

**SOUTH AFRICAN PRIMARY HEALTHCARE LEVEL ESSENTIAL MEDICINES LIST
CHAPTER 19: EAR, NOSE AND THROAT (ENT) CONDITIONS
NEMLC RECOMMENDATIONS FOR MEDICINE AMENDMENTS (2016 – 2018)**

Medicine amendment recommendations, with supporting evidence and rationale are listed below. Kindly review the medicine amendments in the context of the ear, nose and throat chapter.

SECTION	MEDICINE	ADDED/DELETED/AMENDED?NOT ADDED/RETAINED
19.1 Allergic rhinitis	Corticosteroids nasal spray	Retained as a therapeutic class
	Beclomethasone, aqueous nasal spray	Deleted as an example of class for the general population > 6 years of age
	Fluticasone aqueous nasal spray	Added as an example of class for the general population > 6 years of age
	Beclomethasone, aqueous nasal spray	Not added for patients on protease inhibitors (> 6 years) – patients referred
19.2 Viral rhinitis (common cold)	Sodium chloride, 0.9% solution	Amended
- Infants		
- Children	Paracetamol, oral	Indication amended
- Adults	Paracetamol, oral	Deleted
19.4.2 Otitis media, acute	Amoxicillin, oral	Dosing and duration of course amended
	Amoxicillin/clavulanic acid, oral	Added for patients administered amoxicillin in previous 30 days
	Paracetamol, oral	Retained for pain
	Ibuprofen, oral	Not added for pain
19.4.3 Otitis media, chronic, suppurative	TB diagnosis	Amended
- Children: Antibiotic therapy	Fluoroquinolone, ear drops	Not added
19.5 Sinusitis, acute, bacterial	Oxymetazoline, nose drops	Amended
19.6 Tonsillitis and pharyngitis	Amoxicillin, oral (Children)	Added
	Amoxicillin, oral (Adults)	Added
	Antibiotics	Indications amended
	Cough linctus	Not added

19.1 ALLERGIC RHINITIS

Intranasal corticosteroids:

Corticosteroids, nasal spray: retained as a therapeutic class

Beclomethasone aqueous nasal spray: deleted as example of class for the general population > 6 years¹

Fluticasone aqueous nasal spray: added as example of class for the general population > 6 years²

Aligned with the NEMLC approved Adult Hospital Level STG:

NEMLC REPORT OF 14 DECEMBER 2017: ADULT HOSPITAL LEVEL

Intranasal corticosteroids:

Corticosteroids, nasal spray: retained as a therapeutic class

Beclomethasone aqueous nasal spray: deleted as example of class

¹ SAMF, 2016

² SAMF, 2016

Fluticasone aqueous nasal spray: added as example of class

Cochrane³ reviewers concluded that there is currently "no evidence that one type of intranasal steroid is more effective than another in patients with chronic rhinosinusitis, nor that higher doses are better than lower, nor that the effectiveness of a spray differs from an aerosol"; and there were "no studies that compared nasal drops with spray". There is "moderate quality evidence of an increased risk of epistaxis (nosebleed) as an adverse effect of treatment when higher doses were used".

The following table lists comparative doses for the various agents (derived from SAMF, 2016 and MCC registered package inserts):

Corticosteroid	Dose	Contract circular price (daily dose)*
Beclomethasone dipropionate (50mcg/spray)	100mcg into each nostril twice daily	R 0.53
Budesonide (100mcg/spray)	200mcg into each nostril daily	n/a
Fluticasone propionate (50mcg/spray)	100mcg into each nostril daily	R 0.32
Mometasone furoate (50mcg/spray)	100mcg into each nostril daily	n/a
Triamcinolone acetonide (55mcg/spray)	110mcg into each nostril daily	n/a

*Contract circular HP07-2017DAI: Beclomethasone dipropionate 50 mcg, 150 doses = R 25.29; Fluticasone propionate 50mcg, 120 doses = R 19.06 (weighted average price)

Fluticasone aqueous nasal spray is currently cheaper than beclomethasone aqueous nasal spray when approximate therapeutic comparable doses are compared (see table above); and is thus listed as the example of class in the STG.

Level of Evidence: I Systematic review, Expert opinion

Patients on protease inhibitors (> 6 years of age):

Beclomethasone, topical nasal solution: not added

Beclomethasone aqueous nasal spray is the recommended nasal corticosteroids for patients on protease inhibitors.

Rationale: Case reports of drug-drug interaction of protease inhibitors with inhaled corticosteroids (budesonide, fluticasone, mometasone and ciclesonide), except beclomethasone resulting in iatrogenic Cushing's syndrome and adrenal insufficiency.

Level of Evidence: III Case reports^{4 5 6 7}

NEMLC Recommendation (12 April 2018):

The NEMLC recommended that patients on protease inhibitors requiring nasal corticosteroids be referred to higher level of care for further management, as it was not pragmatic for primary care clinics to be required to stock two nasal corticosteroids agents at all times.

19.2 VIRAL RHINITIS (COMMON COLD)

Infants

Sodium chloride, 0.9% solution: amended

The text was amended for clarity:

Infants

- Sodium chloride 0.9%, instil 1–3 drops instilled into each nostril as required.

Level of Evidence: III Guidelines⁸

³ Chong LY, Head K, Hopkins C, Philpott C, Burton MJ, Schilder AG. Different types of intranasal steroids for chronic rhinosinusitis. Cochrane Database Syst Rev. 2016 Apr 26;4:CD011993. <https://www.ncbi.nlm.nih.gov/pubmed/27115215>

⁴ Foisy MM, Yakiwchuk EM, Chiu I, Singh AE. Adrenal suppression and Cushing's syndrome secondary to an interaction between ritonavir and fluticasone: a review of the literature. HIV Med. 2008 Jul;9(6):389-96. <https://www.ncbi.nlm.nih.gov/pubmed/18459946>

⁵ University of Liverpool. HIV drug interaction database. <https://www.hiv-druginteractions.org/>

⁶ Frankel JK, Packer CD. Cushing's syndrome due to antiretroviral-budesonide interaction. Ann Pharmacother. 2011 Jun;45(6):823-4. <https://www.ncbi.nlm.nih.gov/pubmed/21558486>

⁷ Yoganathan K, David L, Williams C, Jones K. Cushing's syndrome with adrenal suppression induced by inhaled budesonide due to a ritonavir drug interaction in a woman with HIV infection. Int J STD AIDS. 2012 Jul;23(7):520-1. <https://www.ncbi.nlm.nih.gov/pubmed/22844010>

⁸ SAMF, 2016 edition.

Children

Paracetamol, oral: indication amended

The text of the STG was amended for correctness and clarity:

Pain and fever with distressSymptomatic relief of pain and fever with discomfort:

Historically controlling fever was a concern due to possible convulsions. However, current available evidence suggests that antipyretic agents do not prevent febrile convulsions and should not be used specifically for this purpose. NICE Clinical Guideline: Feverish illness in children⁹, recommends paracetamol or ibuprofen in children with fever who appear distressed. This was reviewed and updated in the PHC STGs and EML, 2014 version.

Level of Evidence: III Guidelines

Adults

Paracetamol, oral: deleted

The Primary Health Care (PHC) Expert Review Committee was of the opinion that paracetamol for pain was not required for treatment of the common cold. Guidance for management of influenza is provided in section 17.3.1: Influenza. This section includes management with paracetamol for pain and fever, if required.

Level of Evidence: III Expert opinion

19.4.2 OTITIS MEDIA, ACUTE

Amoxicillin, oral: Dosing and duration of course amended

The weight-band dosing table for children ≤ 3 years of age was amended to align with Paediatric Hospital Level STGs and EML, 2017 dose of "45 mg/kg/dose 12 hourly"; and the adult dose of amoxicillin was aligned with guidelines and pharmacokinetic-pharmacodynamic evidence. Furthermore, a 10-day course of amoxicillin was recommended in children, aligned with Integrated Management of Childhood Illness guidelines.

The text of the STG was updated from:

<u>Children ≤ 3 years of age</u>						
• Amoxicillin, oral, 45 mg/kg/dose 12 hourly for 5 days.						
Weight kg	Dose mg	Use one of the following:				Age Months/years
		Syrup mg/5mL		Capsule mg		
		125	250	250	500	
>2–2.5 kg	100	4 mL	2 mL	–	–	34–36 weeks
>2.5–3.5 kg	125	5 mL	2.5 mL	–	–	Birth–1 month
>3.5–5 kg	175	7 mL	3.5 mL	–	–	>1–3 months
>5–7 kg	250	10 mL	5 mL	–	–	>3–6 months
>7–11 kg	375	15 mL	7.5 mL	–	–	>6–18 months
>11–14 kg	500	–	10 mL	2	1	>18 months–3 years

Children > 3 years of age

• Amoxicillin, oral, 500 mg 8 hourly for 5 days.

Adults

• Amoxicillin, oral, 500 mg 8 hourly for 5 days.

⁹NICE Clinical Guideline-Feverish illness in children: assessment and initial management in children younger than 5 years, May 2013. <http://www.nice.org.uk/guidance/cg160/chapter/recommendations>

To:

<u>Children ≤ 7 years of age</u>						
<ul style="list-style-type: none"> Amoxicillin, oral, 45 mg/kg/dose 12 hourly for 5 days. 						
<u>Weight</u> kg	<u>Dose</u> mg	<u>Use one of the following:</u>				<u>Age</u> Months/years
		<u>Syrup mg/ 5mL</u>		<u>Capsule</u>		
		<u>125</u>	<u>250</u>	<u>250</u>	<u>500</u>	
>2–2.5 kg	<u>100</u>	<u>4 mL</u>	<u>2 mL</u>	–	–	<u>34–36 weeks</u>
>2.5–3.5 kg	<u>125</u>	<u>5 mL</u>	<u>2.5 mL</u>	–	–	<u>Birth–1 month</u>
>3.5–5 kg	<u>175</u>	<u>7 mL</u>	<u>3.5 mL</u>	–	–	<u>>1–3 months</u>
>5–7 kg	<u>250</u>	<u>10 mL</u>	<u>5 mL</u>	–	–	<u>>3–6 months</u>
>7–11 kg	<u>375</u>	<u>15 mL</u>	<u>7.5 mL</u>	–	–	<u>>6–18 months</u>
>11–14 kg	<u>500</u>	–	<u>10 mL</u>	<u>2</u>	<u>1</u>	<u>>18 months -3 years</u>
>14–17.5 kg	<u>750</u>	–	<u>15 mL</u>	<u>3</u>	–	<u>>3–5 years</u>
>17.5–25 kg	<u>1000</u>	–	<u>20 mL</u>	<u>4</u>	<u>2</u>	<u>>5–7 years</u>

- Review response after 5 days.
- If pain or discharge persists, consider alternative diagnosis and continue antibiotics for a further 5 days repeat 5-day course of antibiotics".

Children > 7 years of age and adults

- Amoxicillin, oral, 1000 mg 8 hourly for 5 days.

Level of Evidence: III Guidelines^{10 11}

NEMLC Recommendation (12 April 2018):

The NEMLC discussed whether antibiotics were necessary for the management of acute otitis media in children, as most children get better in 3 days without antibiotics. Antibiotics make little difference in improving symptoms (i.e. pain at 24 hours) or preventing common complications (short-term hearing loss, perforated eardrum or recurrent infection); and acute complications such as mastoiditis are rare with or without antibiotics and are also associated with possible adverse effects. Patient or patient’s caretaker should be given a choice of whether antibiotics should be prescribed; seeking medical help if symptoms worsen rapidly or significantly, do not start to improve after 3 days, or the child becomes systemically very unwell.

However, the current recommendation in the PHC STGs and EML was considered to be pragmatic; as a nurse prescriber would probably not have enough time to discuss and explain the various options. And, patients might find it difficult to return to the clinic if they aren’t given antibiotics and symptoms worsen.

The text of the STG was accepted, but amended for clarity purposes as follows:

“Children ≤ 7 years of age

- Amoxicillin, oral, 45 mg/kg/dose 12 hourly for 5 days.
- Review response after 5 days.

¹⁰ Amoxicillin, oral (AOM – children): Siddiq S, Grainger J. The diagnosis and management of acute otitis media: American Academy of Pediatrics Guidelines 2013. Arch Dis Child Educ Pract Ed. 2015 Aug;100(4):193-

7. <https://www.ncbi.nlm.nih.gov/pubmed/25395494>

Amoxicillin, oral (AOM – children): National Department of Health, Integrated Management of Childhood Illness (IMCI) Guidelines, 2014.

<http://www.health.gov.za/>

Amoxicillin, oral (AOM – children): Brink AJ, Cotton M, Feldman C, Finlayson H, Friedman R, Green R, Henderson W, Hockman M, Maartens G, Madhi S, Reubenson G, Silverbauer E, Zietsman I. Updated recommendations for the management of upper respiratory tract infections in South Africa. S Afr Med J. 2015 Apr 6;105(5):344-52. <https://www.ncbi.nlm.nih.gov/pubmed/26242659>

¹¹ Amoxicillin, oral (AOM – children > 7 years of age and adults): Brink AJ, Cotton M, Feldman C, Finlayson H, Friedman R, Green R, Henderson W, Hockman M, Maartens G, Madhi S, Reubenson G, Silverbauer E, Zietsman I. Updated recommendations for the management of upper respiratory tract infections in South Africa. S Afr Med J. 2015 Apr 6;105(5):344-52.

<https://www.ncbi.nlm.nih.gov/pubmed/26242659>

- *If pain or discharge persists, consider alternative diagnosis and continue antibiotics for a further 5 days repeat 5-day course of antibiotics”.*

Antibiotic treatment for those who have taken amoxicillin in the previous 30 days:

Amoxicillin/clavulanic acid, oral: added

The following was added to the text of the STG, aligned with guidelines:

Children					
Weight kg	Dose mg (amoxicillin component)	Use one of the following			Age months/years
		Susp 125/31.5 mg/5 mL	Susp 250/62.5 mg/5 mL	Tablet 250/125 mg/tab	
>3.5–5kg	75 mg	3 mL	1.5 mL	–	>1–3 months
>5–7 kg	100 mg	4 mL	2mL	–	>3–6 months
>7–9 kg	150 mg	6 mL	3 mL	–	>6–12 months
>9–11 kg	200 mg	8 mL	4 mL	–	>12–18 months
>11–14 kg	250 mg	10 mL	5 mL	1 tablet	>18 months–3 years
>14–17.5 kg	300 mg	12 mL	6 mL	–	>3–5 years
>17.5–25	375 mg	15 mL	7.5 mL	–	>5–7 years
>25–35 kg	500 mg	20 mL	10 mL	2 tablets	>7–11 years

Children > 35 kg and adults

- Amoxicillin/clavulanic acid, oral, 875/125 mg 12 hourly for 5 days-10 days.

Level of Evidence: III Guidelines^{12 13}

Pain

Paracetamol, oral: retained

Ibuprofen, oral: not added

Authors of a Cochrane review¹⁴ concluded that there is limited evidence for paracetamol or ibuprofen, alone or combined, in relieving pain in children with acute otitis media and that both paracetamol or ibuprofen are more effective than placebo in relieving short-term pain. However, NSAIDs should essentially not be used in viral infections.

Recommendation: Paracetamol be retained for management of pain in acute otitis media.

Level of Evidence: I Systematic review

19.4.3 OTITIS MEDIA, CHRONIC, SUPPURATIVE

TB diagnosis: amended

An external comment was received relating to excess expenditure for inappropriate routine TB culture requests (for patients presenting with suppurative otitis media at primary level of care).

Local evidence¹⁵ suggests that only a small proportion of patients have a chronically discharging ear due to tuberculosis (TB). TB culture results therefore rarely alter patient management.

¹² Amoxicillin/clavulanate, oral (AOM – children): Siddiq S, Grainger J. The diagnosis and management of acute otitis media: American Academy of Pediatrics Guidelines 2013. Arch Dis Child Educ Pract Ed. 2015 Aug;100(4):193-7. <https://www.ncbi.nlm.nih.gov/pubmed/25395494>

Amoxicillin/clavulanate, oral (AOM – children): Brink AJ, Cotton M, Feldman C, Finlayson H, Friedman R, Green R, Hendson W, Hockman M, Maartens G, Madhi S, Reubenson G, Silverbauer E, Zietsman I. Updated recommendations for the management of upper respiratory tract infections in South Africa. S Afr Med J. 2015 Apr 6;105(5):344-52. <https://www.ncbi.nlm.nih.gov/pubmed/26242659>

¹³ Amoxicillin/clavulanate, oral (AOM – adults): Brink AJ, Cotton M, Feldman C, Finlayson H, Friedman R, Green R, Hendson W, Hockman M, Maartens G, Madhi S, Reubenson G, Silverbauer E, Zietsman I. Updated recommendations for the management of upper respiratory tract infections in South Africa. S Afr Med J. 2015 Apr 6;105(5):344-52. <https://www.ncbi.nlm.nih.gov/pubmed/26242659>

¹⁴ Sjoukes A, Venekamp RP, van de Pol AC, Hay AD, Little P, Schilder AGM, Damoiseaux RAMJ. Paracetamol (acetaminophen) or non-steroidal anti-inflammatory drugs, alone or combined, for pain relief in acute otitis media in children. Cochrane Database of Systematic Reviews 2016, Issue 12. Art. No.: CD011534.

¹⁵ Tiedt NJ, Butler IR, Hallbauer UM, Atkins MD, Elliott E, Pieters M, Joubert G, Seedat RY. Paediatric chronic suppurative otitis media in the Free State Province: clinical and audiological features. S Afr Med J. 2013 May 16;103(7):467-70.

In addition, ear swabs are likely to be contaminated by colonising flora.

TB diagnosis was amended to include consideration of other clinical features with a cross referral to section 17.4: Pulmonary tuberculosis (TB).

Recommendation: TB diagnosis in chronic suppurative otitis media to be amended as follows:

~~TB is an important cause of a chronically discharging ear in South Africa.~~
TB may present with a chronically discharging ear. Consider the diagnosis of TB if other clinical features suggestive of TB (e.g. cough, weight loss, failure to thrive, etc.). See Section 17.4: Pulmonary tuberculosis (TB).
Note:
» Do not send pus swabs collected from the external ear canal for routine bacterial and fungal MC+S (microscopy, culture and sensitivity) or for microscopy and culture for tuberculosis.

Rationale: Cultures (of pus swabs of the ear) have a high risk of contamination, possible false-positives and unnecessary expenditure on laboratory tests.

Level of Evidence: III Guidelines

Children

Antibiotic therapy

Fluoroquinolone, ear drops: not added

The rationale for not including topical quinolones in the previous PHC Standard Treatment Guidelines (STGs) and Essential Medicines List (EML), 2014 edition was misdiagnosis of TB in chronic suppurative otitis media and concerns regarding the irrational use of topical antibiotics at primary level of care. However, inadequate referral of children in this clinical setting and delayed treatment by ear, nose and throat specialists results in further complications. The burden of referrals to higher level of care could be prevented if the condition could be managed by doctors at primary level of care with access to topical quinolones (as recommended in the Paediatric Hospital STGs and EML, 2013).

Data from eligible studies were pooled for meta-analysis and the results showed that patients who received topical treatment demonstrated a statistically significant improvement in resolution rates at the defined endpoint of 2–3 weeks¹⁶. Topical treatment was shown to have improved eradication rates compared to oral antibiotics. Side effects were much less common with topical antibiotics than with oral antibiotics. The two most common adverse reactions reported were gastrointestinal disturbances (i.e. diarrhoea) and dermatitis. Oral antibiotics carried a significantly higher risk of diarrhoea and dermatitis. In adults with chronic suppurative otitis media, topical antibiotics are more efficacious in reducing otorrhea than either oral or intramuscular antibiotics, possibly because the tympanic membrane perforation permits a higher local drug concentration to be achieved with topical antibiotic therapy. For paediatric patients with tube otorrhea, studies have shown failure rates of between 10% and 23% with ciprofloxacin-containing ear drops versus 20%–70% with oral antibiotics alone¹⁷.

Recommendation: Fluoroquinolone eardrops not be included in the PHC EML for treatment of chronic suppurative otitis media.

Rationale: Historically the NEMLC had not approved topical fluoroquinolones for chronic suppurative otitis media due to concerns of irrational use at primary level of care.

Level of Evidence: III Expert opinion

19.5 SINUSITIS, ACUTE, BACTERIAL

Oxymetazoline, nose drops: amended

The following text was amended, aligned with the SAMF¹⁸:

¹⁶ Macfadyen CA, Acuin JM, Gamble C. Systemic antibiotics versus topical treatments for chronically discharging ears with underlying eardrum perforations. *Cochrane Database Syst Rev.* 2006 Jan 25;(1):CD005608.

¹⁷Venekamp RP, Burton MJ, van Dongen TM, van der Heijden GJ, van Zon A, Schilder AG. Antibiotics for otitis media with effusion in children. *Cochrane Database Syst Rev.* 2016 Jun 12;(6):CD009163.

¹⁸ SAMF, 2016.

- Oxymetazoline, nose drops, 2 drops in each nostril 6–8 hourly for not > 5 days continuously.
 - Children > 5 years of age: 0.025%
 - Adults: 0.05%

Level of evidence: III Guidelines

19.6 TONSILLITIS AND PHARYNGITIS

Description

Evidence for clinical predictions rules/scores was reviewed to determine when antibiotics are/are not required.

A prospective cohort study by Engel et al¹⁹, showed that, “Four variables (tonsillar swelling and one of tonsillar exudate, no rhinorrhea, no cough), when used in a cumulative score, showed 83.7% sensitivity and 32.2% specificity for GAS pharyngitis”.

The text of the STG was updated as follows:

A painful red throat and/or enlarged inflamed tonsils. White pus exudates, either spots or patches may be present. Tender anterior cervical lymphadenopathy may be present.

Viruses cause the majority of cases. Group A beta haemolytic streptococcus causes 20% of pharyngitis/tonsillitis, and may result in rheumatic fever (which can cause serious heart disease) as well as local suppurative complications.

Other clinical features that might suggest streptococcal infection may include palatal petechiae, inflamed tongue mucosal papillae (strawberry tongue), a scarlatiniform (i.e.: rough, diffuse, fine popular) rash.

Antibiotics are not required for all patients with sore throat.

Antibiotics to eradicate streptococci must be given to patients presenting with a sore throat who are at risk for rheumatic fever (3–21 years of age) if they have:

- » Enlarged tonsils;
 - PLUS** at least one of the following criteria:
 - Exudates on their tonsils
 - No cough
 - No runny nose

Level of Evidence: III Cohort study

Children and adults

Amoxicillin, oral: added

As there are continuous supply challenges with phenoxymethylpenicillin, amoxicillin was recommended as an alternative option. Refer to the medicine review, below, for details:



AmoxicillinVsPheno
xymethylpen_Tonsil_

Recommendation: Amoxicillin, oral be recommended as an alternative to phenoxymethylpenicillin, oral if the latter is not available.

Rationale: Evidence of comparable efficacy in the paediatric population. Whilst there is no evidence of comparable efficacy in adults, guidelines recommend amoxicillin 12 hourly in adults for the treatment of pharyngo-tonsillitis.

Level of Evidence: I RCTs^{20 21} (Children); III Guidelines²² (Adults)

¹⁹ Engel ME, Cohen K, Gounden R, Kengne AP, Barth DD, Whitelaw AC, Francis V, Badri M, Stewart A, Dale JB, Mayosi BM, Maartens G. The Cape Town Clinical Decision Rule for Streptococcal Pharyngitis in Children. *Pediatr Infect Dis J.* 2017 Mar;36(3):250-255.

²⁰ Clegg HW, Ryan AG, Dallas SD, Kaplan EL, Johnson DR, Norton HJ, Roddey OF, Martin ES, Swetenburg RL, Koonce EW, Felkner MM, Giftos PM. Treatment of streptococcal pharyngitis with once-daily compared with twice-daily amoxicillin: a noninferiority trial. *Pediatr Infect Dis J.* 2006 Sep;25(9):761-7.

²¹ Lennon DR, Farrell E, Martin DR, Stewart JM. Once-daily amoxicillin versus twice-daily penicillin V in group A beta-haemolytic streptococcal pharyngitis. *Arch Dis Child.* 2008 Jun;93(6):474-8.

²² Brink AJ, Cotton M, Feldman C, Finlayson H, Friedman R, Green R, Henderson W, Hockman M, Maartens G, Madhi S, Reubenson G, Silverbauer E, Zietsman I. Updated recommendations for the management of upper respiratory tract infections in South Africa. *S Afr Med J.* 2015 Apr 6;105(5):344-52.

For children under 6 years of age

Cough linctus: not added

Cough linctus was not recommended for cough relief in children; rather breastmilk or warm water or weak tea: with sugar or honey and lemon if available. This was aligned with the Integrated Management of Childhood Illnesses Guidelines, 2014²³.

Evidence:

*Cochrane review*²⁴: Review of 6 RCTs of low to moderate quality suggests that honey may be more beneficial in relieving cough compared to no treatment, placebo or diphenhydramine, but may be comparable to dextromethorphan. Honey may also relieve cough symptoms longer than salbutamol. Limitation of this review is that treatment was mostly administered for one night. The evidence supporting or refuting the use of honey was not very strong.

Results:

- Using a 7-point Likert scale:

- Honey reduces cough frequency better than no treatment: Mean difference (MD) -1.05, 95% CI -1.48 to -0.62; $I^2 = 0\%$; 2 RCT; n=154; moderate-certainty evidence.
- Honey reduces cough frequency better than placebo: MD -1.62, 95% CI -3.02 to -0.22; $I^2 = 0\%$; 2 RCTs; n= 402; moderate-certainty evidence).
- Honey be comparable to dextromethorphan in reducing cough frequency (MD -0.07, 95% CI -1.07 to 0.94; $I^2 = 87\%$; 2 RCTs; n=149 children; low certainty evidence).
- Honey may be better than diphenhydramine in reducing cough frequency (MD -0.57, 95% CI -0.90 to -0.24; 1 RCT; n=80; low-certainty evidence).

- No difference in occurrence of adverse events between the honey and control arms.

Recommendation: The previous recommendation to remove cough linctus for symptomatic relief in Sections 19.5 Tonsillitis and pharyngitis and 17.3.2: Acute bronchitis in adults or adolescents; and the recommendation to relieve sore throat in children < 6 years of age with breastmilk or warm water or weak tea: with sugar or honey and lemon if available (Section 19.5 Tonsillitis and pharyngitis) were upheld.

Rationale: There is no strong evidence to support or refute the use of honey for symptomatic relief of cough. However, the recommendation of honey for relieving cough in children was aligned with Guidelines²⁵.

Level of Evidence: I Systematic review, Guidelines

²³ NDoH, Integrated Management of Childhood Illnesses, 2014.

²⁴ Oduwale O, Udoh EE, Oyo-Ita A, Meremikwu MM. Honey for acute cough in children. Cochrane Database Syst Rev. 2018 Apr 10;4:CD007094. <https://www.ncbi.nlm.nih.gov/pubmed/29633783>

²⁵ Paediatric Hospital Level STGs and EML, 2017.