# National Institute for Health and Care Excellence

Draft for consultation

# Otitis media with effusion in under 12s

[L] Evidence reviews for treating otorrhoea after surgery for hearing loss associated with OME in children

NICE guideline number tbc

*Evidence reviews underpinning recommendations 1.6.7 to 1.6.10 in the NICE guideline* 

March 2023

Draft for consultation

This evidence review was developed by NICE



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### Contents

Review question       6         Introduction       6         Summary of the protocol       6         Methods and process       7         Effectiveness evidence       7         Summary of included studies.       8         Summary of the evidence       9         Economic evidence       9         Economic evidence       9         Economic evidence       9         Decommendations supported by this evidence review       10         References – included studies.       13         Appendices       14         Appendix A       Review protocol for review question: What interventions are effective for treating losrs in children under 12 years?       14         Appendix B       Literature search strategies       22         Appendix B       Literature search strategies       22         Appendix B       Literature search strategies       22         Appendix C       Effectiveness evidence study selection       28         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       29         Appendix D       Evidence tables       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) af	Treating otorrh	noea after surgery for hearing loss associated with OME in children	6	
Introduction       6         Summary of the protocol       6         Methods and process       7         Effectiveness evidence       7         Summary of included studies       8         Summary of the evidence       9         Economic evidence       9         Economic evidence       9         Economic model       9         Unit costs       9         The committee's discussion and interpretation of the evidence       10         Recommendations supported by this evidence review       12         References – included studies       13         Appendix A       Review protocols       14         Review protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       14         Appendix B       Literature search strategies       22         Appendix C       Effectiveness evidence study selection       28         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix E <td>Review que</td> <td>estion</td> <td> 6</td>	Review que	estion	6	
Summary of the protocol       6         Methods and process       7         Effectiveness evidence       7         Summary of included studies.       8         Summary of the evidence       9         Economic evidence       9         Economic model       9         Unit costs       9         The committee's discussion and interpretation of the evidence       10         Recommendations supported by this evidence review       12         References – included studies.       13         Appendics       14         Appendix A       Review protocols         meaning loss in children under 12 years?       14         Appendix B       Literature search strategies         Appendix C       Effectiveness evidence study selection         Za       Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?         Appendix D       Evidence tables       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       28         Appendix D       Evidence tables       29         Evidence tables for review question: What interventions are effective for treating otorr	Introc	Introduction		
Methods and process       7         Effectiveness evidence       7         Summary of included studies.       8         Summary of the evidence       9         Economic evidence       9         Economic evidence       9         Economic evidence       9         Dit costs       9         The committee's discussion and interpretation of the evidence       10         Recommendations supported by this evidence review       12         References – included studies       13         Appendices       14         Appendix A       Review protocols       14         Review protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       14         Appendix B       Literature search strategies       22         Appendix C       Effectiveness evidence study selection       28         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       29         Evidence tables       29       Evidence tables       29         Appendix D       Evidence tables.       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge	Sumr	nary of the protocol	6	
Effectiveness evidence       7         Summary of included studies       8         Summary of the evidence       9         Economic evidence       9         Economic evidence       9         Unit costs       9         The committee's discussion and interpretation of the evidence       10         Recommendations supported by this evidence review       12         References – included studies       13         Appendices       14         Appendices       14         Appendix A       Review protocols         Review protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?         Appendix B       Literature search strategies         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?         Appendix D       Evidence tables       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       29         Appendix E       Forest plots       34         Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 1	Meth	ods and process	7	
Summary of included studies       8         Summary of the evidence       9         Economic evidence       9         Economic model       9         Unit costs       9         The committee's discussion and interpretation of the evidence       10         Recommendations supported by this evidence review       12         References – included studies       13         Appendices       14         Appendix A       Review protocols         Review protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?         Appendix C       Effectiveness evidence study selection         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?         Appendix D       Evidence tables       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       29         Appendix E       Forest plots       34         Forest plots       34         Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appe	Effec	tiveness evidence	7	
Summary of the evidence       9         Economic evidence       9         Economic model       9         Unit costs       9         The committee's discussion and interpretation of the evidence       10         Recommendations supported by this evidence review       12         References – included studies       13         Appendices       14         Appendix A       Review protocols         Retering otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       14         Appendix B       Literature search strategies       22         Appendix C       Effectiveness evidence study selection       28         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       29         Appendix D       Evidence tables       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       29         Appendix E       Forest plots       34         Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix F       GRADE tables       35	Sumr	nary of included studies	8	
Economic evidence       9         Economic model       9         Unit costs       9         The committee's discussion and interpretation of the evidence       10         Recommendations supported by this evidence review       12         References – included studies       13         Appendices       14         Appendix A       Review protocols       14         Review protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       14         Appendix B       Literature search strategies       22         Appendix C       Effectiveness evidence study selection       28         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       28         Appendix D       Evidence tables       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Forest plots       34       Forest plots or review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix F       GRADE tables       35       35	Sumr	nary of the evidence	9	
Economic model       9         Unit costs       9         The committee's discussion and interpretation of the evidence       10         Recommendations supported by this evidence review       12         References – included studies       13         Appendices       14         Appendix A       Review protocols       14         Review protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       14         Appendix B       Literature search strategies       22         Appendix C       Effectiveness evidence study selection       28         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       28         Appendix D       Evidence tables       29         Evidence tables       29       29         Evidence tables       29       29         Appendix E       Forest plots       34         Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix E       Forest plots       34         Forest plots for review question: What interventions are effective for treating ot	Econ	omic evidence	9	
Unit costs       9         The committee's discussion and interpretation of the evidence       10         Recommendations supported by this evidence review       12         References – included studies       13         Appendices       14         Appendix A       Review protocols         Review protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?         Appendix B       Literature search strategies         Appendix C       Effectiveness evidence study selection         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?         Appendix D       Evidence tables         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?         Appendix D       Evidence tables         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?         Appendix E       Forest plots       34         Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix F       GRADE tables.	Econ	omic model	9	
The committee's discussion and interpretation of the evidence       10         Recommendations supported by this evidence review       12         References – included studies.       13         Appendices.       14         Appendix A       Review protocols       14         Review protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       14         Appendix B       Literature search strategies       22         Appendix C       Effectiveness evidence study selection       28         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       28         Appendix D       Evidence tables       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       29         Appendix E       Forest plots       34         Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix E       Forest plots       35         GRADE tables.       35       35         GRADE tables.       35       35	Unit d	costs	9	
Recommendations supported by this evidence review       12         References – included studies       13         Appendices       14         Appendix A       Review protocols       14         Review protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       14         Appendix B       Literature search strategies       22         Appendix C       Effectiveness evidence study selection       28         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       28         Appendix D       Evidence tables       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       29         Appendix E       Forest plots       34         Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix F       GRADE tables       35         GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       35         GRADE tables for review question: W	The c	committee's discussion and interpretation of the evidence	. 10	
References – included studies       13         Appendices       14         Appendix A       Review protocols       14         Review protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       14         Appendix B       Literature search strategies       22         Appendix C       Effectiveness evidence study selection       28         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       28         Appendix D       Evidence tables       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       29         Appendix E       Forest plots       34         Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix F       GRADE tables       35         GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       35         Appendix F       GRADE tables       35         GRADE tables for review question: What interve	Reco	mmendations supported by this evidence review	. 12	
Appendices       14         Appendix A       Review protocols       14         Review protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       14         Appendix B       Literature search strategies       22         Appendix C       Effectiveness evidence study selection       28         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       28         Appendix D       Evidence tables       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       29         Appendix E       Forest plots       34         Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix F       GRADE tables       35         GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix F       GRADE tables       35         GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-	References	s – included studies	. 13	
Appendix A       Review protocols       14         Review protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       14         Appendix B       Literature search strategies       22         Appendix C       Effectiveness evidence study selection       28         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       28         Appendix D       Evidence tables       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       29         Appendix E       Forest plots       34         Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix F       GRADE tables       35         GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       35         Appendix F       GRADE tables       35         GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years? <td< td=""><td>Appendices</td><td></td><td>. 14</td></td<>	Appendices		. 14	
Review protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       14         Appendix B       Literature search strategies       22         Appendix C       Effectiveness evidence study selection       28         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       28         Appendix D       Evidence tables       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       29         Appendix E       Forest plots       34         Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix F       GRADE tables       35         GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix F       GRADE tables       35         GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       35         GRADE tables for review question: What interventions are	Appendix A	Review protocols	. 14	
Appendix B       Literature search strategies       22         Appendix C       Effectiveness evidence study selection       28         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       28         Appendix D       Evidence tables       29         Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       29         Appendix E       Forest plots       34         Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix F       GRADE tables       35         GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       34         Appendix F       GRADE tables       35         GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?       35         Appendix G       Economic evidence study selection       39         Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years? <t< td=""><td>Revie</td><td>ew protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?</td><td>. 14</td></t<>	Revie	ew protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?	. 14	
Appendix CEffectiveness evidence study selection28Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?28Appendix DEvidence tables29Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?29Appendix EForest plots34Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?34Appendix FGRADE tables35GRADE tables for review question: What interventions are effective for 	Appendix B	Literature search strategies	. 22	
Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?	Appendix C	Effectiveness evidence study selection	. 28	
Appendix DEvidence tables29Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?29Appendix EForest plots34Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?34Appendix FGRADE tables35GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?35Appendix FGRADE tables35GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?35Appendix GEconomic evidence study selection39Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?39Appendix HEconomic evidence tables40	Study	v selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?	. 28	
Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?29Appendix EForest plots34Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?34Appendix FGRADE tables35GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?35Appendix GEconomic evidence study selection39Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?39Appendix HEconomic evidence tables40	Appendix D	Evidence tables	. 29	
Appendix EForest plots34Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?34Appendix FGRADE tables35GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?35Appendix GEconomic evidence study selection39Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?39Appendix HEconomic evidence tables40	Evide	ence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?	. 29	
Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?	Appendix E	Forest plots	. 34	
Appendix FGRADE tables.35GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?35Appendix GEconomic evidence study selection39Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?39Appendix HEconomic evidence tables40	Fores	at plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?	. 34	
GRADE tables for review question: What interventions are effective for         treating otorrhoea (ear discharge) after surgery for OME-related         hearing loss in children under 12 years?         35         Appendix G         Economic evidence study selection         39         Study selection for: What interventions are effective for treating otorrhoea (ear         discharge) after surgery for OME-related hearing loss in children under         12 years?         39         Appendix H         Economic evidence tables	Appendix F	GRADE tables	. 35	
Appendix GEconomic evidence study selection39Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?39Appendix HEconomic evidence tables40	GRA	DE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?	. 35	
Study selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?	Appendix G	Economic evidence study selection	. 39	
Appendix H Economic evidence tables	Study	v selection for: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?	. 39	
	Appendix H	Economic evidence tables	. 40	

	Econor	mic evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME- related hearing loss in children under 12 years?	. 40
Appendix	c I	Economic model	. 41
	Econo	mic model for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?	. 41
Appendix	( J	Excluded studies	. 42
	Exclud	ed studies for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?	. 42
Appendix	κK	Research recommendations – full details	. 44
	Resea	rch recommendations for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?	. 44

# Treating otorrhoea after surgery for hearing loss associated with OME in children

# 4 Review question

5 What interventions are effective for treating otorrhoea (ear discharge) after surgery for otitis6 media with effusion (OME)-related hearing loss in children under 12 years?

#### 7 Introduction

8 The aim of this review is to assess what interventions are effective for treating otorrhoea

9 (ear discharge) after surgery for otitis media with effusion (OME)-related hearing loss in

10 children under 12 years

11 At the time of development, the term ventilation tube (VT) was used to refer to tubes inserted 12 during surgery for OME. However, the committee agreed that the term grommet should be 13 used as this is likely to be the term that is more familiar to readers of the guideline and would 14 avoid confusion with tubes used to assist with breathing. Therefore, both terms appear in this 15 evidence review.

#### 16 Summary of the protocol

17 See Table 1 for a summary of the Population, Intervention, Comparison and Outcome18 (PICO) characteristics of this review.

#### 1 Table 1: Summary of the protocol (PICO table)

Population	All children under 12 years who have otorrhoea after ventilation tube (VT) surgery for OME-related hearing loss.
Intervention	<ul> <li>Interventions of interest (alone or in combination):</li> <li>Antibiotic ear drops with or without corticosteroid</li> <li>Oral antibiotics</li> <li>Water precautions (actions to ensure ears are kept dry, for example, wearing ear plugs, swimming cap and headband and avoidance of swimming)</li> </ul>
Comparison	<ul> <li>Head-to-head comparisons between the above intervention categories* (alone or in combination)</li> <li>The above interventions (alone or in combination) versus placebo</li> <li>The above interventions (alone or in combination) versus no intervention for otorrhoea</li> <li>*Please note, head-to-head comparisons between different interventions within</li> </ul>
	each category (e.g., comparisons between different types of oral antibiotics) were not included, only head-to-head comparisons of interventions from different categories (e.g., an oral antibiotic versus a water precaution intervention)
Outcome	Critical
	Otorrhoea (ear discharge) resolves
	Adverse effects of intervention (including antimicrobial resistance)
	Surgical intervention to remove VIs
	Important
	Tube blockage
	Tube extrusion
	• Hearing
	<ul> <li>Quality of life (measured by OM8-30 questionnaire, Health Utilities Index Mark 3 (HUI3) questionnaire, Otitis Media-6 (OM-6) questionnaire, Quality of Life in Children's Ear Problems (OMQ-14) questionnaire, Evaluation of Children's Listening and Processing Skills (ECLiPS) questionnaire, Auditory Behaviour in Everyday Life (ABEL) questionnaire, Early Listening Function (ELF) questionnaire, Parents' Evaluation of Aural/Oral Performance of Children (PEACH) questionnaire, EuroQol 5 Dimensions (EQ-5D) questionnaire, Infant Toddler Quality of Life Questionnaire, or Child Heath Questionnaire)</li> </ul>

2 For further details see the review protocol in appendix A.

#### 3 Methods and process

4 This evidence review was developed using the methods and process described in

5 Developing NICE guidelines: the manual. Methods specific to this review question are

- 6 described in the review protocol in appendix A and the methods document (supplementary7 document 1).
- 8 Declarations of interest were recorded according to NICE's conflicts of interest policy.

#### 9 Effectiveness evidence

#### 10 Included studies

- 11 One randomised controlled trial (RCT) was included for this review (van Dongen 2014).
- 12 The included study is summarised in Table 2.

1 The included study compared hydrocortisone-bacitracin-colistin ear drops to oral amoxicillin-

- 2 clavulanate suspension and initial observation (van Dongen 2014). The study also compared 3 oral amoxicillin-clavulanate suspension to initial observation.
- 4 The average age in years of participants in the included study was 4.6.
- 5 See the literature search strategy in appendix B and study selection flow chart in appendix C.

#### 6 Excluded studies

7 Studies not included in this review are listed, and reasons for their exclusion are provided in 8 appendix J.

#### 9 Summary of included studies

10 Summary of the study that was included in this review is presented in Table 2.

Study	Population	Intervention	Comparison	Outcomes	Comments
van Dongen 2014 RCT Netherlands	N=230 Children aged 1 to 10 years with tympanostomy tube otorrhoea for up to 7 days Age in years, mean (SD): Hydrocortisone- bacitracin- colistin drops: 4.6 (2.1) Oral amoxicillin- clavulanate suspension: 4.4 (2.0) Initial observation: 4.4 (2.0) Sex (male/female): Hydrocortisone- bacitracin- colistin drops: 50/26 Oral amoxicillin- clavulanate suspension: 40/37 Initial observation: 43/34	Hydrocortisone- bacitracin- colistin drops: 5 drops, 3 times a day, in the discharging ear/ears for 7 days <u>Oral amoxicillin- clavulanate suspension:</u> 30 mg of amoxicillin and 7.5 mg of clavulanate per kg per day in three divided doses for 7 days	Initial observation: Observation for 2 weeks	<ul> <li>Otorrhoea (ear discharge) resolves</li> <li>Adverse effects of intervention</li> <li>Quality of life</li> </ul>	Population is indirect due to 43% of population with recurrent acute otitis media. Study was conducted from 2009 to 2012.

#### 11 Table 2: Summary of included studies.

12 RCT: randomised controlled trial; SD: standard deviation

13 See the full evidence tables in appendix D and the forest plots in appendix E.

#### 1 Summary of the evidence

2 The evidence was very low quality due to bias arising from measurement of the outcome and

3 deviations from the intended interventions, seriously imprecise findings, and the inclusion of

4 an indirect population. In addition, parts of the study were conducted before 2010.

#### 5 Hydrocortisone-bacitracin-colistin ear drops compared with oral amoxicillin-6 clavulanate suspension

7 Hydrocortisone-bacitracin-colistin ear drops had an important benefit in terms of reducing
8 otorrhoea (the presence of otorrhoea at 2 weeks) and gastrointestinal discomfort (adverse
9 effect of intervention) compared with oral amoxicillin-clavulanate suspension, but it had an
10 important harm in terms of local discomfort or pain during administration (adverse effect of
11 intervention). There was no important difference for other adverse effects of intervention
12 (rash, oral candidiasis and serious adverse events), otorrhoea (recurrent episodes of
13 otorrhoea at 6 months), and quality of life.

#### 14 Hydrocortisone-bacitracin-colistin ear drops compared with initial observation

15 Compared with initial observation, hydrocortisone-bacitracin-colistin ear drops had an
16 important benefit in terms of reducing otorrhoea (the presence of otorrhoea at 2 weeks)
17 although there was no important difference in number of recurrent episodes of otorrhoea at 6
18 months. There was also no important difference for adverse effects of the intervention
19 (serious adverse events) and quality of life.

#### 20 Oral amoxicillin-clavulanate suspension compared with initial observation

A comparison between oral amoxicillin-clavulanate suspension and initial observation
showed no important difference for otorrhoea (at 2 weeks or 6 months), adverse effects of
the intervention and quality of life. The outcomes of tube blockage, tube extrusion, hearing
and 'surgical intervention to remove ventilation tubes' were not reported by the included
study.

26 See appendix F for full GRADE tables.

#### 27 Economic evidence

A systematic review of the economic literature was conducted but no economic studies wereidentified which were applicable to this review question.

#### 30 Economic model

31 No economic modelling was undertaken for this review because the committee agreed that

32 other topics were higher priorities for economic evaluation given the low cost of the

33 interventions under consideration in this review.

#### 34 Unit costs

Resource	Unit costs	Source
Ciprofloxacin (as Ciprofloxacin hydrochloride) 2 mg per 1 ml	£6.01	NHS Drugs Tariff March 2023

#### 1 The committee's discussion and interpretation of the evidence

#### 2 The outcomes that matter most

3 Otorrhoea is a common complication after grommet surgery, which may both recur and lead 4 to poor quality of life in children with otitis media with effusion. Therefore, otorrhoea was 5 prioritised as a critical outcome. To treat otorrhoea following grommet surgery, different types 6 of interventions (for example, antibiotic ear drops with or without corticosteroid, oral 7 antibiotics, and water precautions) can be used. However, these interventions may have 8 adverse effects in children (for example, local discomfort, rash, headache, gastrointestinal 9 discomfort, antimicrobial resistance and so on). Therefore, adverse effects of interventions 10 were prioritised as critical outcomes. Requirement of surgical intervention to remove 11 grommet was also prioritised as a critical outcome as it is common in children who undergo 12 grommet placement surgery and may generally have psychological, emotional, and 13 behavioural impacts.

14 Tube blockage and tube extrusion were selected as important outcomes as they are also 15 common in children who undergo grommet placement surgery and may be related to 16 recurrence of otitis media with effusion. Hearing loss or hearing difficulty is often associated 17 with otitis media with effusion, and this could impact on the child's language and behavioural 18 development. Therefore, hearing was selected as an important outcome. In addition, quality 19 of life was selected as an important outcome as this is a global measure that takes into 20 accounts both beneficial and adverse effects of the interventions.

#### 21 The quality of the evidence

22 The quality of the evidence was assessed using GRADE methodology. The evidence for all 23 outcomes identified in this review was very low quality due to bias arising from measurement 24 of the outcome and deviations from the intended interventions, seriously imprecise findings, 25 and the inclusion of indirect populations. In addition, parts of the included study were 26 conducted before 2010.

27 No evidence was found that reported on the outcomes of tube blockage, tube extrusion,

28 hearing or surgical intervention to remove grommets.

#### 29 Benefits and harms

30 There was no evidence available on the effectiveness of water precautions, however the 31 committee agreed it was sensible to keep the ear dry in the event of postoperative otorrhoea 32 after grommet insertion. Despite the lack of evidence, the committee agreed to make a 33 strong recommendation because it is common routine practice to avoid getting wounds and 34 infections wet. The committee agreed that taking care when bathing and washing hair was 35 usually advised (such as directing the shower head away from their head or ears), alongside 36 the use of ear plugs or headbands if in contact in water. The committee agreed that avoiding 37 swimming would also be sensible for the duration that otorrhoea is present, but for children 38 who have otorrhoea repeatedly or for long periods of time, it would be more practical to use 39 ear plugs or head bands to enable the child to learn to swim, as the committee 40 acknowledged the risks associated with children being unable to swim, and to ensure quality 41 of life for children and their families. The committee also noted that normally headbands 42 would be advised over the use of ear plugs, however there was no evidence to support this. 43 There was very low quality evidence which showed that hydrocortisone-bacitracin-colistin

- 44 drops had an important benefit in terms of presence of otorrhoea at 2 weeks follow-up
- 45 compared to an oral amoxicillin clavulanate suspension or to initial observation. The
- 46 committee discussed the indirectness of the population in van Dongen 2014 and agreed the
- 47 fact that 43% of the population had acute otitis media (AOM) and not OME was of serious
- 48 concern. Although the presence of otorrhoea might indicate that an infection is present, the

1 effectiveness of antibiotics might differ for AOM compared with OME because the site of the 2 infection differs: AOM represents an infection of the middle ear, which might also present 3 with systemic features, but otorrhoea following grommet insertion for OME might represent 4 an infection of the foreign body (i.e., the grommet), rather than the middle ear. The 5 committee also discussed whether otorrhoea was a significant issue for people with OME, 6 and whether the resolution of otorrhoea justified the potential for increasing antibiotic 7 resistance, especially considering the lack of robust evidence of effectiveness of any intervention. Lay members of the committee noted that otorrhoea was very painful for the 8 patient and could cause difficulties for families, and therefore attempts to treat otorrhoea 9 10 should be made rather than leaving it to clear up by itself. The type of antibiotic and 11 corticosteroid drop used in van Dongen 2014 was not recognised by the committee as being 12 used in standard practice; instead, the committee agreed non-ototoxic antibiotics such as 13 ciprofloxacin were normally prescribed for otorrhoea. They discussed the available evidence 14 regarding adverse effects, which showed that hydrocortisone-bacitracin-colistin drops caused 15 local discomfort or pain during administration in over 20% of all participants who received the 16 intervention, which, in their experience, does not usually occur when applying ciprofloxacin 17 drops. The committee also agreed that noncompliance with treatment was likely to be a risk if 18 administration of the drops was painful. Additionally, the availability of hydrocortisone-19 bacitracin-colistin ear drops could not be confirmed in the UK, and any topical ear drops 20 containing colistin could not be located on the British National Formulary for Children 21 (BNFC). The committee therefore agreed that non-ototoxic drops such as ciprofloxacin 22 should be considered based on the evidence of effectiveness of topical antibiotics in treating 23 otorrhoea, as well as their knowledge that non-ototoxic antibiotics would have a lower risk of 24 damaging the ear, potentially resulting in hearing loss, tinnitus, or balance disorders. 25 However, the committee agreed it was important to acknowledge that there is no safety data 26 on the use of topical antibiotics when there is damage to the tympanic membrane. The 27 committee also discussed dosage of non-ototoxic topical antibiotic ear drops such as 28 ciprofloxacin, but they felt that they could not add details on dosage to the recommendation 29 as there was variation in practice. However, the committee acknowledged that it was 30 important to include details on how long topical antibiotic ear drops should be used because 31 it is fundamental for antimicrobial stewardship and patient safety. Based on the committee's 32 experience, topical antibiotic ear drops tend to be given for 5 to 7 days in practice. Therefore, 33 the committee recommended 5 to 7 days of non-ototoxic topical antibiotic ear drops in line 34 with current practice.

There was very low quality evidence which showed that oral amoxicillin-clavulanate suspension had no important difference in terms of presence of otorrhoea at 2 weeks follow-up when compared to initial observation. The committee agreed it was not standard practice to prescribe oral antibiotics for otorrhoea because they are usually used to treat an underlying infection, whereas topical treatment should be sufficient to treat otorrhoea after grommet surgery due to the site of the infection, as discussed above. The committee also discussed the available evidence regarding adverse effects, which showed that oral amoxicillin-clavulanate suspension caused gastrointestinal discomfort in nearly a quarter of all participants who received the intervention. The committee agreed that topical ear drops should be preferred over oral antibiotics for people with otorrhoea after grommet surgery, on the basis of the evidence supplemented with their own knowledge and experience that systemic antibiotics are associated with more side effects than topical antibiotics. However, the evidence was not of sufficient quality to recommend that oral antibiotics are not used.

50 therefore discussed whether grommets should be removed when children have recurrent 51 otorrhoea and agreed it would depend on several factors, including the patient's discomfort, 52 the frequency of and time between episodes, family concern, and the weighing of risk of 53 conducting surgery on the child dependant on their age and any comorbidities, versus the 54 potential risks of repeat ear infections. There was a lack of evidence regarding how many

55 recurrent episodes of otorrhoea would indicate the need for removal of grommets, and

1 therefore, based on their knowledge of current practice, the committee recommended

2 removal when otorrhoea was persistent (recurring) and not responsive to topical antibiotics.

3 The committee discussed what should happen if children have symptoms additional to

4 otorrhoea such as high temperature, lethargy, complete loss of hearing, dizziness, or other

5 respiratory symptoms. They agreed that these were symptoms of systemic infection and not

6 complications related to grommet surgery. Therefore, the committee agreed it was important

7 to emphasise the fact that the recommendations made apply to otorrhoea in isolation in order

8 to avoid any confusion that could result in failure to treat a more serious infection. The 9 management of systemic infections is outside the scope of this guideline. However, the

10 committee were aware of a number of other NICE guidelines, such as Fever in under 5s and

11 the Sepsis guidelines, that include recommendations relevant to symptoms such as those

12 mentioned here.

#### 13 Cost effectiveness and resource use

This review question was not prioritised for economic analysis and therefore the committee made a qualitative assessment of the likely cost-effectiveness of their recommendations. Whilst the committee noted that there was no evidence on the effectiveness of water precautions, they recognised that it is common routine practice to advise patients not to get wounds and infections wet. Therefore, given the very low cost of giving this advice alongside other routine patient information, the committee concluded that recommending water precautions for isolated postoperative otorrhoea (ear discharge) after grommet insertion, would be cost-effective for the NHS. However, for children with recurrent otorrhoea the committee reasoned that it would be more practical to recommend the use of headbands or earplugs for when the child was in contact with the water although these would not be provided by the NHS.

25 The committee reflected that otorrhoea was very painful and could therefore have an 26 important impact on health-related quality of life. They reasoned therefore that an effective

27 low-cost intervention would be likely to represent a cost-effective use of NHS resources and28 therefore, reflecting the strength of the evidence, they recommended that a non-ototoxic

29 topical antibiotic-containing ear drop treatment could be considered for postoperative

30 otorrhoea after grommet insertion.

The committee were concerned about the ototoxic impact of repeat infections and possible damage to the hearing drum where antibiotics had not worked. Therefore, where this was an issue, they recommended that removal of grommets could be considered. Although, that would involve a surgical procedure they believed the recommendation was likely to be costeffective because of the potential long-term impact on health-related quality of life from infection that does not respond to antibiotics.

#### 37 Recommendations supported by this evidence review

38 This evidence review supports recommendations 1.6.7 to 1.6.10.

## 1 References – included studies

#### 2 Effectiveness

#### 3 van Dongen 2014

4 van Dongen, T. M. A., van der Heijden, G. J. M. G., Venekamp, R. P. et al. (2014). A trial of

5 treatment for acute otorrhea in children with tympanostomy tubes, The New England Journal 6 of Medicine 370(8), 723-33

#### 7 Other

#### 8 British National Formulary for Children (BNFC)

9 Paediatric Formulary Committee. BNF for Children (online) London: BMJ Group,

10 Pharmaceutical Press, and RCPCH Publications <a href="http://www.medicinescomplete.com">http://www.medicinescomplete.com</a>>

11 [Accessed on 31-05-2022]

#### 12 NICE guideline [NG51]

13 National Institute for Health and Care Excellence. (2017). Sepsis: recognition, diagnosis and

14 early management [NICE Guideline No. 51]. <https://www.nice.org.uk/guidance/ng51>

15 [Accessed on 31-05-2022]

#### 16 NICE guideline [NG143]

17 National Institute for Health and Care Excellence. (2021). Fever in under 5s: assessment and

18 initial management [NICE Guideline No. 143]. <https://www.nice.org.uk/guidance/ng143>

19 [Accessed on 31-05-2022]

# 1 Appendices

### 2 Appendix A Review protocols

3 Review protocol for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery 4 for OME-related hearing loss in children under 12 years?

#### 5 Table 3: Review protocol

Field	Content
PROSPERO registration number	CRD42022333940
Review title	The effectiveness of interventions for treating otorrhoea after surgery for hearing loss associated with otitis media with effusion in children
Review question	What interventions are effective for treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years?
Objective	To determine the effectiveness of intraoperative or postoperative interventions at preventing otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 years
Searches	<ul> <li>The following databases will be searched:</li> <li>Cochrane Central Register of Controlled Trials (CENTRAL)</li> <li>Cochrane Database of Systematic Reviews (CDSR)</li> <li>Embase</li> <li>Epistemonikos</li> <li>International Health Technology Assessment (INAHTA) database</li> <li>MEDLINE &amp; MEDLINE In-Process</li> </ul> Searches will be restricted by: <ul> <li>OECD geographic study filter</li> <li>Date limitations: 2010 onwards (see rationale under "Other exclusion criteria")</li> </ul>

Field	Content
	English language studies
	Human studies
	Other searches:
	Inclusion lists of systematic reviews
	Citation searches of included studies
	With the agreement of the guideline committee the searches will be re-run between 6-8 weeks before final submission of the review and further studies retrieved for inclusion.
	The full search strategies for MEDLINE database will be published in the final review.
Condition or domain being studied	Hearing loss associated with otitis media with effusion
Population	All children under 12 years who have otorrhoea after ventilation tube surgery for OME- related hearing loss.
Intervention	Interventions of interest (alone or in combination):
	Antibiotic ear drops with or without corticosteroid
	Oral antibiotics
	<ul> <li>Water precautions (actions to ensure ears are kept dry, for example, wearing ear plugs, swimming cap and headband and avoidance of swimming)</li> </ul>
Comparator	<ul> <li>Head-to-head comparisons between the above intervention categories** (alone or in combination)</li> </ul>
	The above interventions (alone or in combination) versus placebo
	The above interventions (alone or in combination) versus no intervention for otorrhoea
	**Please note, we will not include head-to-head comparisons between different interventions within each category (e.g., comparisons between different types of oral antibiotics), only head-to-head comparisons of interventions from different categories (e.g., an oral antibiotic versus a water precaution intervention)

Field	Content
Types of study to be included	Include published full-text papers:
	Systematic reviews of RCTs
	• RCTs
	<ul> <li>If insufficient RCTs*: comparative prospective cohort studies with at least 40 participants per arm</li> </ul>
	If insufficient comparative prospective cohort studies: comparative retrospective cohort studies with at least 40 participants per arm
	*Non-randomised studies will be considered for inclusion if insufficient RCT evidence is available for guideline decision making. Sufficiency will be judged taking into account factors including number/quality/sample size of RCTs, outcomes reported and availability of data from subgroups of interest.
	Non-randomised studies will be downgraded for risk of bias if they do not adequately adjust for the following covariates, but will not be excluded for this reason: Age
Other exclusion criteria	Country limitations: limit studies to OECD high-income countries
	• Date limitations: 2010 as safety of antibiotics was improved from 2015 (e.g., non- ototoxic antibiotics) and the committee wanted to capture studies leading up to that change.
	Language limitations: studies published not in English-language
	Conference abstracts will not be considered.
Context	This guidance will fully update the following NICE guideline: Otitis media with effusion in under 12s: surgery (2008; CG60)
Primary outcomes (critical outcomes)	Otorrhoea (ear discharge) resolves
	Adverse effects of intervention (including antimicrobial resistance)
	Surgical intervention to remove VTs
Secondary outcomes (important outcomes)	Tube blockage
	Tube extrusion
	Hearing

Field	Content
	<ul> <li>Quality of life (measured by OM8-30 questionnaire, Health Utilities Index Mark 3 (HUI3) questionnaire, Otitis Media-6 (OM-6) questionnaire, Quality of Life in Children's Ear Problems (OMQ-14) questionnaire, Evaluation of Children's Listening and Processing Skills (ECLiPS) questionnaire, Auditory Behaviour in Everyday Life (ABEL) questionnaire, Early Listening Function (ELF) questionnaire, Parents' Evaluation of Aural/Oral Performance of Children (PEACH) questionnaire, EuroQol 5 Dimensions (EQ-5D) questionnaire, Infant Toddler Quality of Life Questionnaire, or Child Heath Questionnaire)</li> </ul>
Data extraction (selection and coding)	All references identified by the searches and from other sources will be uploaded into EPPI and de-duplicated. Titles and abstracts of the retrieved citations will be screened to identify studies that potentially meet the inclusion criteria outlined in the review protocol. Dual sifting will be performed on at least 10% of records; 90% agreement is required, if capacity allows it. Disagreements will be resolved via discussion between the two reviewers, and consultation with senior staff if necessary. Full versions of the selected studies will be obtained for assessment. Studies that fail to meet the inclusion criteria once the full version has been checked will be excluded at this stage. Each study excluded after checking the full version will be listed, along with the reason for its exclusion. A standardised form will be used to extract data from studies. The following data will be extracted: study details (reference, country where study was carried out, type and dates), participant characteristics, inclusion and exclusion criteria, details of the interventions if relevant, setting and follow-up, relevant outcome data and source of funding. One reviewer will extract relevant data into a standardised form, and this will be quality assessed by a senior reviewer.
Risk of bias (quality) assessment	<ul> <li>Quality assessment of individual studies will be performed using the following checklists:</li> <li>ROBIS tool for systematic reviews</li> <li>Cochrane RoB tool v.2 for RCTs and quasi-RCTs</li> <li>Cochrane ROBINS-I tool for non-randomised (clinical) controlled trials and cohort studies</li> </ul>
	The quality assessment will be performed by one reviewer, and this will be quality assessed by a senior reviewer.

Field	Content		
Strategy for data synthesis	Quantitative findings will be formally summarised in the review. Where possible, meta- analyses will be conducted using Cochrane Review Manager software. A fixed effect meta-analysis will be conducted and data will be presented as risk ratios or odds ratios for dichotomous outcomes, and mean differences or standardised mean differences for continuous outcomes. Heterogeneity in the effect estimates of the individual studies will be assessed using the 12 statistic. Alongside visual inspection of the point estimates and confidence intervals, 12 values of greater than 50% and 80% will be considered as significant and very significant heterogeneity, respectively. Heterogeneity will be explored as appropriate using sensitivity analyses and pre-specified subgroup analyses. If heterogeneity cannot be explained through subgroup analysis then a random effects model will be used for meta-analysis, or the data will not be pooled if the random effects model does not adequately address heterogeneity. The confidence in the findings across all available evidence will be evaluated for each outcome using an adaptation of the 'Grading of Recommendations Assessment, Development and Evaluation (GRADE) toolbox' developed by the international GRADE working group: http://www.gradeworkinggroup.org/		
Analysis of sub-groups	Evidence will be subgrouped by the following only in the event that there is significant		
	heterogeneity in outcomes:		
	• Age		
	<ul> <li>Children &lt;2 years vs ≥2 years</li> </ul>		
	<ul> <li>Children &lt;4 years vs ≥4 years</li> <li>Children &lt;6 years vs ≥6 years</li> </ul>		
	Where evidence is subgrouped the committee will consider on a case by case basis if separate recommendations should be made for distinct groups. Separate recommendations may be made where there is evidence of a differential effect of interventions in distinct groups. If there is a lack of evidence in one group, the committee		

Field	Content			
	will consider, based on their experience, whether it is reasonable to extrapolate and assume the interventions will have similar effects in that group compared with others.		ktrapolate and red with others.	
Type and method of review	□ Intervention			
		Diagnostic		
	Prognostic			
	□ Qualitative			
	Epidemiologic			
	Service Delivery			
		Other (please specify)		
Language	English			
Country	England			
Anticipated or actual start date	31/03/2022			
Anticipated completion date	23/12/2022			
Stage of review at time of this submission	Review stage		Started	Completed
	Preliminary searches		✓	<b>v</b>
	Piloting of the study selection process			<b>v</b>
	Formal screening of se eligibility criteria	earch results against		•
	Data extraction			✓
	Risk of bias (quality) assessment		<b>v</b>	<b>v</b>
	Data analysis			<b>v</b>
Named contact	Named contact: Nation	al Guideline Alliance otitis@nice.org.uk		

Field	Content
	Organisational affiliation of the review: National Institute for Health and Care Excellence (NICE) and National Guideline Alliance
Review team members	National Guideline Alliance
Funding sources/sponsor	This systematic review is being completed by the National Guideline Alliance which receives funding from NICE.
Conflicts of interest	All guideline committee members and anyone who has direct input into NICE guidelines (including the evidence review team and expert witnesses) must declare any potential conflicts of interest in line with NICE's code of practice for declaring and dealing with conflicts of interest. Any relevant interests, or changes to interests, will also be declared publicly at the start of each guideline committee meeting. Before each meeting, any potential conflicts of interest will be considered by the guideline committee Chair and a senior member of the development team. Any decisions to exclude a person from all or part of a meeting will be documented. Any changes to a member's declaration of interests will be recorded in the minutes of the meeting. Declarations of interests will be published with the final guideline.
Collaborators	Development of this systematic review will be overseen by an advisory committee who will use the review to inform the development of evidence-based recommendations in line with section 3 of <u>Developing NICE guidelines: the manual</u> . Members of the guideline committee are available on the NICE website: <u>https://www.nice.org.uk/guidance/indevelopment/gid-ng10193</u>
Other registration details	None
Reference/URL for published protocol	https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42022333940
Dissemination plans	<ul> <li>NICE may use a range of different methods to raise awareness of the guideline. These include standard approaches such as:</li> <li>notifying registered stakeholders of publication</li> <li>publicising the guideline through NICE's newsletter and alerts</li> <li>issuing a press release or briefing as appropriate, posting news articles on the NICE website, using social media channels, and publicising the guideline within NICE.</li> </ul>
Keywords	Otitis media with effusion, otorrhoea, hearing, quality of life

Field	Content		
Details of existing review of same topic by same authors	None		
Current review status		Ongoing	
	$\boxtimes$	Completed but not published	
		Completed and published	
		Completed, published and being updated	
		Discontinued	
Additional information	None		
Details of final publication	www.nice.org.uk		

1 CDSR: Cochrane Database of Systematic Reviews; CENTRAL: Cochrane Central Register of Controlled Trials; GRADE: Grading of Recommendations Assessment,

2 Development and Evaluation; INAHTA: International Health Technology Assessment database; MEDLINE: Medical Literature Analysis and Retrieval System Online; MID:

3 minimally important difference; NICE: National Institute for Health and Care Excellence; RCT: randomised controlled trial; RoB: risk of bias; ROBINS-I: risk of bias in non-

4 randomised studies – of interventions; ROBIS: risk of bias in systematic reviews; SD: standard deviation; VT: ventilation tube

# 1 Appendix B Literature search strategies

2 Literature search strategies for review question: What interventions are effective for treating

3 otorrhoea (ear discharge) after surgery for OME-related hearing loss in children under 12 4 years?

#### 5 Clinical search

- 6 This was a combined search to cover both this review and the evidence review on the
- 7 effectiveness of intraoperative and postoperative interventions at preventing otorrhoea after
- 8 surgery for OME-related hearing loss in children under 12 years.

#### 9 Database: MEDLINE – OVID interface

#### 10 Date last searched: 09/11/2022

#### # Searches

- 1 otitis media with effusion/
- 2 (glue ear or ((middle ear or otitis media) adj2 effusion\*) or ome or ((secretory or serous) adj2 otitis media)).ti,ab. 1 or 2
- 3
- 4 Cerebrospinal Fluid Otorrhea/ or Mucus/ or Otitis Media, Suppurative/ or Suppuration/
- 5 (otor\* or discharg\* or fluid\* or leak\* or liquor\* or moist\* or mucoid\* or mucopurulen\* or mucus\* or otoliquor\* or purulen\* or pus or secret\* or suppurat\* or weep\* or wet\*).ti,ab.
- 6 4 or 5
- 3 and 6 7
- 8 Intraoperative Care/ or exp Intraoperative Period/ or exp Monitoring, Intraoperative/ or Perioperative Care/ or Perioperative Period/ or Postoperative Care/ or exp Postoperative Period/ or Secondary Prevention/ or Adenoidectomy/ or exp Otologic Surgical Procedures/
- (implant\* or infraoperat\* or infrasurg\* or operat\* or otosurg\* or perioperat\* or postoperat\* or postsurg\* or surg\* or prophyl\* or postadenoidectom\* or postadenotonsillectom\* or postmyringoplast\* or postmyringostom\* or 9 postmyringotom\* or posttubulat\* or posttympanoplast or posttympanostom\* or adenoidectom\* or adenotonsillectom\* or grommet\* or tube\* or tubulat\* or tympanoplast\* or tympanostom\* or tonsillectom\* or ventilat\*).ti,ab.
- 10 8 or 9 11 7 and 10
- 12 exp anti-infective agents/ or Bacterial Infections/ or exp beta-Lactams/ or exp Macrolides/ or exp Trimethoprim/
- (antibacteri\* or anti bacteri\* or antibiotic\* or anti biotic\* or antiinfect\* or anti infect\* or antimicrob\* or anti microb\* or 13 antimyobacteri\* or anti myobacteri or bacteriocid\*).ti,ab.
- 14 (penicillin\* or aminoglycoside\* or amoxicillin\* or amix or amoram or amoxident or galenamox or rimoxallin or amoxil or ampicillin\* or clavulan\* or coamoxiclav or amoxiclav or augmentin or ticarcillin or timentin or flucloxacillin or fluampicil or magnapen or piperacillin or tazocin or cephalosporin\* or cefaclor or distaclor or cefadroxil or baxan or cefalexin or ceporex or keflex or cefamandole or kefadol or cefazolin or kefzol or cefixime or suprax or cefotaxime or claforan or cefoxitin or mefoxin or cefpirome or cefrom or cefpodoxime or orelox or cefprozil or cefzil or cefradine or velosel or ceftazidime or fortum or kefadim or ceftriaxone or rocephin or cefuroxime\* or zinacef or zinnat or cefonicid or aztreonam or azactam or imipenem or cilastatin or primaxin or meropenem or meronem or tetracycline\* or deteclo or demecleocyclin or ledermycin or doxycycline or vibramycin or minocycline or minocine or oxytetracycline or terramycin or macrolide\* or erythromycin\* or erymax or erythrocin or erythroped or azithromycin\* or zithromax or zedbac or clarithromycin or klaricid or mycifor or telithromycin or sulfisoxazole or ketek or trimoxazole or moxifloxacin or avelox or trimethoprim or cotrimoxazole or monotrim or septrin or trimopan or metronidazole or flagyl or metrolyl or quinolone\* or ciprofloxacin or ciproxin or phenoxymethylpenicillin or sulfamethoxazole or oxacillin or cephalothin or sulbactam or ofloxacin or clindamycin or gentamycin or vancomycin or sulfisoxazole).ti,ab.
- 15 Steroids/ or exp Adrenal Cortex Hormones/ or exp Mineralocorticoids/ or exp Prednisolone/ or exp Pregnenediones/
- (steroid\* or adrenal cortex hormone\* or corticosteroid\* or corticoid\* or glucocorticoid\* or glucocorticosteroid\* or 16 aldosterone or aristocort or baycadron or becloforte or beclomet?a?one or aerobec or asmabec or beclazone or becodisks or becotide or clenil modulite or qvar or betamethasone or budelin or bude?onide or calcort or clobetasol or corlan or cortef or cortisol or cortisone or corticosterone or cortodoxone or cortone acetate or cotolone or decadron or deflazacort or delta?one or desonide or dexametha?one or dexsol or efcortesol or entocort or florinef acetate or flumetha?one or flunisolide or flutica?one or fludrocorti?one or hydrocorti?one or hydrocortone or hydroxycorticosteroid\* or hydroxypregnenolone or kenalog or medrone or medrol or solu?medrone or depo?medrone or methylpred or methylpredni?olone or mineralcorticoid\*or mometa?one or parametha?one or pediapred or prednicot or predni?olone or predni?one or pregnenedione\* or pregnenolone\* or prelone or pulmicort or solucortef or symbicort or tetrahydrocortisol or triamcinolone).ti,ab.
- Saline Solution/ or Saline Solution, Hypertonic/ or Sodium Chloride/ or Therapeutic Irrigation/ 17
- (antiseptic\* or anti septic\* or clean\* or drop\* or eardrop\* or hypersaline or hypertonic\* or hyper tonic\* or irrigat\* or 18 lavag\* or rins\* or saline or salt\* or seawater or sodium chloride or solution\* or toilet\* or wash\* or water\*) ti,ab.
- 19 Baths/ or Fresh Water/ or Immersion/ or "Oceans and Seas"/ or Seawater/ or Swimming Pools/ or Swimming/ or Water/
- 20 (swim\* or shower\* or bath\* or dry or dive or diving or nonswim\* or immers\* or submers\* or submerg\* or lake\* or pond\* or creek\* or pool\* or river\* or freshwater\* or sea\* or ocean\* or ingress\*).ti,ab.
- 21 Ear Protective Devices/

#### # Searches

- 22 (protect\* or prevent\* or precaution\* or barrier\* or ear mould\* or ear mold\* or ear plug\* or earplug\* or earmold\* or earmould\* or headband\* or head band\*).ti,ab.
- 23 or/12-22
- 24 11 and 23
- 25 limit 24 to english language
- 26 (animals/ not humans/) or exp animals, laboratory/ or exp animal experimentation/ or exp models, animal/ or exp rodentia/ or (rat or rats or mouse or mice).ti.
- 27 25 not 26
- 28 limit 27 to yr="2010 -Current"

#### 1 Database: Embase – OVID interface

#### 2 Date last searched: 09/11/2022

- # Searches
- 1 exp secretory otitis media/
- 2 (glue ear or ((middle ear or otitis media) adj2 effusion\*) or ome or ((secretory or serous) adj2 otitis media)).ti,ab.
- 3 1 or 2
- 4 exp otorrhea/ or mucus/ or suppuration/ or exp suppurative otitis media/
- 5 (otor\* or discharg\* or fluid\* or leak\* or liquor\* or moist\* or mucoid\* or mucopurulen\* or mucus\* or otoliquor\* or purulen\* or pus or secret\* or suppurat\* or weep\* or wet\*).ti,ab.
- 6 4 or 5
- 7 3 and 6
- 8 exp intraoperative monitoring/ or exp intraoperative period/ or exp perioperative monitoring/ or exp perioperative period/ or exp postoperative period/ or prophylaxis/ or prevention/ or adenoidectomy/ or exp ear surgery/
- 9 (implant\* or intraoperat\* or intrasurg\* or operat\* or otosurg\* or perioperat\* or postoperat\* or postsurg\* or surg\* or prophyl\* or postadenoidectom\* or postadenotonsillectom\* or postmyringoplast\* or postmyringostom\* or postmyringotom\* or posttubulat\* or posttympanoplast or posttympanostom\* or adenoidectom\* or adenotonsillectom\* or grommet\* or tube\* or tubulat\* or tympanoplast\* or tympanostom\* or tonsillectom\* or ventilat\*).ti,ab.
- 10 8 or 9
- 11 7 and 10
- 12 exp antiinfective agent/ or bacterial Infection/dt, pc
- 13 (antibacteri\* or anti bacteri\* or antibiotic\* or anti biotic\* or antiinfect\* or anti infect\* or antimicrob\* or anti microb\* or antimyobacteri\* or anti myobacteri or bacteriocid\*).ti,ab.
- 14 (penicillin\* or aminoglycoside\* or amoxicillin\* or amix or amoram or amoxident or galenamox or rimoxallin or amoxil or ampicillin\* or clavulan\* or coamoxiclav or amoxiclav or augmentin or ticarcillin or timentin or flucloxacillin or fluampicil or magnapen or piperacillin or tazocin or cephalosporin\* or cefaclor or distaclor or cefadroxil or baxan or cefalexin or ceporex or keflex or cefamandole or kefadol or cefazolin or kefzol or cefixime or suprax or cefotaxime or claforan or cefoxitin or mefoxin or cefpirome or cefrom or cefpodoxime or orelox or cefprozil or cefzil or cefradine or velosel or ceftazidime or fortum or kefadim or ceftriaxone or rocephin or cefuroxime\* or zinacef or zinnat or cefonicid or aztreonam or azactam or imipenem or cilastatin or primaxin or meropenem or meronem or tetracycline\* or deteclo or demecleocyclin or ledermycin\* or erythrocin or erythroped or azithromycin\* or zithromax or zedbac or clarithromycin or klaricid or mycifor or telithromycin or sulfisoxazole or ketek or trimoxazole or moxifloxacin or avelox or trimethoprim or cotrimoxazole or monotrim or septrin or trimopan or metronidazole or flagyl or metrolyl or quinolone\* or ciprofloxacin or ciproxin or gentamycin or vancomycin or sulfisoxazole).ti,ab.
- 15 steroid/ or exp corticosteroid/ or exp prednisolone/ or pregnane derivative/

16 (steroid\* or adrenal cortex hormone\* or corticosteroid\* or corticoid\* or glucocorticoid\* or glucocorticosteroid\* or aldosterone or aristocort or baycadron or becloforte or beclomet?a?one or aerobec or asmabec or beclazone or becodisks or becotide or clenil modulite or qvar or betamethasone or budelin or bude?onide or calcort or clobetasol or corlan or cortef or cortisol or cortisone or corticosterone or cortodoxone or cortone acetate or cotolone or decadron or deflazacort or delta?one or fluesconide or flucta?one or fluescone or fluescont?one or hydrocorti?one or hydrocortor or or bydrocorticosteroid\* or hydroxypregnenolone or kenalog or medrone or medrol or solu?medrone or depo?medrone or predni?olone or predni?olone or pregnenedione\* or pregnenolone\* or prelone or pulmicort or solucorte for symbicort or tetrahydrocortisol or predni?olone.it.ab.

- 17 ear drops/ or sodium chloride/ or lavage/
- 18 (antiseptic\* or anti septic\* clean\* or drop\* or eardrop\* or hypersaline or hypertonic\* or hyper tonic\* or irrigat\* or lavag\* or rins\* or saline or salt\* or seawater or sodium chloride or solution\* or toilet\* or wash\* or water\*).ti,ab.
- bath/ or fresh water/ or immersion/ or sea water/ or swimming pools/ or swimming/ or water/ or water immersion/
   (swim\* or shower\* or bath\* or dry or dive or diving or nonswim\* or immers\* or submers\* or submerg\* or lake\* or pond\*
- or creek\* or pool\* or river\* or freshwater\* or sea\* or ocean\* or ingress\*).ti,ab.
- 21 exp ear protective device/
- 22 (protect\* or prevent\* or precaution\* or barrier\* or ear mould\* or ear mold\* or ear plug\* or earplug\* or earmold\* or earmould\* or headband\* or head band\*).ti,ab.
- 23 or/12-22
- 24 11 and 23
- 25 limit 24 to english language
- 26 (animal/ not human/) or nonhuman/ or exp animal experiment/ or exp experimental animal/ or animal model/ or exp rodent/ or (rat or rats or mouse or mice).ti.

#### # Searches

27 25 not 26

- 28 limit 27 to (conference abstract or conference paper or conference review or conference proceeding)
- 29 27 not 28
- 30 limit 29 to yr="2010 -Current"

# Database: Cochrane Database of Systematic Reviews (CDSR); Cochrane Central Register of Controlled Trials (CENTRAL) – Wiley interface

#### 3 Date last searched: 09/11/2022

<ul> <li>MeSH descriptor: [Ottis Media with Effusion] this term only</li> <li>#1 or #2</li> <li>#1 or #2</li> <li>MeSH descriptor: [Cerebrospinal Fluid Otorrhea] this term only</li> <li>#4 or #2</li> <li>MeSH descriptor: [Cerebrospinal Fluid Otorrhea] this term only</li> <li>MeSH descriptor: [Ottis Media, Suppurative] this term only</li> <li>#6 (otor or discharg* or fluid* or leak* or liquor* or moist* or mucoid* or mucopurulen* or mucus* or otoliquor* or purulen* or pus or secret* or suppurat* or weep* or wet*)ti.ab</li> <li>(otar* or discharg* or fluid* or leak* or liquor* or moist* or mucoid* or mucopurulen* or mucus* or otoliquor* or purulen* or pus or secret* or suppurat* or weep* or wet*)ti.ab</li> <li>(at #4#8)</li> <li>(otar* descriptor: [Intraoperative Care] this term only</li> <li>#11 MeSH descriptor: [Intraoperative Care] this term only</li> <li>#12 MeSH descriptor: [Perioperative Care] this term only</li> <li>#14 MeSH descriptor: [Perioperative Care] this term only</li> <li>#15 MeSH descriptor: [Postoperative Care] this term only</li> <li>#16 MeSH descriptor: [Postoperative Care] this term only</li> <li>#17 MeSH descriptor: [Postoperative Care] this term only</li> <li>#18 MeSH descriptor: [Postoperative Period] this term only</li> <li>#19 MeSH descriptor: [Postoperative Period] this term only</li> <li>#18 MeSH descriptor: [Postoperative Period] this term only</li> <li>#19 MeSH descriptor: [Ottolgic Surgical Procedures] explode all trees</li> <li>#21 (implant* or intrasurg* or operat* or opstmyrinogolast* or postmyringolast* or postmyrin</li></ul>	
<ul> <li>#2 ("glue ear" or "(middle ear" or "otilis media") near/2 effusion*) or ome or ((secretory or serous) near/2 "otilis media"))titab.kw</li> <li>#3 #1 or #2</li> <li>#4 MoSH descriptor: [Cerebrospinal Fluid Otorrhea] this term only</li> <li>MeSH descriptor: [Otilis Media, Suppurative] this term only</li> <li>#6 MeSH descriptor: [Otilis Media, Suppurative] this term only</li> <li>#7 MeSH descriptor: [Otilis Media, Suppurative] this term only</li> <li>#8 (otor" or discharg" or fluid" or leak* or liquor* or moist" or mucoid* or mucopurulen* or mucus* or otoliquor* or purulen* or pus or secret* or suppurat* or weep* or wet*)til.ab</li> <li>#9 (or #4.#8)</li> <li>#10 #3 and #9</li> <li>#11 MeSH descriptor: [Intraoperative Period] this term only</li> <li>#12 MeSH descriptor: [Intraoperative Period] this term only</li> <li>#13 MeSH descriptor: [Perioperative Care] this term only</li> <li>#14 MeSH descriptor: [Perioperative Care] this term only</li> <li>#15 MeSH descriptor: [Perioperative Care] this term only</li> <li>#16 MeSH descriptor: [Perioperative Care] this term only</li> <li>#17 MeSH descriptor: [Perioperative Care] this term only</li> <li>#18 MeSH descriptor: [Perioperative Care] this term only</li> <li>#19 MeSH descriptor: [Postoperative Care] this term only</li> <li>#11 MeSH descriptor: [Postoperative Care] this term only</li> <li>#12 MeSH descriptor: [Postoperative Care] this term only</li> <li>#13 MeSH descriptor: [Cotologic Surgical Procedures] explode all trees</li> <li>#21 (implant* or intraoperat* or intrasurg* or operat* or opstoryningolom* or postmyringotom* or postubulat* or typenoplast or otsyltymanostom* or adenotdectom* or adenotonsillectom</li> <li>#22 for #11.#21</li> <li>#34 H descriptor: [Anti-Infective Agents] this term only</li> <li>#23 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#24 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#25 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#24 MeSH descriptor: [Anti-Infective Agents] thi</li></ul>	
<ul> <li>#1 of #2</li> <li>#4 MeSH descriptor: [Cerebrospinal Fluid Otorrhea] this term only</li> <li>MeSH descriptor: [Outise Media, Suppurative] this term only</li> <li>MeSH descriptor: [Outise Media, Suppurative] this term only</li> <li>MeSH descriptor: [Suppuration] this term only</li> <li>(otor' or discharg' or fluid' or leak' or liquor' or most' or mucoid' or mucopurulen' or mucus' or otoliquor' or purulen' or pus or secret' or suppurat' or weep' or wet') ti,ab</li> <li>(or #4-#8)</li> <li>(or #4-#8)</li> <li>MeSH descriptor: [Intraoperative Care] this term only</li> <li>#3 and #9</li> <li>MeSH descriptor: [Intraoperative Period] this term only</li> <li>MeSH descriptor: [Perioperative Care] this term only</li> <li>MeSH descriptor: [Perioperative Care] this term only</li> <li>MeSH descriptor: [Perioperative Care] this term only</li> <li>MeSH descriptor: [Postoperative Care] this term only</li> <li>MeSH descriptor: [Adenoidectomy] this term only</li> <li>MeSH descriptor: [Adenoidectomy] this term only</li> <li>MeSH descriptor: [Adenoidectomy] this term only</li> <li>MeSH descriptor: [Otologic Surgical Procedures] explode all trees</li> <li>(minal '' or intraoperat'' or intraoperat' or otosurg' or perioperat' or postnyringostam' or postnyringostam' or postnyringostam' or postnyringostam' or postnyringostam' or postnyringostam' or postnyringostam or or postnyringostam or or postnyringostam or or postnyringostam or postnyringostam or postnyringostam or postnyringostam or or adenoidectom' or antibiat descriptor: [Anti-Infective Agents] this term only</li> <li>MeSH descripto</li></ul>	
#4         MeSH descriptor: [Corebrospinal Fluid Otorrhea] this term only           #5         MeSH descriptor: [Nucus] this term only           #7         MeSH descriptor: [Suppuration] this term only           #8         (dof 44-#8)           #8         (dof 44-#8)           #10         #3 and #9           #11         MeSH descriptor: [Intraoperative Care] this term only           #12         MeSH descriptor: [Intraoperative Care] this term only           #13         MeSH descriptor: [Intraoperative Care] this term only           #14         MeSH descriptor: [Intraoperative Care] this term only           #14         MeSH descriptor: [Perioperative Care] this term only           #14         MeSH descriptor: [Perioperative Care] this term only           #15         MeSH descriptor: [Perioperative Care] this term only           #16         MeSH descriptor: [Costoperative Care] this term only           #17         MeSH descriptor: [Adenoidectomy] this term only           #18         MeSH descriptor: [Adenoidectomy] this term only           #19         MeSH descriptor: [Adenoidectomy] this term only           #20         MeSH descriptor: [Adenoidectomy] to postadenoidectom* or postmyringoplast* or postayringoplast* or postayringostom* or postmyringostom* or postmyringostom* or postmyringostom* or postmyringostom* or postmyringostom* or postmyringosterm* or postmyringoplast* or postmyringosterm* or p	
#5H descriptor: [Mucus] this term only         #6 MeSH descriptor: [Suppuration] this term only         #7 MeSH descriptor: [Suppuration] this term only         #8 (cfor* or discharg* or fluid* or leak* or liquor* or mosit* or mucoid* or mucopurulen* or muso secret* or suppurat* or weep* or wet*):ti.ab         #9 (or #4-#8)         #10 #SH descriptor: [Intraoperative Care] this term only         #11 MeSH descriptor: [Intraoperative Period] this term only         #12 MeSH descriptor: [Intraoperative Care] this term only         #13 MeSH descriptor: [Perioperative Care] this term only         #14 MeSH descriptor: [Perioperative Care] this term only         #15 MeSH descriptor: [Postoperative Care] this term only         #16 MeSH descriptor: [Secondary Prevention] this term only         #17 MeSH descriptor: [Secondary Prevention] this term only         #18 MeSH descriptor: [Cologic Surgical Procedures] explode all trees         #11 (Implant* or intraoperat*or intrausrg* or operat* or obstrying optast* or postmyringostom* or postmyringostom* or apostmyringostan* or postmyringostan* or adenoidectom* or entilat*).ti, ab         #22 (or #11-#21)         #23 #10 and #22         #24 MeSH descriptor: [Anti-Infective Agents] this term only         #25 MeSH descriptor: [Anti-Infective Agents] this term only         #26 MeSH descriptor: [Anti-Infective Agents] this term only	
<ul> <li>MeSH descriptor: [Ottis Media, Suppurative] this term only</li> <li>MeSH descriptor: [Suppuration] this term only</li> <li>(ort of or discharg' or fluid' or leak' or liquor' or moist' or mucoid' or mucouten' or mucus' or otoliquor' or purulen' or pus or secret' or suppurat' or weep' or wet'):i,ab</li> <li>(or 44:#8)</li> <li>#10 #3 and #9</li> <li>#11 MeSH descriptor: [Intraoperative Care] this term only</li> <li>#12 MeSH descriptor: [Intraoperative Period] this term only</li> <li>#13 MeSH descriptor: [Perioperative Care] this term only</li> <li>#14 MeSH descriptor: [Perioperative Care] this term only</li> <li>#15 MeSH descriptor: [Perioperative Care] this term only</li> <li>#16 MeSH descriptor: [Perioperative Care] this term only</li> <li>#17 MeSH descriptor: [Postoperative Period] this term only</li> <li>#18 MeSH descriptor: [Postoperative Period] this term only</li> <li>#19 MeSH descriptor: [Dotodigrative Period] this term only</li> <li>#19 MeSH descriptor: [Cotodig Cargical Procedures] explode all trees</li> <li>#21 (implant 'or intraoperat' or intrasurg' or operat' or otosurg' or perioperat' or postperat' or posturg' or surg' or prophyl' or postadenoidectom' or postatympanoplast or posttympanoplast or overtilat'), it, ab</li> <li>#22 (or #11+#21)</li> <li>#23 #10 and #22</li> <li>#24 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#25 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#26 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#27 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#28 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#29 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#21 MeSH descriptor: [Anti-Infective Agen</li></ul>	
<ul> <li>MeSH descriptor: [Suppuration] this term only</li> <li>(tot<sup>-</sup> or discharg<sup>+</sup> or fluid<sup>+</sup> or leak<sup>+</sup> or liquor<sup>+</sup> or mocid<sup>+</sup> or mucoplurulen<sup>+</sup> or mucus<sup>+</sup> or otoliquor<sup>+</sup> or purulen<sup>+</sup> or mucos<sup>+</sup> or secret<sup>+</sup> or suppurat<sup>+</sup> or wee<sup>+</sup> or wet<sup>+</sup>):ti,ab</li> <li>(or #4-#8)</li> <li>(or #4-#8)</li> <li>(or #4-#8)</li> <li>MeSH descriptor: [Intraoperative Care] this term only</li> <li>MeSH descriptor: [Intraoperative Period] this term only</li> <li>MeSH descriptor: [Perioperative Care] this term only</li> <li>MeSH descriptor: [Perioperative Care] this term only</li> <li>MeSH descriptor: [Perioperative Care] this term only</li> <li>MeSH descriptor: [Postoperative Prevention] this term only</li> <li>MeSH descriptor: [Adenoidectomy] this term only</li> <li>MeSH descriptor: [Cotoligi Surgical Procedures] explode all trees</li> <li>(implant<sup>+</sup> or intraoperat<sup>+</sup> or opstrymanoplast<sup>+</sup> or postoperat<sup>+</sup> or postoperat<sup>+</sup> or postager or postopy or postadenoidectom<sup>+</sup> or posttympanostom<sup>+</sup> or torsillectom<sup>+</sup> or ventilat<sup>+</sup>):ti,ab</li> <li>(or #11-#21)</li> <li>MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>MeSH descriptor: [Anti-Infective Agents] explode all trees</li> <li>MeSH descriptor: [Anti-Infective Agents] explode all trees</li> <li>MeSH descriptor: [Matchine] explode all trees</li> <li>MeSH descript</li></ul>	
<ul> <li>(ator* or discharg* or fluid* or leak* or liquor* or moist* or mucoid* or mucourulen* or mucus* or otoliquor* or purulen* or pus or secret* or suppurat* or weep* or wet*):ti,ab</li> <li>(br 44#8)</li> <li>(br 44#8)</li> <li>(br 44#8)</li> <li>(br 44#8)</li> <li>(context and both descriptor: [Intraoperative Care] this term only</li> <li>(context and both descriptor: [Intraoperative Care] this term only</li> <li>(context and both descriptor: [Perioperative Care] this term only</li> <li>(context and both descriptor: [Perioperative Care] this term only</li> <li>(context and both descriptor: [Perioperative Care] this term only</li> <li>(context and both descriptor: [Perioperative Care] this term only</li> <li>(context and both descriptor: [Perioperative Period] this term only</li> <li>(context and both descriptor: [Postoperative Period] this term only</li> <li>(context and both descriptor: [Postoperative Period] this term only</li> <li>(context and both descriptor: [Cologic Surgical Procedures] explode all trees</li> <li>(mplant* or intraoperat* or intrasurg* or operat* or obstyrg* or perioperat* or postoperat* or postsurg* or surg* or prostmyringoplast* or postmyringoslom* or postmyringotom* or posttympanoplast* or tympanostom* or or vontillat*):ti,ab</li> <li>(cor #114#21)</li> <li>(cor #114#21)</li> <li>(cor #114#21)</li> <li>(cor #114#21)</li> <li>(and #22</li> <li>(dor #114#21)</li> <li>(and BH descriptor: [Anti-Infective Agents] this term only</li> <li>(and BH descriptor: [Anti-Infective Agents] this term only</li> <li>(and BH descriptor: [Anti-Infective Agents] explode all trees</li> <li>(and BH descriptor: [Anti-Infective Agents] explode all trees</li> <li>(and BH descriptor: [Cont-Infective Agents] explode all trees</li> <li>(and BH descriptor: [Cont-Infective Agents] explode all trees</li> <li>(and BH descriptor: [Context Agents] explode all trees</li> <li>(and BH descriptor: [Context Agents] explode all trees</li> <li>(and BH descriptor: [Context Agents] explode all trees</li> <li>(and BH descrip</li></ul>	
<ul> <li>for #4.#8)</li> <li>#10 #3 and #9</li> <li>#11 MeSH descriptor: [Intraoperative Care] this term only</li> <li>#12 MeSH descriptor: [Intraoperative Period] this term only</li> <li>#13 MeSH descriptor: [Perioperative Care] this term only</li> <li>#14 MeSH descriptor: [Perioperative Care] this term only</li> <li>#15 MeSH descriptor: [Perioperative Care] this term only</li> <li>#16 MeSH descriptor: [Perioperative Care] this term only</li> <li>#17 MeSH descriptor: [Postoperative Period] this term only</li> <li>#18 MeSH descriptor: [Postoperative Period] this term only</li> <li>#19 MeSH descriptor: [Postoperative Period] this term only</li> <li>#19 MeSH descriptor: [Cotologic Surgical Procedures] explode all trees</li> <li>#21 (Implant' or intraoperat' or intrasurg' or operat' or obstrugt or perioperat' or postoperat' or postsurgt or surg' or postnyringoptart' or postadenoidectom* or opostnyringoptart or postoperat' or adenotonsillect or grommet' or tube' or tubulat' or tympanoplast or postnyringoplast or postnyringostom* or adenotonsillect or grommet' or tube' or tubulat' or tympanoplast or postnyringoplast or overtillat'):ti, ab</li> <li>#22 {or #11.#21}</li> <li>#23 #10 and #22</li> <li>#24 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#25 MeSH descriptor: [Anti-Infective Agents] explode all trees</li> <li>#26 MeSH descriptor: [Bate-Iral Agents] explode all trees</li> <li>#27 MeSH descriptor: [Bate-Iral Agents] explode all trees</li> <li>#30 MeSH descriptor: [Bate-Iral Agents] explode all trees</li> <li>#31 (antibacteri or "anti baterial or antiviotic" or antiviotic" or antimicret* or "antimicret* or antimicreb* or "antimicreb* or effavoril or defavoril or cefavoril or cefavoril</li></ul>	
<ul> <li>#3 and #0</li> <li>#3 and #0</li> <li>MeSH descriptor: [Intraoperative Care] this term only</li> <li>MeSH descriptor: [Intraoperative Period] this term only</li> <li>MeSH descriptor: [Perioperative Care] this term only</li> <li>#14 MeSH descriptor: [Perioperative Care] this term only</li> <li>#15 MeSH descriptor: [Perioperative Care] this term only</li> <li>#16 MeSH descriptor: [Perioperative Care] this term only</li> <li>#17 MeSH descriptor: [Postoperative Care] this term only</li> <li>#18 MeSH descriptor: [Postoperative Care] this term only</li> <li>#19 MeSH descriptor: [Secondary Prevention] this term only</li> <li>#20 MeSH descriptor: [Cotogic Surgical Procedures] explode all trees</li> <li>#21 (implant* or intraoperat* or intrasurg* or operat* or olosurg* or perioperat* or postsurg* or surg* or prophyl* or postadenoidectom* or postadenoidectom* or postmyringotat* or postmyringostom* or adenoidectom* or adenoidectom* or adenoidectom* or adenoidectom* or consultat* or tympanoplast* or tympanoplast* or tympanoplast* or or eventilat*):ti,ab</li> <li>#22 (or #11#21)</li> <li>#24 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#25 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#26 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#27 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#28 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#28 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#29 MeSH descriptor: [Anti-Infective Agents] c.c.all explode all trees</li> <li>#30 MeSH descriptor: [Datacterial Infections] this term only</li> <li>#31 (antibacteritor: [Anti-Infective Agents] c.c.all explode all trees</li> <li>#32 (penicilin* or antibacteri* or antibiotic* or antibiotic* or antininfect* or antimicrob* or "anti microb* or "anti microb*" or antimicrob* or antimicrob* or "anti mi</li></ul>	
<ul> <li>#11 MeSH descriptor: [Intraoperative Care] this term only</li> <li>#12 MeSH descriptor: [Intraoperative Period] this term only</li> <li>#13 MeSH descriptor: [Perioperative Care] this term only</li> <li>#14 MeSH descriptor: [Perioperative Care] this term only</li> <li>#15 MeSH descriptor: [Perioperative Care] this term only</li> <li>#16 MeSH descriptor: [Postoperative Care] this term only</li> <li>#17 MeSH descriptor: [Postoperative Care] this term only</li> <li>#18 MeSH descriptor: [Postoperative Period] this term only</li> <li>#19 MeSH descriptor: [Aetonicative Care] this term only</li> <li>#20 MeSH descriptor: [Aetonicateomy] this term only</li> <li>#21 (implant' or intraoperat' or intrasurg' or operat' or otosurg' or perioperat' or postoperat' or postoperat' or surg' or prophyl' or postadenoidectom' or postadenoidectom' or postadenoidectom or op studenoidectom or postadenoidectom or postadenoidec</li></ul>	
<ul> <li>MeSH descriptor: [Intraoperative Period] this term only</li> <li>MeSH descriptor: [Monitoring, Intraoperative] this term only</li> <li>MeSH descriptor: [Perioperative Care] this term only</li> <li>MeSH descriptor: [Perioperative Care] this term only</li> <li>MeSH descriptor: [Postoperative Care] this term only</li> <li>MeSH descriptor: [Postoperative Care] this term only</li> <li>MeSH descriptor: [Secondary Prevention] this term only</li> <li>MeSH descriptor: [Secondary Prevention] this term only</li> <li>MeSH descriptor: [Adenoidectomy] this term only</li> <li>MeSH descriptor: [Otologic Surgical Procedures] explode all trees</li> <li>(implant' or intraoperat' or intrasurg' or operat' or otosurg' or perioperat' or postsurg' or surg' o prophyl's or postadenoidectom* or postadenoidectom* or postnyringoplast or or postmyringostom* or adenoidectom* or ventilat' or tympanoplast or postnyringostom* or adenoidectom* or ventilat' or tympanoplast or postnyringostom* or ventilat'); i, ab</li> <li>422 (or #11.#21)</li> <li>#23 #10 and #22</li> <li>#24 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#25 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#26 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#27 MeSH descriptor: [Colling Explode all trees</li> <li>#29 MeSH descriptor: [Colling Explode all trees</li> <li>#29 MeSH descriptor: [Colling Explode all trees</li> <li>#30 MeSH descriptor: [Colling Explode all trees</li> <li>#31 (antibacteri* or *anti bacteri** or *anti biotic* or *anti biotic** or *anti infect** or *anti</li></ul>	
<ul> <li>#13 MeSH descriptor: [Monitoring, Intraoperative] this term only</li> <li>#14 MeSH descriptor: [Perioperative Care] this term only</li> <li>#15 MeSH descriptor: [Postoperative Period] this term only</li> <li>#16 MeSH descriptor: [Postoperative Period] this term only</li> <li>#17 MeSH descriptor: [Postoperative Period] this term only</li> <li>#18 MeSH descriptor: [Adenoidectomy] this term only</li> <li>#19 MeSH descriptor: [Adenoidectomy] this term only</li> <li>#20 MeSH descriptor: [Otologic Surgical Procedures] explode all trees</li> <li>#21 (implant* or intraoperat* or intrasurg* or operat* or obsurg* or postmyringoplast* or postsurg* or surg* or prostmyringotom* or postubulat* or postadenoidectom* or posttympanostom* or adenoidectom* or adenoidectom</li></ul>	
<ul> <li>MeSH descriptor: [Perioperative Care] this term only</li> <li>MeSH descriptor: [Perioperative Period] this term only</li> <li>MeSH descriptor: [Postoperative Care] this term only</li> <li>MeSH descriptor: [Postoperative Care] this term only</li> <li>MeSH descriptor: [Postoperative Care] this term only</li> <li>MeSH descriptor: [Secondary Prevention] this term only</li> <li>MeSH descriptor: [Adenoidectomy] this term only</li> <li>MeSH descriptor: [Adenoidectomy] this term only</li> <li>MeSH descriptor: [Adenoidectomy] this term only</li> <li>MeSH descriptor: [Otologic Surgical Procedures] explode all trees</li> <li>(implant* or intraoperat* or intrasurg* or operat* or otosurg* or perioperat* or postmyringostom* or postmyringotom* or postadenoidectom* or postadenoidest or postmyranostom* or adenoidectom* or adenoidectom*</li></ul>	
<ul> <li>#15 MeSH descriptor: [Perioperative Period] this term only</li> <li>#16 MeSH descriptor: [Postoperative Care] this term only</li> <li>#17 MeSH descriptor: [Postoperative Period] this term only</li> <li>#18 MeSH descriptor: [Secondary Prevention] this term only</li> <li>#19 MeSH descriptor: [Otologic Surgical Procedures] explode all trees</li> <li>#21 (implant* or intraoperat* or intrasurg* or operat* or otosurg* or perioperat* or postoperat* or postsurg* or surg* or postnyringotom* or postadenoidectom* or postaympanoplast or posthympanostom* or adenoidectom* or adenotonsillectom* or tobsillectom* or tomasillectom* or tobsillectom* or tomasillectom* or tobsillectom* or tomasillectom* or other adenotonsillectom* or other adenotonsillector* or or onsillectom* or ventilat*):ti, ab</li> <li>#22 (or #11.#21)</li> <li>#23 #10 and #22</li> <li>#24 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#25 MeSH descriptor: [Anti-Infective Agents] explode all trees</li> <li>#26 MeSH descriptor: [Anti-Infective Agents], Local] explode all trees</li> <li>#27 MeSH descriptor: [Date-Lactams] explode all trees</li> <li>#28 MeSH descriptor: [Date-Lactams] explode all trees</li> <li>#30 MeSH descriptor: [Macrolides] explode all trees</li> <li>#31 (antibacteri* or *anti bacteri** or *antibiotic* or *antiinfect* or *anti infect** or antimicrob* or *anti microb* or *anti infoct** or antimyobacteri** or anativiotal or advandar or advandar or advandar or caenaviclav or augmentin or ticarcillin or timentin or flucaxacillin or fluampicillin * or clavulan* or cefform or cefform or cefphologorin* or cefform or subact or cefforxil or cefarid or editation or deviation or deviation or deviation or editation or *anti infect** or *anti infect*** or antimicrob** or *anti infect*** or *antiminfect**** or ant</li></ul>	
<ul> <li>MeSH descriptor: [Postoperative Care] this term only</li> <li>MeSH descriptor: [Secondary Prevention] this term only</li> <li>MeSH descriptor: [Secondary Prevention] this term only</li> <li>MeSH descriptor: [Cologic Surgical Procedures] explode all trees</li> <li>MeSH descriptor: [Otologic Surgical Procedures] explode all trees</li> <li>(implant* or intraoperat* or intrasurg* or operat* or postnyringoplast* or postmyringostom* or prophyl* or postadenoidoctom* or other or tube* or tubulat* or tympanoplast* or tympanostom* or or or error grommet* or tube* or tubulat* or tympanoplast* or tympanostom* or or onsillectom* or ventilat*);ti,ab</li> <li>(and #11-#21)</li> <li>MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>MeSH descriptor: [Anti-Infective Agents] explode all trees</li> <li>MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>MeSH descriptor: [Anti-Infective Agents] explode all trees</li> <li>MeSH descriptor: [Anti-Infective antibiotic* or "antii biotic*" or antiinfect* or "anti infect*" or antimicrob* or "anti microb* or "anti microb* or "anti microb* or antinyobacteri* or "anti wobacteri*" or antibiotic* or antiofic or anoxical or active or calcol or cefactorial or baxan cefalexin or ceforum or kefadim or cefanalosporin* or cefaclor or distaclor or ceforadin or ampor apiop</li></ul>	
<ul> <li>MeSH descriptor: [Postoperative Period] this term only</li> <li>MeSH descriptor: [Secondary Prevention] this term only</li> <li>MeSH descriptor: [Cologic Surgical Procedures] explode all trees</li> <li>(implant* or intraoperat* or intrasurg* or operat* or obsurg* or perioperat* or postoperat* or postsurg* or surg* or prophyl* or postadenoidectom* or postadenotonsillectom* or postnyringoplast* or postnyringostom* or adenoidectom* or ade</li></ul>	
<ul> <li>MeSH descriptor: [Secondary Prevention] this term only</li> <li>MeSH descriptor: [Cotologic Surgical Procedures] explode all trees</li> <li>(implant* or intraoperat* or intrasurg* or operat* or otosurg* or perioperat* or postoperat* or postsurg* or surg* or prophyl* or postadenoidectom* or postadenoidentoms illectom* or postmyringoplast* or postmyringostom* or adenotonsillector or grommet* or tubulat* or tympanoplast or posttympanostom* or adenoidectom* or adenotonsillector or grommet* or tubulat* or tympanoplast or posttympanostom* or adenoidectom* or adenotonsillector or grommet* or tubulat* or tympanoplast or posttympanostom* or adenoidectom* or adenotonsillector or grommet* or tubulat* or tympanoplast* or tympanostom* or tonsillectom* or ventilat*):ti,ab</li> <li>#22 {or #11.#21}</li> <li>#23 #10 and #22</li> <li>#24 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#25 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#26 MeSH descriptor: [Dataetrial Infections] this term only</li> <li>#28 MeSH descriptor: [Dataetrial Infections] this term only</li> <li>#28 MeSH descriptor: [Dataetrial Infections] this term only</li> <li>#28 MeSH descriptor: [Macrolides] explode all trees</li> <li>#30 MeSH descriptor: [Macrolides] explode all trees</li> <li>#30 MeSH descriptor: [Macrolides] explode all trees</li> <li>#31 (antibacteri* or "anti biotic* or "anti biotic*" or "anti infect*" or "anti infect*" or "antimicrob* or "anti microb*" or "anti microb* or "anti microb* or "antimicrob* or "antimicrob* or explored all rees</li> <li>#32 (penicillin* or aninoglycoside* or amoxiclav or anoramor amoxident or galenamox or rimoxallin or am or amoxident or agenamox or rimoxallin or am or amoxident or galenamox or rimoxallin or am cefalexin or ceporex or keflex or cefamandole or kefadol or cefacoli or kefaclo or cefaori or estaro or ceforali or earlino ceforali or ecfariation erelitor or intercolino retracycline* or de or demecleocyclin or ledermycin or doxycovine or or biomaxion or meropemem</li></ul>	
<ul> <li>MeSH descriptor: [Adenoidectomy] this term only</li> <li>MeSH descriptor: [Otologic Surgical Procedures] explode all trees</li> <li>(implant* or intraoperat* or intrasurg* or operat* or otosurg* or perioperat* or postoperat* or postnyringostom* or postadenoidectom* or opstadenotonsillectom* or postnyringoplast* or postnyringostom* or adenotonsillector or grommet* or tube* or tubulat* or tympanoplast or postnyringoplast* or ventilat*):ti,ab</li> <li>(implant* or intraoperat* or intrasurg* or operat* or tympanostom* or adenoidectom* or adenotonsillector* or grommet* or tube* or tubulat* or tympanoplast or postnyringoplast* or ventilat*):ti,ab</li> <li>(ar #11.#21)</li> <li>(ar #11.#21)</li> <li>(ar #11.#22)</li> <li>(ar #11.#21)</li> <li>(ar #11.#22)</li> <li>MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#25</li> <li>MeSH descriptor: [Anti-Infective Agents] explode all trees</li> <li>#26</li> <li>MeSH descriptor: [Anti-Infective Agents, Local] explode all trees</li> <li>#27</li> <li>MeSH descriptor: [Bacterial Infections] this term only</li> <li>#28</li> <li>MeSH descriptor: [Macrolides] explode all trees</li> <li>#29</li> <li>MeSH descriptor: [Carcolides] explode all trees</li> <li>#30</li> <li>MeSH descriptor: [Carcolides] explode all trees</li> <li>#31</li> <li>(antibacteri* or antibiotic* or "anti biotic*" or antiinfect* or "anti infect*" or antimicrob* or "anti microb*" or antimyobacteri*" or bacteriocid*):ti,ab</li> <li>#32</li> <li>(penicillin* or animoglycoside* or amoxiclav or augmentin or ticarcillin or timentin or flucaxacillin or fluampicill or magnapen or piperacillin or tazorin or cefpalosporin* or cefaroxil or baxan cefaktion or cefoxit or metoxiclav or amoxiclav or augmentin or ticarcillin or timentin or flucaxacillin or taxin or cefprior or destaclor or distaclor or cefarization ceforizin or ceforizin or ceforizin or ceforizin or ceforizin or ceforizin or destacle or destacle or cefarizin or explores* or de or adminator or distaction or ceforizin or ceforizin or cefori</li></ul>	
<ul> <li>MeSH descriptor: [Additional Procedures] explode all trees</li> <li>(implant* or intraoperat* or intrasurg* or operat* or otosurg* or perioperat* or postpyringostom* or postmyringotom* or postadenotonsillectom* or postmyringostom* or adenoidectom* or adenoidectom* or postmyringotom* or adenoidectom* or postmyringotom* or rotubulat* or tympanoplast or tympanostom* or adenoidectom* or adenoidectom* or adenoidectom* or extension or adenoidectom* or adenoi</li></ul>	
<ul> <li>MeSh descriptor: [Anti-Infective Agents] explode all trees</li> <li>#21 (implant* or intraoperat* or postadenoidectom* or postaympanoplast* or postoperat* or postayringostom* or postayringotom* or postadenoidectom* or postaympanoplast* or postnyringoplast* or postayringostom* or adenoidectom* or postayringotom* or postaympanoplast* or tympanostom* or tonsillector* or ventilat*):ti, ab</li> <li>#22 {or #11-#21}</li> <li>#23 #10 and #22</li> <li>#24 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#25 MeSH descriptor: [Anti-Infective Agents] explode all trees</li> <li>#26 MeSH descriptor: [Anti-Infective Agents] explode all trees</li> <li>#27 MeSH descriptor: [Bacterial Infections] this term only</li> <li>#28 MeSH descriptor: [Bacterial Infections] this term only</li> <li>#29 MeSH descriptor: [Macrolides] explode all trees</li> <li>#30 MeSH descriptor: [Contropting] explode all trees</li> <li>#31 (antibacteri* or "anti bacteri*" or antibiotic* or "anti infect* or "anti infect*" or antimicrob* or "anti microb* or "anti microb* or "anti microb* or antimyobacteri*" or bacteriocid*):ti,ab</li> <li>#32 (penicillin* or clavulan* or coamoxiclav or amoxiclav or augmentin or ticarcillin or timentin or fluctoxacillin or fluanpicil or magnapen or piperacillin or ceftriaxone or cefpalozorin* or cefadoxin or ceforaxin or ceforaxin or ceforaxin or ceforaxin or ceforaxin or manor or antipolector or destactor or or ceftrazy or vibramycan or eteracycline* or detarcoxine or ceforaxin or manor or material or ceforaxin or ceforaxin or ceforaxin or ceforaxin or ceforaxin or ceforaxin or detarcoxine or ceforaxin or administor or antipolateri* or antipicitor or antipiciti or maticillin or tazocin or ceftracoxine or or detarcoxine or or detarcoxine or or detarcoxine or azactam or imipenem</li></ul>	
<ul> <li>#21 (implant<sup>*</sup> or intraoperat<sup>*</sup> or operat<sup>*</sup> or operat<sup>*</sup> or obsouperat<sup>*</sup> or postoperat<sup>*</sup> or operat<sup>*</sup> or operat<sup>*</sup> or operat<sup>*</sup> or operat<sup>*</sup> or operat<sup>*</sup> or postoperat<sup>*</sup> or antimosoperat<sup>*</sup> or postoperat<sup>*</sup> or po</li></ul>	
<ul> <li>#22 {or #11-#21}</li> <li>#23 #10 and #22</li> <li>#24 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#25 MeSH descriptor: [Anti-Infective Agents] explode all trees</li> <li>#26 MeSH descriptor: [Anti-Infective Agents] explode all trees</li> <li>#27 MeSH descriptor: [Baterial Infections] this term only</li> <li>#28 MeSH descriptor: [Deta-Lactams] explode all trees</li> <li>#29 MeSH descriptor: [Macrolides] explode all trees</li> <li>#30 MeSH descriptor: [Trimethoprim] explode all trees</li> <li>#31 (antibacteri* or "anti bacteri*" or antibiotic* or "anti biotic*" or antiinfect* or "anti infect*" or antimicrob* or "anti microb*" or antimyobacteri* or "anti myobacteri*" or bactericid*):ti,ab</li> <li>#32 (penicillin* or clavulan* or coamoxiclav or amoram or amoxident or galenamox or rimoxallin or am or ampicillin* or clavulan* or cefariandole or kefadol or cefazolin or kefzol or cefariant or cefacion or ceforation or minocipie* or zintar or cefor or ceforation or minocipie* or zintar or cefor or cefaration or micropenem or macrolide* or erythromycin* or erymax or erythrocin or erythroped or azithromycin* or zithromax or zedbac or clarithromycin or klaricid or mycifor or tellithromycin or sulfisoxazole or ketek or trimoxazole or moxifiloxacin or avelox or trimethoprim or cotrimoxazole or monotrim or sulfamethoxazole or moxifiloxacin or avelox</li></ul>	tom*
<ul> <li>#10 and #22</li> <li>#10 and #22</li> <li>#24 MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>#25 MeSH descriptor: [Anti-Infective Agents] explode all trees</li> <li>#26 MeSH descriptor: [Bacterial Agents] explode all trees</li> <li>#27 MeSH descriptor: [Bacterial Infections] this term only</li> <li>#28 MeSH descriptor: [beta-Lactams] explode all trees</li> <li>#29 MeSH descriptor: [Interboprim] explode all trees</li> <li>#30 MeSH descriptor: [Trimethoprim] explode all trees</li> <li>#31 (antibacteri* or "anti bacteri*" or antibiotic* or "anti biotic*" or antiinfect* or "anti infect*" or antimicrob* or "anti microb*" or antimyobacteri* or "anti myobacteri*" or bacteriocid*):ti,ab</li> <li>#32 (penicillin* or clavulan* or coamoxiclav or amoxiclav or augmentin or ticarcillin or timentin or flucaoxillin or a fluampicil or magnapen or piperacillin or tazocin or cefnalosporin* or cefaclor or cefadroxil or baxan cefalexin or ceforxin or cefprome or cefrom or cefpodoxime or orelox or ceforior cefrain er velosel or ceftazidime or fortum or kefadi or or cefuxine or suprax or cefotaxin claforan or cefoxitin or lineperim or cilastatin or primaxin or meropemem or meronem or tetracycline* or de or demecleocyclin or ledermycin or doxycycline or vibramycin or minocycline or azithromycin* or zithromax or zedbac or clarithromycin* or ceftroxine* or eretinava or zedbac or clarithromycin or karcid or mycifor or telithromycin or suffisoxazole or ketek or trimoxazole or moxifiloxacin or avelox or trimethoprim or cotimoxazole or monotrim or septrin or timopan or metronidazole or moximi or ceracillin or suffamethoxazole or moximi or septrin or timopan or metronidazole or moximi or phenoxymethyleneicillin or suffamethoxazole or carcinicillin or carcillin or ciprofixacin or ceracillin or carcilline* or ceracillin or carcilline* or ceracilline* or ceracilline* or ceracilline* or cefor or ceforal or cefo</li></ul>	
<ul> <li>MeSH descriptor: [Anti-Infective Agents] this term only</li> <li>MeSH descriptor: [Anti-Bacterial Agents] explode all trees</li> <li>MeSH descriptor: [Anti-Infective Agents, Local] explode all trees</li> <li>MeSH descriptor: [Bacterial Infections] this term only</li> <li>MeSH descriptor: [Bacterial Infections] this term only</li> <li>MeSH descriptor: [beta-Lactams] explode all trees</li> <li>MeSH descriptor: [Imacrolides] explode all trees</li> <li>MeSH descriptor: [Trimethoprim] explode all trees</li> <li>MeSH descriptor: [Trimethoprim] explode all trees</li> <li>(antibacteri* or "anti bacteri*" or antibiotic* or "anti biotic*" or antiinfect* or "anti infect*" or antimicrob* or "anti microb*" or antimyobacteri* or "anti myobacteri*" or bacteriocid*):ti, ab</li> <li>(penicillin* or aminoglycoside* or amoxicillin* or amix or amoram or amoxident or galenamox or rimoxallin or am or ampicillin* or clavulan* or coamoxiclav or amoxiclav or augmentin or ticarcillin or timentin or fluctoxacillin or fluampicil or magnapen or piperacillin or tazocin or cephalosporin* or cefaclor or cefadroxil or baxan cefalexin or ceporex or keflex or cefamandole or kefadol or cefacloi or cefixime or suprax or cefotaxin claforan or cefoxitin or mefoxin or cefpriome or cefron or cefpodoxime or orelox or cefprozil or cefraint velosel or ceftazidime or fortum or kefadim or ceftriaxone or rocephin or cefuroxime* or zinacef or zinnat or cefo or aztreonam or azactam or imipenem or cilastatin or primaxin or meropenem or meronem or tetracycline* or zithromax or zedbac or clarithromycin or klaricid or mycifor or telithromycin or sulfisoxazole or ketek or trimoxazole or moxifloxacin or avelox or trimethoprim or cotrimoxazole or monotim or septrin or trimopan or metronidazole or f or metrolyl or quipolone* or ciprofloxacin or cetinoxin or phenoxymethylopenicillin or sulfamethoxazole or for moxifloxacin or avelox or trimethoprim or cotrimoxazole or monotim or septrin or sulfamethoxazole or moxiflin or sulfamethoxazole or for moxiflin or sul</li></ul>	
<ul> <li>MeSH descriptor: [Anti-Bacterial Agents] explode all trees</li> <li>MeSH descriptor: [Anti-Infective Agents, Local] explode all trees</li> <li>MeSH descriptor: [Bacterial Infections] this term only</li> <li>MeSH descriptor: [beta-Lactams] explode all trees</li> <li>MeSH descriptor: [Macrolides] explode all trees</li> <li>MeSH descriptor: [Trimethoprim] explode all trees</li> <li>MeSH descriptor: [Trimethoprim] explode all trees</li> <li>(antibacteri* or "anti bacteri*" or antibiotic* or "anti biotic*" or antiinfect* or "anti infect*" or antimicrob* or "anti microb*" or antimyobacteri* or "anti myobacteri*" or bacteriocid*):ti,ab</li> <li>(penicillin* or aminoglycoside* or amoxicillin* or amix or amoram or amoxident or galenamox or rimoxallin or am or ampicillin* or clavular* or coamoxiclav or anoniclav or augmentin or ticarcillin or timentin or fluctoxacillin or fluampicil or magnapen or piperacillin or tazocin or cefpadosime or cefaroxil or baxan cefalexin or ceporex or keflex or cefarinandole or kefadol or cefazolin or kefzol or cefizier or zinacef or zinat or cefo or aztreonam or azactam or imipenem or cilastatin or primaxin or meropenem or meronem or tetracycline* or de or demecleocyclin or ledermycin or doxycycline or vibramycin or minocycline or minocine or oxytetracycline or terramycin or macrolide* or erythromycin* or erythrocin or suffisoxazole or ketek or trimoxazole or moxifilin or suffisoxazole or ketek or trimoxazole or moxifilin or suffisoxazole or ketek or trimoxazole or moxifilin or suffisoxazole or aztreonam or aveloxi or timethoprim or cotrimoxazole or monotrim or septin or trimopan or metronidazole or moxifilin or suffisoxazole or avacilin or moxifilin or suffisoxazole or or avacilin or moxifilin or suffisoxazole or or avacilin or moxification or cefiorxin or septin or trimopan or metronidazole or moxifilin or antication or ceparately or guinolone* or ciprofilin or cetiorxin or phenoxymethyleneidilin or suffamethoxazole or moxifilin or macrolide* or ciprofilin or cetiorxin or phenoxy</li></ul>	
<ul> <li>MeSH descriptor: [Anti-Infective Agents, Local] explode all trees</li> <li>#27 MeSH descriptor: [Bacterial Infections] this term only</li> <li>#28 MeSH descriptor: [beta-Lactams] explode all trees</li> <li>#29 MeSH descriptor: [Trimethoprim] explode all trees</li> <li>#30 MeSH descriptor: [Trimethoprim] explode all trees</li> <li>#31 (antibacteri* or "anti bacteri*" or antibiotic* or "anti biotic*" or antiinfect* or "anti infect*" or antimicrob* or "anti microb*" or antimyobacteri* or "anti myobacteri*" or bacteriocid*):ti,ab</li> <li>#32 (penicillin* or aminoglycoside* or amoxicillin* or amix or amoram or amoxident or galenamox or rimoxallin or am or ampicillin* or clavulan* or coamoxiclav or amoxiclav or augmentin or ticarcillin or fluctoxacillin or fluampicil or magnapen or piperacillin or tazocin or cephalosporin* or cefaclor or distaclor or cefadroxil or baxan cefalexin or ceporex or keflex or cefamandole or kefadol or cefazolin or kefzol or cefixime or suprax or cefotaxin claforan or cefoxitin or mefoxin or cefpriome or cefrom or cefpodoxime or orelox or cefprozil or cefradine velosel or ceftazidime or fortum or kefadim or ceftriaxone or rocephin or cefuroxime* or zinat or cefo or aztreonam or azactam or imipenem or cilastatin or primaxin or meropenem or meronem or tetracycline* or de or demecleocyclin or ledermycin or doxycycline or vibramycin or sulfisoxazole or ketek or trimoxazole or moxifloxacin or avelox or trimethoprim or cotrimoxazole or monotrim or septin or trimopan or metronidazole or moxifloxacin or avelox or timethoprim or cotrimoxazole or monotrim or septin or trimopan or metronidazole or for moxifloxacin or avelox or timethoprim or cotrimoxazole or monotrim or septin or trimopan or metronidazole or moxifloxacin or avelox or timethoprim or cotrimoxazole or monotrim or septin or trimopan or metronidazole or moxifloxacin or avelox or timethoprim or ciproxin or phenoxymethylonenicillin or sulfamethoxazole or or moxifloxacin or avelox or timethoprim or ciproxin or phenoxymethylonenicili</li></ul>	
<ul> <li>MeSH descriptor: [Bacterial Infections] this term only</li> <li>#27 MeSH descriptor: [Bacterial Infections] this term only</li> <li>#28 MeSH descriptor: [beta-Lactams] explode all trees</li> <li>#29 MeSH descriptor: [Macrolides] explode all trees</li> <li>#30 MeSH descriptor: [Trimethoprim] explode all trees</li> <li>#31 (antibacteri* or "anti bacteri*" or antibiotic* or "anti biotic*" or antiinfect* or "anti infect*" or antimicrob* or "anti microb*" or antimyobacteri* or "anti myobacteri*" or bacteriocid*):ti,ab</li> <li>#32 (penicillin* or clavulan* or coamoxiclav or amoxiclav or augmentin or ticarcillin or timentin or fluctoxacillin or fluampicil or magnapen or piperacillin or tazocin or cephalosporin* or cefaclor or distaclor or cefadroxil or baxan cefalexin or cefoxitin or mefoxin or cefprome or ceffra or ceffavior or cefor or antia or cefor or distaclor or cefadroxil or baxan cefalexin or cefoxitin or mefoxin or cefprome or ceffra or ceffavior or cefor or antiant or cefor or distaclor or cefarine or suprax or cefotaxim claforan or cefoxitin or mefoxin or cefpirome or ceffra or or cocephin or cefuroxime* or zinacef or zinnat or cefo or aztreonam or azactam or imipenem or cilastatin or primaxin or meropenem or meronem or tetracycline* or de or demecleocyclin or ledermycin or doxycycline or vibramycin or minocycline or minocine or oxytetracycline or terramycin or macrolide* or erythromycin* or erythroxin or septrin or sulfisoxazole or ketek or trimoxazole or moxifloxacin or avelox or trimethoprim or cotimoxazole or monotrim or septrin or timopan or metronidazole or moxifloxacin or sulfamethoxazole or oxyacillin</li> </ul>	
<ul> <li>#28 MeSH descriptor: [beta-Lactams] explode all trees</li> <li>#29 MeSH descriptor: [Macrolides] explode all trees</li> <li>#30 MeSH descriptor: [Trimethoprim] explode all trees</li> <li>#31 (antibacteri* or "anti bacteri*" or antibiotic* or "anti biotic*" or antiinfect* or "anti infect*" or antimicrob* or "anti microb*" or antimyobacteri* or "anti myobacteri*" or bacteriocid*):ti,ab</li> <li>#32 (penicillin* or clavulan* or coamoxiclav or amoxiclav or augmentin or ticarcillin or timentin or flucanzacillin or tazocin or cephalosporin* or cefaclor or distaclor or cefadroxil or baxan cefalexin or cefoxit or mefoxin or ceffrom or ceffrom or cefpodxime or orelox or cefprozil or cefizion cefizion or effort or efficient or democration or distaction or democration or distaction or democration or distaction or democration or distaction or detection or demecleocyclin or ledermycin or doxycycline or vibramycin or minocycline or minocine or oxytetracycline or terramycin or macrolide* or erythromycin* or erythrocin or erythroped or azithromycin* or zithromax or zedbac or clarithromycin or kalicid or mycifor or telithromycin or sulfisoxazole or weter or metronidazole or moxifloxacin or avelox or trimethoprim or corrinoxazole or monotrim or septrin or timopan or metronidazole or moxifloxacin or avelox or trimethoprim or corrinoxazole or monotrim or septrin or timopan or metronidazole or moxifloxacin or avelox or trimethoprim or corrinoxazole or monotrim or septrin or sulfamethoxazole or or or cellin or sulfamethoxazole or or cellin or sulfamethoxazole or or cellin or sulfamethoxazole or or cellin or cellin or sulfamethoxazole or or cellin or doxid or or cellin or cellin or sulfamethoxazole or or cellin or doxid or mycellin or cellin or sulfamethoxazole or or cellin or terramycin or metonidazole or for moxifloxacin or avelox or trimethoprim or corinoxazole or monotrim or septrin or timopan or metonidazole or mo</li></ul>	
<ul> <li>#29 MeSH descriptor: [Macrolides] explode all trees</li> <li>#30 MeSH descriptor: [Trimethoprim] explode all trees</li> <li>#31 (antibacteri* or "anti bacteri*" or antibiotic* or "anti biotic*" or antiinfect* or "anti infect*" or antimicrob* or "anti microb*" or antimyobacteri*" or bacteriocid*):ti,ab</li> <li>#32 (penicillin* or clavulan* or coamoxiclav or amoxiclav or augmentin or ticarcillin or timentin or fluctoxacillin or fluampicil or magnapen or piperacillin or tazocin or cephalosporin* or cefaclor or distaclor or cefadroxil or baxan cefalexin or cefoxitin or mefoxin or cefprome or ceffrom or cefpodoxime or or elox or cefprozil or cefizion or cefor or distaclor or cefadroxil or cefor or aztreonam or azactam or imipenem or cillastatin or primaxin or meropenem or meronem or tetracycline* or demecleocyclin or ledermycin or doxycycline or vibramycin or minocycline or azithromycin* or zithromax or zedbac or clarithromycin or kalrcid or mycifor or teltihromycin or septrin or septrin or septrin or timoxazole or moxifloxacin or avelox or trimethoprim or cormoxazole or monotrim or septrin or timopan or metronidazole or for tetration or or certained or mycifloxacin or avelox or trimethoprim or cormoxazole or monotrim or septrin or timopan or metronidazole or moxifloxacin or avelox or trimethoprim or cormoxazole or monotrim or septrin or timopan or metronidazole or moxifloxacin or avelox or trimethoprim or cormoxazole or monotrim or septrin or sulfamethoxazole or or avecilin or sulfamethoxazole or moxifloxacin or avecilin or certacing or certacycline or tetration or metoning or certacycline or tetration or certacycline or tetration or</li></ul>	
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<ul> <li>cephalothin or sulbactam or ofloxacin or clindamycin or gentamycin or vancomycin or sulfisoxazole):ti,ab</li> <li>#33 MeSH descriptor: [Steroids] this term only</li> </ul>	oxii or ne or e or inicid steclo r flagyl or
#34 MeSH descriptor: [Adrenal Cortex Hormones] explode all trees	
#35 MeSH descriptor: [Mineralocorticoids] explode all trees	
#36 MeSH descriptor: [Prednisolone] explode all trees	
#37 (steroid* or "adrenal cortex hormone*" or corticosteroid* or corticoid* or alucocorticoid* or alucocorticosteroid* or	r
aldosterone or aristocort or baycadron or becloforte or "beclomet?a?one" or aerobec or asmabec or beclazone of becodisks or becotide or "clenil modulite" or qvar or betamethasone or budelin or bude?onide or calcort or clobe or corlan or cortef or cortisol or cortisone or corticosterone or cortodoxone or "cortone acetate" or cotolone or decadron or deflazacort or delta?one or desonide or dexametha?one or dexsol or effortesol or entocort or "flori	or etasol inef

24

#### DRAFT FOR CONSULTATION Treating otorrhoea after surgery for hearing loss associated with OME in children

ID	Search
	hydroxycorticosteroid* or hydroxypregnenolone or kenalog or medrone or medrol or solu?medrone or depo?medrone or methylpred or methylpredni?olone or mineralcorticoid*or mometa?one or parametha?one or pediapred or prednicot or predni?olone or predni?one or pregnenedione* or pregnenolone* or prelone or pulmicort or solucortef or symbicort or tetrahydrocortisol or triamcinolone):ti,ab
#38	MeSH descriptor: [Saline Solution] this term only
#39	MeSH descriptor: [Saline Solution, Hypertonic] this term only
#40	MeSH descriptor: [Sodium Chloride] this term only
#41	MeSH descriptor: [Therapeutic Irrigation] this term only
#42	(antiseptic* or "anti septic*" or clean* or drop* or eardrop* or hypersaline or hypertonic* or "hyper tonic*" or irrigat* or lavag* or rins* or saline or salt* or seawater or "sodium chloride" or solution* or toilet* or wash* or water*):ti,ab
#43	MeSH descriptor: [Baths] this term only
#44	MeSH descriptor: [Fresh Water] this term only
#45	MeSH descriptor: [Immersion] this term only
#46	MeSH descriptor: [Oceans and Seas] this term only
#47	MeSH descriptor: [Seawater] this term only
#48	MeSH descriptor: [Swimming Pools] this term only
#49	MeSH descriptor: [Swimming] this term only
#50	MeSH descriptor: [Water] this term only
#51	(swim* or shower* or bath* or dry or dive or diving or nonswim* or immers* or submers* or submerg* or lake* or pond* or creek* or pool* or river* or freshwater* or sea* or ocean* or ingress*):ti,ab
#52	MeSH descriptor: [Ear Protective Devices] this term only
#53	(protect* or prevent* or precaution* or barrier* or "ear mould*" or "ear mold*" or "ear plug*" or earplug* or earmold* or earmould* or headband* or "head band*"):ti,ab
#54	{or #24-#53}
#55	#23 and #54
#56	"conference":pt or (clinicaltrials or trialsearch):so
#57	#55 not #56 with Cochrane Library publication date Between Jan 2010 and Nov 2022

#### 1 Database: Epistemonikos

#### 2 Date last searched: 09/11/2022

#### # Searches

- 1 (title:(("glue ear" OR (("middle ear" OR "otitis media") AND effusion\*) OR ome OR ((secretory OR serous) AND "otitis media"))) OR abstract:(("glue ear" OR (("middle ear" OR "otitis media") AND effusion\*) OR ome OR ((secretory OR serous) AND "otitis media")))
- 2 (title:((otor\* OR discharg\* OR fluid\* OR leak\* OR liquor\* OR moist\* OR muccoid\* OR muccopurulen\* OR mucus\* OR otoliquor\* OR purulen\* OR pus OR suppurat\* OR weep\* OR wet\*)) OR abstract:(( otor\* OR discharg\* OR fluid\* OR leak\* OR liquor\* OR moist\* OR muccoid\* OR muccopurulen\* OR mucus\* OR otoliquor\* OR purulen\* OR pus OR suppurat\* OR weep\* OR wet\*))
- 3 1 AND 2
- 4 date limit: 2010-

# 3 Database: International Network of Agencies for Health Technology Assessment4 (INAHTA)

#### 5 Date last searched: 09/11/2022

- # Searches
- 1 "Otitis Media with Effusion"[mhe]
- 2 (("glue ear" or (("middle ear" or "otitis media") and effusion\*) or ome or ((secretory or serous) and "otitis media"))
- 3 1 OR 2
- 4 (otor\* or discharg\* or fluid\* or leak\* or liquor\* or moist\* or mucoid\* or mucopurulen\* or mucus\* or otoliquor\* or purulen\* or pus or suppurat\* or weep\* or wet\*)
- 5 3 AND 4 FROM 2010 TO 2022 AND (English)[Language]

6

#### 7 Economic literature search strategy

- 8 A global, population-based search was undertaken to find economic evidence covering all
- 9 parts of the guideline.

#### 10 Database: MEDLINE - OVID interface

#### 11 Date last searched: 09/11/2022

- # Searches
- 1 otitis media with effusion/
- 2 (glue ear or ((middle ear or otitis media) adj2 effusion\*) or ome or ((secretory or serous) adj2 otitis media)).ti,ab.

#### DRAFT FOR CONSULTATION Treating otorrhoea after surgery for hearing loss associated with OME in children

#	Searches
3	1 or 2
4	Economics/
5	
6	exp "Costs and Cost Analysis"/
7	exp Economics. Hospital/
8	exp Economics. Medical/
9	Economics. Nursing/
10	Economics. Pharmaceutical/
11	exp "Fees and Charges"/
12	exp Budgets/
13	budget*.ti.ab.
14	cost*.ti.
15	(economic* or pharmaco?economic*).ti.
16	(price* or pricing*).ti.ab.
17	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
18	(financ* or fee or fees).ti,ab.
19	value adj2 (money or monetary)).ti,ab.
20	or/4-19
21	exp models, economic/
22	*Models, Theoretical/
23	*Models, Organizational/
24	markov chains/
25	monte carlo method/
26	exp Decision Theory/
27	(markov* or monte carlo).ti,ab.
28	econom* model*.ti,ab.
29	(decision* adj2 (tree* or analy* or model*)).ti,ab.
30	or/21-29
31	20 or 30
32	3 and 31
33	(animals/ not humans/) or exp animals, laboratory/ or exp animal experimentation/ or exp models, animal/ or exp rodentia/ or (rat or rats or mouse or mice).ti.
34	32 not 33
35	limit 34 to english language
36	limit 35 to yr="2000 -Current"

#### 1 Database: Embase – OVID interface

#### 2 Date last searched: 09/11/2022

#### # Searches

- exp secretory otitis media/
   (glue ear or ((middle ear or otitis media) adj2 effusion\*) or ome or ((secretory or serous) adj2 otitis media)).ti,ab.
   1 or 2
   health economics/
   exp economic evaluation/
   exp health care cost/
   exp fee/
- 8 budget/
- 9 funding/
- 10 budget\*.ti,ab.
- 11 cost\*.ti.
- 12 (economic\* or pharmaco?economic\*).ti.
- 13 (price\* or pricing\*).ti,ab.
- 14 (cost\* adj2 (effective\* or utilit\* or benefit\* or minimi\* or unit\* or estimat\* or variable\*)).ab.
- 15 (financ\* or fee or fees).ti,ab.
- 16 (value adj2 (money or monetary)).ti,ab.
- 17 or/4-16
- 18 statistical model/
- 19 exp economic aspect/
- 20 18 and 19
- 21 \*theoretical model/22 \*nonbiological model
- 22 \*nonbiological model/23 stochastic model/
- 24 decision theory/
- 25 decision tree/
- 26 monte carlo method/
- 27 (markov\* or monte carlo).ti,ab.
- 28 econom\* model\*.ti,ab.

#### # Searches

- 29 (decision\* adj2 (tree\* or analy\* or model\*)).ti,ab.
- 30 or/20-29
- 31 17 or 30
- 32 3 and 31
- 33 (animal/ not human/) or nonhuman/ or exp animal experiment/ or exp experimental animal/ or animal model/ or exp rodent/ or (rat or rats or mouse or mice).ti.
- 34 32 not 33
- 35 limit 34 to english language
- 36 limit 35 to yr="2000 -Current"

#### 1 Database: Cochrane Central Register of Controlled Trials (CENTRAL) – Wiley interface

#### 2 Date last searched: 09/11/2022

ID	Search
#1	MeSH descriptor: [Otitis Media with Effusion] this term only
#2	(("glue ear" or (("middle ear" or "otitis media") near/2 effusion*) or ome or ((secretory or serious) near/2 "otitis media"))):ti,ab,kw
#3	#1 or #2
#4	MeSH descriptor: [Economics] this term only
#5	MeSH descriptor: [Value of Life] this term only
#6	MeSH descriptor: [Costs and Cost Analysis] explode all trees
#7	MeSH descriptor: [Economics, Hospital] explode all trees
#8	MeSH descriptor: [Economics, Medical] explode all trees
#9	MeSH descriptor: [Economics, Nursing] this term only
#10	MeSH descriptor: [Economics, Pharmaceutical] this term only
#11	MeSH descriptor: [Fees and Charges] explode all trees
#12	MeSH descriptor: [Budgets] explode all trees
#13	budget*:ti,ab
#14	cost*:ti
#15	(economic* or pharmaco?economic*):ti
#16	(price* or pricing*):ti,ab
#17	(cost* near/2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)):ab
#18	(financ* or fees):ti,ab
#19	(value near/2 (money or monetary)):ti,ab
#20	{or #4-#19}
#21	MeSH descriptor: [Models, Economic] explode all trees
#22	MeSH descriptor: [Models, Theoretical] this term only
#23	MeSH descriptor: [Models, Organizational] this term only
#24	MeSH descriptor: [Markov Chains] this term only
#25	MeSH descriptor: [Monte Carlo Method] this term only
#26	MeSH descriptor: [Decision Theory] explode all trees
#27	(markov* or "monte carlo"):ti,ab
#28	(econom* next model*):ti,ab
#29	(decision* near/2 (tree* or analy* or model*)):ti,ab
#30	{or #21-#29}
#31	#20 or #30
#32	#3 and #31 with Cochrane Library publication date Between Jan 2000 and Apr 2022

# 3 Database: International Network of Agencies for Health Technology Assessment 4 (INAHTA)

#### 5 Date last searched: 09/11/2022

 #
 Searches

 1
 ((("Otitis Media with Effusion"[mhe]) OR ((("glue ear" or (("middle ear" or "otitis media") and effusion\*) or ome or ((secretory or serous) and "otitis media")))

 2
 1 and FROM 2000 TO 2022 AND (English)[Language]

#### 6 Database: NHS Economic Evaluation Database (NHS EED) – CRD interface

#### 7 Date last searched: 09/11/2022

Line	Search for
1	MeSH DESCRIPTOR Otitis Media with Effusion EXPLODE ALL TREES
2	((glue ear or ((middle ear or otitis media) and effusion*) or ome or ((secretory or serous) and otitis media))) IN NHS EED
3	#1 OR #2

# 1 Appendix C Effectiveness evidence study selection

- 2 Study selection for: What interventions are effective for treating otorrhoea (ear
- 3 discharge) after surgery for OME-related hearing loss in children under 12
- 4 years?





## 1 Appendix D Evidence tables

2 Evidence tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for 3 OME-related hearing loss in children under 12 years?

4 Table 4: Evidence tables

#### 5 van Dongen, 2014

# **Bibliographic** Reference van Dongen, Thijs M A; van der Heijden, Geert J M G; Venekamp, Roderick P; Rovers, Maroeska M; Schilder, Anne G M; A trial of treatment for acute otorrhea in children with tympanostomy tubes.; The New England journal of medicine; 2014; vol. 370 (no. 8); 723-33

#### 6

7 Study details

Country/ies where study was carried out	Netherlands
Study type	Randomised controlled trial (RCT)
Study dates	June 2009 - May 2012
Inclusion criteria	Children aged 1 to 10 years with tympanostomy tube otorrhoea for up to 7 days
Exclusion criteria	Body temperature >38.5°C, use of antibiotics during previous two weeks, history of tympanostomy tube placement within the previous two weeks, an episode of otorrhoea in the previous four weeks, three or more episodes of otorrhoea in the previous six months, four or more episodes of otorrhoea in the previous year, Down's syndrome, craniofacial anomaly, known immunodeficiency, and history of allergic reaction to study medications
Patient characteristics	N=230 (Hydrocortisone-bacitracin-colistin drops: N=76; Oral amoxicillin-clavulanate suspension: N=77; Initial observation: N=77) Mean age in years (SD):

		Hydrocortisone-bacitracin-colistin drops: 4.6 (2.1) Oral amoxicillin-clavulanate suspension: 4.4 (2.0) Initial observation: 4.4 (2.0)
		Sex (male/female): Hydrocortisone-bacitracin-colistin drops: 50/26 Oral amoxicillin-clavulanate suspension: 40/37 Initial observation: 43/34
		Persistent otitis media with effusion: Hydrocortisone-bacitracin-colistin drops: N=40 Oral amoxicillin-clavulanate suspension: N=50 Initial observation: N=41
		Recurrent acute otitis media: Hydrocortisone-bacitracin-colistin drops: N=36 Oral amoxicillin-clavulanate suspension: N=27 Initial observation: N=36
	Intervention(s)/control	Hydrocortisone-bacitracin-colistin drops: administered as 5 drops, 3 times a day, in the discharging ear/ears for 7 days
		Oral amoxicillin-clavulanate suspension: 30 mg of amoxicillin and 7.5 mg of clavulanate per kg per day in three divided doses for 7 days
		Initial observation: observation for 2 weeks (no assigned medication prescription to fill)
	Duration of follow-up	Children were assessed at 2 weeks and 6 months.
	Sources of funding	Not industry funded
	Sample size	N=230
	Other information	Otorrhoea was assessed by otoscopy.
		The disease-specific health-related quality of life was assessed with the Otitis Media-6 (OM-6) questionnaire, and lower scores indicate better quality of life.
1 RCT: randomised controlled trial; SD: standard deviation		

#### 1

#### 2 Outcomes

3 Hydrocortisone-bacitracin-colistin drops versus oral amoxicillin-clavulanate suspension versus initial observation: Otorrhoea, adverse
 4 effects of intervention and quality of life

Outcome	Hydrocortisone-bacitracin- colistin drops, N = 76	Oral amoxicillin- clavulanate suspension, N = 77	Initial observation, N = 77
Otorrhoea (the presence of otorrhoea; at 2 weeks) Custom value	4/76	34/77	41/75
Otorrhoea (recurrent episodes of otorrhoea; up to 6 months) Custom value	0/76	1/77	1/75
Adverse effects of intervention (local discomfort or pain during administration; up to 2 weeks)	16/75	0/77	-
Adverse effects of intervention (gastrointestinal discomfort; up to 2 weeks)	0/75	18/77	-
Custom value Adverse effects of intervention (rash; up to 2 weeks)	2/75	3/77	-
Custom value Adverse effects of intervention (oral candidiasis; up to 2 weeks)	0/75	0/77	-
Custom value			

Outcome	Hydrocortisone-bacitracin- colistin drops, N = 76	Oral amoxicillin- clavulanate suspension, N = 77	Initial observation, N = 77
Adverse effects of intervention (serious adverse events such as local cellulitis, perichondritis, mastoiditis, and intracranial complication; up to 2 weeks) Custom value	0/75	0/77	0/75
Quality of life (changes in the disease-specific health-related quality-of-life scores assessed with the OM-6 questionnaire; at 2 weeks) Median (IQR)	-1 (-14 to 11)	1 (-11 to 18)	0.5 (-15 to 26)

- 1
- 2

#### 3 Critical appraisal - Cochrane RoB2

Section	Question	Answer
Domain 1: Bias arising from the randomisation process	Risk of bias judgement for the randomisation process	Low (Randomisation sequence generated by an independent data manager, and the allocation sequence was concealed. No significant differences between groups at baseline.)
Domain 2a: Risk of bias due to deviations from the intended interventions (effect of assignment to intervention)	Risk of bias for deviations from the intended interventions (effect of assignment to intervention)	High (Participants and personnel were aware of intervention, and there were changes from assigned intervention: 2/76 in ear drops group, 6/77 in oral suspension group, and 15/77 in initial observation group. Appropriate analysis was used.)

Section	Question	Answer
Domain 3. Bias due to missing outcome data	Risk-of-bias judgement for missing outcome data	Low (The data were available for 99% of participants for all outcomes.)
Domain 4. Bias in measurement of the outcome	Risk-of-bias judgement for measurement of the outcome	Low/High (Methods of measuring the outcomes were appropriate, and no difference in measurement of the outcomes between intervention groups. Outcome assessors were aware of intervention status. Low risk for the presence of otorrhoea at 2 weeks as outcome measurement by otoscopy may not be influenced by knowledge of assigned intervention, and high risk for outcomes reported by parents, such as recurrent otorrhoea, adverse effects, and quality of life, as they may be somewhat subjective and may be influenced by knowledge of assigned intervention.)
Domain 5. Bias in selection of the reported result	Risk-of-bias judgement for selection of the reported result	Low (There is clear evidence that all eligible reported results for the outcome correspond to all intended outcome measurements and analyses.)
Overall bias and Directness	Risk of bias judgement	High (The study is judged to be at high risk of bias in at least one domain.)
Overall bias and Directness	Overall Directness	Indirectly applicable (Population is indirect due to 43% of recurrent acute otitis media. Study was conducted from 2009 to 2012.)
Overall bias and Directness	Risk of bias variation across outcomes	None

1 RoB: risk of bias

2

# 1 Appendix E Forest plots

2 Forest plots for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for 3 OME-related hearing loss in children under 12 years?

4 No meta-analysis was conducted for this review question and so there are no forest plots.

# 1 Appendix F GRADE tables

- 2 GRADE tables for review question: What interventions are effective for treating otorrhoea (ear discharge) after surgery for
- 3 OME-related hearing loss in children under 12 years?
- 4 Table 5: Evidence profile for comparison: hydrocortisone-bacitracin-colistin drops versus oral amoxicillin-clavulanate suspension

Quality assessment							No of p	atients	E	ffect	Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Hydrocortisone- bacitracin- colistin drops	Oral amoxicillin- clavulanate suspension	Relative (95% Cl)	Absolute	Quality	importance
Otorrhoea	Otorrhoea (the presence of otorrhoea) (follow-up 2 weeks)											
1 (van Dongen 2014)	randomised trials	very serious¹	no serious inconsistency	very serious <sup>2</sup>	no serious imprecision	none	4/76 (5.3%)	34/77 (44.2%)	RR 0.12 (0.04 to 0.32)	389 fewer per 1000 (from 300 fewer to 424 fewer)	VERY LOW	CRITICAL
Otorrhoea	(recurrent e	pisodes	of otorrhoea) (fo	llow-up 6 mo	nths)				-			
1 (van Dongen 2014)	randomised trials	very serious¹	no serious inconsistency	very serious <sup>2</sup>	very serious <sup>3</sup>	none	0/76 (0%)	1/77 (1.3%)	POR 0.14 (0 to 6.91)	11 fewer per 1000 (from 13 fewer to 70 more)	VERY LOW	CRITICAL
Adverse e	ffects of inte	rvention	(local discomfor	rt or pain duri	ng administra	tion) (follow-up 2	weeks)					
1 (van Dongen 2014)	randomised trials	very serious¹	no serious inconsistency	very serious <sup>2</sup>	no serious imprecision	none	16/75 (21.3%)	0/77 (0%)	POR 9.49 (3.38 to 26.65)	9490 more per 1000 (from 3380 more to 26650 more) <sup>4</sup>	VERY LOW	CRITICAL
Adverse e	ffects of inte	rvention	(gastrointestina	l discomfort)	(follow-up 2 w	eeks)			-			
1 (van Dongen 2014)	randomised trials	very serious¹	no serious inconsistency	very serious <sup>2</sup>	no serious imprecision	none	0/75 (0%)	18/77 (23.4%)	POR 0.11 (0.04 to 0.29)	201 fewer per 1000 (from 152 fewer to 222 fewer)	VERY LOW	CRITICAL
Adverse e	ffects of inte	rvention	(rash) (follow-up	o 2 weeks)								
1 (van Dongen 2014)	randomised trials	very serious¹	no serious inconsistency	very serious <sup>2</sup>	very serious <sup>3</sup>	none	2/75 (2.7%)	3/77 (3.9%)	RR 0.68 (0.12 to 3.98)	12 fewer per 1000 (from 34 fewer to 116 more)	VERY LOW	CRITICAL
Adverse e	Adverse effects of intervention (oral candidiasis) (follow-up 2 weeks)											
1 (van Dongen 2014)	randomised trials	very serious¹	no serious inconsistency	very serious <sup>2</sup>	very serious⁵	none	0/75 (0%)	0/77 (0%)	RD 0 (-0.03 to 0.03)	0 fewer per 1000 (from 30 fewer to 30 more) <sup>4</sup>	VERY LOW	CRITICAL
Adverse e	ffects of inte	rvention	(serious adverse	e events such	n as local cellu	litis, perichondri	tis, mastoiditis, ai	nd intracranial c	omplication) (fe	ollow-up 2 weeks)		
1 (van Dongen 2014)	randomised trials	very serious¹	no serious inconsistency	very serious <sup>2</sup>	serious⁵	none	0/75 (0%)	0/77 (0%)	RD 0 (-0.03 to 0.03)	0 fewer per 1000 (from 30 fewer to 30 more) <sup>4</sup>	VERY LOW	CRITICAL

Quality assessment							No of p	atients	E	Effect	Quality	
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Hydrocortisone- bacitracin- colistin drops	Oral amoxicillin- clavulanate suspension	Relative (95% Cl)	Absolute	Quality	importance
Quality of	Quality of life (changes in the disease-specific health-related quality-of-life scores assessed with the OM-6 questionnaire) (follow-up 2 weeks; Better indicated by lower values) <sup>7</sup>											
1 (van	randomised	very	no serious	very serious <sup>2</sup>	serious <sup>6</sup>	none	76	77	-	-	VERY LOW	IMPORTANT
Dongen 2014)	trials	serious <sup>1</sup>	inconsistency									

CI: confidence interval; IQR: interquartile range; MD: mean difference; POR: Peto odds ratio; RD: risk difference; RR: risk ratio
 <sup>1</sup> Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
 <sup>2</sup> Population is indirect due to 43% of population with recurrent acute otitis media, and study was conducted from 2009 to 2012.

4 <sup>3</sup> 95% CI crosses 2 MIDs

5 <sup>4</sup> Absolute effect calculated based on risk difference

6 <sup>5</sup> Sample size <400

7 <sup>6</sup> Imprecision of the effect estimate based on MIDs not calculable as only median and IQR reported by study. Sample size <400

8 <sup>7</sup> Relative and absolute effects not calculable as only median and IQR reported by study: hydrocortisone-bacitracin-colistin drops: -1 (-14 to 11); oral amoxicillin-clavulanate

9 suspension: 1 (-11 to 18)

#### 1 Table 6: Evidence profile for comparison: hydrocortisone-bacitracin-colistin drops versus initial observation

			Quality asse	essment			No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Hydrocortisone- bacitracin- colistin drops	Initial observation	Relative (95% Cl)	Absolute		
Otorrhoea	(the presence	e of otorr	hoea) (follow-up	2 weeks)								
1 (van Dongen 2014)	randomised trials	very serious¹	no serious inconsistency	very serious <sup>2</sup>	no serious imprecision	none	4/76 (5.3%)	41/75 (54.7%)	RR 0.1 (0.04 to 0.26)	492 fewer per 1000 (from 405 fewer to 525 fewer)	VERY LOW	CRITICAL
Otorrhoea	(recurrent ep	bisodes o	f otorrhoea) (foll	ow-up 6 mon	ths)							
1 (van Dongen 2014)	randomised trials	very serious¹	no serious inconsistency	very serious <sup>2</sup>	very serious <sup>3</sup>	none	0/76 (0%)	1/75 (1.3%)	POR 0.13 (0 to 6.73)	12 fewer per 1000 (from 13 fewer to 70 more)	VERY LOW	CRITICAL
Adverse et	fects of inter	vention (	serious adverse	events such a	as local celluli	tis, perichondritis	, mastoiditis, and	l intracranial c	omplication)	(follow-up 2 weeks)		
1 (van Dongen 2014)	randomised trials	very serious¹	no serious inconsistency	very serious <sup>2</sup>	serious <sup>4</sup>	none	0/75 (0%)	0/75 (0%)	RD 0 (-0.03 to 0.03)	0 fewer per 1000 (from 30 fewer to 30 more)⁵	VERY LOW	CRITICAL
Quality of	life (changes	in the dis	sease-specific he	alth-related o	quality-of-life s	cores assessed v	vith OM-6 questio	onnaire) (follow	v-up 2 weeks;	Better indicated by	lower values) <sup>7</sup>	
1 (van Dongen 2014)	randomised trials	very serious¹	no serious inconsistency	very serious <sup>2</sup>	serious <sup>6</sup>	none	76	77	-	-	VERY LOW	IMPORTANT

CI: confidence interval; IQR: interquartile range; MD: mean difference; POR: Peto odds ratio; RD: risk difference; RR: risk ratio

2 3 <sup>1</sup> Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2

4 <sup>2</sup> Population is indirect due to 43% of population with recurrent acute otitis media, and study was conducted from 2009 to 2012.

5 <sup>3</sup> 95% CI crosses 2 MIDs

6 <sup>4</sup> Sample size <400

<sup>5</sup> Absolute effect calculated based on risk difference 7

8 <sup>6</sup> Imprecision of the effect estimate based on MIDs not calculable as only median and IQR reported by study. Sample size <400

9<sup>7</sup> Relative and absolute effects not calculable as only median and IQR reported by study: hydrocortisone-bacitracin-colistin drops: -1 (-14 to 11); initial observation: 0.5 (-15 to 26)

#### 1 Table 7: Evidence profile for comparison: oral amoxicillin-clavulanate suspension versus initial observation

			Quality assess	ment		No of pati	ients	Effect		Quality	Importance	
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Oral amoxicillin- clavulanate suspension	Initial observation	Relative (95% Cl)	Absolute		
Otorrhoea (	the presence o	fotorrhoe	a) (follow-up 2 we	eks)	•	•			•	•	•	•
1 (van Dongen 2014)	randomised trials	very serious¹	no serious inconsistency	very serious <sup>2</sup>	serious <sup>3</sup>	none	34/77 (44.2%)	41/75 (54.7%)	RR 0.81 (0.58 to 1.12)	104 fewer per 1000 (from 230 fewer to 66 more)	VERY LOW	CRITICAL
Otorrhoea (	(recurrent episo	des of oto	orrhoea) (follow-u	p 6 months)	-	-			-			-
1 (van Dongen 2014)	randomised trials	very serious¹	no serious inconsistency	very serious <sup>2</sup>	very serious <sup>4</sup>	none	1/77 (1.3%)	1/75 (1.3%)	RR 0.97 (0.06 to 15.29)	0 fewer per 1000 (from 13 fewer to 191 more)	VERY LOW	CRITICAL
Adverse eff	fects of interver	ntion (seri	ous adverse even	ts such as lo	cal cellulitis,	perichondritis, m	astoiditis, and intr	acranial com	olication) (foll	ow-up 2 weeks)		
1 (van Dongen 2014)	observational studies	very serious <sup>1</sup>	no serious inconsistency	very serious <sup>2</sup>	serious <sup>5</sup>	none	0/77 (0%)	0/75 (0%)	RD 0 (-0.03 to 0.03)	0 fewer per 1000 (from 30 fewer to 30 more) <sup>6</sup>	VERY LOW	CRITICAL
Quality of li	ife (changes in	the diseas	e-specific health	-related quali	ty-of-life sco	res assessed with	the OM-6 question	nnaire) (follov	v-up 2 weeks;	Better indicated	by lower values	) <sup>8</sup>
1 (van Dongen 2014)	randomised trials	very serious¹	no serious inconsistency	very serious <sup>2</sup>	serious <sup>7</sup>	none	77	77	-	-	VERY LOW	IMPORTANT
CI: confide	nce interval <sup>.</sup> IC	)R <sup>.</sup> intera	uartile range <sup>.</sup> Ml	) <sup>.</sup> mean diffe	rence <sup>-</sup> POR	Peto odds ratio	· RD· risk differend	ce <sup>,</sup> RR <sup>,</sup> risk r	atio			

2 3

<sup>3</sup> Very serious risk of bias in the evidence contributing to the outcomes as per RoB 2
 <sup>4</sup> Population is indirect due to 43% of population with recurrent acute otitis media, and study was conducted from 2009 to 2012.

5 <sup>3</sup> 95% CI crosses 1 MID

6 <sup>4</sup> 95% CI crosses 2 MIDs

7 <sup>5</sup> Sample size <400

8 <sup>6</sup> Absolute effect calculated based on risk difference

9<sup>7</sup> Imprecision of the effect estimate based on MIDs not calculable as only median and IQR reported by study. Sample size <400

10 <sup>8</sup> Relative and absolute effects not calculable as only median and IQR reported by study: oral amoxicillin-clavulanate suspension: 1 (-11 to 18); initial observation: 0.5 (-15 to 26)

# 1 Appendix G Economic evidence study selection

#### 2 Study selection for: What interventions are effective for treating otorrhoea (ear

- 3 discharge) after surgery for OME-related hearing loss in children under 12
- 4 years?

5 A global search was undertaken to cover all the review questions considered in this

6 guideline, but no economic evidence was identified which was applicable to this review 7 question (see Figure 2).



#### Figure 2: Study selection flowchart

- 8
- 9
- 10
- 10
- 11
- 12
- 13

# 1 Appendix H Economic evidence tables

2 Economic evidence tables for review question: What interventions are effective

3 for treating otorrhoea (ear discharge) after surgery for OME-related hearing

- 4 loss in children under 12 years?
- 5 No evidence was identified which was applicable to this review question.

6

# 1 Appendix I Economic model

2 Economic model for review question: What interventions are effective for

3 treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in 4 children under 12 years?

5 No economic analysis was conducted for this review question.

6

7

# 1 Appendix J Excluded studies

#### 2 Excluded studies for review question: What interventions are effective for

### 3 treating otorrhoea (ear discharge) after surgery for OME-related hearing loss in

4 children under 12 years?

#### 5 Excluded effectiveness studies

6 The excluded studies table only lists the studies that were considered and then excluded at

7 the full-text stage for this review (N=9) and not studies (N=16) that were considered and then

8 excluded from the search at the full-text stage as per the PRISMA diagram in Appendix C for

9 the other review question in the same search.

#### 10 Table 8: Excluded studies and reasons for their exclusion

Study	Code [Reason]
Alexander, Nathan S, Kulbersh, Brian D, Heath, C Hope et al. (2011) MRSA and non-MRSA otorrhea in children: a comparative study of clinical course. Archives of otolaryngologyhead & neck surgery 137(12): 1223-7	- Conducted before 2010 <i>Study conducted between January 2003 and</i> <i>December 2008</i>
Chee, Jeremy, Pang, Khang Wen, Yong, Jui May et al. (2016) Topical versus oral antibiotics, with or without corticosteroids, in the treatment of tympanostomy tube otorrhea. International journal of pediatric otorhinolaryngology 86: 183- 8	- Systematic review, included studies checked for relevance
<u>Cheng, Jeffrey and Javia, Luv (2012) Methicillin-</u> resistant Staphylococcus aureus (MRSA) pediatric tympanostomy tube otorrhea. International journal of pediatric otorhinolaryngology 76(12): 1795-8	- Study design does not meet inclusion criteria Non-comparative study
Dohar, Joseph E and Lu, Chung H (2018) Tube patency: Is there a difference following otic drop administration?. American journal of otolaryngology 39(4): 392-395	- Comparison does not meet inclusion criteria Tympanostomy tube with/without intraoperative local antibiotic injection plus postoperative otic drops (if post-tube otorrhea observed) vs. tympanostomy tube with/without intraoperative local antibiotic injection; tube patency is only outcome reported and only as ranges; analyses not in PICO
Rosenfeld, Richard M (2014) Topical antibiotics are superior to oral antibiotics in children with acute tympanostomy tube otorrhea. The Journal of pediatrics 165(1): 208	- Study design does not meet inclusion criteria <i>Commentary</i>
Rosenfeld, Richard M (2014) Topical antibiotic therapy is superior to systemic antibiotics for acute tympanostomy tube otorrhoea, but may not be necessary for all children. Evidence- based medicine 19(4): 132	- Study design does not meet inclusion criteria <i>Commentary</i>
Steele, Dale W, Adam, Gaelen P, Di, Mengyang et al. (2017) Prevention and Treatment of	- Systematic review, included studies checked for relevance

Study	Code [Reason]
<u>Tympanostomy Tube Otorrhea: A Meta-</u> analysis. Pediatrics 139(6)	
van Dongen, Thijs M A (2017) Topical antibiotic- glucocorticoid is superior to oral antibiotics in tympanostomy-tube otorrhea. The Journal of pediatrics 190: 287-290	- Study design does not meet inclusion criteria <i>Commentary</i>
Venekamp, RP, Javed, F, van Dongen, TMA et al. (2016) Interventions for children with ear discharge occurring at least two weeks following grommet (ventilation tube) insertion. Cochrane Database of Systematic Reviews	- Systematic review, included studies checked for relevance

#### 1 Excluded economic studies

2 No economic evidence was identified for this review.

# 1 Appendix K Research recommendations – full details

- 2 Research recommendations for review question: What interventions are
- 3 effective for treating otorrhoea (ear discharge) after surgery for OME-related
- 4 hearing loss in children under 12 years?
- 5 No research recommendations were made for this review question.