

THE NZ JOURNAL OF RESPIRATORY HEALTH

AUTUMN / WINTER EDITION 2018



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References: 1. Gillies J et al. *NZ Med J*. 2005;118(1220):79-83. 2. Ventolin Data Sheet, GSK New Zealand. **Ventolin[®]** (salbutamol) is available as an alcohol-free and CFC-free inhaler, 100mcg per actuation. **Ventolin is a partially funded Prescription Medicine. You will need to pay a part charge for this medicine, which may vary across pharmacies.** Ventolin is a short-acting bronchodilator used for the relief of acute asthma symptoms. **Use strictly as directed. Do not use Ventolin if you are sensitive to any of the ingredients in the preparation. This medicine has risks and benefits. Tell your doctor:** If you feel that the medicine has become less effective or you are using more than usual, have hyperthyroidism, high blood pressure, cardiovascular disease, diabetes, and if you are taking any other medicine or herbal remedy. **Side Effects:** Headache, nausea, shaky or tense feeling, fast or irregular heart beat, 'warm' feeling (caused by blood vessels expanding under the skin), mouth or throat irritation, shortness of breath or wheezing. **If symptoms continue or you have side effects, see your doctor, pharmacist or health care professional.** For more information see Ventolin Consumer Medicine Information at www.medsafe.govt.nz. Normal doctor's charges apply. Ask your doctor if Ventolin is right for you. Ventolin is a registered trade mark of the GlaxoSmithKline group of companies. Marketed by GlaxoSmithKline NZ Limited, Auckland. **Adverse events involving GlaxoSmithKline products should be reported to GSK Medical Information on 0800 808 500. TAPS NA8969/NZ/SLR/0002/17**

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Winters is coming – get
your flu vaccine now



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DISTANCE LEARNING ASTHMA/COPD NURSING COURSE INFORMATION

Applications are now invited from registered nurses wanting to enrol in the Asthma New Zealand/Unitec Institute of Technology Distance learning COPD Nursing Course for April 2018 & Asthma Nursing Course for July 2018. Not everyone has the same pace of learning. Some students pick up things fast, others need time to grasp a concept. One of the biggest advantages of distance learning is that you can study at a pace that is comfortable for you. The primary aim of the Asthma & COPD Nursing Courses is to provide nursing health professionals with a high level of evidence-based asthma & COPD knowledge that promotes best practice and is consistent with national policy.

Since the commencement of the Asthma & COPD Nursing Courses, over 1,000 nurses have enrolled in these courses. Many applicants had not undertaken any additional study since completing their nursing training, which may have been years before. However, most find the courses to be challenging but a thoroughly enjoyable learning experience that is within the grasp of any competent nurse practitioner.

Asthma New Zealand in association with Unitec Institute of Technology offers these courses within the Bachelor of Nursing Programme. Both courses are at level 7 and attract 15 credits. **A grant towards the cost is available for registered nurses from Asthma New Zealand.**

For information contact: Ann/Swarna
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PO Box 67066, Mt Eden, Auckland
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The closing date for enrolment is: 19th April 2018 for COPD Nursing Course
9th July 2018 for Asthma Nursing Course

Upcoming events and courses

ASTHMA NEAT COURSE – AUCKLAND

20 June 2018
11 July 2018 – School nurses
19 September 2018

HALF DAY COPD COURSE – AUCKLAND

18 April 2018
15 August 2018
17 October 2018

HALF DAY COPD COURSE – WELLINGTON

6th November 2018



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Further enquiries for any of these events phone **09 630 2293** or www.asthma.org.nz

MESSAGE TO READERS



Auckland Asthma Society and Asthma NZ-Lung Association have merged

**A message from Robert Muir, President,
Asthma New Zealand Incorporated**



I am delighted to announce that on Saturday 17 March, attendees at the Auckland Asthma Society (Asthma Auckland) and Asthma New Zealand – Lung Association (Asthma NZ) Special General Meetings voted unanimously to merge the two organisations.

This is effective immediately, which means that we are now operating (and known) as Asthma New Zealand Incorporated.

The Special General Meeting votes also resulted in the following outcomes:

- Asthma NZ is being wound up and its assets distributed to Asthma Auckland. The final formalities associated with this process will occur over the coming weeks, with the aim of completing it in time for the new financial year on 1 April.
- Asthma Auckland adopted a new constitution, effective immediately, which includes provisions to remove the restriction to the Auckland District.
- Asthma Auckland changed its name to Asthma New Zealand Incorporated. The trust deed of the Asthma Education Charitable Trust (AECT) was amended to clarify that Asthma Auckland has so changed its name.
- These changes came into effect immediately, which means that from this point onwards we are operating (and known) as Asthma New Zealand Incorporated.
- Ownership of the 518 Mt Eden Road head office property is being transferred from Asthma Auckland, to AECT (subject to a deed of subtrust). The AECT's Trust Deed was changed to reflect Asthma Auckland's name change. We are aiming for the transfer to be formalised in time for the 1 April financial year. The Deed of Sub-Trust comes into effect when the transfer process is complete.
- Both organisations' life members, members, affiliates, sponsors and other types of partners have automatically

transferred to Asthma New Zealand Inc, although in a few instances new contracts will need to be signed with external parties to formalise the arrangements we have with them.

- The two organisations' General Committees merged, to form a single Board of Trustees for Asthma New Zealand Inc. In time, we may choose to co-opt additional board members, to fill some capability gaps that have been identified.
- Bhavin Sanghavi of UHY Haines Norton Chartered Accountants was appointed as Asthma New Zealand Incorporated's auditor.

Although in many respects it will be business as usual, the merger represents an exciting opportunity to review and refresh our strategy and operations so that we can deliver more asthma services, to more people, more efficiently and effectively than ever before.

However, our core focus will remain on helping New Zealanders and families affected by asthma and COPD to live the best possible lives.

FIRST AID FOR ASTHMA

By Ann Wheat – RN BN, Asthma Nurse Educator

Asthma is one of the most common persistent childhood diseases in New Zealand, and can also occur in adults. One in seven children, and one in nine adults have medicated asthma that requires long term medication. An asthma attack can take anything from a few minutes to a few days to develop and even people with mild asthma can have an acute attack of asthma. During an asthma attack coughing, wheezing or breathlessness can quickly worsen.

People with asthma have extra-sensitive airways. Triggers vary from person to person. Dust, pollens, animals, tobacco smoke and exercise may make their airways swell and narrow, causing wheeze, cough and difficulty breathing. In severe cases, the client is unable to speak whole sentences because of difficulty in breathing. In some severe cases, there may be blueness (cyanosis) of the lips, hands and feet.

It may be difficult to assess the seriousness of an asthma attack if the person first on the scene has never seen an asthma attack before. To help here is some advice.

In the event of an acute asthma episode (asthma attack,) follow this 4-Step Asthma First Aid Plan.



REMEMBER – if the person’s condition suddenly deteriorates or if at any time you are concerned – Dial 111 and ask for an ambulance immediately. State the person is having an asthma attack.

Asthma First Aid

1st step	<p>If possible, have the client sit and lean slightly forward.</p> <p>Remain calm and assure the person you won't leave and help is on the way if no medication available.</p> <p>Assess the person's breathing rate every ten minutes for any increase until help arrives.</p>
2nd step	<p>When medication available:</p> <p>Give 6 puffs of a blue reliever inhaler (puffer) – Ventolin, Respigen or Salair – Relievers are best given through a spacer, if available. Use 1 puff at a time and ask the person to take 6 breaths from the spacer after each puff. Use the person's own inhaler if possible. If not, borrow one from someone else.</p>
3rd step	<p>Wait 6 minutes. If the person remains breathless, give another 6 puffs.</p>
4th step	<p>If acute episode is prolonged and not relieved by medication.</p> <p>CALL AN AMBULANCE IMMEDIATELY (DIAL 111) and state that the person is having an asthma attack.</p> <p>Keep giving 6 puffs every 6 minutes until the ambulance arrives.</p> <p>Children: 6 puffs each time is a safe dose.</p> <p>Adults: up to 6 - 8 puffs every 10 minutes may be given for a severe attack while waiting for the ambulance.</p>

Use of MDI with Spacer

- Shake puffer and insert mouthpiece of puffer into spacer.
- Place spacer mouthpiece in person's mouth and fire 1 puff
- Ask the person to breathe in and out normally for about 6 breaths.
- Repeat in quick succession until 6 puffs have been given



Use of MDI without Spacer – not recommended

- Shake inhaler.
- Place mouthpiece in the person's mouth.
- Fire 1 puff as the person inhales slowly and regularly.
- Hold breath for about ten seconds
- Repeat until 6 puffs have been given

Use of Bricanyl and Symbicort for Asthma First Aid

- If a puffer is not available, Bricanyl or Symbicort can be used for Asthma First Aid even if the person does not use these.
- Give two puffs of either Bricanyl or Symbicort inhaler. Wait 6 minutes and then give a further 1 puff. If no better call 111 for ambulance and give either:
- Bricanyl 1 puff every six minutes until ambulance arrives, or
- Symbicort 1 puff every six minutes for three more doses.

Use of Turbuhaler

- Unscrew and remove cap
- Hold inhaler upright and then twist away and then back until a click is heard
- Breathe out away from inhaler
- Place mouthpiece between teeth and seal lips around it
- Breathe in forcefully and deeply
- Remove inhaler from mouth and hold breath for 5 – 10 seconds
- Breathe out away from mouthpiece
- Repeat the above 6 steps for 2nd puff
- Replace cover of inhaler

What if it is the first attack of asthma?

If someone collapses and appears to be very breathless, follow step one and **CALL AN AMBULANCE IMMEDIATELY**, even if it is unknown whether the person has asthma or not.

Most ambulances carry medication to treat asthma.

No harm is likely to result from giving reliever medication to someone who does not have asthma.

Give 6 puffs of a Reliever and repeat if no progress.

Keep giving 6 puffs every 6 minutes until the ambulance arrives.

For more information on asthma, contact your local asthma Society.

References:

- 1 Asthma and Respiratory Foundation of New Zealand 2017
- 2 Asthma Foundation of Australia

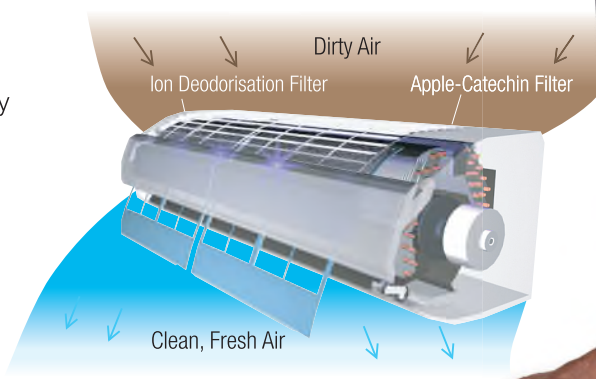
Help Keep Allergens Outside



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FIT A FUJITSU

DEAR NURSE

Dear Nurse, My father has COPD and needs oxygen at home. He is still smoking. How can we obtain oxygen for him quickly?

As your father is still smoking, he would not be eligible for home oxygen. To obtain oxygen, you would need a referral by your doctor to the respiratory clinic at the hospital, and your father would need to stop smoking now. It is never too late to stop smoking for a patient with COPD. If the hospital assesses that he would benefit from oxygen, despite the medications he is taking, then he would be referred to the oxygen service for supply of oxygen. Not everyone who has COPD benefits from the use of oxygen.

Dear Nurse, My asthma is always worse in winter time. Why is that?

Winter is "trigger time" for a lot of people with asthma due to the weather and temperature changes. Also, there are many viruses and flu bugs around during the winter. Many New Zealand homes are simply too cold in winter. This can lead to dampness, mould and respiratory illness. The 4 most important things to help keep your home mould-free are ventilation, insulation, heating and tackling dampness.

If you have been on lower doses of preventer during summer, this may need to be increased over winter. Or, if you have stopped your preventer over summer you must start it again in March - remember it takes at least a month to get to full effect.

Don't wait until you are sick to sort out the above problems. Remember- see your GP for the flu vaccination - it is free for patients with respiratory conditions.

Dear Nurse, My friend told me that me that my child should have the flu vaccination. Is this right?

I have never had the flu vaccination.

The flu can be a serious and sometimes life-threatening viral infection, and even if your child is fit and well, they can easily catch the flu. It is not the same as having a bad cold. The flu virus is very easily spread through the air by coughing and sneezing as well as by hand, utensils, drink bottles and other objects that have been in contact with an infected person's mouth or nose.

A yearly flu vaccination offers the best protection and is especially important for children (and others) with certain long term respiratory health issues such as asthma, bronchiolitis or pneumonia.

In this case it will be free. We also recommend you have the flu vaccination as well which will help to protect your family from getting the flu. Ask your doctor or nurse about having the flu vaccination and how much it will cost.

Remember, regular hand washing and covering your mouth when coughing and sneezing, and keeping sick people away from those who do not have the flu, will help stop the spread.

Dear Nurse, what does titrating medication mean?

It means increasing or decreasing the amount of medication to get the right dose to control your asthma. Another way to explain it is, "stepping up" or "stepping down" your asthma medication, e.g. increasing the amount of preventer you take morning and night, or changing from a preventer

to a combination inhaler. Or, if your asthma has been well controlled and you are symptom free, your doctor may consider reducing your preventer if you have been on a high dose. Remember, you should see your doctor for a review of your asthma at least every 6 months.

Dear Nurse, I only ever have asthma symptoms during the winter months and find I need to use my blue inhaler regularly during that time. I only use it occasionally over summer. But my doctor has told me to use my preventer twice a day every day and not to stop. Why do I need to do this when I feel well?

Good question. A lot of people ask us this. If asthma has been diagnosed as an adult, then this means that you have allergic airways, which are likely to react to multiple triggers. It is chronic and present in your airways all the time whether you have symptoms or not. Even when you have no symptoms, your airways are still in allergic mode and primed to react to triggers that you could inhale at any time. The goal of the preventer medication is to prevent a reaction to any of your triggers. If your airways open, and you are affected by a sudden trigger, e.g. cold air, and you need to use your reliever medication, it is likely to work faster and be more effective.

Dear Nurse, only one out of my three children have asthma. Why is this?

Good question! This is quite a complex question and not easily answered. The cause of asthma is unknown but genetic and environmental factors play a large part. Do other members of your family have, or had, asthma? Was your child with asthma born by caesarean section? Did he/she have multiple doses of antibiotics in the first year? Do they also have allergies? Has that child been exposed to a different environment to the others? All these factors and more can contribute to the development of asthma.

Dear Nurse, do animals get asthma?

Yes, animals do get asthma. Interestingly, cats and horses are the most likely to get a respiratory condition very close to human asthma. The same process occurs in the lungs: inflammation and mucous as a result of exposure to a trigger. Medications include an aerosol (with mask and spacer) or in some cases tablets or injections. A mild flare-up may present as rapid or deep breathing, coughing or fatigue. These symptoms may resolve themselves. Severe episodes result in the animal gasping for breath.

Asthma preventer inhalers must be taken twice daily

The AsthmaMinder™ reminds you to take your preventer inhaler twice a day when brushing your teeth.

85% of asthmatics who trialled the AsthmaMinder™ recommend it.

'It's good to have a home for the preventer so you can always find it.' – Michelle, (Mother of asthmatic).



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IF YOU HAVE A QUESTION PLEASE EMAIL OR POST TO:
reception@asthma.org.nz or Dear Nurse, Asthma New Zealand, PO Box 67066, Mt Eden, Auckland 1349.

PERSISTENT COUGH IN CHILDREN

By Elaine Murray RN, Asthma Nurse Educator

Coughing is your body's way of removing foreign material or mucous from your lungs and upper airways, or it may be a reaction to an irritated airway. Coughing is common in children, especially when they are pre-school age. Young children can have between 6-12 colds throughout the year, but more prevalent over the winter months, and sometimes if they are at pre-school this can be a lot more.

It is important to remember that children (10-20% of preschoolers) may continue to cough for 3 weeks or more following a simple cold. Also, children without a cold may cough on average 10 times a day but not consistently every day and not usually at night.¹

There are different types of cough: a moist sounding cough (called a productive cough) is chesty and phlegmy. A dry cough does not produce mucous (known as an un-productive cough). It can also sound harsh, barking or whooping.³

A productive cough produces mucous (phlegm or sputum).

The mucous may come from the back of your throat, nose or sinuses and up from your lungs. There are many causes of a productive cough, such as viral infections or common colds, an infection, e.g. pneumonia, bronchitis, bronchiolitis, bronchiectasis or tuberculosis. If you have a chronic lung disease such as chronic obstructive pulmonary disease, a productive cough may indicate an infection has started and the disease is getting worse.

If you smoke, a productive cough can be a symptom of lung damage. If you have asthma, you can sometimes have a moist cough due to the excess buildup of mucous in the airways of the lungs, as they are hyper-responsive and easily irritated which causes them to become inflamed and produce more mucous than normal. This may indicate poorly controlled asthma or an asthma exacerbation triggered by a viral infection.

A **non-productive cough** is dry and there are many causes. A persistent dry asthma cough may be heard more often at night or when doing exercises. In children, this is usually heard when they are running around playing, jumping, doing sports or PE, and at night. Viral illnesses, allergies, irritants and some medicines can cause a dry cough.

The management of chronic cough in children depends on the underlying diagnosis.² The cause of cough in children is often different than for adults. The majority of children with an acute cough will have an upper respiratory tract infection caused by a virus but for children with a persistent cough, it should be thoroughly investigated.

Causes of chronic cough in children include:²

- Persistent respiratory infections including post viral cough, chronic bronchitis, bronchiectasis, cystic fibrosis, pertussis and tuberculosis
- Passive exposure to cigarette smoke
- Asthma
- Recurrent aspiration e.g. secondary to reflux, congenital abnormality
- Habit cough
- Upper airway cough syndrome
- Gastro-oesophageal reflux
- Cardiac causes e.g. congestive heart failure, congenital heart disease
- Medications e.g. ACE inhibitors



There are several key considerations that may be useful to help make an accurate diagnosis in children with a cough:²

1. How long has the child been coughing?
2. What does the cough sound like?
3. Is the cough wet or dry?
4. Does the child cough at night?
5. What is the age of the child?
6. Are there any other symptoms?
7. What triggers the cough?

Other associated symptoms may help to determine the underlying cause of the cough.

- A cough, plus a runny or blocked nose, sore ears or throat, fever and irritability such as not sleeping well, not eating, drinking and crying is suggestive of a viral infection.
- A cough that started after a choking episode strongly suggests foreign body inhalation.
- A cough that is associated with a wheeze, shortness of breath and chest tightness and brought on by exercise, cold air, allergen exposure, irritants, viral infections and some medications is more likely asthma.³
- A constant moist (or wet) cough that is associated with repeated respiratory infections may indicate bronchiectasis. In New Zealand, there is a high prevalence of bronchiectasis among children. It is high in Maori and Pacific children, especially those living in the lowest socio-economic areas. It is important to recognize these symptoms early to help reduce the incidence of bronchiectasis, and to start treatment early to help reduce the severity. Bronchiectasis should be considered if the child has a wet or productive cough lasting longer than 6 weeks, repeated episodes of pneumonia, persistent lung crackles and wheeze that does not respond to inhaled corticosteroids.³

Habit cough syndrome is estimated to be the cause of persistent cough in children in 3-10% of cases. It is usually dry, harsh and repetitive. It may be more like a throat clearing. It can be disruptive to others but the child may appear indifferent to it. There may be underlying psychosocial problems such as abuse, anxiety and stress. The cough will be absent when the child is asleep.²

Whooping cough starts like a cold or flu, but the cough persists and gets worse, with coughing spasms that can last weeks.⁴

Croup is another viral illness that can cause coughing which is often worse at night. Croup is usually mild but can become serious. If croup causes stridor (a harsh noise heard when breathing in) or severe breathing difficulties, pale or blue colour, and drowsiness then emergency medical help is required.⁵

Second-hand smoke is another common cause of cough in children even when they are well.⁴

You should make an appointment to see your doctor if your child has a persistent daily cough that has lasted more than four weeks, has a sore throat or is not breathing easily and you are worried or concerned they are not getting better.

References:

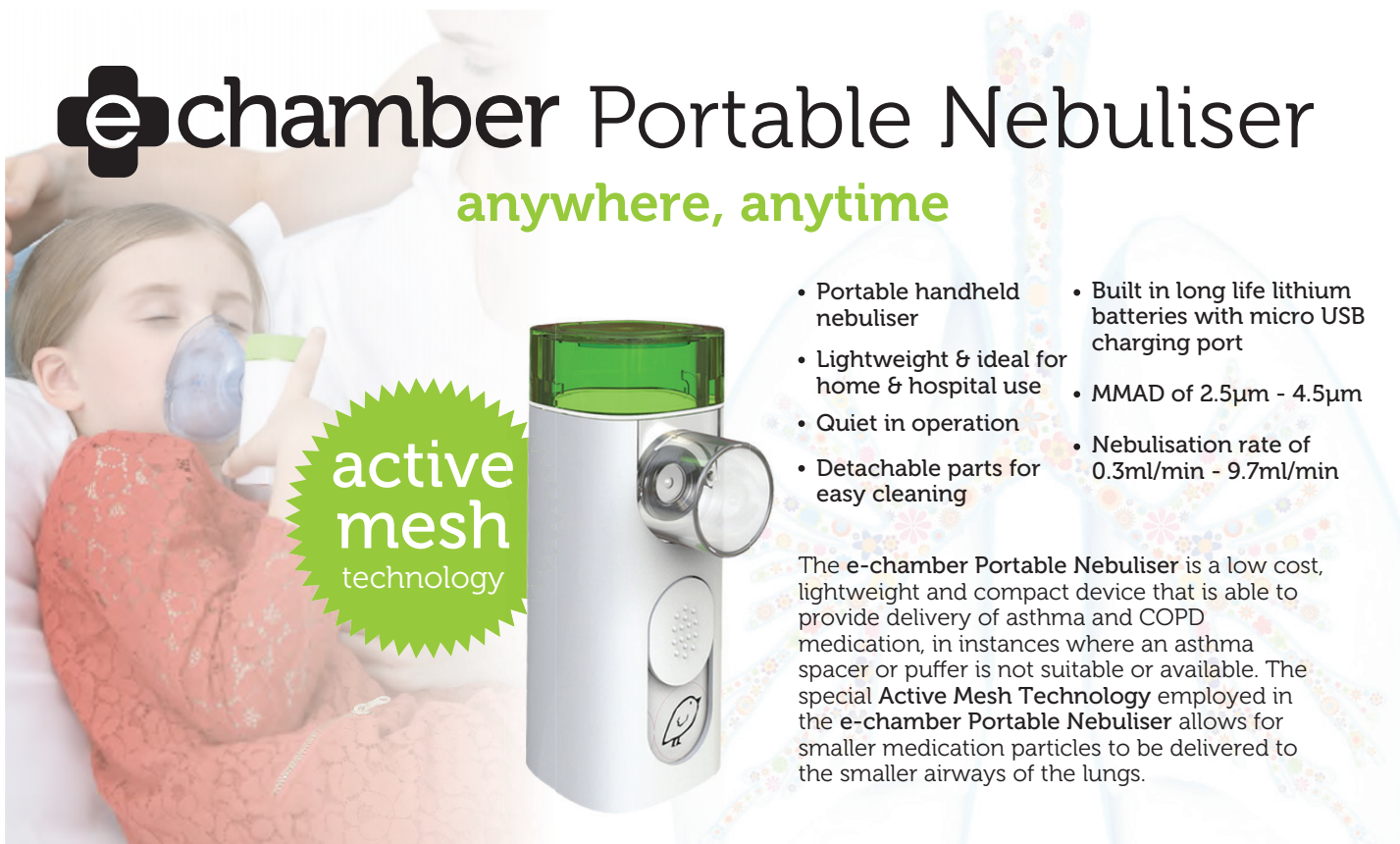
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- 2 Best Practice Advisory Centre NZ. (2017). *Cough in Children*. Retrieved in February, 2018, <https://bpac.org.nz/bpj/2010/july/cough.aspx>
- 3 Best Practice Advisory Centre NZ. (2017). *Bronchiectasis: rates still increasing among Pacific peoples*. Retrieved in February, 2018, <https://bpac.org.nz/BPJ/2012/september/bronchiectasis.aspx>
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- 5 KidsHealth: The Paediatric Society of New Zealand and Starship Foundation. (2015). *Croup*. Retrieved in February, 2018, <https://www.kidshealth.org.nz/croup>

See your doctor straight away if your child has a cough and:

- Is working hard with their breathing or is breathing fast
- Has a temperature higher than 38.5 degrees Celsius
- Has difficulty speaking normally or being unable to finish a whole sentence because of coughing or breathing
- You can hear wheezing or whistling in their chest.⁴

Also, make sure your child's environment is smoke free.

e-chamber Portable Nebuliser
anywhere, anytime



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The e-chamber Portable Nebuliser is a low cost, lightweight and compact device that is able to provide delivery of asthma and COPD medication, in instances where an asthma spacer or puffer is not suitable or available. The special Active Mesh Technology employed in the e-chamber Portable Nebuliser allows for smaller medication particles to be delivered to the smaller airways of the lungs.



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FREQUENT INTERMITTENT ASTHMA

By Renee Goldberg RN – Asthma Nurse Educator

Frequent intermittent asthma is defined as a pattern and intensity of asthma symptoms that incur 'flare-ups' more than every 6 weeks on average but no symptoms at other times. This is a common occurrence in children aged 0-5 years, who do not take a regular preventer, have not had asthma diagnosed, and symptoms are due to viral-induced illness. A flare-up or exacerbation is defined as a period of worsening asthma symptoms from mild (includes symptoms just out of normal range for the child) to severe (symptoms that require urgent action by parents and health professionals including hospitalisation).¹



Good control of asthma for children with frequent intermittent asthma can be achieved with the right medication, and should be developed in a partnership between the family/whanau/carer and the health professional, i.e. GP or paediatrician. In young children 0-5 years, other key components of asthma management include education, skills training for inhaler devices and adherence, and other strategies including environmental control, monitoring of asthma control and regular asthma review.

When considering which asthma medication is best for the young child with asthma, the health professional discusses the preferred medication option at each treatment step to control asthma symptoms, and minimize future risk of flare-ups/exacerbation. Clinical review with the GP will include how the child responds to asthma treatment, parental preference, i.e. their goals, beliefs and concerns about asthma medication, and practical issues, i.e. costs, inhaler technique and adherence.²

The National Asthma Council Australia promote use of the asthma drug, montelukast (Singulair™) as a first choice for children aged 2 years and older with intermittent asthma. Singulair™ belongs to a group of medicines called leukotriene receptor antagonists, which work to block substances in the lungs that cause narrowing and swelling of airways. The effect of blocking leukotrienes improves asthma symptoms and helps prevent asthma attacks.³

A previous clinical trial has shown that montelukast significantly reduced the rate of asthma exacerbations in children who had a history of intermittent asthma symptoms resulting from an upper respiratory infection and further studies have shown that montelukast can prevent disease progression of asthma in younger children. The goal for children is to prevent acute exacerbations, which cause a considerable burden on them and their families/whanau due to urgent care or unplanned presentation to the emergency department for severe asthma symptoms.⁴

A stepwise treatment approach for preventer therapy for young children is recommended based on asthma symptom patterns, risk of exacerbations and side effects, and response to initial treatment.² Initial preventer treatment for children aged 0-5 years for frequent intermittent asthma options include management with regular montelukast 4 mg tablet once daily, and a review of the child's response in 2-4 weeks. If symptoms do not respond, regular treatment with a low-dose inhaled corticosteroid should be considered with a review in four weeks.¹

The Asthma + Respiratory Foundation New Zealand child and adolescent asthma guidelines highlight that many children have intermittent asthma and do not need an asthma preventer; however, the key issue is if, and when, to start the low-dose steroid inhaler. It is recommended that the steroid inhaler be introduced to young children who have asthma symptoms >2 times per week and/or if the child has had an exacerbation requiring oral steroids in the previous year. Ultimately, it is the decision of the health care professional during the clinical review when the future risk of asthma exacerbation is assessed.

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Flu vaccination

Flu is a severe and sometimes life-threatening infection that may lead to hospitalisation and pro-longed illness, particularly in the elderly and those with chronic illness such as COPD and asthma.

Between 291,000 and 646,000 people worldwide die from seasonal influenza-related respiratory illnesses each year.¹

The Ministry of Health has announced the funded influenza vaccines for the New Zealand 2018 flu season.²

The **INFLUVAC TETRA** vaccine, for adults and children aged 3 years or older, will be available in early to mid-March 2018, while the **FLUARIX TETRA** for children aged six to 35 months is likely to be available in mid-April 2018.

Protect yourself, your family, your friends and work colleagues.

Talk to your nurse or doctor today.

References

- Sullivan, S. (2017). Challenges in reducing influenza-associated mortality. *The Lancet*.
Kohler, A. (2018). *Influenza vaccines announced for NZ flu season*. Retrieved on 14 February, 2018, from <https://www.nzdoctor.co.nz/article/news/clinical/influenza-vaccines-announced-nz-flu-season>

To better match circulating viruses, the two funded influenza vaccines will contain:

- A/Michigan/45/2015(H1N1) pdm09-like virus
- A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus
- B/Phuket/3073/2013-like virus
- B/Brisbane/60/2008-like virus



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80%

reduction in hospital admission rate over 12 months ^[45]

Adults

60%

reduction in severe exacerbations ^[61]

59%

increase in preventer medication adherence ^[61]



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NORTH & SOUTH

NEWS FROM CANTERBURY

South Island Respiratory Educator Forum (Siref) 2018

CanBreathe is one of the organisers of the annual South Island Respiratory Educator Forum (SIREF) which was held on Thursday 15th and Friday 16th February at the The George in Christchurch. The Forum was attended by Nurses and allied health professionals with an interest in respiratory health. **Teresa O'Connor, Co-Editor of Kaitiaki provided the opening address reminding us of the importance of advocacy in our roles including on issues associated with the social determinants of health.**



Teresa Chalecki

The theme for SIREF 2018 was The Lung Environment with presentation topics including Air Quality, Interstitial Lung Disease, TB, An Adapted Marae Based Rehab Programme, Breathing Pattern Disorder, Lung Transplant, Issues in managing Childhood Asthma and an update on Respiratory Research.

World Asthma Day 2018

To mark World Asthma Day on Tuesday 1st May CanBreathe will be hosting a free Education Evening for Nurses. The main topic will be the new Child and Adolescent Asthma Guidelines. Numbers are limited so for more information or to reserve a space email office@canbreathe.org.nz.

Teresa Chalecki
Nurse Manager CanBreathe



ASTHMA AUCKLAND

Courses available for health professionals

Asthma Auckland offers professional development courses suitable for nurses, pharmacists, physiotherapists and other qualified health professionals. The courses are held at our premises in Mount Eden.

The Nurse Education in Asthma Treatment (NEAT) full day course covers identification of asthma, triggers, medications, peak flow, self-management and emergency plans.

Full day course cost \$50, including resource folder and lunch. Course dates for 2018 are Wed 21 March, Wed 20 June and Wed 19 September.

The COPD half day course covers what COPD is, risk factors and diagnosis, management of COPD including medications, nebulisers, spirometry and action plans.

Half-day course cost \$25, including resource folder and morning tea.

Course dates for 2018 are Wed 18 April, Wed 15 August and Wed 17 October.

For more information and to enrol, contact us. Ph: 09-630 2293.

ASTHMA WELLINGTON World Asthma Day 2018

Asthma Wellington intends to celebrate World Asthma day 2018 by inviting pharmacists in the Wellington region to join them in a breakfast seminar with guest speakers discussing the New Zealand Asthma Paediatric Guidelines released late last year.



Congratulations

Asthma New Zealand, in conjunction with Unitec is proud to announce further successful students from the distance learning Asthma Nursing Course in 2017 – 2nd semester.

Yvonne Broughton – Hastings
Mary Channing – Auckland
Anne Couper – Wellington

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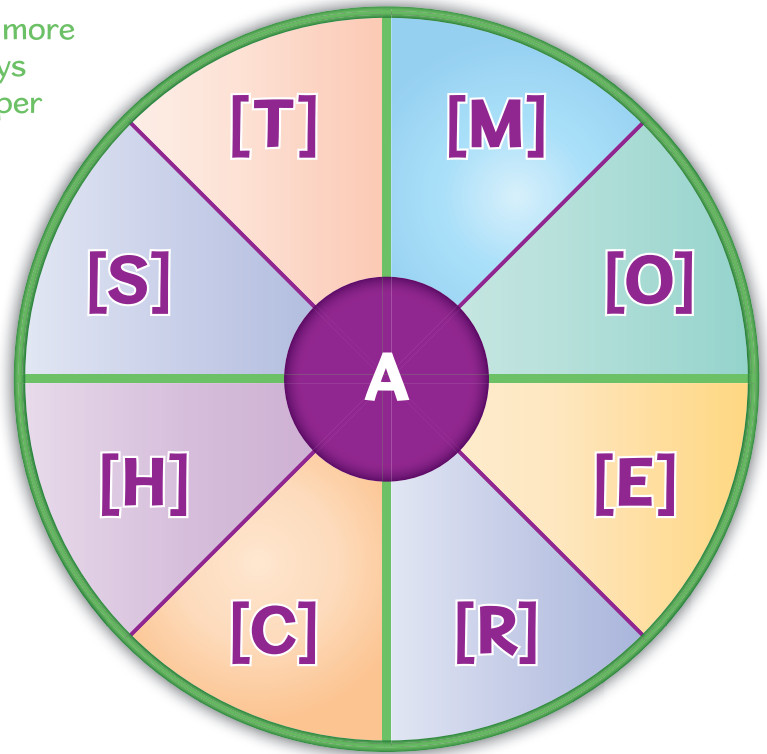
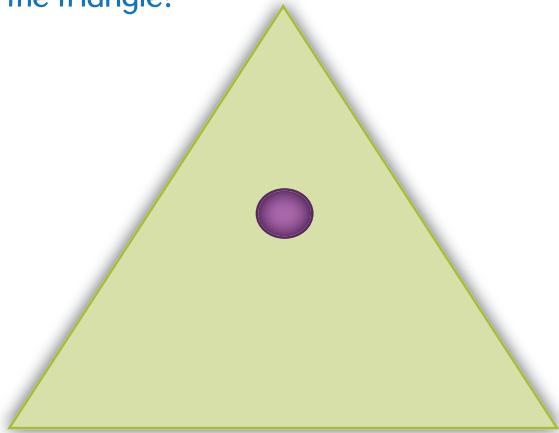
COPD = Chronic Obstructive Pulmonary Disease. COPD is sometimes known as Chronic Bronchitis or Emphysema

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Kid's Page

1 Create as many words of three letters or more using the given letters once only but always including the middle letter. Do not use proper names or plurals.

2 Impossible triangle – Look at the triangle below. How would you describe the position of the ball? Is it nearer the top or the bottom of the triangle?



3 Dice Tower - Four dice are stacked one on top of each other. What is the total value of the three pairs of hidden faces in the stack, given that the top face is 6 and the bottom face is a 3?



4 Which of the lines between the arrow heads is the longest?



5 Try the **Text Language**

10Q
1DAFUL
2QT
121
2B
XOXO
ZZZZ

Answers

1. Puzzle
Cat
Hat
Mat
Rat
Coat
Man
Mame
Tame
Came
Heat
Same
Ham
Tar
Ran
2. Puzzle
The Ball is in the middle

3. Puzzle
Total must be 19, since the opposite faces of a dice always add up to 7, the total must be $(4 \times 7) - 6 - 3 = 19$

4. Puzzle
Both lines are the same length

5. Puzzle
Thank You
Wonderful
Too cute
One to one
To be
Hugs and Kisses
sleeping

ADHERENCE WITH MEDICATIONS IN ASTHMA AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

By Ann Wheat – RN BN, Asthma Nurse Educator

Asthma and COPD are the two most common respiratory conditions in children and adults. Asthma is a common and potentially serious chronic disease that imposes a substantial burden on patients, their families and the community. It causes respiratory symptoms such as cough, wheeze, shortness of breath and chest tightness, limitation of activity and asthma flare-up, or attacks that sometimes require urgent health care, as they may be fatal. Asthma often starts in childhood and continues into adulthood but it can start at any age including adults and the elderly. Asthma can vary in intensity between individuals, at times showing almost no symptoms but at others, symptoms can be present daily. The symptoms of asthma can be well controlled with the correct medication regime. This usually includes a short acting reliever and an inhaled corticosteroid. If asthma is more difficult to control, then a combination medication may be needed. This includes a long acting reliever and an inhaled corticosteroid.¹

On the other hand, COPD is a common, preventable and treatable condition that is characterized by persistent respiratory symptoms, such as breathlessness, wheeze, sputum production, and airflow limitation. It is due to airway and/or alveolar abnormalities that are caused by significant exposure to noxious particles or gases.² The main risk factors that can trigger COPD are cigarette smoking, air pollution and biomass fuel exposure. COPD is treated firstly with short acting relievers, either muscarinic antagonists and/or beta₂ agonists. As the condition progresses, then long acting muscarinic and beta₂ agonists are used either alone, or in combination. Finally, if a client has frequent exacerbations and/or hospital admissions, then inhaled corticosteroids can be added to the regime.²

So what is adherence and why is it important?

According to the World Health Organization's report in 2003, the definition of adherence is, "the extent to which the persons' behavior (including medication taking) corresponds with the agreed recommendations of a health care provider".³ In fact, clients with a long-term condition (often using preventative medication) will take only 50% of prescribed medications for that condition.⁴

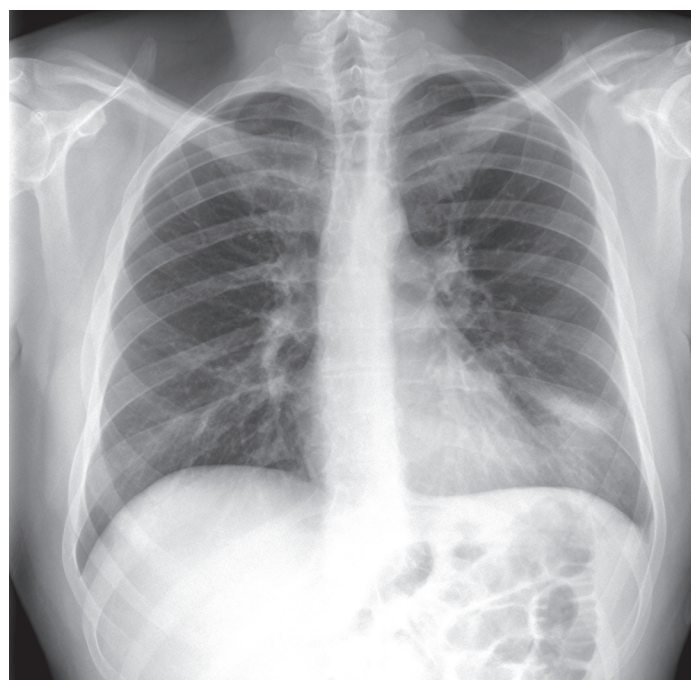
Non-adherence to medication can cause substantial worsening of a disease, poorer quality of life, waste of medication, increased health care costs and in the worst-case scenario, even death.⁴ Non-adherence can reduce the effectiveness of prescribed medications and will often then lead to possible unnecessary increases in medication dose that can be potentially dangerous.⁵ Non-adherence can take several forms. It can be intentional, unintentional or both.

So what do each of these forms of non-adherence mean?

Intentional non-adherence is where the client actively decides not to take the prescribed medication as recommended. This can be due to clients' own attitudes and beliefs about medications, adverse effects, concerns about the recommended treatment, the disease being treated and ease of use of the medications including how often they have to be taken. Other family and friend's opinions can also influence a client's use of medications.⁵

Unintentional non-adherence is unplanned by the client. It occurs when the client misunderstands the treatment regime, forgets to take the recommended dose and factors outside the client's control. These factors include inability to access medications, treatment complexity, cost and difficulty in use of the devices recommended.⁵

It is, therefore, imperative that at every contact with a client,



they should be asked about adherence, and when they last used a specific medication, such as the preventer.

So how do we help to reduce non-adherence to medications?

One of the most important factors in preventing non-adherence is education. Clients often do not understand their condition and the treatment choices and strategies that may help them maintain their condition under good control. They often do not understand how their medications work, sometimes stopping them when they feel better. Adherence to medications will decrease morbidity and mortality plus prevent exacerbations of the condition.⁶ Clients, therefore, need to understand that their condition is life-long and requires continuous treatment, and how the medications help to control the condition.

Educational assistance certainly helps with intentional non-compliance, but again, compliance will fall over time and so it is important to re-iterate the message all the time, not only from the doctor but practice nurses, asthma nurse educators and pharmacists, all saying the same message.⁵ Motivational interviewing can also assist by reinforcing positive intentions and challenging negative ideas. In

unintentional non-adherence, cost is often the main reason that people do not obtain their medication or delay getting it. They will often only obtain the one that they perceive is giving the best benefit and this is often the short acting reliever. Explanations, again, need to be given to ensure that clients understand that the preventer is the medication that will keep them well, especially in asthma.⁵ It is also important to keep the number of medications and variety of devices to a minimum. If a client takes several different types of devices, then they will often be confused on how each works and will not use them. In COPD today, it is possible to use once-daily dosing and use the same device for several medications.⁵

Finally, the use of phone apps to set reminders on when medication is due can help to remind clients to take their dose. There are now several Smart™ devices available that can be attached to the various inhalers that will remind clients to take them and will note how many doses have been taken and when. These are a great way to monitor client compliance (some are connected to a phone app) and they record when doses have been taken. The results can then be downloaded and shown to their medical practitioner.

In conclusion, non-compliance is a major issue in the management of both the chronic long-term conditions of asthma and COPD. This results in the client's condition being

poorly controlled with the resultant missing of school and work, more symptoms than they should have and overuse of their reliever medication. It is, therefore, essential that adherence issues be addressed at every contact with a client to ensure the best outcomes possible.

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A COPD CASE STUDY

By Janet Hutchison MHPrac, RN, Asthma Nurse Educator

Frank is a 57 year-old farmer who was recently diagnosed with chronic obstructive pulmonary disease (COPD) following an acute exacerbation. He was referred to our service by his wife, Kath, as she was concerned that they didn't know how they would manage with this new diagnosis. For the purposes of this case study, the names have been changed to protect the anonymity of the patient and his wife. Permission was obtained to use this information.

At the initial visit, Frank talked about recent events and how the COPD diagnosis had been such a shock especially as he hadn't noticed anything really wrong. Kath was quite tearful during the visit as she was worried about the impact of Frank's condition on their lifestyle and subsequently, their income.

Frank had started with a productive cough and breathlessness about four days prior to presenting at the medical centre. After examining him, the doctor sent him for a chest x-ray, blood tests and sputum test. He was started on antibiotics and oral steroids (prednisone), and seemed to be improving. Kath suggested that they have a short break away so that Frank could relax away from the farm. However, whilst away, Frank suddenly became worse and ended up in hospital. The area that they had visited, had high pollen counts at that time, and the doctors suggested that this could have worsened his condition. Although, Frank had no known allergies, the pollens may have irritated his already-inflamed airways, exacerbating his condition.

During my visit, a full history was taken. Frank's father had died of emphysema but there was no one else with any respiratory problems. Frank reported he had had high blood pressure but this was now under control with anti-hypertensive medications. He reported that he was generally fit and well, although on further questioning, Frank said that he had noticed he was becoming more breathless with activity and had had a persistent cough since last year. He'd put this down to 'old age' and smoking. Sometimes, COPD can be quite advanced by the time people actually present to the doctor with symptoms. Frank had smoked for over 25 years until he was diagnosed with COPD, and then stopped almost immediately. Prior to that, he had smoked about 35 cigarettes each day, which is the equivalent of 44 pack years. Smoking, and inhalation of noxious substances, is the biggest contributing factor for COPD.¹

At the visit, we went over the causes of COPD, the effects on the lungs, and how to manage the condition. This includes the medications/inhalers and how to use them correctly, maintaining a healthy lifestyle with no smoking, enough exercise, sleep, and eating a good diet, managing breathlessness, and having a COPD action plan completed by the doctor or prescribing nurse.

Franks medications:

- Ventolin metered dose inhaler (MDI) 100mcg used as required (short-acting reliever),
- Seretide MDI 125/25mcg 2 puffs twice daily (long-acting reliever and inhaled corticosteroid preventer)
- Spiriva Respimat 2.5mcg 2 puffs daily (long-acting reliever).
- Quinopril and Felodipine for his hypertension.

The results of Frank's tests showed that a bacterial chest infection had set off his current exacerbation. Although, he was improving each day, and was sleeping better at night, he remained quite breathless with activity and was still coughing.

Your name: Today's date:



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This questionnaire will help you and your healthcare professional measure the impact COPD (Chronic Obstructive Pulmonary Disease) is having on your wellbeing and daily life. Your answers, and test score, can be used by you and your healthcare professional to help improve the management of your COPD and get the greatest benefit from treatment.

For each item below, place a mark (X) in the box that best describes you currently. Be sure to only select one response for each question.

Example: I am very happy (0) (1) (2) (3) (4) (5) I am very sad

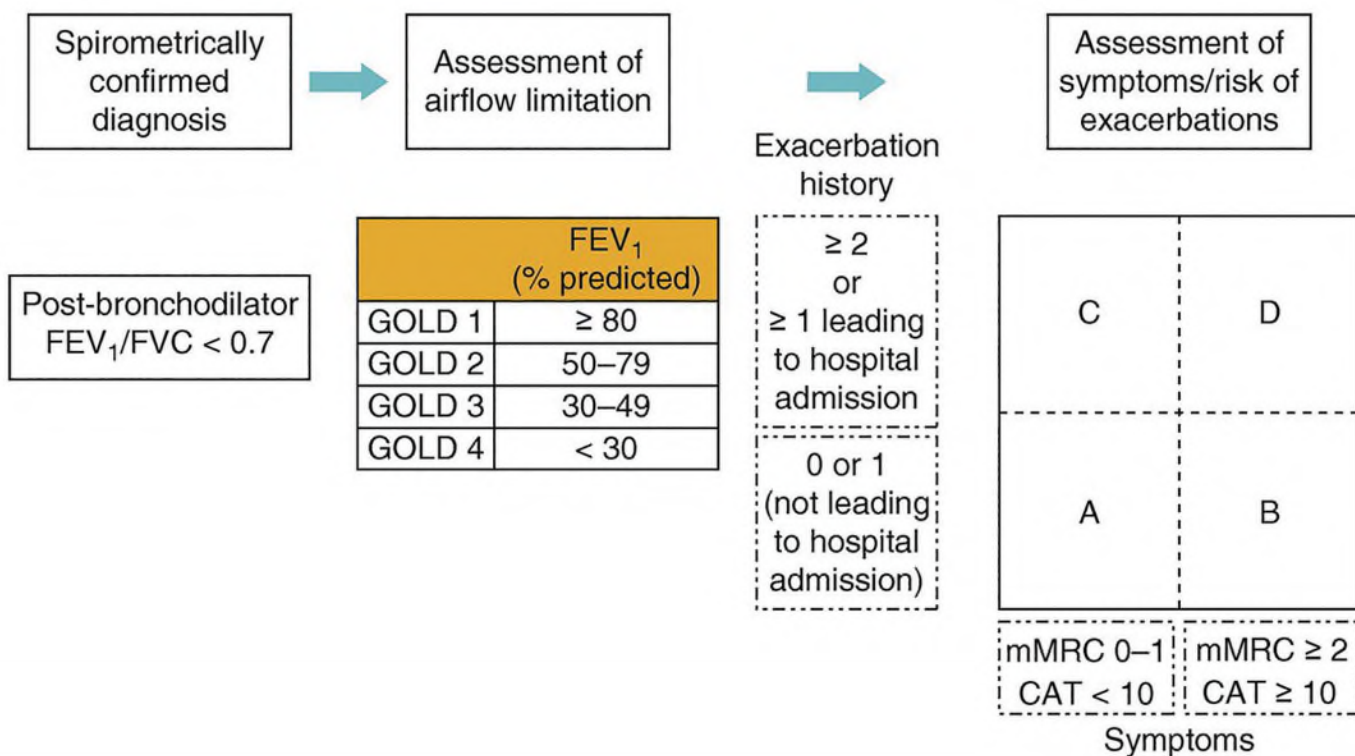
		SCORE	
I never cough	(0) (1) (2) (3) (4) (5)	I cough all the time	<input type="text"/>
I have no phlegm (mucus) in my chest at all	(0) (1) (2) (3) (4) (5)	My chest is completely full of phlegm (mucus)	<input type="text"/>
My chest does not feel tight at all	(0) (1) (2) (3) (4) (5)	My chest feels very tight	<input type="text"/>
When I walk up a hill or one flight of stairs I am not breathless	(0) (1) (2) (3) (4) (5)	When I walk up a hill or one flight of stairs I am very breathless	<input type="text"/>
I am not limited doing any activities at home	(0) (1) (2) (3) (4) (5)	I am very limited doing activities at home	<input type="text"/>
I am confident leaving my home despite my lung condition	(0) (1) (2) (3) (4) (5)	I am not at all confident leaving my home because of my lung condition	<input type="text"/>
I sleep soundly	(0) (1) (2) (3) (4) (5)	I don't sleep soundly because of my lung condition	<input type="text"/>
I have lots of energy	(0) (1) (2) (3) (4) (5)	I have no energy at all	<input type="text"/>
		TOTAL SCORE	<input type="text"/>

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Last Updated: February 24, 2012

COPD Assessment Test™ (CAT)

His COPD Assessment Test (CAT) score was 25, suggesting a high impact on his quality of life. Frank was shown how to use his inhalers with a spacer, and advised that he will improve the uptake of the medication at least 3-fold by using the spacer correctly, as opposed to using it directly into the mouth. An action plan was given to Frank for his doctor to complete so that he knew what to do if symptoms worsen and in the event of an exacerbation. A basic understanding of how the medications work is important: the preventer inhaler works slowly to control inflammation and mucous build-up on the inside of the airways, and the reliever inhalers work by relaxing the airway muscles and keeping them open.

Frank had done a great job so far by stopping smoking and was offered nicotine replacement patches, gum and lozenges, and Quitline details to support this, which he declined. Since his recent exacerbation, he had lost his appetite. Eating small regular meals was advised – large meals can fill the stomach, encroach on the lungs and impair the breathing



The refined ABCD assessment tool.¹

pattern. When Frank returned to work, he would need regular nutritious meals as his work is quite labour-intensive. It was suggested that their current temporary helper might stay on to assist with the farm work especially as Frank needs to build up his exercise tolerance levels again. He agreed to pace out his workload and not to undertake exercise to the point of exhaustion. A respiratory physiotherapist could help with this and teach him some breathing techniques to help manage his breathlessness – pulmonary rehabilitation is one of the recommended strategies in the management of COPD.²

Frank asked about having oxygen at home for his breathlessness but because his oxygen saturation levels are within normal range, this is not necessary. His health needs will change over time as may his medications. The COPD Prescribing Tool is a good starting point to ensure Frank is on the right medication in relation to the severity of his COPD.³

One month later, Frank had improved considerably. His cough had gone, exercise tolerance had increased and he was hardly using his short-acting reliever (Ventolin). His CAT score had reduced to 15 suggesting a medium impact. Frank had continued to use the spacer with his MDIs and was finding the Spiriva Respimat effective and easy to use.

Going forward, it is important for Frank to have regular check-ups with his doctor to ensure that he maintains his health status and quality of life. It was also important for Frank and Kath to be aware that anxiety and depression is common in people with long-term conditions², and to seek help early if this should happen.

A spirometry, showing moderate obstruction, was carried out by the hospital when Frank was admitted but a follow-up spirometry would give a more accurate indication of the severity now that his COPD is stable. The GOLD COPD Assessment Tool 2017 incorporates spirometry readings, quantifying breathlessness with the modified Medical Council

Research Dyspnoea scale (mMRC), and the number and severity of exacerbations and CAT hospital admissions.

Reducing further risks

- Avoiding smoke and reducing inhalation of chemicals used on the farm
- Annual 'flu vaccination available free from the doctor. Pneumococcal vaccine is also recommended.
- Pulmonary rehabilitation
- A blood test for alpha-1 anti-trypsin deficiency would be useful especially for Frank's children as this is a hereditary condition.
- A skin prick test to identify any allergies.
- Regular follow-up with the doctor

Currently, Frank has returned to work on the farm with some adaptations to his activities; his symptoms have reduced, and he manages well with his inhalers. Frank is able to continue with his usual social activities and continues to be smoke-free. Both Frank and his wife Kath are aware that COPD is different for everybody and that Frank's needs will change over time, however, they feel more confident about living with COPD and have the information to seek help should they need to.

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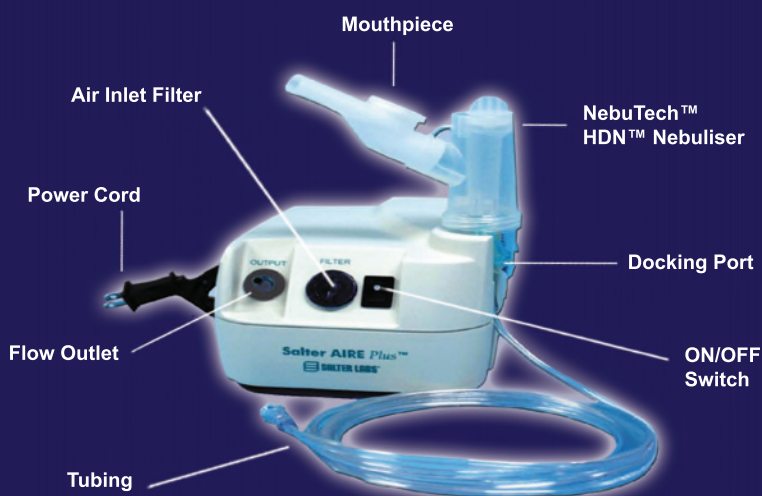
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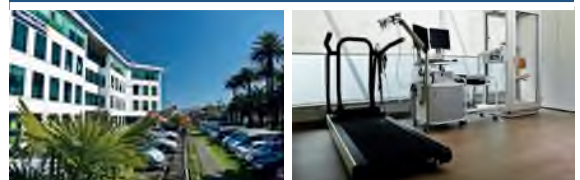
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Source: BMC Pulm Med

Risk factors of postoperative pulmonary complications in patients with asthma and COPD; Numata T, Nakayama K, Fujii S, Yumino Y, Saito N, Yoshida M, Kurita Y, Kobayashi K, Ito S, Utsumi H, Yanagisawa H, Hashimoto M, Wakui H, Minagawa S, Ishikawa T, Hara H, Araya J, Kaneko Y, Kuwano K; BMC Pulmonary Medicine 18 (1), 4 (Jan 2018)

BACKGROUND: Postoperative pulmonary complications (PPC) in patients with pulmonary diseases remain to be resolved clinical issue. However, most evidence regarding PPC has been established more than 10 years ago. Therefore, it is necessary to evaluate perioperative management using new inhalant drugs in patients with obstructive pulmonary diseases.

METHODS: April 2014 through March 2015, 346 adult patients with pulmonary diseases (257 asthma, 89 chronic obstructive pulmonary disease (COPD)) underwent non-pulmonary surgery except cataract surgery in our university hospital. To analyze the risk factors for PPC, we retrospectively evaluated physiological backgrounds, surgical factors and perioperative specific treatment for asthma and COPD.

RESULTS: Finally, 29 patients with pulmonary diseases (22 asthma, 7 COPD) had PPC. In patients with asthma, smoking index (≥ 20 pack-years), peripheral blood eosinophil count ($\geq 200/\text{mm}^3$) and severity (Global INitiative for Asthma(GINA) STEP ≥ 3) were significantly associated with PPC in the multivariate logistic regression analysis [odds ratio (95% confidence interval) = 5.4(1.4-20.8), 0.31 (0.11-0.84) and 3.2 (1.04-9.9), respectively]. In patients with COPD, age, introducing treatment for COPD, upper abdominal surgery and operation time (≥ 5 h) were significantly associated with PPC [1.18 (1.00-1.40), 0.09 (0.01-0.81), 21.2 (1.3-349) and 9.5 (1.2-77.4), respectively].

CONCLUSIONS: History of smoking or severe asthma is a risk factor of PPC in patients with asthma, and age, upper abdominal surgery, or long operation time is a risk factor of PPC in patients with COPD. Adequate inhaled corticosteroids treatment in patients with eosinophilic asthma and introducing treatment for COPD in patients with COPD could reduce PPCs.

Source: Pediatr Pulm

Does nebulized hypertonic saline shorten hospitalization in young children with acute viral wheezing?;

Kanjanapradap T, Deerojanawong J, Sritippayawan S, Prapphal N; Pediatric Pulmonology (Dec 2017)

BACKGROUND: Although previous studies have shown benefits of nebulized hypertonic saline (HS) for improving airway clearance and shortening hospitalization in infants with bronchiolitis, prospective blinded studies in preschool children with acute viral wheezing are limited.

OBJECTIVES: To determine nebulized 3% HS efficacy in young children admitted with acute viral wheezing.

METHODS: This double-blind, randomized controlled trial

was conducted in children aged 6 months to 5 years admitted with acute viral wheezing from July 1st to December 31st 2016. Patients were randomized to receive inhalation of 2.5mg salbutamol dissolved in either 3% HS or normal saline (NS). Clinical data, asthma clinical severity score, and length of hospital stay (LOS) were recorded.

RESULTS: A total of 47 patients were enrolled (22 in HS and 25 in NS) without significant differences in demographic data and baseline clinical scores. Median LOS and median time of oxygen therapy were significantly shorter in HS than NS group: 48 versus 72h, $P=0.021$ and 36 versus 72h, $P=0.025$, respectively. HS patients had significantly improved asthma clinical severity scores, respiratory rates and oxygen saturation at 12h compared to NS group (P -value 0.042, 0.032, and 0.043). There were no adverse events.

CONCLUSION: In children under 5 years admitted with acute viral wheezing, nebulized hypertonic saline/salbutamol significantly shortened hospital stay length, time of oxygen therapy, and improved asthma clinical severity score faster than normal saline/salbutamol.

Source: J Asthma

Effects of traffic-related air pollution on susceptibility to infantile bronchiolitis and childhood asthma: A cohort study in Korea; Lee J, Leem J, Kim H, Lamichhane D, Hwang S, Kim J, Park M, Jung D, Ko J, Kwon H, Hong S; Journal of Asthma 1-8 (Dec 2017)

OBJECTIVE: This study examined the role of exposure to traffic-related air pollution (TRAP) on susceptibility to asthma in children with past episodes of bronchiolitis.

METHODS: The baseline data included 2,627 school children aged 6-14 years who had participated in the longitudinal follow-up survey of the Children's Health and Environmental Research of Korea. Lifetime wheezing, past episodes of bronchiolitis, and doctor-diagnosed asthma were evaluated using an International Study of Asthma and Allergies in Childhood questionnaire. We used generalized linear regression with binomial distribution to calculate the relative risk (RR) between TRAP, assessed by proximity to a main road and the total length of roads, and asthma.

RESULTS: Compared with the subjects who had less than 100 m of road length within 200-m radius from their home, those with more than 500 m of road length had significantly increased odds for infantile bronchiolitis (adjusted OR [aOR]: 1.57, 95% confidence interval [CI]: 1.01-2.42). Positive exposure-response relationships were found between residential proximity to the main road and asthma (aOR: 1.79, 95% CI: 1.05-3.06; <75 m vs. >700 m from a main road, P for the trend = 0.02). Closer residential proximity to the main road (<75 m) and bronchiolitis combined increased the risks of newly diagnosed asthma (adjusted RR: 3.62, 95% CI: 1.07-12.26) compared with those without bronchiolitis and living ≥ 75 m away from the main road.

CONCLUSIONS: TRAP appeared to be associated with

an increased asthma among children with bronchiolitis, indicating the importance of modifying effects of bronchiolitis in asthma pathogenesis.

Source: Eur Respir J

COMET: a multicomponent home-based disease-management programme versus routine care in severe COPD; Kessler R, Casan-Clara P, Koehler D, Tognella S, Viejo J, Dal Negro R, Díaz-Lobato S, Reissig K, Rodríguez González-Moro J, Devouassoux G, Chavaillon J, Botrus P, Arnal J, Ancochea J, Bergeron-Lafaurie A, De Abajo C, Randerath W, Bastian A, Cornelissen C, Nilius G, Texereau J, Bourbeau J; *European Respiratory Journal* 51 (1), (Jan 2018)

The COPD Patient Management European Trial (COMET) investigated the efficacy and safety of a home-based COPD disease management intervention for severe COPD patients. The study was an international open-design clinical trial in COPD patients (forced expiratory volume in 1 s < 50% of predicted value) randomised 1:1 to the disease management intervention or to the usual management practices at the study centre. The disease management intervention included a self-management programme, home telemonitoring, care coordination and medical management. The primary end-point was the number of unplanned all-cause hospitalisation days in the intention-to-treat (ITT) population. Secondary end-points included acute care hospitalisation days, BODE (body mass index, airflow obstruction, dyspnoea and exercise) index and exacerbations. Safety end-points included adverse events and deaths. For the 157 (disease management) and 162 (usual management) patients eligible for ITT analyses, all-cause hospitalisation days per year (mean±sd) were 17.4±35.4 and 22.6±41.8, respectively (mean difference -5.3, 95% CI -13.7 to -3.1; p=0.16). The disease management group had fewer per-protocol acute care hospitalisation days per year (p=0.047), a lower BODE index (p=0.01) and a lower mortality rate (1.9% versus 14.2%; p<0.001), with no difference in exacerbation frequency. Patient profiles and hospitalisation practices varied substantially across countries. The COMET disease management intervention did not significantly reduce unplanned all-cause hospitalisation days, but reduced acute care hospitalisation days and mortality in severe COPD patients.

Source: Chest

The impact of listening to music during a high-intensity exercise endurance test in people with chronic obstructive pulmonary disease (COPD); Lee A, Dolmage T, Rhim M, Goldstein R, Brooks D; *Chest* (Dec 2017)

INTRODUCTION: In people with chronic obstructive pulmonary disease (COPD), dyspnea is the primary symptom limiting exercise tolerance. One approach to reducing dyspnea during exercise is through music listening. A constant speed endurance test reflects a high intensity aerobic exercise training session, but whether listening to

music effects endurance time is unknown. This study aimed to determine the effects of listening to music during a constant speed endurance test in COPD.

METHODS: Participants with COPD completed two endurance walk tests, one with and one without listening to self-selected music throughout the test. The primary outcome was the difference in endurance time between the two conditions. Heart rate (HR), oxygen saturation (SpO₂), dyspnea and rate of perceived exertion were measured before and after each test.

RESULTS: Nineteen participants (mean [SD]: age 71 [8]yrs; FEV₁ 47 [19] %predicted) completed the study. Endurance time was greater (1.10 [95% CI: 0.41 to 1.78]min) while listening to music (7.0 [3.1] min) than without (5.9 [2.6]min), and reduced end-test dyspnea (1.0 [95% CI -2.80 to -1.80] units) (with music 4.6 [1.7] versus without music 5.6 [1.4] units, respectively). There was not a significant difference in HR, SpO₂ or leg fatigue. There were no adverse events during either condition.

CONCLUSION: In COPD, dyspnea was less while listening to music and was accompanied by an increased tolerance of high intensity exercise demonstrated by greater endurance time. Practically, the effect was modest but may represent an aid for exercise training of these patients.

Source: Curr Opin Pulm Med

Low-dose oxygen therapy in COPD patients: are there any radiation-like risks?

PURPOSE OF REVIEW: Low-dose oxygen (LDO) supplementation is used by millions of COPD patients worldwide. The therapeutic benefits of LDO supplementation are well known. There are also several concerns regarding the potential for cellular harm from LDO in COPD patients. This review summarizes the current arguments and evidence pertaining to this important topic.

RECENT FINDINGS: LDO therapy has been used in COPD patients for more than 50 years. Over the years, data from randomized controlled trials has confirmed that LDO provides survival benefit in COPD patients with severe hypoxemia. Recent data, however, show that LDO does not provide any mortality benefit for patients with a less severe degree of hypoxemia. There are several theoretical concerns regarding use of LDO in COPD patients, including radiation-like cellular risks because of oxygen toxicity. However, none of these have been validated in human clinical trials and remain somewhat peripheral to the clinician deciding whether or not to initiate LDO in a hypoxemic COPD patient.

SUMMARY: There is high-quality evidence that LDO is both well tolerated and highly efficacious for patients with COPD. There are several theoretical concerns regarding damage from oxygen free radicals from LDO in COPD patients. However, none of these have been validated or confirmed in human clinical trial data. Thus, the benefits of LDO clearly outweigh the risks from any theoretical concerns about oxygen toxicity.

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1. Bleecker ER et al. Fluticasone furoate-vilanterol 100/25 mcg compared with fluticasone furoate 100 mcg in asthma: a randomized trial. *J Allergy Clin Immunol Pract.* 2014;2(5):553-61.

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