Sedating antihistamines in children—not a good choice

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You wouldn't give your children coffee due to the adverse CNS effects—so why treat children with sedating antihistamines?

KEY POINTS

- First-generation (sedating) antihistamines are relatively non-specific and have marked CNS effects.
- Second-generation (non-sedating) antihistamines are well tolerated over a long period and have no adverse effects on learning.
- Only cetirizine is licensed in NZ for use in very young children (one year and older).
- Routine use of antihistamines, with or without decongestants, is not recommended for children with otitis media.

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'Social medication' is a term used for medication that gives parents control over children's behaviour that they perceive as fractious and irritating or that reduces the inconvenience of a sick child.[1] Sedating antihistamines must not be used as a coping strategy for the family.

First generation (sedating) antihistamines are not licensed for use in children under two years old. They are 'dirty' drugs in that they are relatively non-specific and act on histaminic, serotonergic and cholinergic receptors with marked effects on the central nervous system (CNS). They can act as anti-emetics, hypnotics and tranquilisers. Promethazine and trimeprazine are antipsychotic derivatives and are contraindicated for use in children less than two years of age due to the risk of marked sedation and respiratory depression. Conversely, these drugs may cause paradoxical excitation in children.

Use in coughs and colds

For coughs and colds in children less than six years old, first generation antihistamines showed no significant benefit in small studies.[2–5] There is a paucity of studies in 6–12-year-old children, but a similar lack of benefit is noted.[6] A systematic review of antihistamines for chronic cough in children found that they could not be recommended as empirical therapy due to the potential adverse effects, especially in very young children.[7]

Use in otitis media

Repeated systematic reviews of antihistamines, usually with decongestants, for children with otitis media have concluded that for acute otitis media the routine use of antihistamines in children cannot be supported as the harms outweigh any benefit.[8] Similarly, for children with otitis media with effusion, there was no benefit demonstrated but there was potential harm and so antihistamines, with or without decongestants, are not recommended.[9]

Second-generation (non-sedating) antihistamines

Second generation antihistamines act primarily on peripheral histaminic receptors and are non-sedating because they do not readily cross the blood–brain barrier. They have few adverse drug

Table 1. Antihistamines: licensed use in children

First generation	Trade name	Licensed in NZ for children
Chlorpheniramine 2 mg/5 mL	Histafen	≥ 6 years old
Dexchlorpheniramine 2 mg/5 mL	Polaramine	≥ 2 years old
Promethazine 5 ml/5 mL	Phenergan; Allersoothe	≥ 2 years old
Trimeprazine 30 mg/5 mL	Vallergan Forte	≥ 2 years old
Second generation	**Trade name**	**Licensed in NZ for children**
Loratadine 1 mg/1 mL	Lorapaed	≥ 2 years old
Cetirizine 1 mg/1 mL	Cetirizine AFT	≥ 1 year old

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Table 2. Antihistamines: symptoms in overdose

First generation (e.g. promethazine)	Second generation (e.g. loratadine)
Unconsciousness, commonly delayed. In addition, convulsions, hallucinations, delirium, acute anxiety, psychotic reactions, extreme hyperaesthesia and hyperalgesia with extensor plantar responses may occur. Anticholinergic action may cause tachycardia, flushed skin, dry mouth and sometimes mydriasis and urinary retention. In adults, CNS depression is more common, with drowsiness, coma, convulsions, progressing to respiratory failure or cardiovascular collapse. In infants and children, CNS stimulation predominates over CNS depression causing ataxia, excitement, tremors, psychoses, hallucinations, convulsions and possibly hyperpyrexia, which may be followed by deepening coma and cardiorespiratory collapse (and death).	Somnolence, tachycardia, headache

reactions, are well tolerated over a long period and have no adverse effects on learning, but they are still not licensed for children under two years old, except for cetirizine, which is licensed for children one year or older.

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