Childhood cough and cold
PHARMACIST CPD
4 » Facts Behind the Fact Card: Childhood cough and cold

PHARMACY ASSISTANTS’ EDUCATION
12 » Counter Connection: Childhood cough and cold

REGULARS
03 » Health column
16 » Noticeboard

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The right advice for today’s childhood cold

By Joey Calandra

For many Australian families the first sign of winter approaching is often a child with a fever, runny nose and a cough. Not surprising as the common cold is the most frequently reported short term illness reported in children. Parents want to ensure that they are caring for their families especially when a child is unwell. Often this can mean using what has worked in the past or believing that antibiotics are the key to a cure.

Relying on what has worked in the past or advice from friends is often not in the best interests of the child’s health. When treating a child, medicines can often be administered by multiple caregivers, resulting in increasing the chances of adverse effects and in some instances unintentional overdose and sudden infant death syndrome.

The Therapeutics Goods Administration (TGA) reviewed the use of cough and cold medicines in children because of the life threatening situations that were arising. The outcome was that cough and cold medicines should not be given to children under 6 years of age, and that cough and cold medicines should only be given to children aged 6–11 years on the advice of a doctor, pharmacist or nurse practitioner.

Your local pharmacist can provide reassurance and advice that although parents know what’s best for their children, there is now new evidence for the safest way for treating children's coughs and colds. Sometimes this means simply ensuring that a child has plenty to drink and gets enough rest, as coughs and colds are self-limiting and will usually get better by themselves.

However, on other occasions, your pharmacist can advise that treating what appears to be the symptoms of coughs and colds in children with medicines, may delay the diagnosis and treatment of more serious conditions such as asthma, pneumonia and meningococcal disease.

We all want the fastest and best way to alleviate our colds, and that means we can often get caught in the trap of thinking that antibiotics are the answer. Antibiotics are medicines used to treat infections caused by bacteria. When it comes to a common cold, the major cause is a viral infection, which does not respond to antibiotic treatment.

If antibiotics are used too often for things they can't treat – like colds or other viral infections – they can stop working effectively against bacteria when we really need them. This is what is known as antibiotic resistance – when antibiotics can no longer cure bacterial infections – and has been a concern for years and is considered one of the world's most critical public health threats. In fact, in children, antibiotics are the most common cause of emergency department visits for adverse drug events.

Your local community pharmacy is your health destination and your Self Care pharmacist can give you more information about the best treatment for your child’s cough and colds and provide support using the Colds and flu and Children’s pain and fever Self Care Fact Cards. For the nearest location phone the Pharmaceutical Society on 1300 369 772 or visit the website www.psa.org.au and click on Self Care Pharmacy Finder.
Childhood cough and cold

By Sarah Curulli

The common cold, although a self-limiting condition, is a significant cause of burden and distress among Australian children, and their families.1,2

Learning objectives

After reading this article, pharmacists should be able to:

• Discuss the pathophysiology of cough and cold
• Evaluate the use of medicines available for cough and cold in children
• Discuss recent changes to Therapeutic Goods Administration (TGA) recommendations on childhood cough and cold medicines
• Describe best management and self care options for childhood cough and cold symptoms
• Interpret available evidence for natural cough and cold remedies in children
• Recognise when to refer children with cough and cold symptoms
• Provide appropriate counselling to parents and caregivers regarding cough and cold treatments and self care measures.


Pathophysiology and symptoms

A 2004 survey conducted by the Australian Bureau of Statistics showed that the common cold was the most frequently reported short-term illness among children in Australia.3 The major pathogenic cause of the common cold has been identified as viruses, such as, rhinovirus (more frequently in adults than children), influenza virus, adenovirus and coronavirus.1

The exact mechanism by which such viruses cause cold symptoms is not well defined, however, it is postulated that bradykinin, lysyl-bradykinin and histamine may be responsible for the associated nasal congestion and rhinorrhoea.1 However, the pathogenesis and immunological response experienced during a cold will vary depending on the specific viral cause – for example, histamine mediated responses do not occur in a rhinovirus infection.1

Symptoms of the common cold include; runny or blocked nose, fever, malaise, sore throat, headache and most notably, cough.1

Cough is a protective mechanism that aims to clear irritant material, such as pathogens and foreign bodies, from the airways.4 The cough reflex is triggered by the stimulation of chemical or mechanical irritant receptors in the upper airways and lungs.4,5 This results in the transmission of a message (via the vagal nerve) to the medulla, leading to a cough.4 The common cold (or an acute viral respiratory infection) is the most frequent cause of an acute cough of less than three weeks in duration (See Table 1).4,6 However, there are other potentially serious causes of a cough that must also be considered when a child presents with cough and cold symptoms.

Cough, in the absence of other symptoms (such as rhinorrhoea, fever, and malaise) may be related to conditions such as;
Practice point 1

Summary of adverse effects of OTC cough and cold medicines in children1,2,4,6
- First-generation antihistamines:
  - Sedation, paradoxical hyperactivity, dizziness, hallucinations, seizures, cardio-toxicity.
- Antitussives: Dizziness, sedation, nausea, allergic reactions, respiratory depression with cyanosis (codeine)
- Mucolytics: No know adverse effects in children.
- Expectorants: Nausea, vomiting, gastrointestinal upset (high doses).
- Decongestants: Rebound congestion (topical), sleep disturbances, aggression, apnoea, seizures.
- Antihistamine-decongestant combination products: Dystonic reactions.

Note: When given in safe dosages these medicines are unlikely to cause serious adverse effects. However, overuse of these medicines, or overdose can cause serious harm.6,12

Facts Behind the Fact Card

Childhood cough and cold
Pharmacist CPD
Module number 248

- pneumonia or bronchiolitis (with associated respiratory distress)
- asthma (predominant nocturnal cough)
- pertussis (paroxysms of coughing)
- gastro-oesophageal reflex disease (GORD) (more prevalent with feeding and usually accompanied by reflux)
- suppurative lung disease (cough more prevalent in the morning)
- foreign bodies (usually associated with choking).2

Medicines for cough and cold – Efficacy and safety in children

To date, there is no known cure for a viral respiratory infection such as the common cold.1 Treatment is primarily focused on symptomatic relief to ease discomfort and stress for both children and their families.2 For the past 40 years, cough and cold medicines have contained a combination of drugs aimed at providing symptomatic relief.6 There are several classes of medicines which can be used to relieve cough and cold symptoms; antihistamines, antitussives, mucolytics, expectorants, and decongestants. It is important to note that there are specific precautions that must be taken when recommending medication for children aged two to 12 years (See 2012 TGA recommendations).

First generation anti-histamines

Antihistamines such as diphenhydramine, brompheniramine, chlorpheniramine, doxylamine and promethazine may provide symptomatic relief of cough and cold symptoms.2,4 Due to their actions as Histamine H1 receptor antagonists, antihistamines may relieve histamine induced allergic rhinitis-like symptoms such as sneezing and rhinorrhea.1 Additionally, some antihistamines have limited efficacy as antitussive agents, primarily due to the reduction in postnasal drip.1

First-generation antihistamines can cause sedation (from slight drowsiness to deep sleep), which is generally more significant in children.1,6 Paradoxically, when given in high doses, they may cause stimulation and hyperactivity.6 First generation antihistamines can also cause dizziness, irritability and toxic effects such as hallucinations, convulsions (may also precipitate seizures in children with epilepsy), and cardio-toxicity (QT prolongation).4,6,7 There is evidence of specific case studies where children have experienced severe toxicity, or even death, following poisoning with an antihistamine, namely diphenhydramine (the most cardio-toxic of the group).6 Additionally, some antihistamines, such as promethazine, are contraindicated in children under the age of two, as they have been linked to sudden infant death syndrome (SIDS).7

Overall, there is limited evidence that antihistamines are beneficial for the common cold.1 In addition, histamine levels are not usually increased in the common cold, and as such the use of antihistamines has limited efficacy.1

Antitussives

Antitussives are commonly requested in a pharmacy setting, as patients often seek symptomatic relief from irritating cough symptoms. Codeine (an opiate), pholcodine (an opiate derivative) and

<table>
<thead>
<tr>
<th>Duration</th>
<th>Acute cough</th>
<th>Persistent cough</th>
<th>Chronic cough (productive and non-productive)</th>
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<tbody>
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<td>Three weeks or less</td>
<td></td>
<td>Several weeks to two months</td>
<td>Greater than two months</td>
</tr>
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<td>Common causes</td>
<td>Upper or lower respiratory infections</td>
<td>Post-infective (preceded by acute respiratory infection)</td>
<td>Chronic bronchitis</td>
</tr>
<tr>
<td>Academia bronchitis</td>
<td>GORD</td>
<td>Upper airway cough syndrome (post-nasal drip)</td>
<td>Psychogenic (habitual)</td>
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<td>Asthma exacerbation</td>
<td>Foreign bodies</td>
<td>Foreign bodies</td>
<td>Bronchiectasis</td>
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<tr>
<td>Croup</td>
<td>Tuberculosis</td>
<td>Tuberculosis</td>
<td>Idiopathic</td>
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<td>Sinusitis</td>
<td>Lung cancer</td>
<td>Lung cancer</td>
<td>Airway abnormalities</td>
</tr>
<tr>
<td>Allergic rhinitis</td>
<td></td>
<td></td>
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<tr>
<td>Drug-induced</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign bodies</td>
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<td></td>
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</tbody>
</table>
Practice point 2

Summary of TGA recommendations

- There have been no scheduling changes to OTC cough and cold medicines.
- Although there are no immediate safety risks with the use of OTC cough and cold medicines, there is no evidence that these medicines are beneficial or effective in children.
- There are some safety risks associated with the use of these products for children.
- OTC cough and cold medicines should NOT be given to children aged six years or younger.
- Children aged 6–11 years should ONLY be given these products following advice from a pharmacist, nurse practitioner or doctor.
- All OTC cough and cold medicines must be in child-resistant packaging, and should have clear dosages for children aged 6–11 years.

Decongestants

Decongestants are typically sympathomimetic agents that reduce swelling of the nasal mucosa through vasoconstriction (alpha/beta receptor agonists). This leads to a reduction in nasal congestion and an increase in sinus drainage. Decongestants can be administered topically (such as oxymetazoline) or orally (such as pseudoephedrine and phenylephrine).

When used topically, for longer than two to three days in succession, decongestants can cause rebound congestion (rhinitis medicamentosa). This is a concern for infants, who are predominantly nasal breathers. As such, the use of topical decongestants in children is not routinely advised.

There is limited evidence to support the efficacy of oral decongestants in children. Published randomised controlled trials show conflicting results; some suggest that oral decongestants may be no more effective than placebo. Oral sympathomimetic agents can cause a variety of adverse effects, predominantly due to adrenergic stimulation, such as; sleep disturbances, aggression (specifically in young children), seizures and apnoea. Due to limited evidence of efficacy and the risk of adverse effects, oral decongestants are also not routinely recommended for use in children.

Combination products

Antihistamine-decongestant combination products are commonly used to relieve cough and cold symptoms. There are a variety of high-level studies which conclude that the use of such a combination provides no more benefit than placebo. Adverse effects, such as dystonic reactions, have been reported following therapeutic misadventure and poisoning with an antihistamine-decongestant combination, and in some cases, these medicines have been associated with fatalities in children.

Safety concerns with children

Historically the use of cough and cold medicine in children has been extrapolated from adult practice (for indications and dosage), due to the lack of available studies in children. This is problematic for a number of reasons; children metabolise medication differently to adults (due to their size and...
variation in enterohepatic circulation), and although most cases of cough are due to the common cold, in children, some respiratory tract infections can be more sinister – for example Bordetella pertussis.13 Unfortunately, to date, there is a lack of evidence to conclude that OTC cough and cold medicines are effective in children, and in addition there is an absence of safe dosage recommendations.14

When treating a child, medicines can often be administered by multiple caregivers. This increases the chances of medication misadventure, especially because the vast variety of preparations for cough and cold generally contain similar ingredients.2 The use of cough and cold medicines in children has been linked to numerous cases of unintentional overdose and sudden infant death.2,7,14 Following reports of overdose and potentially life-threatening adverse effects, in 2008 the US Food and Drug Administration and the Therapeutic Goods Administration (TGA) issued warnings against the use of cough and cold medicines in children younger than two.2 Both agencies recommended use with caution in children aged 2 to 11 due to potential safety risks.2

2012 TGA recommendations

Given the myriad of available evidence, it is prudent that pharmacists are aware of the safest and most effective treatments for cough and cold in children. Due to the limited evidence of efficacy and the adverse effects of some medicines, the TGA conducted a further investigation into the use of cough and cold medicines for children. In August 2012, the TGA published final outcomes of a review conducted on OTC cough and cold medicines for children aged two to 12 years. This review concluded that there are no immediate safety risks with OTC cough and cold medicines for children; however the TGA issued some warnings and guidance on their use.15

The TGA found a lack of evidence of efficacy for OTC cough and cold medicines in children under the age of 12 years.15 In addition, the report concluded that OTC cough and cold medicines have been associated with adverse effects in children such as:

- allergic reactions
- an increased or uneven heart rate
- slow and shallow breathing
- drowsiness or sleeplessness
- confusion or hallucinations
- convulsions
- nausea and constipation.15

The report identified that the potential risks for use in children under six years was greater than in older children; as such OTC cough and cold medicine should not be given to children under the age of six.15 For children aged six to 11 years, cough and cold medicine should only be administered following advice from a pharmacist, nurse practitioner or doctor.12,15 There have been no scheduling changes for OTC cough and cold medicines as a result of this review.15 See Table 2 for all the medicines included in the TGA review.

In addition to issues with efficacy and the safety risk (including the risk associated with overdose), the TGA concluded that there are a number of other considerations with the use of cough and cold medicines in children. Children under the age of six may need to seek medical assistance to rule out more serious pathologies, such asthma, bronchitis, or influenza, when they exhibit the signs and symptoms of a common cold.15 The TGA advised manufacturers to ensure all cough and cold medicines have child-resistant packaging, with correct dosages for children aged six to 11 listed on the label to avoid guesswork by parents or caregivers.15

Table 2. Medicines included in TGA review15

<table>
<thead>
<tr>
<th>Antihistamines</th>
<th>Antitusives</th>
<th>Expectorants/Mucolytics</th>
<th>Decongestants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brompheniramine, chlorpheniramine,</td>
<td>Codeine, dextromethorphan, dicyclomine,</td>
<td>Ammonium chloride, bromhexine, guaifenesin,</td>
<td>Oxymetazoline, phenylephrine, pseudoephedrine,</td>
</tr>
<tr>
<td>diphenhydramine, doxylamine, phenerazine, promethazine, triprolidine</td>
<td>dihydrocodeine, pentoxifylline, polcodine</td>
<td>ipecacuanha, senega and ammonia</td>
<td>xylometazoline.</td>
</tr>
</tbody>
</table>

Practice point 3

When to refer?2, 17, 18

- Any signs of a more serious viral or bacterial infection:
  - high temperature (above 38.5 degrees Celsius)
  - ear ache
  - wheeze or difficulty breathing (respiratory distress)
  - sensitivity to light
  - sticky discharge from the eyes.

- Discoloured phlegm:
  - yellow/green – possible bronchitis.
  - rust – possible pneumonia
  - blood stained – possible tuberculosis or lung cancer
  - pink/red – possible heart failure.

- Chest pain – important to exclude cardiovascular disease.

- Pain when breathing in – important to rule out pleurisy or pneumothorax.

- Paroxysms of coughing – important to rule out pertussis.

- Barking cough that is worse at night-time and/or stridor – this could be a sign of croup, whooping cough or asthma.

- Cough that is worse in the morning – this could be a sign of suppurative lung disease.

- Cough more prevalent when feeding and accompanied by reflux – important to rule out GORD.

- Child is choking – may be associated with a foreign body.

- Duration of the cough exceeds three weeks – may be a persistent or chronic cough with a serious underlying cause.

- Child has an accompanying rash or mottled skin – essential to rule out meningococcal disease.

- Child is showing signs of dehydration; sunken fontanelles, lack of tears, reduced urine output.
Practical implications for pharmacists

In light of the recent changes to the use of cough and cold medicines for children, pharmacists may find themselves in a number of difficult situations with parents and caregivers. It is integral that pharmacists re-enforce the TGA findings to parents and caregivers because there is new evidence that shows these medicines will not benefit children with a cough or cold, that there are serious adverse effects that may occur with the use of these products in children, and the treatment of these symptoms may delay the diagnosis of a more serious health condition, such as asthma.12,15 The PSA factsheet for changes to cough and cold medicines provides a good summary and scenarios to highlight the changes – www.psa.org.au

In the event that a parent or caregiver presents a prescription for a cough or cold medicine for a child below the age of six, pharmacists must use their clinical knowledge and exercise professional judgement when deciding whether or not to dispense the prescription.13,16 In this instance, given the recommendation of a government body (the TGA) the pharmacist should contact the prescriber to discuss the individual case and alternative options.13,16 If a healthcare professional recommends the use of such medicines in children below the age of six (or, in this case dispenses the prescription), this will constitute off-label use.18 Off-label use is not illegal, however if an adverse event occurs following off-label use, the healthcare professional may have difficulty justifying their actions.16

Best management of cough and cold in children

Given the restrictions around the use of cough and cold medicines, especially for children under the age of six, it is essential to review alternative treatment options and self-care measures that can be recommended to parents and caregivers. Once the potential for more serious pathologies has been excluded (See Practice point 3), it is beneficial to explain to the typical causes of cough and cold to parents or caregivers, and provide them with a realistic expectation of symptom duration (generally seven to 10 days).1,2 Pharmacists should assure parents and caregivers that symptoms typically improve and resolve spontaneously, and provide them with advice on when they should see a doctor if symptoms change or worsen.2 Children should ideally rest and stay home from childcare or school until symptoms improve.2

Treatment options

Intranasal saline solution (saline drops) may provide symptomatic relief of congested nasal passages experienced in a common cold.1,15 Saline drops work by softening dry and thickened nasal secretions, enabling mucus to be cleared.1 When used in children, saline drops should be administered in small volumes, to avoid the risk of choking due to aspiration.1 Although saline nasal drops have been shown to be effective in chronic rhino sinusitis, there is limited evidence for efficacy in the common cold.2 However, they may provide some symptomatic relief for children.

Soothing remedies, such as lozenges and syrups, can be used to help relieve throat soreness often experienced with the common cold and associated cough.1 Demulcents (such as sucrose and glucose syrups) form a coating (protective layer) over the inflamed posterior pharynx and often provide soothing relief for cold sufferers.1,19,20 Additionally, they may suppress the cough reflex due to the protection of sensory receptors in the pharynx.20 It is important to note that no studies have been published to support the efficacy of these remedies. However due to their high reported placebo effect, the use of simple syrups may be used in young children to provide symptomatic relief.1,20 Lozenges should be avoided in children due to the risk of choking and aspiration.1

The use of steam and vapour in a closed room or shower, may be effective in the relief of nasal congestion.21 It is postulated that water vapour may soothe the nasal mucosa and have a mucolytic action. However this theory has little robust evidence.1 It is important that this technique is conducted under adult supervision due to the serious risk of burns.2,15

Oral hydration fluids may assist with mucous expectoration and thinning of respiratory secretions.1,12,19,21 Children suffering from a cold should be offered increased fluids to assist with mucus expulsion and to avoid dehydration (as children often consume less food and fluid when unwell).21

Paracetamol or ibuprofen can be provided to the child for relieving associated pain or fever.2 Additionally, children should avoid cigarette smoke exposure as this may exacerbate cough symptoms.21

Parents and caregivers should be educated about appropriate hygiene standards to reduce the risk of the spread of viral infections, such as the common cold. Children should be encouraged to wash their hands regularly with soap, particularly after they blow their nose or cough, and cover their mouth and nose when coughing or sneezing (ideally with a tissue). It is best to avoid sharing glasses or cups.22

The Cold and flu, Coughs, and Children’s pain and fever PSA Self Care Fact Cards can remind parents and caregivers of the best treatment and self-care measures, and increase awareness of symptoms that require them to take their child to a doctor.

Natural remedies for cough and cold in children

People often request natural medicines for treating the common cold. Several complementary and alternative medicines can be used.
There is some evidence to show that echinacea is an immune-modulator, which increases the macrophagic activity of neutrophils.23 To date, there are a limited number of studies which establish the efficacy or safety of echinacea in children.23 Of the studies that have been conducted in children aged between two and 11, results have shown little evidence of benefit and an increased incidence of adverse effects, namely allergic reactions.23 Therefore, echinacea is not currently recommended for use in children for the treatment of the common cold.

Vitamin C has a protective effect on the immune system (against oxidative stress) and may also stimulate phagocytosis to assist elimination of foreign pathogens.24 It has been used for many years to prevent and treat common cold symptoms. Current evidence shows that regular supplementation with greater than or equal to 2 g of vitamin C per day leads to a 14% reduction in duration of the common cold in children.26 However given the level of this evidence, long-term supplementation with vitamin C in children is not warranted.24 In addition, there are a lack of studies conducted in children that review the benefit of vitamin C use during a common cold.24

Some studies have shown that zinc is effective in reducing the severity of cold symptoms, particularly in children.25,26 However there are some reports that zinc has no effect on cold symptoms.26 The exact mechanism by which zinc exerts its effect is unknown, however it is postulated that zinc stimulates the immune system.26 Unfortunately there is insufficient evidence available to support the safety of zinc in children. Routine administration of zinc for children suffering from the common cold is not recommended.26

If a child is able to tolerate hot drinks, a home remedy such as lemon and honey tea may be suitable to soothe a sore throat.1 There is no evidence that these remedies improve cold symptoms, however they may provide symptomatic relief.1

Case study

Jenny, a young mother, comes to the pharmacy to request Demazin cough and cold syrup for her two sons. Her children have been unwell with a cold for a few days now and Jenny would like something to help relieve their symptoms. You ask Jenny a series of questions to elicit a detailed history for the children, and discover:

• her children are aged three and eight years
• both children have felt lethargic, had a runny nose and a dry cough for the past 2–3 days
• they take no other medicines and have no medical conditions or allergies
• Jenny gave her eight-year-old Demazin when he was younger and found this product to be very effective.

You advise Jenny that her two children are probably suffering from a common cold. You also inform Jenny of the new evidence around the use of cough and cold medicines in children. In particular, you explain that these medicines have little evidence of benefit in children and they may cause side effects. Possible adverse effects in children include – allergic reactions, an increased or uneven heart rate; slow and shallow breathing; drowsiness or sleeplessness; confusion or hallucinations; convulsions; nausea and constipation. In addition cough and cold medicines are best avoided in young children due to the risk of missing a more serious underlying health condition such as asthma or pneumonia.

Practice point 4

PPI link

This case scenario represents a situation where a pharmacist has performed a Clinical Intervention. The pharmacist has advised this mother against the use of Demazin for her three-year-old child, explained the rationale behind this recommendation and provided information in the form of Self Care Fact Cards.

<table>
<thead>
<tr>
<th>Drug Related Problem</th>
<th>Category</th>
<th>Subcategory</th>
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<tr>
<td>Drug selection</td>
<td>Other drug selection problem</td>
<td>D0</td>
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</tbody>
</table>

| Recommendations |
|-----------------|-------------|-------------|
| Change of therapy | Drug change | R3 |
| Referral required | Education or counseling session | R12 |
| Provision of information | Other written information | R16 |

Related Fact Cards

» Colds and flu
» Coughs
» Children’s pain and fever
You advise Jenny that these medicines should not be used for children under the age of six (her three-year-old), but in some cases, you can recommend Demazin for children aged six to 11 (her eight-year-old). However, you explain that a common cold is a self-limiting condition, and symptoms usually resolve on their own within seven to 10 days. You offer Jenny some saline nasal drops to clear and thin nasal secretions, some paracetamol or ibuprofen for any associated pain or fever, and advise her that she should offer more fluids to the children to ensure they remain well hydrated. You inform Jenny that the use of steam or vapour (under supervision) may help to relieve nasal congestion. In addition, you recommend some simple lentucess to soothe the children’s sore and dry throat, and to assist with their cough. You remind Jenny to encourage her children to cover their mouth with a tissue when they cough and to wash their hands regularly to minimize the spread of infection. Finally, you inform Jenny that if either child’s condition worsens they may need to see a doctor. You provide her with PSA Self Care Fact Cards – Colds and flu, Coughs and Children’s pain and fever.

References
Assessment questions for the pharmacist

Childhood cough and cold

Personal ID number: — — — — — —

Full name:

Pharmacy:

Address:

Suburb: ........................................ State: ........................................ Postcode: ........................................

Circle one correct answer from each of the following questions.

Before undertaking this assessment, you need to have read the Facts Behind the Fact Card article and the associated Fact Cards. This activity has been accredited by PSA as a Group 2 activity. Two CPD credits (Group 2) will be awarded to pharmacists with four out of five questions correct. PSA is accredited by the Australian Pharmacy Council to accredit providers of CPD activities for pharmacists that may be used as supporting evidence of continuing competence.

Assessment due 30 June 2014

Submit answers

Submit online at www.psa.org.au/selfcare

Fax: 02 6285 2869

Mail: Self Care Answers

Pharmaceutical Society of Australia

PO Box 42

DEAKIN WEST ACT 2600

Accreditation number: CS140004

This activity has been accredited for Group 2 CPD (or 2 CPD credits) suitable for inclusion in an individual pharmacist’s CPD plan.

Please retain a copy for your own purposes. Photocopy if you require extra copies.

1. First generation antihistamines:
   a) are extremely effective antitussive agents.
   b) have been associated with sudden infant death syndrome in children aged below two years.
   c) are not routinely recommended for use in children, due to safety and efficacy concerns.
   d) Both B and C are correct.

2. Pholcodine is a centrally acting cough suppressant which:
   a) can cause sedation and allergic reactions in children.
   b) decreases the cough threshold in the medulla.
   c) is a safe and effective cough treatment for children.
   d) has been studied extensively for use in children.

3. Beverley’s five-year-old daughter has a dry cough, runny nose and slight fever. She would like to purchase some medicines to relieve her daughter’s symptoms. Which of the following is NOT appropriate to recommend for her daughter?
   a) Intranasal saline drops.
   b) Simple linctus.
   c) Echinacea drops.
   d) Paracetamol.

4. In which of the following situations would you refer the patient to a doctor?
   a) 11-year-old child with a dry cough and runny nose for the past two days.
   b) eight-year-old child with a blocked nose, malaise and fever for the past four days.
   c) seven-year-old child with a dry cough which is worse at night time for the past seven days.
   d) four-year-old child with fever (38 degrees Celsius) and sore throat for the past three days.

5. In 2012 the TGA implemented changes to the recommendations for OTC cough and cold medicines in children. These included:
   a) There are immediate safety risks associated with the use of OTC cough and cold medicines in children.
   b) OTC cough and cold medicine have now become Schedule 3 medicines.
   c) OTC cough and cold medicines cannot be used in children aged 2–12, even upon medical recommendation.
   d) OTC cough and cold medicine is not recommended for children below the age of six, but can be recommended for children aged 6–11, upon advice from a pharmacist, nurse practitioner or doctor.
Childhood cough and cold

By Sarah Curulli

Parents and caregivers often come to pharmacy requesting medicines for their children. As the pharmacy assistant, you play a vital role in this process, and with your knowledge and skills, you can guide parents and caregivers appropriately.

Causes and symptoms

The cold is a very common health condition in children. It is a short-term illness that is caused by viruses which attack the immune system, leading to symptoms such as a runny or blocked nose, fever, sore throat, sneezing, cough and a general feeling of tiredness and lack of energy. The most troublesome symptom of a cold is usually an irritating cough.

A cough is the body's way of protecting the lungs from foreign bodies and infections. When a child coughs, their body is trying to clear the infection from the lungs and airways. The cold is the most common cause of a cough. However, other causes of a cough include; asthma, bronchitis, acid reflux and some medicines.

Colds are extremely contagious; children can often pass the infection on to others through coughing and sneezing. A cold can spread to multiple children (and adults) at childcare or school, or between family members in the same household. Fortunately, symptoms of the cold usually improve and disappear on their own, usually in about 7 to 10 days.

Recent recommendations for cough and cold medicines in children

For many years over-the-counter (OTC) cough and cold medicines have been recommended for children. However, in the past six years some evidence has emerged that shows these medicines are not always suitable for children. In 2012, the Therapeutic Goods Administration (TGA), an Australian government body, released new information for healthcare professionals when recommending OTC cough and cold medicines for children. The medicines included in the review are shown in Table 1.

The TGA reported:

- There are no immediate safety risks with the use of OTC cough and cold medicines in children.
- OTC cough and cold medicines are not proven to be effective for children – they do not appear to improve symptoms or reduce the duration of a cough or cold.
- There are some safety concerns associated with the use of these medicines.
medicines in children (for example – some cases of overdose have been recorded, and this has been linked to sudden infant death syndrome).

• OTC cough and cold medicines should never be recommended for children below the age of six years.

• Children aged 6–11; OTC cough and cold medicines can only be recommended upon the advice from a pharmacist, nurse practitioner or doctor.

The TGA also highlighted some other reasons why OTC cough and cold medicines should be used with caution in children. Symptoms of a cold in young children (below the age of six) may be the sign of another more serious health condition, such as asthma or bronchitis. Also, children can often be given medicines by a variety of adults (such as childcare workers, parents or grandparents), and this increases the chance of a dosage error occurring.

When to refer to the pharmacist

In some cases, children who have the signs and symptoms of a cold may be suffering from a more serious health complaint. It is important to be able to recognise any symptoms that may not be normal for a cold, so that you can be confident to refer the request to the pharmacist.

Given the new recommendations from the TGA, if a parent or caregiver requests an OTC cough and cold medicine (such as Demazin, Dimetapp or Phenergan) you should confirm the age of the child, or children, requiring treatment.

If the child is below the age of six, you should advise the customer that you cannot recommend this product in this age group, because:

• these medicines have not been proven to work in children for the treatment of a cough or cold

• they may cause some serious side effects

• use of these medicines in young children may reduce the chance of discovering an underlying condition (such as asthma or bronchitis).

If the customer would like more information, refer them to the pharmacist.

If the child is aged 6–11 years, and the parent or caregiver requests an OTC cough and cold medicine, refer the request to the pharmacist. These medicines can only be provided after the pharmacist has assessed the situation and recommended them.

You should also refer the customer to the pharmacist if the child has any of the following:

• high fever (above 38.5 degrees Celsius)

• ear ache

• wheeze, chest pain or trouble breathing

• discharge from the eyes

• coloured phlegm (yellow, green, pink or red)

• cough that is worse in the morning or at night time

• choking

• other symptoms – acid reflux, rash, signs of dehydration (sunken eyes, lack of tears, reduced urine output, dark yellow urine)

• cough for longer than three weeks.

What treatment options can you recommend?

Firstly, it is important to remind parents and caregivers that symptoms of the cold usually improve on their own in about 7–10 days. Provide customers with the Colds and flu, Coughs and Children’s pain and fever PSA Self Care Fact Cards as these documents contain important information about treatment, self-care and what to do if their child’s condition worsens. There are some treatment options that the pharmacy assistant can recommend for children:

Nasal saline drops (e.g. Fess Little Noses, Narium Baby) – These can loosen mucus, which can help to relieve a blocked nose and clear phlegm. These products are often packaged with a bulb syringe, which can be used to suck the mucus out of the nose (ask the pharmacist for more information).

Soothing syrups (e.g. Simple linctus) – Forms a protective coating over the throat which may soothe a sore throat and ease a cough.

Paracetamol or ibuprofen (e.g. Panadol or Nurofen) – Will relieve any pain and fever that the child may be experiencing.

Parents and caregivers may request a natural medicine (herbal or vitamin remedy) to prevent or treat a cold in children. You should advise them that there is not enough scientific evidence to show that natural medicines (such as Echinacea, vitamin C and zinc) are effective in the prevention and treatment of a cold in children. If they have any further questions, they can be referred to the pharmacist.

<table>
<thead>
<tr>
<th>Medicine class</th>
<th>Medicines</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antihistamines</td>
<td>brompheniramine</td>
<td>Dimetapp elixir</td>
</tr>
<tr>
<td></td>
<td>chlorpheniramine</td>
<td>Demazin cold relief syrups</td>
</tr>
<tr>
<td></td>
<td>dexchlorpheniramine</td>
<td>Polaramine syrup</td>
</tr>
<tr>
<td></td>
<td>diphenhydramine</td>
<td>Benadryl original</td>
</tr>
<tr>
<td></td>
<td>doxylamine</td>
<td>Mersyndol tablets</td>
</tr>
<tr>
<td></td>
<td>pheneramine</td>
<td>Avil tablets</td>
</tr>
<tr>
<td></td>
<td>promethazine</td>
<td>Phenergan elixir</td>
</tr>
<tr>
<td></td>
<td>tripolidine</td>
<td>Codal original day and night tablets</td>
</tr>
<tr>
<td>Antitussives</td>
<td>codeine</td>
<td>Painstop for children</td>
</tr>
<tr>
<td></td>
<td>dextromethorphan</td>
<td>Robitussin dry cough forte</td>
</tr>
<tr>
<td></td>
<td>dihydrocodeine</td>
<td>Rikodene oral liquid</td>
</tr>
<tr>
<td></td>
<td>pentoxyverine</td>
<td>Nyal dry cough medicine</td>
</tr>
<tr>
<td></td>
<td>pholcodine</td>
<td>Duro-Tuss dry cough liquid</td>
</tr>
<tr>
<td>Expectorants/Mucolytics</td>
<td>ammonium chloride</td>
<td>Chemists own expectorant</td>
</tr>
<tr>
<td></td>
<td>bromhexine</td>
<td>Bisalvin Chesty oral liquid</td>
</tr>
<tr>
<td></td>
<td>guaifenesin</td>
<td>Vicks chesty cough syrup</td>
</tr>
<tr>
<td></td>
<td>ipecacuanha</td>
<td>Gold Cross ipecacuanha and tolu mixture Senagar</td>
</tr>
<tr>
<td></td>
<td>senega and ammonia</td>
<td></td>
</tr>
<tr>
<td>Decongestants</td>
<td>oxymetazoline</td>
<td>Drixine nasal spray</td>
</tr>
<tr>
<td></td>
<td>phenylephrine</td>
<td>Paedamin syrup</td>
</tr>
<tr>
<td></td>
<td>pseudoephedrine</td>
<td>Demazin cold and flu syrup</td>
</tr>
<tr>
<td></td>
<td>xylometazoline</td>
<td>FLO Xylo-POS nasal spray</td>
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</tbody>
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Table 1. Medicines included in TGA review
Case study

Jenny, a young mother, comes to the pharmacy to request Demazin cough and cold syrup for her two sons. Her children have been unwell with a cold for a few days now, and Jenny would like something to help relieve their symptoms. You ask Jenny a series of questions, and discover:

- her children are three and eight years old
- both children have felt very tired, had a runny nose and a dry cough for the past 2–3 days
- they take no other medicines and have no medical conditions or allergies
- Jenny gave her eight-year old son Demazin when he was younger and found this product to be very effective.

You tell Jenny that it sounds like her children have a cold. You inform her of the new evidence that has been reported about OTC cough and cold medicines for children. You advise her that you cannot recommend Demazin for her three-year-old. In children below the age of six medicines such as Demazin have not been proven to work for the cold, and may cause serious side effects. Also, the use of these medicines in young children may reduce the chance of discovering an underlying health condition, such as asthma or bronchitis. You also advise Jenny that these medicines may be used in children aged 6–11 years after the recommendation by a healthcare professional, and you offer to refer her request to the pharmacist to discuss treatment for her eight-year-old.

What are the self-care options?

You can also advise parents and caregivers of the following self-care options:

Steam and vapour – The use of a vapouriser in a closed room, or steam vapour in the shower, may soothe the inside of the nose and thin any mucus. Important – Due to the risk of burns, this must be conducted under adult supervision.

Oral hydration fluids – It is important to ensure that children remain well hydrated when suffering from a cold. This helps to thin mucus, and also avoids the risk of dehydration, which can occur if the child eats and drinks less when they feel unwell. Babies should be offered water between feeds.

Rest – A child with a cough or cold should get plenty of rest and should be kept comfortably warm.

Avoid cigarette smoke – this can make symptoms worse.

Hygiene – Encourage children to wash their hands regularly (with soap), especially after they blow their nose or cough. They should also cover their mouth (preferably with a tissue) when they cough. Children should avoid touching their eyes, nose or mouth with their hands and should avoid sharing cups, glasses or cutlery. These measures should reduce the risk of the infection spreading to other people (especially other family members or caregivers).

In the meantime, you provide Jenny with Colds and flu, Coughs and Children’s pain and fever PSA Self Care Fact Cards which contain important information about treatment options, self-care measures, and what to do if the children’s symptoms change or get worse. You inform Jenny that most colds usually go away on their own in about 7–10 days.

You encourage her to ask the children to:
- wash their hands regularly (with soap)
- cover their mouth when coughing or sneezing (with a tissue)
- avoid touching their mouth, nose or eyes
- avoid sharing glasses or cutlery, as this can help to reduce the spread of infection.

You recommend the use of some nasal saline drops (to relieve a runny or blocked nose), some simple linctus (to soothe the throat and ease the dry cough) and paracetamol or ibuprofen (for any pain or fever). You also advise Jenny that the use of steam or vapour with a vapouriser (under supervision) may help to relieve symptoms. Jenny should make sure the children drink enough fluids while they are sick (to prevent dehydration and help thin mucus in their nose and chest). Lastly you inform Jenny that it is important to avoid cigarette smoke, as this may make their coughs worse.

PPI Link – Health promotion campaign

Some OTC cough and cold medicines have been linked to overdose and sudden infant death. To raise awareness of the new TGA recommendations, and to help customers understand why these changes have been made, your pharmacy could conduct a health promotion campaign on sudden infant death syndrome (SIDS) with a possible link to red nose day.

www.rednoseday.com.au
Assessment questions for the pharmacy assistant

Childhood cough and cold

Personal ID number: — — — — — —

Full name: .................................................................

Pharmacy: ...........................................................................

Address: ...................................................................................

Suburb: ................................................................. State: .................................................. Postcode: ...................................

Circle one correct answer from each of the following questions.

Before undertaking this assessment, you need to have read the Counter Connection article and the associated Fact Cards.

The pass mark for each module is five correct answers. Participants receive one credit for each successfully completed module. On completion of 10 correct modules participants receive an Achievement Certificate.

Assessment due 30 June 2014

Submit answers
Submit online at www.psa.org.au/selfcare
Fax: 02 6285 2869
Mail: Self Care Answers
Pharmaceutical Society of Australia
PO Box 42
DEAKIN WEST ACT 2600

1. Symptoms of the cold include:
   a) runny or blocked nose.
   b) cough.
   c) fever.
   d) all of the above.

2. The TGA recommendations include:
   a) All children who have a cough or cold need to see a doctor.
   b) OTC cough and cold medicine should not be given to children under the age of six.
   c) There are some immediate safety risks with the use of cough and cold medicines in children.
   d) Cough and cold medicines are very good at treating cold symptoms in children.

3. Patricia’s child has a cold. She has a blocked nose, sore throat, sneezing and fever (temperature of 39 degrees Celsius). You refer Patricia to the pharmacist because of which symptom?
   a) Blocked nose.
   b) Sore throat.
   c) Sneezing.
   d) Fever (temperature above 39 degrees Celsius).

4. Michael’s son has had a cold for two days. He has a cough, ear ache, feels tired and has a runny nose. You refer Michael to the pharmacist because of which symptom?
   a) Cough.
   b) Ear ache.
   c) Tiredness.
   d) Runny nose.

5. Which of the following cannot be recommended by a pharmacy assistant?
   a) Demazin for a three-year-old with a cold.
   b) Fess Little Noses for a six-year-old with a cold.
   c) Panadol for a four-year-old with a cold.
   d) Nurofen for a five-year-old with a cold.

6. Which of the following can help with cough and cold symptoms in children?
   a) Soothing syrups.
   b) Oral hydration.
   c) Steam and vapour.
   d) All of the above.
What’s coming up in inPHARMation?

Next month’s inPHARMation will focus on early onset diabetes type 2 in Australia. Obesity in Australia is at epidemic proportions and is now translating into a rise in the number of diagnoses of type 2 diabetes, particularly in the younger generation. This inPHARMation will discuss the complications, health outlook and communication strategies for the younger diabetic, along with an update of the medications, monitoring and lifestyle measures needed to manage the condition.

Conferences and calendar dates

**Conferences**

- **The Victorian Pharmacy Conference**
  17–18 May
  Parkville, Melbourne, VIC
  www.psa.org.au

- **39th PSA Offshore Refresher Conference**
  20–30 May
  New York and Washington
  www.psa.org.au

- **National Medicines Symposium 2014**
  21–23 May
  Brisbane Convention and Exhibition Centre, Qld
  www.nps.org.au/nms

- **The 13th National Rural Health Conference**
  24–27 May
  Darwin Convention Centre, NT
  www.ruralhealth.org.au/13nrhc

- **CPEXpo14**
  Connecting practice to patient outcomes
  30 May–1 June
  Sydney, NSW
  www.psa.org.au/cpexpo

- **Pharmacy 2014 – The Pharmacy Management Conference**
  30 July–1 August
  Surfers Paradise Marriott Resort & Spa, Qld

- **HIC 2014**
  11–14 August
  Melbourne, VIC

- **74th FIP World Congress 2014**
  Access to medicines and pharmacists today, better outcomes tomorrow.
  30 August – 4 September

**National health calendar dates**

**May**

- 17 World Hypertension Day
  Kidney Health Australia
  www.kidney.org.au

- 21–23 National Medicines Symposium
  NPS MedicineWise
  www.nps.org.au

- 22 Australia’s Biggest Morning Tea
  Cancer Council
  www.cancercouncil.org.au

- 31 World No Tobacco Day
  World Health Organization
  www.who.int/tobacco/wntd/en/

**June**

- All month Bowel Cancer Awareness Month
  www.bowelcanceraustralia.org

- 9 Queen's birthday

- 9–15 Men’s Health Week
  www.menshealthweek.org.au

- 27 Red nose day
  www.rednoseday.com