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**References:** 1. Gillies J et al. New Zealand Med J. 2005, 118 No 1220. 2. Ventolin® Data Sheet, GSK New Zealand.

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# contents

- 4 asthma course
- 5 message to readers
- 6 immunisations
- 8 whooping cough
- 9 dear nurse
- 10 teenage brain development
- 13 poorly controlled asthma?
- 15 decile ratings
- 16 addressing adherence issues in nz
- 18 mould prevention measures important for asthma management?
- 19 breathe well to be well – asthma
- 20 kid's page
- 22 north & south
- 25 salt therapy (halotherapy) for COPD
- 26 breathe well to be well – COPD
- 29 newstream



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Photo courtesy of Shaun Waugh – Wellington.

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## Asthma and COPD Nursing Course Information

Applications are now invited from nurses wanting to enrol on the Asthma Nursing Course & COPD Nursing Course in July 2013. The programmes are offered by distance learning. 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 Asthma/COPD Nursing Courses are to provide nursing health professionals with a high level of Asthma/COPD knowledge that promotes best practice, based on available evidence, and is consistent with national policy. Since the commencement of the Asthma and COPD Nursing Courses, 945 nurses have enrolled over 39 intakes. 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 thoroughly enjoyable learning experience that is within the grasp of any competent nurse practitioner. Asthma Nursing Course is accredited with 15 credits and COPD Nursing Course is accredited with 15 credits; which can be used towards gaining your Bachelor of Nursing degree.

A grant towards the cost is available for registered nurses.

If possible would you be able to pin-up the following Asthma and COPD Nursing Course information on your work place notice board. Also feel free to circulate, make photocopies if you like.

Could you please phone/fax or email for an enrolment form.

Asthma Nursing Course & COPD Nursing Course closing date – 30th June 2013.

**For information contact:**

**Ann/Swarna**

**Asthma New Zealand/The Lung Association**

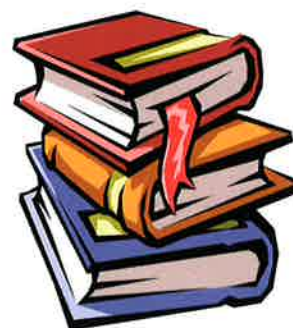
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**[swarnah@asthma-nz.org.nz](mailto:swarnah@asthma-nz.org.nz)**



## Upcoming events and courses

### ASTHMA NEAT COURSE

19 June 2013

18 September 2013

### HALF DAY COPD COURSE

17 April 2013

17 July 2013

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events phone

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or

[www.asthma.org.nz](http://www.asthma.org.nz)



## message to readers

It has been one of the most wonderful summers that New Zealand has seen. However, Asthma Auckland and the nursing staff have been kept extremely busy over the summer period and there has been no decrease in the usage of our services. Asthma Auckland continues to implement the "3 + Plan" throughout the Auckland region. This concept was developed to ensure that the nurses in delivering services ensure that behaviour changes. It is important that the advice given is re-enforced in order to provide a better quality of life for people with asthma and their families.

Asthma New Zealand – The Lung Association (Inc) continues to provide quality education courses for asthma and COPD through the Unitec Institute of Technology in Auckland. Over one thousand nurses have now completed those courses over the past number of years and this is a tremendous asset within New Zealand communities. Most courses are over-subscribed and it is indicative of the quality of New Zealand nursing that so many want to provide really professional services and advice to their patients.

I trust that you all had a very enjoyable holiday period and we look forward to working with you throughout the year.

Yours sincerely

**G.A. Hanna**  
Secretary/Treasurer  
Asthma New Zealand  
– The Lung Association (Inc)



# immunisations

by Elaine Murray BN  
Asthma Nurse Educator

## *“Sons ordeal our fault, say parents”*

This was the head line in the New Zealand Herald on Saturday the 19th January 2013. It was a story about a 7 year old boy who almost died of tetanus. He is among the 90 per cent of people who get tetanus and survive, although he still gets spasms and will require on-going medication and rehabilitation. He faces a 12-month recovery period including having to learn to eat and walk again.

The article also stated “father says decision to refuse the tetanus shot was made without facts”.

In New Zealand, parents and caregivers have the right to make informed decisions regarding their children's immunisations. To be able to make an informed decision, parents and caregivers need to understand all the information provided, and also given the right to discuss their concerns, to help them make a decision that is right for their family.

## **So, what is immunisation and why do we need to immunise?**

Firstly, we need to understand our immune system. The immune system is a very complex and highly developed system, made up of many cells that produce “antibodies” to fight infections that may invade our bodies. The first time we come up against an allergen or germ, it may take some time for the immune system to respond.<sup>1</sup>

But the next time the allergen or germ is encountered, the immune system will recognise it, and respond more quickly to counteract it.

In very young children the immune system is still developing and unable to fight off invading germs effectively, so they get sick.

Immunisation uses the body's natural defence mechanism, the immune response, to build resistance to specific infections. When an immunised person comes into contact with the disease in the future, their immune system will respond to prevent them developing the disease.

Vaccines are made up of components of the germ that can't cause disease, or from weakened versions of the viruses. Through the delivery of the vaccine, the immune system is taught to respond to the harmless version of the germ so that it can respond quickly when faced with a real infection and stop us getting sick. The vaccine does not cause the disease, but teaches the immune system to recognise these “invaders” in the future.

## **There are two broad classes of immunisation-active or passive**

**Active immunisation** involves the body generating its own specialised cells and antibodies to fight off the infection. This approach takes longer because it needs to generate the right response, but it teaches the immune system to remember how to respond to the germ if it is encountered in the future. This type of immunity lasts a life time.

**Passive immunisation** involves passing ready-made antibodies directly into the person being immunised, allowing for immediate protection.

Mothers pass antibodies that they have been exposed to on to their children across the placenta or through breast milk, protecting their babies for a short time after birth. Antibodies that have been made and purified in the laboratory can be directly injected.

This type of immunisation is temporary and doesn't protect against all diseases.

Some of the diseases that are immunised against are very serious in young children. Some are very highly contagious.

**Measles (Morbilli)** poses a risk of serious complications, such as pneumonia, deafness, brain damage and even death.

- It is highly contagious-and easily preventable, affecting both children and adults.
- Up to 30% of people with measles will develop complications-usually children under five and adults over the age of 20.
- Measles during pregnancy increases the risk of miscarriage, premature labour and low birth – weight babies

**Rubella.** This is usually a mild viral illness but can be serious for pregnant women especially in the first three months of pregnancy. It can lead to birth defects in the unborn baby e.g. blindness or deafness.

**Whooping cough (Pertussis)** is common in New Zealand. There is an outbreak every 3-5 years. The most recent outbreak began in August 2011 and is still on-going.

- Since the outbreak began, more than 6700 cases (as at December 2012) of whooping cough have been reported.
- During the epidemic in 2004-2005. More than 5000 cases were reported. In 2004, 159 children were hospitalised, and 1 child died.

Whooping cough can also lead to convulsions, brain damage and death

**Tetanus** is caused by bacteria that is found in the soil, and enters the body through wounds such as cuts, grazes and puncture wounds. The bacteria in the wound produce a toxin causing

- The muscles to stiffen around the jaw, neck, back, chest, abdomen and limbs
- Sometimes a high fever and sweating
- Nerve irritation-leading to severe muscle spasm and difficulty in breathing

**Diphtheria** is caused by bacteria which enters and attacks the lining of the nose, mouth and throat which can lead to difficulties in swallowing and breathing.

**Polio** is caused by a virus that can cause mild to severe illness. The virus infects the bowel and from there can attack the nervous system, causing meningitis or paralysis. The paralysis can be permanent. Polio has disappeared from New Zealand and most parts of the world as a result of immunisation.

**Mumps** is an acute viral illness, and a few cases occur in New Zealand each year. Mumps is spread through the air by coughing and sneezing, or through contact with infected saliva e.g. kissing.

**Influenza-or the “Flu”** is a virus (there are many different strains) that spreads quickly from person to person (through the air and by touch), and when a new strain of the flu virus emerges, it can infect many people in a very short time.

Older people, very young children, pregnant women, and those with on-going medical conditions such as asthma, COPD, and diabetes are at risk of developing serious complications.

**Pneumococcal Disease** is an infection caused by bacteria (there are 90 different types). It is spread by coughing and sneezing.

The pneumococcal bacteria can cause severe disease such as;

- Meningitis, an infection of the membrane that covers the brain and spinal cord
- Septicaemia or blood poisoning
- Infections of the joints, around the heart or of the bones and soft tissue beneath the skin
- Pneumonia
- Ear and sinus infections.

#### **How safe are vaccines**

Before a vaccine can be licensed for use it goes through a long testing process by international scientists to check that it is safe, and that it works. This can take several years and includes trials on people who volunteer to use it.

Before a vaccine is approved for supply in New Zealand the manufacturer must demonstrate its quality, that it works well and that it is safe to the satisfaction of Medsafe, a division of the Ministry of Health. Medsafe's evaluation is performed to internationally defined standards and is based on data from clinical trials.

Once a vaccine has been introduced to New Zealand, the Centre for Adverse Reactions Monitoring (CARM) at Otago University records reactions reported after vaccination.

Mild reactions such as mild fever, pain or redness at the injection site are not reported. Any serious reactions may also be recorded on the National Immunisation Register.

National and international scientific consensus is that immunisation is one of the most cost-effective means of preventing disease and improving health.

Risks associated with immunisation are very rare.

#### **Concerns and common myths about influenza vaccination**

Research shows that the strongest single factor influencing patient uptake of the influenza vaccine is a recommendation from a doctor or nurse. Any consultation leading up to the influenza season presents an opportunity to discuss the vaccine, address any concerns and provide unbiased, evidence-based information about immunisation. In a recent study of vaccine uptake, the two most common reasons patients cited for not getting vaccinated were fear that the vaccine is not safe and the belief that they were not at risk from influenza (Best Practice 2012)

#### **As winter approaches, it is now time to have the flu vaccination!**

Immunisation is your choice.

For further information, talk to your doctor or practice nurse or you can call the Immunisation Advisory Centre or go to the Ministry of Health website.

#### **References**

- Ministry of Health –Manatu Hauora, 2013  
<http://www.health.govt.nz/your-health/healthy-living/immunisation>
- Immunisation Advisory Centre (IMAC) NZ  
<http://www.influenza.org.nz/printflu.asp?t=886>
- Best Practice Issue 43 April 2012  
Seasonal Influenza Vaccinations

## **HAVE YOU ASKED YOUR DOCTOR IF YOU OR YOUR CHILD ARE ELIGIBLE FOR A FREE FLU VACCINE?**

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### **FLUVAX®**

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### **FLUARIX®**

Is approved in New Zealand for use in children from 6 months of age.

Flu vaccines are available from your GP and are **FREE** for people with a chronic condition which includes ASTHMA and COPD.

# whooping cough

by **Elaine Murray BN**  
Asthma Nurse Educator

Whooping cough (Pertussis) is a highly infectious disease that is spread by coughing and sneezing. It's caused by bacteria which can damage the breathing tubes.

It can be very serious for babies and children – especially those under one year old. If babies catch whooping cough, they:

- May not be able to feed or breathe properly
- May become so ill they need to go to hospital
- Could end up with serious complications such as pneumonia and brain damage

Symptoms are very much like a cold:

- Runny nose
- Sneezing
- Slight fever
- A mild cough

The cough becomes worse and your baby may vomit and gasp for air; some make a "whooping" sound during coughing attacks.

The cough may last up to 3 months.

Most babies catch whooping cough from their older siblings or parents; often before they are old enough to be vaccinated.

**The best way to protect your baby from whooping cough is to take them for their free immunisations when they**



**are six weeks, three months, five months and four years old, followed by a booster at aged 11 years (Best Practice 2012).**

**In addition, the Ministry of Health recommends that healthcare personnel working with infants, early childhood carers, pregnant women over twenty weeks gestation and household contacts of new born infants should receive a dose of the vaccine, with the dose repeated every ten years for people who work with infants and healthcare workers (Best Practice 2012).**

**References:**

Best Practice Issue 45 August 2012 pages 21-24  
Ministry of Health New Zealand Immunisation Schedule

## Heartiest Congratulations on successfully completing Unitec /Asthma New Zealand Asthma Nursing Course 2012 – 2nd semester

Candice Marshalle Adam _____	Dunedin	Elizabeth Ann Komen _____	Omarama
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# dear nurse

## **Dear Nurse, my home seems to be getting very damp since we installed a gas heater, could this be the cause?**

Inadequate ventilation of gas appliances can create a serious health hazard. Never install or use an unflued appliance in bedrooms, bathrooms or in caravans and marine craft. A flue is a ventilation pipe from the appliance to the outside. Unflued gas heaters use air during combustion and release water vapor and gases into the room – eg carbon and nitrogen oxides. If you do buy an unflued gas heater always ensure there is a window open.

## **Dear Nurse, my home needs insulation as it is so cold and damp. I heard that the government can help you with the cost, is this true?**

This is certainly true. If you are in a Housing New Zealand Home contact them to see if your home has been insulated. They are committed to insulate all their properties. If you own your own home or rent and you live in the North Shore, Waitakere, Rodney district or South Auckland you may be eligible to be included in the Warm Up program. For more information contact 09 262 9583 or email warmup@CMDHB.org.nz If you are a tenant and meet the requirements they may also liaise between you and your landlord. If you are eligible, the full cost of insulation may be met, or at least subsidised.

## **Dear Nurse, I am pregnant and do not want to use my inhalers as it may harm my baby. What would you advise.**

Poorly controlled asthma increases the risk of pre-eclampsia, prematurity, low birth weight and perinatal mortality. Good asthma control reduces these risks.

Your asthma may improve or get worse during your pregnancy. It is important to continue to use your inhaler, but this should be at the minimum necessary to control symptoms and maintain normal or best lung function. It is also important to have regular reviews with your GP.

## **Dear Nurse, I have asthma, and recently I had to go to an A&E clinic as my asthma was really bad. The nurse asked me what my personal best peak flow was. I had no idea what she was asking. Can you explain what a peak flow is, and why we need to do peak flows.**

A peak flow metre is a device that you blow through. It measures how hard you can blow air out of your lungs. This measurement can tell you if there is any narrowing of the airways in your lungs.

Measuring your peak flow is only one way to help you to manage your asthma (you also need to monitor symptoms).

Peak flow readings can also help your practice nurse or doctor know how well your asthma medications are working.

Peak flow metres are free from your practice nurse or doctor.

Every one over the age of six, should have a peak flow metre. Ask your nurse to work out what your predicted peak flow should be; it is worked out on your height, age and gender. For children we just measure their height.

To find your personal best peak flow you need to do 3 blows morning and night, before taking your medication, and record the highest. You need to do this for at least 4 weeks and while you are well.

The best peak flow reading is the amount that is written onto your asthma management plan. If your peak flow drops down you can then follow your action plan.



## **Dear Nurse, my doctor said my son (aged 9) is now old enough to use his puffer without a spacer. Is this correct?**

Using a spacer with a puffer delivers more medication into the airways than using a puffer on its' own; we recommend everyone should use a spacer.

When used with preventer medication, the spacer helps to prevent sore throat, hoarse voice and thrush of the throat and mouth.

To use a puffer on its' own, you need to be well co-ordinated with puffing the inhaler and breathing in.

Spacers can also be very helpful during an acute asthma episode as they are just as effective as a nebuliser.

## **Dear Nurse, I have had asthma for many years. I also smoke. I use my preventer inhaler every day, but I am finding that I get very breathless when doing activities, even when I walk upstairs.**

Asthma is a chronic inflammatory disease of the airways which is reversible.

Smoking can cause irreversible damage to your airways-called chronic obstructive pulmonary disease or COPD.

You can have both asthma and COPD in your airways.

Firstly, see your GP for a review of your medications and discuss having a spirometry test done. This will diagnose if you have COPD, and will assist your GP in prescribing the appropriate medications.

Secondly, it would be advisable to stop smoking, to stop further damage to your airways. Discuss smoking cessation with your GP. There are various medications e.g. nicotine replacement therapy, to help you quit.

While you continue to smoke, you not only continue to damage your airways, but your asthma medication will be less effective, hence your asthma will not be well controlled.

## **Dear Nurse, I have been diagnosed with COPD and I am very breathless all the time. I have been told that exercise is important-is this correct? How can I do any exercises when I get so breathless!**

Bodies like movement. Fear of breathlessness leads people with chronic breathing problems to do less and less. Feeling short of breath with exercise is NOT harmful, but lack of exercise is. It leads to muscle weakness, weak bones, weight increase, depression and less activity.

This can become a vicious cycle. People with breathing problems should exercise every day. Walking is the best. Start slowly. Gradually increase the time, and the amount you do. Use 2 puffs of your blue reliever medication 10-15 minutes before you start. So, start today. Reap the benefits. Have fun!

**IF YOU HAVE A QUESTION PLEASE EMAIL OR POST TO:  
editor@asthma-nz.org.nz or Dear Nurse, Asthma New Zealand,  
PO Box 67 066, Mt Eden, Auckland 1349.**

# teenage brain development

by **Sharron Erbacher RN BN**  
Asthma Nurse Educator

Are you sometimes baffled by the behaviour of your teenage child? Do you sometimes wonder what's going on in that head of theirs? Recent research is demonstrating that the reason why this happens is because adolescents simply don't think the same way as adults.

The human brain is comprised of a vast array of connecting wires known as synapses. What scientists have found is that both children and adolescents possess a significantly higher number of synapses compared to the adult brain. Synapses are responsible for connecting the various bits of the brain together. With so many connections, the adolescent brain is capable of putting two and two together in ways that simply aren't possible for adults.

The process by which the number of synapses gradually reduces is known as synaptic pruning. Until recently, it was thought that synaptic pruning was largely completed by the time an individual had reached their early teens. Imaging work carried out since the 1990s has shown that these physical changes actually continue through adolescence and into the mid-20s. Synaptic pruning starts with areas close to the brain stem that look after older and more behaviourally basic functions, such as vision, movement, and fundamental processing. As such, the prefrontal cortex, the part of the brain that is primarily responsible for higher functions such as goal setting and decision making, is one of the last areas to undergo synaptic pruning.<sup>1</sup>

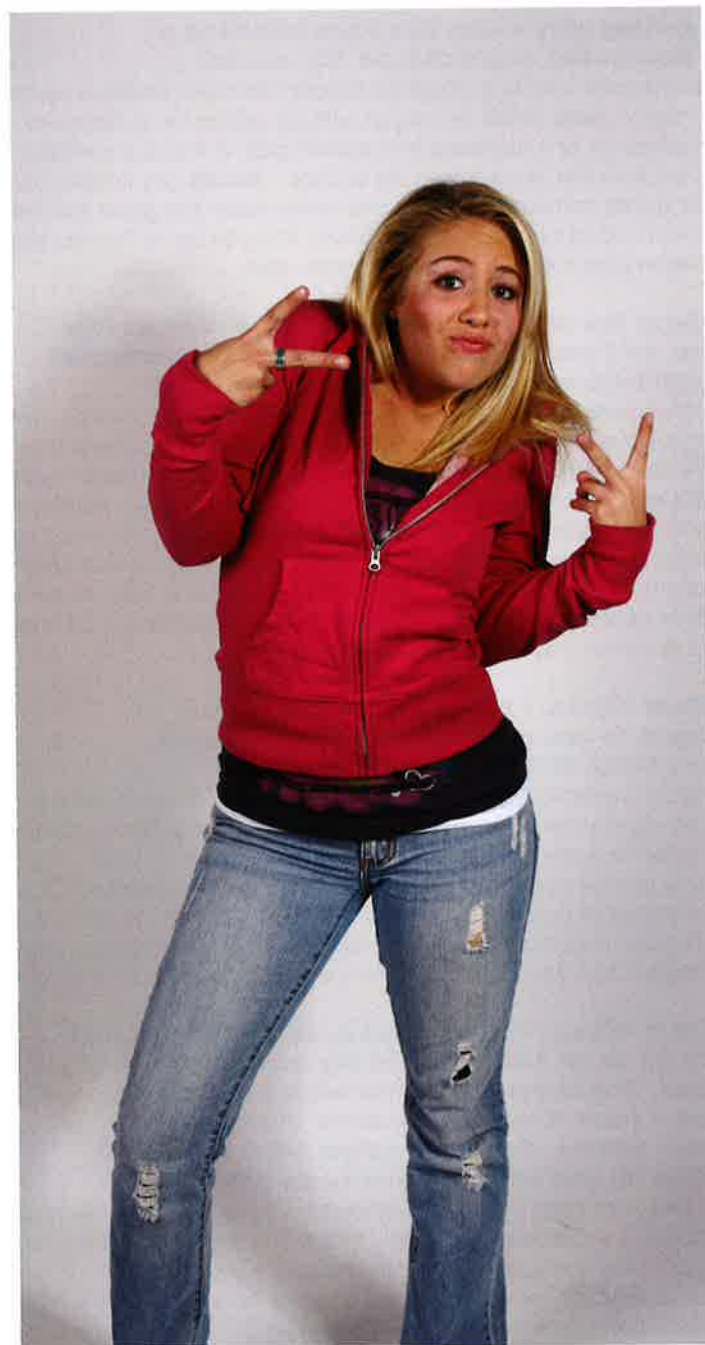
Recent imaging studies are showing that most of the mental energy that teenagers use in making decisions is located in the back of the brain, again, the part of the brain responsible primarily for instinctual responses. For adults, most of the processing energy is contained within the frontal lobe.<sup>2</sup> When teenagers do use the frontal lobe, it seems they overdo it, calling upon much more of the brain to get the job done than adults would.<sup>3</sup>

As this development proceeds, we get better at balancing impulse, desire, goals, self-interest, rules, ethics, and even altruism, generating behaviour that is more complex and, sometimes at least, more sensible. At times, and especially at first, the brain does this work clumsily. It can be difficult getting all those new cogs to mesh properly.

So what happens when you combine the adolescent brain with asthma? Srof, Taboas and Velsor-Friendrich<sup>4</sup> note that although asthma educational programs for children are plentiful, the same cannot be said for adolescents. This can lead to challenges for parents and adolescents alike. For example, Kit, Simon, Ogden, and Akinbami<sup>5</sup> found that adolescents aged 12-19 were much less likely to adhere to regular use of preventers compared to children aged 1-11.

Sue Bagshaw, Director at The Collaborative for Research and Training in Youth Health and Development emphasises the importance of addressing the differences between adults, adolescents, and children. She suggests that when addressing barriers around adolescents, it is necessary to consider the person and identify whether any of the following personal barriers could be an issue:

- Lack of confidence
- Fear of embarrassment



- Perception of lack of confidentiality
- The need for privacy and independence
- Other priorities
- Lack of future thinking
- Perceived as healthy

Along with personal barriers, Sue Bagshaw suggests there could also be systemic barriers contributing to asthma concerns. These can include:

- Cost
- Appointments not accessible
- Transport problems

The teen years can be difficult, and they can be even more difficult for teens with asthma. The last thing they want their friends to think is that they're "different." Many teens will not voluntarily take medication in

front of their friends. It's a good idea to ask your doctor if your teen's daily controller medication can be taken at home in the morning and evening. Making asthma medication part of a morning or nighttime routine along with brushing teeth or showering can help. It also means that parents are able to ensure that their children are complying.

It's very common for adolescents to be in denial about having asthma, and they may stop taking medications, which can lead to more symptoms and possible exacerbations. If this happens, you may need to monitor your teen's care until he or she is ready to do it alone. Many parents find it helpful to use a peak flow meter (a handheld tool that can be used at home to measure breathing ability) as the final word on whether (and how much) medication is needed to prevent a flare-up. It is also helpful to maintain an asthma action management plan. An action management plan helps to identify your teen's personal best peak flow and helps to confirm that they are medicating correctly. Online asthma management plans are now available for iPhone, Android, and Windows8 mobile, helping to add the all-important "cool factor" for teens wanting to manage their symptoms.

Adolescents living with asthma need to understand that, with the help of medications and an understanding of their triggers, they are usually able to live an unconstrained life. Some adolescents tend to

use 'Asthma' as an excuse not to participate in normal activities such as sports and even school dances because they're afraid of having a flare-up. Others learn to use asthma as an excuse for getting out of activities and chores. Teens should ideally understand how monitoring medication and breathing will let them do just about anything.

Collaboration is the key. At Asthma Auckland we visit schools across the greater Auckland area. We work closely with school staff and students to provide comprehensive education on asthma control. We provide the opportunity to address barriers to communication by creating a youth friendly environment and enable the outcome of working effectively with our young people.

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# poorly controlled asthma?

## troubleshooters guide

by Janet Delooze RN

Asthma Nurse Educator



At Asthma Auckland, we see hundreds of clients with asthma each year, either in their homes, schools or workplaces. Sadly, many are not well controlled. The following is a guide for you to consider when you are getting asthma symptoms to put you back on track. Most asthma CAN be well controlled with the correct medication and trigger avoidance, however, having said that there are a few people whose asthma is difficult to control. If in doubt, speak to your health care practitioner.

Some things to consider:

- *Are you taking the inhalers as they have been prescribed?*  
Many people misunderstand or misinterpret how and when their inhalers need to be taken. It can be confusing when the prescription says 1 puff twice daily, and some people take 2 puffs daily. It is important to follow the instructions precisely as cortico-steroid preventer inhalers and long-acting relievers are usually taken twice daily, morning and evening as they are a 12-hourly medicine.<sup>1</sup> Check with your pharmacist or doctor if you are unsure.

Do you forget to take your inhalers? After using preventers, you should always rinse out your mouth so a good place to keep your inhaler is in the bathroom; you can take your inhaler then brush your teeth and rinse immediately afterwards. Setting an alarm clock can be useful as a reminder.

The new Asthma App for those with I-phones is a great tool to help you remember your medication and to monitor your symptoms. It has a built in action plan and advice to help you manage your asthma.<sup>2</sup>

Do not stop taking your medication unless advised to do so by a doctor. Many people stop using their preventer or combination (Seretide, Symbicort) inhalers when they start to feel well. This can be a recipe for disaster. The reason that your asthma is well controlled is probably due to your medication. Once the effects of the preventer have worn off, the asthma symptoms are likely to return as soon as you come into contact with your usual triggers.

- *Have you been given the correct dose of medication?*  
Occasionally there are errors when you have been given your inhalers, especially if the dose has been changed, or you may have been given the same medication but in a different device. Again, don't be afraid to check with pharmacist or doctor.
- *Are you taking it correctly?*  
If this medication is new for you, it's always a good idea for someone to run through the right way to take it. We see many people with asthma who have been taking their inhalers for years but have never been shown the correct way to use them. It is often assumed that long term inhaler users are using their medications in the right way. Do not be offended if a health professional asks how you use yours. Remember to always shake your metered-dose inhaler (MDI) before EVERY spray/puff to mix the propellant and medication.
- *Are you using a suitable device?*  
There are several different devices for asthma medication. The most commonly used in NZ are the MDI which sprays out the medication, and dry powdered devices such as the Turbuhaler and the Accuhaler. If you are having trouble using your inhaler, ask your health professional for advice. There are aids that help those who have arthritis and other manual dexterity problems. Otherwise, another device may suit you and your lifestyle better.

**NEVER USE YOUR METERED DOSE INHALER UNTIL IT IS COMPLETELY EMPTY.** The medication always runs out first leaving behind some propellant. If your inhaler feels light, throw it away and start a new one. It is easier to keep track of your preventer inhaler as it is a fixed dose, so you can calculate when it will run out and write that date on the inhaler. For example, there are 120 doses in a Flixotide MDI. If you are on 2 puffs twice a day, the inhaler will last you for 30 days.

- *Spacer use and care*  
Everyone with a metered-dose inhaler (spray type such as Ventolin) should use a spacer with it, no matter what age they are. Even with perfect technique, you only get about 10% of the medication if you spray it directly into your mouth: most of the medication gets lost in the mouth or throat. Compare that to using a spacer, and the correct technique, you can obtain between 2 and 4 times the amount of medication.<sup>3</sup> Spacers, or space chambers are just holding vessels for your medication giving you time to breathe it in which is particularly helpful if you are unable to take deep breaths or hold your breath for any length of time. They come in adult and paediatric sizes, and are usually free from your GP or asthma nurse. They MUST be washed weekly to reduce the static electricity. If there's static in the spacer the medication will stick to it instead of going down into your lungs. Hand wash them in warm soapy water, leave the bubbles inside: do not rinse or hand dry – leave to air dry. Do not keep them in a plastic bag as this increases the static charge – keep them in cloth or paper bag, or box. Renew them every 6-12 months. Do not keep your inhalers inside the spacers as they will become scratched and again, trap the medication.
- *Unsure what to do when you get worse?*  
Many people with asthma manage well when they have no or few symptoms but feel unsure of what to do when their asthma is worsening. For effective management it is advisable that people with asthma have an action plan completed by their doctor.<sup>4</sup> The plan should remind you what to take when you're well, for example, your preventer every morning and night, and it should explain how many puffs of your reliever to take as symptoms worsen. There should be emergency instructions too, for example, call an ambulance and take 6 puffs of your reliever every 6 minutes through a spacer.

Your asthma and your action plan should be reviewed regularly, 6-12 monthly as your asthma may change and so your medications will need to be adjusted, either to be increased, reduced or changed.

If you are in any doubt about how to manage your asthma, contact your doctor, practice nurse or asthma nurse.

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# decile ratings

by Karen Little RN  
Asthma Nurse Educator

A comparison between decile ratings in New Zealand for schools and the New Zealand Deprivation Index (NZDep).

All nurses at asthma Auckland research and write articles for our magazine. During this I noticed that the socio-economic decile rating for schools was different to the decile rating for socioeconomic areas. Funding, statistics and indeed areas that are deemed desirable to live in so families are in the "best decile area" can be based on these deciles. Decile 1 schools are the 10% of schools with the highest proportion of students from low socio-economic communities and conversely the New Zealand Deprivation Index (NZDep) decile 1 indicates the least deprived.

These deciles are of interest as Salmond et al (1999) informs us that there is a linear increase in asthma prevalence with increasing area deprivation and the incidence of asthma is higher among Maori and Pacific Island people. Statistics New Zealand (2011) also inform us that socio-economic status is an important determinant of health and that positive health outcomes are more likely in more affluent groups.

A school's decile indicates the number of students that are drawn from low socio-economic communities. Decile 1 are 10% of schools with the **highest** proportion of students from low socio-economic communities. Decile 10 schools are the 10% of schools with the **lowest proportion**. A review of these deciles is undertaken following each 5-yearly Census of Population and dwellings. Schools can apply for a review of their decile if they think there has been a change in the socio-economic status of their students in their catchment. A school's decile does not indicate the overall socio-economic mix of the school. The smallest Census area is called a meshblock, this area contains about 50 households with school age children. The number and percentage of students from each meshblock is determined and the meshblock is examined against five socio-economic factors. (Ministry of Education,a).

## The five factors that make up the socio-economic indicator:

- 1 Household income
- 2 Occupation – This is measured in skill levels 1-5 of the Australia and New Zealand Standard Classification of Occupations.
- 3 Household crowding
- 4 Educational qualifications-the percentage of parents with no tertiary or school qualifications.
- 5 Income support-the percentage of parents who directly received a Domestic Purposes Benefit, Unemployment Benefit or Sickness and Invalids Benefit in the previous year.

The ministry does not have access to the individual Census information, only the information for the meshblock as a whole which it accesses in confidence through Statistics New Zealand. Schools are ranked in relation to every other school for each of the five factors and receive a score according to the percentile they fall into. The total gives the overall standing of a school in relation to all other schools in the country. The decile band is a widely used measure in education in New Zealand, used to target funding and support to more needy schools. The measure is only used for the funding of compulsory education, but a number of different central government funding streams and support services are strongly affected by the decile rating of a school such



as Social workers, Kura Kaupapa, Maori Transport and Truancy Services.

Data released by the Ministry of Education shows there is a correlation between high decile schools and higher rates of attaining NCEA Level 2. Future educational and job prospects will be limited for those who leave school without level 2 NCEA. In 2011, Asian students had the highest proportion of school leavers attaining at least NCEA Level 2 (85.6%), which was 11% higher than the percentage of European/Pakeha (77.0%), Pasifika (63.1%), and Maori (51.3%) had the lowest rates. (Ministry of Education,b).

The decile system has come in for criticism from teacher and principal associations in recent years for fomenting destructive competition between schools and the exacerbation of white flight. I am informed by the Ministry of Education that there is no review of the overall School decile rating system planned in the future.

The New Zealand Deprivation Index (NZDep) is a measure of the level of socioeconomic deprivation in small geographic areas (meshblocks). The NZDep96 is an updated version of the NZDep91 index of deprivation. The index is based on data referring to the average socioeconomic circumstances of the whole population of the meshblock, not to individuals. It is created using the following Census data:

- Car and telephone access
- Receipt of means-tested benefits
- Unemployment
- Household income
- Sole parenting
- Educational qualifications
- Home ownership
- Home living space

The index ranges from 1 to 10. A score of 1 indicates that people are living in the least deprived 10% (decile) of New Zealand. A score of 10 indicates that people are living in the most deprived 10% of New Zealand. (Ministry of Health 2002).

As an Asthma Nurse Educator working in south Auckland for the past three years I believe that socio-economic inequalities do exist. These can affect health, education and housing. When reading or researching articles we need to remember the different scales and deciles that our country is measured by. New census information is being collected this year.

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# AsthmaMinder addressing adherence issues in NZ, no more excuse

by **Linda Thompson**

Autumn is here which means winter is just around the corner and therefore so is the cold damp weather that could spell disaster for many people with asthma. Almost 600,000 New Zealanders have been diagnosed with asthma and are taking medication to control it, or are they? New Zealand has the second highest prevalence to asthma in the world after the UK, worse still more than half of all asthma patients are not in control of their asthma. Adherence to inhaled corticosteroid medication regimes for asthma is usually less than 50%.<sup>1</sup>

Compliance, non-compliance, adherence or non adherence call it what you want but not taking medication correctly results in poor asthma control. Non adherence can take on many forms including not having a prescription filled, taking an incorrect dose, taking medication at the wrong time, forgetting doses or stopping too soon. Preventer medication needs to be taken twice daily, morning and night, even when well! The consequence of not taking your medication is poor asthma control and this equates to a poorer quality of life. Many people live with the symptoms of asthma not realising they are doing so. Perhaps becoming accepting of not being able to exercise the way they want or playing with their kids in our great outdoors or even in their kiwi backyard becoming an onlooker instead of a participant in their own lives.

If you experience any of the following symptoms regularly your asthma may not be in control:

- Wheezing
- coughing

- tight chest
- waking at night with coughing or wheezing
- breathless with exercise
- using your blue inhaler more than 2 times per week
- unusual tiredness or grumpy

**So what are we doing about it?** We have a choice to make, we can continue to accept this poorer quality of life as “normal” or we can do something about it. New Zealanders have an intrinsic value and expectation of the life we should be living and therefore owe it to themselves to do whatever it takes to achieve this.

Catherine Huxford, New Zealander, mum of five, primary school teacher and someone who has asthma. Some would say a “typical New Zealander” and as such she found remembering to take her medication a challenge while juggling her busy life but knowing that forgetting to take her asthma preventer was not only dangerous to her own health but also a challenge that she shared with over 50%



TM  
ence



of other asthmatics in NZ. After numerous hospital and emergency treatments of her asthma, due largely to forgetting to take medication twice daily as prescribed, Catherine came up with a simple way to remind herself to take this life saving medication; she put it next to her toothbrush, every time she reached for her toothbrush she saw her preventer and was triggered to take her medication and her asthma symptoms improved. Catherine, who lives in Wellington, wasn't one to leave it at that and realised if she could do it so could others. In 2010 **she** started to play around with models and prototypes to build a unit to incorporate toothbrush to inhaler, allowing both items to be stored together motivating the design concept of the **AsthmaMinder™**.

Catherine entered her design into Grow Wellington's Bright Ideas Challenge which helps people to grow their ideas into a commercially viable product or business. They loved her idea and provided support in the vital design and prototype stages. With renewed vigour Catherine approached Asthma NZ and we could see the simple concept could really be a simple solution to a big problem in NZ.

**What is an AsthmaMinder™?** It is a specifically designed unit that simultaneously houses a toothbrush and preventer medication via a metered dose inhaler (MDI); the MDI snap-fits into the plastic housing unit to form a compact and hygienic enclosure for the toothbrush and MDI. A user who typically has a habitual twice-daily teeth brushing routine cannot remove their toothbrush until the asthma inhaler is removed prompting a physical twice-daily reminder to take preventer medication before teeth brushing.

***It is also a recommendation of Asthma NZ that teeth brushing or mouth rinsing should follow medication use to prevent oral thrush. In addition to this it is important to note that the use of a spacer device with a steroid MDI can be useful in reducing or preventing thrush and also gives better delivery of medication and as you can inhale medication slowly and more completely spacer use results in more medication in your airways.***

A research and development agreement is in place and Asthma NZ is set to trial the use of the AsthmaMinder™ and are focusing primarily in secondary school aged persons with asthma. Our asthma nurse educators will visit schools and homes in the Auckland and Wellington areas, to start with, and give selected students with asthma an AsthmaMinder™, instructions of use and will follow up after one month with a small questionnaire in our "Human Factor Study" and we hope the data collected will assist us around the issue of medication adherence or lack thereof. If you would like to be part of this study or you require education on asthma, peak flow measurement, spacer use, correct inhaler technique or just a better understanding of your asthma please contact Asthma New Zealand for more information.

It is fantastic to see this project through from concept to actual product and on behalf of Asthma New Zealand I would like to thank Catherine for never giving up, for her tenacity to seeing this through. I would also like to thank the following, Grow Wellington, TechNZ, Pub Charity and Pelorus Trust for their generous grants to see this project through.

#### **Linda Thompson**

PR / Marketing Manager  
Asthma New Zealand

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Catherine Huxford, AsthmaMinder™ inventor.

# mould prevention measures important for asthma management?

by Ann Wheat BN

Asthma Nurse Educator

It is difficult to imagine at present with the hot balmy summer days that we have all had for the last two to three months, that winter is just around the corner. Winter brings cold weather, rain and indoors the problem of mould especially if your home is not insulated, ventilated or heated.



Mould is a known trigger for some people with asthma. Mould is often found in our homes such as in the bathroom, kitchen, around windows and can also be found in carpets.

Moulds are microscopic fungi that reproduce rapidly and produce fungal spores and mycelia in the process.<sup>1</sup> The spores of the fungi float in the air both indoors and outdoors are then inhaled triggering an allergic reaction in the airways for those who are susceptible causing asthma episodes and hay fever.

Some moulds can be useful such as penicillin and some foods and beverages are made by the actions of mould which are manufactured in controlled conditions. Mushrooms and yeast are types of mould.<sup>1</sup>

Indoors, when mould spores land on damp or wet surfaces, they will start to grow and digest what they are growing on to survive.<sup>2</sup> This can eventually cause damage and destruction of the surfaces that the mould is growing on. Damp and wet surfaces can be caused from several sources such as leaky roofs, moisture coming up from under floors and through walls. Other causes include plumbing leaks, moisture created by people and pets living in the home, bathing, washing clothes, cooking and indoor plants. The amount of moisture in a home is often dependent on the amount of ventilation that a house receives.<sup>1,3</sup>

## Preventing Mould

Mould and dampness can be prevented in the following ways<sup>3</sup>:

- Ensure that the roof cladding and gutting are in good repair
- In the bathroom always keep a window open or use an extractor fan when having a shower or bath as there is approximately 2 litres of condensation produced every time someone has a bath or shower.
- Fix any plumbing leaks as soon as possible.
- When using a clothes dryer it should be vented outside to prevent up to 3 litres of moisture per load being put into the atmosphere.
- Clothes should be dried on an outside line whenever possible and not in the living areas.
- Washing machines produce on average 0.5 litres of moisture per load if a hot wash is used. This can be reduced by keeping a window open or installing an extractor fan.
- The kitchen can produce up to 3 litres of water a day from cooking, using dishwashers, washing dishes. It is important to use an extractor fan, range hood or keep windows open when cooking, cover pots when cooking and again fix any leaks as they occur.
- Free standing gas heaters are another source of moisture. Un-flued gas heaters can produce up to 1 litre per hour of condensation on its highest setting. Using a flued gas heater can reduce condensation. Other forms of heating such as electric heaters, heat pumps or pellet fires will ensure reduced condensation.
- Areas of restricted ventilation such as in cupboards, wardrobes and remote corners are susceptible to mould formation. Keeping doors slightly ajar can help reduce this.
- Open curtains early in the morning and close them as the sun goes down.

- Open windows during the day to ensure adequate ventilation but close as the sun goes down.
- Wipe condensation off windows and doors as soon as possible.
- Clean out old food stored in the fridge.

Some activities cannot avoid the formation of moisture that can cause condensation. When we breathe, we produce on average 1 litre a day per person. Many of us also have indoor plants. Water is needed to keep these alive, and so moisture is again allowed into the atmosphere therefore keep indoor plants to a minimum and do not over-water. The use of dehumidifiers and home ventilation systems can assist in helping to keep the house free of condensation as they reduce the relative humidity found indoors. It is important to keep the house well ventilated by opening windows when possibly. It is also important to be aware of places where mould can be hidden such as around pipes, showers etc. Extra care needs to be taken when investigating these areas.

Outdoors it is important to ensure that the roof and guttering are cleaned and regularly repaired. Leaves should be raked up and not allowed to rot. Outdoor taps and drains should be repaired as soon as any leak is discovered.

## Treating Mould

Mould should be treated and removed as soon as it forms as it is harder to remove when it has been present for some while<sup>4</sup>. When removing mould it is important to protect yourself by wearing rubber gloves, masks and if possible goggles. Do not allow splashes of liquid onto your clothes or in eyes when cleaning and open windows to improve airflow.<sup>4</sup> Mould can be cleaned with either household detergent or weak household-bleach (one part bleach to three parts water mixed together). It is important to use a clean sponge or cloth and rinse it frequently during the mould removal. Dry the surface well once completed. Some surfaces such as carpet may have to be removed and replaced if mouldy.

## Conclusion

Moulds can be used to treat people and in the manufacture of foods. But for some people mould can be a major health issue causing frequent episodes of asthma and hay fever. Learning how to protect your home from mould is very important to ensure good health and once mould is present the correct way of removing it is also important. Remember, a drier well-aired home is easier to warm and is much healthier for all those who live in it.

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# breathe well to be well – asthma

**Tania Clifton-Smith of Breathing Works Auckland**

Asthma New Zealand's guide to breathing effectively and effortlessly



## The importance of a correct breathing pattern

- Effective breathing:
- Minimises avoidable breathlessness
- Saves energy
- Allows relaxation of muscles
- Allows relaxation of thoughts
- Reduces stress
- Reduces histamine levels in the blood
- Gives you control

Unfortunately, poor breathing patterns are far more common than we would like to think. Especially for those who already have a respiratory condition such as asthma or chronic obstructive airways disease.

It's important that you understand your own respiratory condition so you can work on achieving the breathing pattern that's best for you.

## What is a good breathing pattern?

- A normal breathing pattern at rest is rhythmical and regular
- The normal rate of breathing per minute for an adult is 10-14 breaths (one breath equals a breath in and then out)
- Breathing at rest should be in and out through your nose. When you breathe in, your abdomen rises; when you breathe out, your abdomen falls
- When you breathe in your muscles work in an active movement
- When you breathe out your muscles relax – it's an effortless movement

## Task 1: Test your breathing rate and pattern

Breathing rate per/min: \_\_\_\_\_

Breathing pattern: \_\_\_\_\_

Sit down and place one hand on your chest and the other hand on your abdomen.

Are you breathing from your chest or abdomen? Are you breathing through your nose or mouth?

## How to Achieve a Good Breathing Pattern

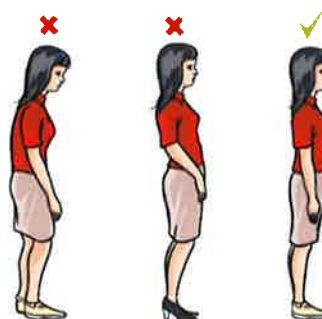
To establish a better breathing pattern it takes time and practise, you have to learn to:

- Re-establish a good breathing pattern
- Regulate your breathing pattern and rate so it's rhythmical and relaxed
- Recognise the situations in which you breathe incorrectly
- Relax and pace yourself
- Slow down the speed at which you walk, talk and eat
- Change your breathing appropriately for different activities
- Allow for recovery

**Task 2: Put 5-10 minutes aside daily to think about how you breathe then practise. Aim for the nose and abdomen, low and gentle.**

**Task 3: Place dots around work and home – on the fridge, the phone, in your office – to remind yourself to breathe. When you walk past a dot, pause, let go of your shoulders, then breathe through the nose – low and slow.**

## The importance of posture



## Good Posture

The body is in line allowing air in and out effectively and effortlessly.

## Poor Posture

When the body is rigid or slouched, the air flow becomes rigid.

## Exercises to reduce neck and shoulder tension

- Chin Tucks
- Shoulder Rolls backwards
- Mid-back stretches

## Note:

The above is a guide on breathing at rest. During an attack, try to calm your breathing. If you cannot, follow your action plan.



**Fully enclosed dust mite covers for mattresses, duvets and pillows.**

If you have any covers that are no longer required please consider donating them to Asthma Auckland to distribute to those in need. If required we can collect from anywhere in the Auckland region.

# rugby trials

**Written by Karen Little**

Asthma Nurse Educator

*Joe was pleased to go back to school as he was tired of mum making him do jobs at home and his little sister Mary was being a real pain following him around.*

"Let's try out for the Rugby team this year," Joe suggested to his friend Steve.

"You were hopeless last year, you couldn't even run around the field without coughing and wheezing," replied Steve.

"I have been really well since camp and when the nurse explained why I needed to take my orange preventer, I did morning and night," explained Joe.

"Why you are still having that even though you don't need it?" Steve was amazed.

"Well to tell you the truth, as I have been so well I did stop it a month ago. I have not wheezed in ages although I have been coughing at night," Joe confessed

*There were 20 trying out for the team; the coach was excited as he was sure they would win the competition with such great talent.*

"Right 5 times around the field for a warm up!" shouted the coach.

They were off! Everyone was trying to look good and strong as they wanted to be chosen.

Joe started to feel dizzy, short of breath and his mouth was so dry he wished he could have a drink of water. Steve noticed Joe slowing down and ran up to him.

"You look awful is it your asthma again, shall I get your blue puffer?" asked Steve

"I don't have it," gasped Joe.

The coach came running and took one look at Joe and called the school nurse on his mobile phone.

Within minutes (it seemed like hours to Joe) the nurse was giving him the blue puffer through the spacer. One puff to six breaths Joe knew what to do.

Joe was so disappointed everyone was now watching him and he knew he would have no chance of being picked for the team. The nurse kindly helped him into the sick bay.



"What on earth happened Joe," asked the nurse, "when I saw you last you looked fantastic."

"I felt so well that I stopped taking my orange puffer," Joe confessed.

"That's such a shame, you know that the Flixotide takes a month to start working and the team will have been picked by then," replied the nurse.

Joe was so mad at himself. He knew that if he had not stopped the orange puffer or at least had warmed up and taken some blue reliever before the trials he would have had no problem in running around the rugby field. Next year he would not make the same mistake.



**Can you help to find the inhaler!**



# Kid's Page



**1** One letter of the alphabet cannot be found in the grid. When you know which one it is, write that letter.

ZA PE WO H	XB JY FL QS
NA RG UNDI	MX TC ZFK

**2** Using all the letters find the eight-letter word.

**ARMUIQAU**



**3** Each of the words in the grid on the left has lost its middle letter. Write them in, and the letters in the pink squares will spell a word. Write this word.

T	I		A	L
E	A		L	Y
I	D		A	L
G	R		T	E
L	I		B	O

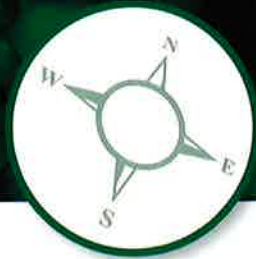
**4** Read the clues below and cross out all the words on the column that fall into the listed categories. What is left?

Relatives	China	Hand
Birds	Tokyo	England
Body parts	USA	Parrot
Countries	Wellington	leg
Capital cities	Pine	Uncle
Trees	Spain	Head
	Moon	New Zealand
	Daughter	Foot

**5** Match up the creatures in the left column on the right with their corresponding young.

Lion		Lamb
Frog		Puppy
Goat		Tadpole
Horse		Cygnets
Swan		Foal
Dog		Kitten
Sheep		Joey
Cat		Cub
Kangaroo		Kid

- Answers**
- 1 Letter V
  - 2 Aquarium
  - 3 Tidal
  - 4 Moon isn't in any category
  - 5 Lion - Cub
  - Frog - Tadpole
  - Goat - Kid
  - Horse - Foal
  - Swan - Cygnets
  - Dog - Puppy
  - Sheep - Lamb
  - Cat - Kitten
  - Kangaroo - Joey
  - The word is Dream
  - Limbo
  - Grate
  - Ideal
  - Early
  - 3 Tidal
  - 2 Aquarium
  - 1 Letter V



# donated new nebulisers

Thank you, St Joan Charitable Trust and Blue Waters Community Trust for your generous grant towards purchasing Nebulizers for our Chronic Obstructive Pulmonary Disease (COPD) clients. Your generosity makes an immediate difference in the lives of the people with this condition. While there's no cure for COPD, inhaled medication really can help. Along with other treatments, inhaled



Mr Pula gratefully receives one of the new donated nebulisers.



COPD drugs can improve symptoms and quality of life. COPD is a lung condition affecting millions of people worldwide. The Impact of COPD can be much greater than most people imagine. It not only affects the ability to breathe, it also impacts the way people with COPD live their life.

# national children's day, sunday 3rd march 2013

The theme for this year was a timeless one – *"Treasure our Children"*.

Asthma Auckland was invited to attend the 6th Annual children's day event by the Helensville Women and Family Centre. The Helensville hall and the area outside was filled with many community organisations, schools, childcare and fundraisers such as Parent Aid, Hippy and Te Ha o te Oranga o Ngati Whatua, providing



support and information for families and their children. Outside children enthusiastically played on the Bouncy Castle and joined in the Zumba class. Parents were given a passport that they filled with stickers from the various stalls that they visited. Once the passport was completed their children were able to enter in the draw for prizes. Children who entered the colouring in competition and the Talent Quest also received exciting prizes that were displayed on the hall stage. Asthma Auckland's spacer that was filled with jellybeans was won by a lucky boy who correctly guessed the number of jelly beans at 360.

Thank you to the Helensville Women and Family Centre for organizing such a fun day that enabled Asthma Auckland to talk to over 80 families about asthma.



# north & south

## NEWS FROM AROUND THE REGIONS ...

2013 has started off with a bang for Asthma Wellington. We have a new team member on board, Alice Paul who joins Adie as an Asthma Nurse Educator. Alice is a registered nurse who trained in Belfast, Ireland and has many years experience primarily in the areas of research, care coordination, palliative care and care of the elderly. For more on Alice see our latest 'Hailer' newsletter. For anyone who does not receive this and would like to, please send your email address to kimj@asthma-nz.org.nz



Just as exciting we are on the move come May. Our new home will be in the Salvation Army Building in Johnsonville which gives us bigger premises, the ability to do in house consultations and education and higher visibility in the community. Needless to say we can't wait!

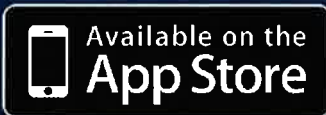
cookbook and gift basket and last but not least a family pass to Reading Courtenay. Your membership enables our nurses to provide free asthma support to those in need. Registration details are on our website or email kimj@asthma-nz.org.nz to join today. Don't forget any donations are always welcome too!

During the month of April we are running a membership campaign. Join Asthma Wellington for only \$25 before the end of April and go in the draw to win some awesome prizes thanks to the generosity of some of Wellington's best. For only \$25 you could win a night for two with dinner and breakfast at the luxurious Museum Art Hotel, a yummy dinner for two at The Greenman, the latest Ruth Pretty

**Kim, Adie and Alice**



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**Dec 11, 2012 by Asthujgd**  
*Great!!! – Fantastic app! Extremely impressed and for the first time ever, I am logging my PF ... Highly recommend!*



**Feb 5, 2013 by KimberleySheridan**  
*Great app – Just what we needed in NZ.*



# north & south



NEWS FROM AROUND THE REGIONS ...

## annual children's day – caroline bay



The Annual Children's day was held at Caroline Bay hall on Sunday 3rd March.

I represented Asthma South Canterbury with an informative stall showing the various inhalers available, 'The Lungs', spacers, information on what Asthma is and how it affects us, a full range of pamphlets were available for all to take. I passed out many 'packs' of information to families



including our services, various pamphlets and information downloaded from on our website. This was gratefully received by all many people and I hope will lead to further education sessions. The icing on the cake was a spacer filled with marshmallows and the children had to guess how many marshmallows were in the spacer. The prize was a \$20 McDonalds voucher plus the marshmallow spacer. This was won by 6 year old Emily Watson who correctly guessed 75 marshmallows.

The day was a great success and fun was had by all. There were free carnival rides, a lolly scramble, and free face painting, Train rides and a free sausage sizzle for all. Magicians show and storytelling.

There were various stalls including myself, Plunket, various Kindergartens, Girl Guides, Footsteps, IRD, to name a few.

This is an annual event and I look forward to participating in next year's show.

### Vicki Lyford

Asthma Nurse Educator  
Asthma South Canterbury

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# salt therapy (halotherapy) for COPD

by **Elaine Murray RN**  
Asthma Nurse Educator

COPD (Chronic Obstructive Pulmonary Disease) is a general term which includes the conditions chronic bronchitis and emphysema, which usually occur together.

- Chronic means persistent
- Bronchitis is inflammation of the bronchi (airways of the lungs)
- Emphysema is damage to the smaller airways and air sacs (alveoli) of the lungs
- Pulmonary means "affecting the lungs"

The damage to the lungs is gradual, which is why most people do not get any symptoms until they are over forty years old.

The symptoms of COPD are:

- Cough-usually productive, becoming more persistent
- Breathlessness, usually on exertion, but gradually getting worse
- Sputum – the damaged airways make a lot more mucous, hence the need to cough up a lot of sputum each day to clear the airways
- Recurrent chest infections increase the amount and colour of sputum, resulting in increased breathlessness.

Last year "World COPD Day" was on the 14th November and I was intrigued when I saw an advertisement stating that the salt caves (in the UK) were having an open day to raise awareness of COPD, and inviting people to experience **salt therapy**.

## Salt

We all know that salt is essential not only to life, but to good health. The body's salt/water ratio is critical to metabolism. Human blood contains 0.9% salt (sodium chloride).

Salt maintains the electrolyte balance inside and outside of cells, is important to hydration of our bodies, and medical evidence proves salt is related to blood pressure and several other important risk factors for cardiovascular health. It also controls the way our muscles and nerves work.

Salt, in fact has been termed "the first antibiotic". Salt or sodium chloride has been used for many years to cleanse wounds, as salt baths and salt scrubs, as a mouth wash or gargle, nasal drops and inhalation pipes. It is also used for dehydration.

## How Does Salt Therapy helps patients with COPD

Inhalation of salt aerosol is clinically proven to cleanse the respiratory system of the human body and to speed up the elimination of toxins. The size of the particle is the same as in natural Salt caves-1.5um. When inhaled, these tiny particles work as a "bronchial brush" for the airways.

During salt therapy patients sit in a comfortable chair in a spacious cave like room for an hour, listening to music and breathing normally. Negatively ionised tiny salt particles enter the respiratory system reaching even the smallest airways and the alveoli (air sac)

Based on clinical studies, the dry, saline diffused air reduces the



inflammation in the airways, absorbs the oedema or swelling, and unclogs the blockages in the bronchi and bronchioles.

Patients report feeling their respiratory system is clean again; improving their quality of living.

It **may help** to reduce antibiotic and steroid use, reduce exacerbations and therefore reduce emergency treatments and hospital admissions.

Inhalation of salt aerosol is proved to have bactericidal effects, cleansing microbial flora of the respiratory tract, slowing down bacterial growth and decreasing respiratory tract diseases.

Salt aerosol is not only a decongestant as mentioned above, but also has a hyposensitising effect on the air way. As a result, the airways become less sensitive to a substance that causes an allergic reaction.

It may benefit patients with chronic upper respiratory conditions, seasonal allergies, asthma, sinusitis, bronchitis and skin disorders

Salt therapy is 100% natural, safe and drug free.

It should be used as a complimentary treatment to prescribed medications. It may increase the effectiveness of prescribed medications, and decrease the amount of prescribed medications required.

## References

- Salt therapy-the benefits for asthma, allergies, sinus, skin conditions-  
Down loaded <http://www.saltcaves.com.au/salt-therapy-benefits>
- Natural COPD Remedy :: Salt Therapy for treatment of COPD::Natural Remedy  
Down loaded <http://www.saltcave.co.uk/copd.html>
- World COPD Day with The Salt Caves  
Down loaded <http://www.saltcave.co.uk>
- Food salt &health/Issues in focus/Home-Salt Institute  
Down loaded <http://saltinstitute.org>

# breathe well to be well – COPD

## Tania Clifton-Smith of Breathing Works Auckland

Asthma New Zealand's guide to breathing effectively for people with COPD.



### Why do you need to breathe well?

When the structure of the lungs change, the amount of work it takes to breathe increases.

Normally, the diaphragm is the main breathing muscle. However, in severe COPD, the upper chest muscles become the main breathing muscles. And sometimes these muscles can be overused, cause muscle fatigue, general fatigue and further shortness of breath.

Another common problem is not breathing out enough, so too much air stays in the lungs (hyperinflation). Hyperinflation also increases muscle work and further shortness of breath.

### The aim of effective breathing

- Is to save energy
- Allows relaxation of muscles
- Reduces shortness of breath
- Reduces stress
- Gives you breathing control
- Allows better relaxation of mind and body

### How to breathe effectively

- 1 While sitting, place your hands on your chest and abdomen
- 2 Breathe in through your nose and feel your hands gently rise
- 3 Breathe out gently through your nose or lips and feel your hands drop. As you do this try to relax your shoulders
- 4 Practise feeling the breath become rhythmical, relaxed and effortless

### Upon movement

Upon exertion breathing often changes and becomes more laboured. Pursed lip breathing helps to regulate the amount of air you breathe and this helps to save energy.

### Task 1: Try pursed lip breathing:

- Breathe in slowly through your nose
- Purse your lips as if to whistle and breathe out through the pursed lips taking twice as long to exhale
- Pause – then inhale through the nose again and exhale through pursed lips. It is important to maintain a pace and rhythm when exercising. Counting can often assist with this task – especially on inclines and stairs.

For example:

### Breathe in as you Step Up 1-2-3 Steps & Breathe Out as you step up 1-2-3 Steps

Pause

Continue; make sure you find a rhythm that suits you, it may be breathing in and out with each step.

### Task 2

A good way to remind yourself to regulate your breathing and to pause is to place dots around work and home – on the fridge, phone, the bottom of the stairs etc. When you pass a dot, remember to pause, let go of your shoulders, and then breathe through the nose – low and slow.

Additionally, use the dots to remind you to slow down the speed at which you walk, talk and eat.

### The importance of posture

#### Good posture

The body is in line, allowing air in and out effectively and effortlessly.

#### Poor posture

When the body is rigid or slouched, the airflow becomes rigid.

### What to do when you become short of breath

Use relaxed breathing in the following positions:



- **Sitting**
- **Sitting upright**
- **Standing leaning back**

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## Questions, Letters, Articles, Advertisements

O<sub>2</sub> Journal welcomes dialogue with readers. Whether you are a person with asthma, a company involved in the sector, or a potential advertiser, we welcome your enquiries and communication.

**Contact:**  
**Asthma New Zealand**  
**581 Mt Eden Road, Auckland**  
**PO Box 67-066, Mt Eden**  
**Phone (09) 623 0236**  
**Email editor@asthma-nz.org.nz**





**Source: J Asthma**

**Passive Smoking Induces Leukotriene Production in Children: Influence of Asthma;**

**Hernández-Alvídrez E, Alba-Reyes G, Muñoz-Cedillo BC, Arreola-Ramírez JL, Furuya ME, Becerril-Ángeles M, Vargas MH; Journal of Asthma (Feb 2013)**

**BACKGROUND:** Passive smoking is associated with poor asthma control in children, but the mechanism is unknown. Leukotrienes are involved in the asthma pathogenesis and their synthesis is increased in adult subjects who actively smoke. **Objective.** To evaluate whether passive smoking, as assessed by urinary cotinine levels, increases leukotriene production in children with or without asthma. **Methods.** This was a prospective, cross-sectional study in which children with stable intermittent asthma (without exacerbation) and healthy control children were studied through spirometry and urinary concentrations of cotinine and leukotriene E(4) (LTE(4)). Both groups were balanced to include children with and without passive smoking. **Results.** Ninety children (49 with asthma and 41 controls, 54.4% females) aged 9 years (range, 5-13 years) were studied. Urinary LTE(4) concentrations were progressively higher as cotinine levels increased ( $rS=0.23$ ,  $p=0.03$ ). LTE(4) also correlated with body mass index (BMI,  $rS=0.30$ ,  $p=0.004$ ), and multiple regression analysis revealed that BMI was even more influential than cotinine for determining LTE(4) levels. LTE(4) concentrations were unrelated with gender, age, or spirometry. In turn, cotinine inversely correlated with FEV(1) ( $rS=-0.22$ ,  $p=0.04$ ) and FVC ( $rS=-0.25$ ,  $p=0.02$ ), but when analyzed by groups, these relationships were statistically significant only in children with asthma. **CONCLUSIONS:** Exposure to environmental tobacco smoke, as assessed by urinary cotinine levels, was associated with an increased urinary concentration of LTE(4), although BMI exerted more influence in determining its concentration. Urinary cotinine was associated with decreased lung function, mainly in children with asthma.

increased BMI in boys. Among girls, the direction of this association varied with race/ethnicity.

**Source: Allergy**

**Exhaled nitric oxide in symptomatic children at preschool age predicts later asthma;**

**Singer F, Luchsinger I, Inci D, Knauer N, Latzin P, Wildhaber JH, Moeller A; Allergy (Feb 2013)**

**BACKGROUND:** Prediction of asthma in young children with respiratory symptoms is hampered by the lack of objective measures applicable in clinical routine. In this prospective study in a preschool children cohort, we assessed whether the fraction of exhaled nitric oxide (FeNO), a biomarker of airway inflammation, is associated with asthma at school age. **METHODS:** At baseline, IgE and eosinophils were measured in the blood, and FeNO was measured offline in 391 children aged 3-47 months with lower airway symptoms. We developed an asthma predictive index (API) including high FeNO as major criterion. At follow-up, primary outcome was physician-diagnosed asthma based on standardized interviews in those children reaching school age ( $n = 166$ ). **RESULTS:** FeNO was significantly elevated in those children with later asthma (68/166) as compared to children not developing asthma. Median (IQR) FeNO was 10.5 (6.6-17.2) vs 7.4 (5.3-10.3) ppb. Per 5 ppb FeNO increase, the odds ratio (95% CI) for asthma increased by 2.44 (1.61-3.70) without changing when adjusting for confounders. Using the new API, children scored at risk had 58.0% probability for later asthma, whereas the negative predictive value was 78.2%, which was comparable to the classical API. **CONCLUSIONS:** In this cohort of high-risk preschool children, elevated FeNO is associated with increased risk for school-age asthma. The new API including FeNO identifies children at risk of later asthma comparably to the classical API, but does not require blood sampling.

**Source: Am J Respir Crit Care Med**

**Childhood Obesity and Asthma Control in a Diverse Sample: Examining age and Racial/Ethnic Differences;**

**Borrell LN, Nguyen EA, Roth LA, Oh SS, Tcheurekdjian H, Sen S, Davis A, Farber HJ, Avila PC, Brigino-Buenaventura E, Lenoir MA, Lurmann F, Meade K, Serebrisky D, Rodriguez-Cintrón W, Kumar R, Rodriguez-Santana JR, Thyne S, Burchard EG; American Journal of Respiratory and Critical Care Medicine (Feb 2013)**

**RATIONALE:** Obesity is associated with increased asthma morbidity, lower drug responsiveness to inhaled corticosteroids, and worse asthma control. However, most prior investigations on obesity and asthma control have not focused on pediatric populations, considered environmental exposures, or included minority children. **OBJECTIVE:** To examine the association between body mass index (BMI) categories and asthma control among boys and girls; and whether these associations are modified by age and race/ethnicity. **METHODS:** Children and adolescents ages 8 to 19 years ( $n=2,174$ ) with asthma were recruited from the Genes-environments&Admixture in Latino Asthmatics (GALA II) Study and the Study of African Americans, Asthma, Genes,&Environments (SAGE II). Ordinal logistic regression was used to estimate odds ratios (OR) and their confidence intervals (95% CI) for worse asthma control. **MEASUREMENTS AND MAIN RESULTS:** In adjusted analyses, boys who were obese had a 33% greater chance of having worse asthma control than their normal weight counterparts (OR: 1.33; 1.04-1.71). However, for girls, this association varied with race/ethnicity ( $p$ -interaction=0.008). When compared to their normal weight counterparts, obese African American girls (OR:0.65; 95%CI:0.41-1.05) were more likely to have better controlled asthma while Mexican American girls had a 1.91 (95%CI:1.12-3.28) greater odds of worse asthma control. **CONCLUSIONS:** Worse asthma control is uniformly associated with

**Source: Respir Res**

**Atopy is a risk factor for respiratory symptoms in COPD patients: results from the EUROSCOP study;**

**Fattahi F, Ten Hacken NH, Löfdahl CG, Hylkema MN, Timens W, Postma DS, Vonk JM; Respiratory Research 14 (1), 10 (Jan 2013)**

**ABSTRACT: BACKGROUND:** The pathogenesis of COPD is complex and remains poorly understood. The European Respiratory Society Study on Chronic Obstructive Pulmonary Disease (EUROSCOP) investigated long-term effects of budesonide; 18% of the COPD participants were atopic. So far effects of atopy on the long-term

course of COPD have not been elucidated. **METHODS:** Factors related to the presence of atopy (positive phadiatop) in 1277 mild-to-moderate COPD patients participating in EUROSCOP were analysed using regression analysis. Incidence and remission of respiratory symptoms during 3-year follow-up were analysed using generalised estimating equations models, and association of atopy with lung function decline using linear mixed effects models. **RESULTS:** Independent predisposing factors associated with the presence of atopy were: male gender (OR: 2.21; 95% CI: 1.47--3.34), overweight/obese (OR: 1.41; 95% CI: 1.04--1.92) and lower age (OR: 0.98; 95% CI: 0.96--0.99). Atopy was associated with a higher prevalence of cough (OR: 1.71; 95% CI: 1.26--2.34) and phlegm (OR: 1.50; 95% CI: 1.10--2.03), but not with lung function levels or FEV1 decline. Atopic COPD patients not treated with budesonide had an increased incidence of cough over time (OR: 1.79, 95% CI: 1.03--3.08,  $p = 0.038$ ), while those treated with budesonide had increased remission of cough (OR: 1.93, 95% CI: 1.11--3.37,  $p = 0.02$ ) compared to non-atopic COPD patients. **CONCLUSIONS:** Atopic COPD patients are more likely male, have overweight/obesity and are younger as compared with non-atopic COPD patients. Atopy in COPD is associated with an increased incidence and prevalence of respiratory symptoms. If atopic COPD patients are treated with budesonide, they more often show remission of symptoms compared to non-atopic COPD patients who are treated with budesonide. We recommend including atopy in the diagnostic work-up and management of COPD.

**Source: Curr Opin Pulm Med**  
**Susceptibility to viral infections in chronic obstructive pulmonary disease: role of epithelial cells;**

**Sajjan US; Current Opinion in Pulmonary Medicine 19 (2), 125-32 (Mar 2013)**

**PURPOSE OF REVIEW:** The aim is to understand how airway epithelial cells with compromised innate defense mechanisms enhance susceptibility to respiratory virus infections in chronic obstructive pulmonary disease (COPD). **RECENT FINDINGS:** Exacerbations associated with respiratory viruses are more severe and increase disease severity in COPD. Airway epithelial cells cultured from COPD patients show excessive innate immune response to viral infection and higher viral load compared with normal cells. **SUMMARY:** Airway epithelial cells are the first line of defense in the lung and are equipped with several lines of innate defense mechanisms to fight against invading pathogens including viruses. Under normal conditions, mucociliary and barrier functions of airway epithelial cells prevent virus binding and entry into the cells. Virus-infected airway epithelial cells also express various cytokines, which recruit and activate innate and adaptive immune cells ultimately controlling the infection and tissue damage. In COPD however, compromised mucociliary and barrier functions may increase virus binding and allow virus entry into airway epithelial cells. Virus-infected COPD airway epithelial cells also show disproportionate cytokine expression leading to inappropriate recruitment and activation of innate and adaptive immune cells. COPD airway epithelial cells also show defective antiviral responses. Such defects in innate defense mechanisms may increase susceptibility to viral infections and disease severity in COPD.

**Source: Chest**  
**Cognitive Dysfunction in Patients Hospitalized with Acute Exacerbation of Chronic Obstructive Pulmonary Disease (COPD);**

**Dodd JW, Charlton RA, van den Broek MD, Jones PW; Chest (Jan 2013)**

**ABSTRACT RATIONALE:** Cognitive impairment is one of the least

well-studied COPD comorbidities. It is known to occur in hypoxemic patients, but its presence during acute exacerbation is not established. **OBJECTIVES:** To assess neuropsychological performance in COPD patients awaiting discharge from hospital following acute exacerbation and recovery and compare with stable outpatients with COPD and healthy controls. **METHODS:** 110 participants were recruited: 30 COPD in-patients awaiting discharge following an exacerbation, 50 stable COPD outpatients, and 30 controls. Neuropsychological tests measured episodic memory, executive function, visuo-spatial function, working memory, processing speed and an estimate of premorbid abilities. Follow up cognitive assessments for stable and exacerbating patients were completed at 3 months. **RESULTS:** Exacerbators were significantly worse ( $p < 0.05$ ) than stable patients over a range of measures of cognitive function, independent of hypoxemia, disease severity, cerebrovascular risk or pack years smoked. In exacerbators up to 57% were in the impaired range and 20% were considered to have suffered a pathological loss in processing speed. Impaired cognition was associated with worse SGRQ score ( $r = -0.40-0.62$ ,  $p \leq 0.02$ ) and longer length of stay ( $r = 0.42$ ,  $p = 0.02$ ). There was no improvement in any aspect of cognition at recovery three months later. **CONCLUSION:** In patients hospitalized with an acute exacerbation impaired cognitive function is associated with worse health status and greater hospital length of stay. A significant proportion of patients are discharged home with unrecognized mild-severe cognitive impairment, which may not improve with recovery.

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**References:** 1. Global Initiative for Asthma; *Global Strategy for Asthma Management and Prevention*. Updated 2009. 2. Woodcock AA et al. *Prim Care Respir J*. 2007;16(3):155-161. 3. Bateman ED et al. *Am J Respir Crit Care Med*. 2004;170:836-844

**Seretide**<sup>®</sup> (fluticasone propionate/salmeterol xinafoate; available as a 50/25 or 125/25 micrograms per actuation inhaler, or as a 100/50 or 250/50 micrograms per actuation *Accuhaler*<sup>®</sup>) is a **Prescription Medicine** for the treatment of reversible obstructive airway disease (ROAD) including asthma, and for the treatment of chronic obstructive pulmonary disease (COPD). **Seretide is a fully funded medicine; Special Authority criteria apply. Seretide 250/25 microgram inhaler is a private purchase medicine that you will need to pay for. Use strictly as directed.** *Seretide* is not for relief of acute symptoms. Always carry your reliever inhaler. **Do not discontinue Seretide abruptly. Tell your doctor if:** you are taking any other medicines or herbal remedies; you have pulmonary tuberculosis (TB), a thyroid problem or a heart problem; or you are having treatment for high blood pressure. **Side Effects may include:** 'shaky' feeling; headache; fast heart rate; irritation in the nose and throat. **If symptoms continue or you have side effects, see your doctor, pharmacist or health professional.** For more information, see *Seretide* Consumer Medicine Information at [www.medsafe.govt.nz](http://www.medsafe.govt.nz). Normal doctor's office visit fees apply. **Ask your doctor if Seretide is right for you.** *Seretide* and *Accuhaler* are registered trade marks 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 NA6115-12DE

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# Do you have COPD?

Ask your doctor\*  
about **SPIRIVA**®

when your COPD symptoms  
impact everyday life because...

# LIFE CAN'T WAIT.



So if you are currently using your reliever inhaler quite often, but still have COPD symptoms that impact your everyday life...

## Ask your doctor\* if **SPIRIVA**® is right for you!

\*Normal Doctor's fees and pharmacy charges apply. SPIRIVA® is fully funded for COPD. Special Authority criteria apply.  
SPIRIVA® (tiotropium 18mcg) is a PRESCRIPTION MEDICINE. It is used for making breathing easier in chronic obstructive pulmonary disease (COPD) including chronic bronchitis and emphysema. SPIRIVA® should not be used for acute episodes or rescue treatment of bronchospasm. Cautions are high pressure in the eye (glaucoma), kidney problems, problems with your prostate gland or passing urine. Do not allow the powder into your eyes. SPIRIVA® like all medicines can cause unwanted side effects in some people. These may include dry mouth, dry throat, cough, fast heart beat, blurred vision and high pressure in the eye (glaucoma). If symptoms persist or you have side effects talk to your doctor. Always read the label and use strictly as directed. DO NOT SWALLOW THE CAPSULES but administer with the HandiHaler® device. Boehringer Ingelheim PO Box 76 216 Manukau City, freephone 0800 802 461. EP/12/13. TAPS PP1690