compared to no surgery / tympanostomy tubes alone for recurrent acute otitis media

Patient or population: Children aged 10 months to 18 years with recurrent acute otitis media.

Setting: Hospital

Intervention: Adenoidectomy +/- Tympanostomy tubes

Comparison: No surgery / Tympanostomy tubes alone

Outcome № of participants (studies)	Relative effect (95% CI)	Anticipated absolute effects (95% CI)			Quality	What happens
		Without Adenoidectomy +/- tympanostomy tubes	With Adenoidectomy +/- tympanostomy tubes	Difference		
Treatment failure (classified as: ≥4 episodes AOM per year, presence effusion for >50% of time (>6 months), need for additional surgery, hearing improvement <10dB) follow up: 12 months № of participants: 610 (3 RCTs) ^{1,a}	RR 0.58 (0.36 to 0.94)	28.2%	16.4% (10.1 to 26.5)	11.8% fewer (18 fewer to 1.7 fewer)	 LOW ^{b,c}	In children with rAOM undergoing adenoidectomy +/- TTs compared to no surgery/TTs alone there are possibly fewer treatment failures at 12 months follow-up. NNT -9
Subgroup analysis - Patients <2 years old: Treatment failure (classified as: ≥4 episodes AOM per year, presence effusion for >50% of time (>6 months), need for additional surgery, hearing improvement <10dB) follow up: 12 months № of participants: 719 (5 RCTs) ^{1,d}	RR 0.57 (0.42 to 0.78)	27.4%	15.6% (11.5 to 21.4)	11.8% fewer (15.9 fewer to 6 fewer)	 LOW ^{b,c}	In children <2 years old with rAOM undergoing adenoidectomy +/- TTs compared to no surgery/TTs alone, there are possibly fewer treatment failures at 12 months follow- up. NNT - 9

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Outcome № of participants (studies)	Relative effect (95% CI)	Anticipated absolute effects (95% CI)			Quality	What happens
		Without Adenoidectomy +/- tympanostomy tubes	With Adenoidectomy +/- tympanostomy tubes	Difference		
Subgroup analysis - Patients >2 years old: Treatment failure (classified as: ≥4 episodes AOM per year, presence effusion for >50% of time (>6 months), need for additional surgery, hearing improvement <10dB) follow up: 12 months № of participants: 84 (5 RCTs) ^{1,d}	RR 7.27 (0.95 to 55.60)	2.5%	18.2% (2.4 to 100.0)	15.7% more (NS) (0.1 fewer to 136.5 more)	⊕⊕○○ LOW ^{b,c,e}	In children > 2 years old with rAOM undergoing adenoidectomy +/- TTs compared to no surgery/TTs alone there is possibly no difference in treatment failures. NNT Not Applicable.

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

CI: Confidence interval; RR: Risk ratio; NS: Not significant; NNT: Number needed to treat; NNH: Number needed to harm

GRADE Working Group grades of evidence

High quality: We are very confident that the true effect lies close to that of the estimate of the effect

Moderate quality: We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

Low quality: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect

Very low quality: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

Explanations

- a. Studies taken from: Boonacker Meta-Analysis (Mattila 2003, Koivunen 2004, Kujala 2012)
- b. Risk of Bias: Attrition bias, selection bias (Mattila 2003)
- c. Imprecision: Optimal information size not reached
- d. Studies taken from: Boonacker Meta-Analysis (Hammarén-Malmi 2005, Koivunen 2004, Kujala 2012, Mattila 2003, Nguyen 2004)
- e. Imprecision: Broad estimate of effect

References

1. Boonacker CW, Rovers MM, Browning GG, Hoes AW, Schilder AG, Burton MJ. Adenoidectomy with or without grommets for children with otitis media: an individual patient data meta-analysis. Health technology assessment (Winchester, England). 2014;18(5):1-118. Epub 2014/01/21. doi: 10.3310/hta18050. PubMed PMID: 24438691; PubMed Central PMCID: PMC4780935.