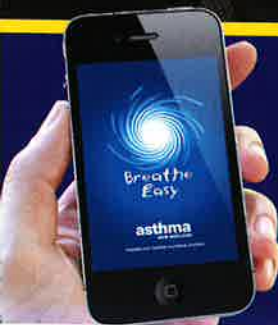




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# contents

- 4 asthma course
- 5 message to readers
- 6 asthma and pregnancy
- 9 dear nurse
- 10 what happens in asthma?
- 13 pulmonary sarcoidosis
- 14 the use of nebulisers
- 15 tackling asthma in australia –the next five years  
*conference – 19th & 20th march 2013*
- 16 wellington asthma moves to new premises in  
a bid to better service the entire community
- 18 north & south
- 22 kid's page
- 24 chronic obstructive pulmonary disease
- 27 copd action plan
- 29 newstream



On the cover: Helene Ritchie Councillor WCC, John Kennedy-Good (President), Hon Annette King, Paul Eagle Cllr WCC, Penny Gaylor Cllr KCC, Roger Booth Cllr and Deputy Mayor KCC.

**PUBLISHER**  
Asthma New Zealand – The Lung Association  
581 Mt Eden Road, Mt Eden, Auckland 1024,  
P.O. Box 67066, Mt Eden, Auckland 1349

**CONTACT**  
Phone: 09 623 0236 Fax: 09 623 0774  
Email: anz@asthma.org.nz

**PRODUCTION & ADVERTISING**  
Asthma New Zealand  
Editor: Linda Thompson  
Email: editor@asthma.org.nz



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## Asthma and COPD Nursing Course Information

Applications are now invited from nurses wanting to enrol on the Asthma Nursing Course in February 2014 and COPD Nursing Course in April 2014. 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, 969 nurses have enrolled over 41 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 and COPD Nursing Course are accredited with 15 credits each, which can be used towards gaining your Bachelor of Nursing degree.

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 closing date – 5th February 2014

COPD Nursing Course closing date – 5th of April 2014

**For information contact:**

**Ann/Swarna**

**Phone Ann on 09 623 4777 or Swarna on 09 623 4771**

**Fax 09 623 0774**

**Email [annw@asthma.org.nz](mailto:annw@asthma.org.nz)**

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

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## Upcoming events and courses

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# message to readers



## *We are only wealthy if we are healthy*

It's my pleasure to present the President's Report on the activities of Asthma New Zealand-The Lung Association, for the year 2012 – 2013.

The **“health”** of the asthmatic is of paramount importance to our Board and our aim is improve this by promoting our education courses, the distribution of information, visits to business, schools etc with our buses, marketing of products and making meaningful submissions to government seeking their recognition of the severity of this disease and the fact that COPD and Emphysema are life threatening.

Over one thousand nurses have completed our quality education courses for asthma and COPD through the Unitec Institute of Technology in Auckland. This is the only tertiary qualified course in this field in New Zealand.

These qualified nurses are a wonderful asset within New Zealand communities.

It is rewarding to recognise that we continue, in an increasingly fast paced technical environment, to successfully produce many practical outcomes on a limited budget.

The release of the Breathe Easy Asthma Management App was a significant achievement which is designed to improve and eventually replace current paper based Asthma Management Plans.

Also the publication of the O<sub>2</sub> NZ Journal of Respiratory Health is recognised throughout the country as a very powerful educational tool, with a wide distribution, which also contains news updates of regional interest.

We continue to steadily add further branches with Wellington and South Canterbury well established, and Rotorua and Invercargill showing much interest.

Last October representatives from Asthma New Zealand attended the re-branding of Asthma Canterbury to “CanBreathe, Asthma Canterbury”. This function also marked the 40th Anniversary of the Society. Dick Taylor, their Patron, was Guest Speaker.

My grateful thanks to:

- Asthma Auckland for their most valuable support;
- Gerry Hanna, Secretary/Treasurer; our Board Members and Linda Thompson – all for giving their time to improve the quality of life for the asthmatic.

**Pamela O'Brien**

President

Asthma New Zealand-The Lung Association

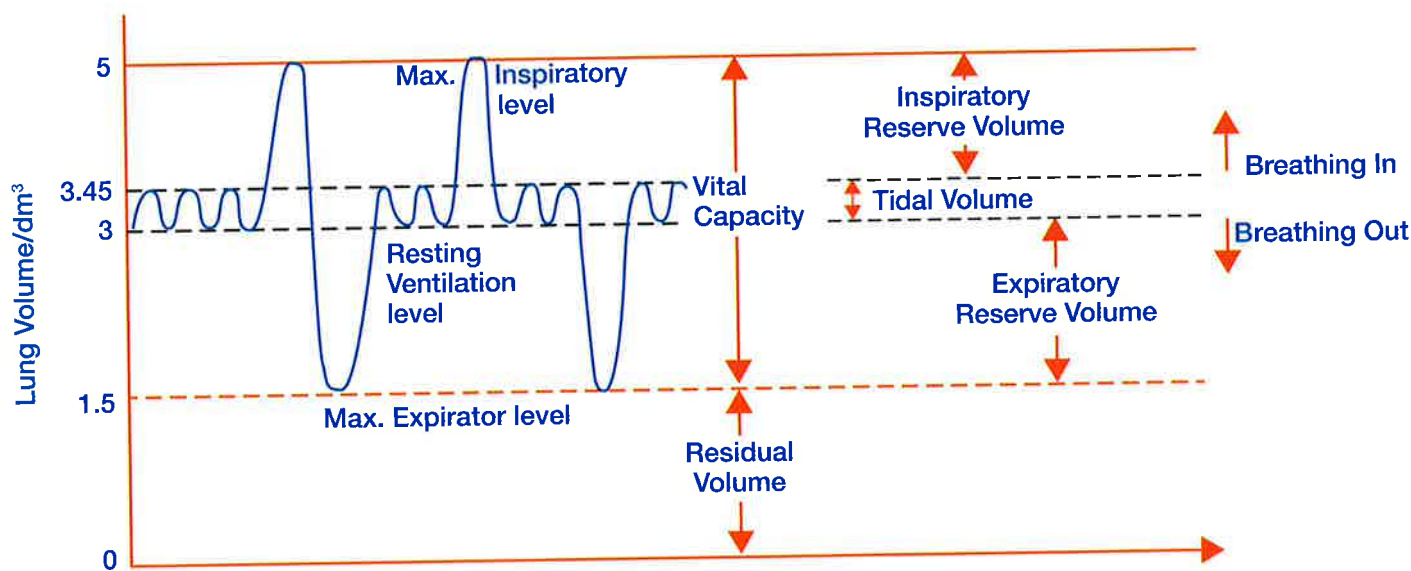
# asthma and pregnancy

by Janet Delooze RN  
Asthma Nurse Educator

Asthma is one of the most common pre-existing disorders that may impact on pregnancy. This article explores the changes that occur in the body during pregnancy and the possible effects on asthma control, and pregnancy outcomes.

## Physiological changes

The human body is an amazing thing! In order to nourish the growing fetus the mother's body has to make many adaptations. In pregnancy, the oxygen ( $O_2$ ) consumption increases by about 20% and the mother's metabolic rate increases by about 15%. Rather than the respiration rate increasing to meet the extra oxygen demands, the tidal volume increases so that with every breath there is a greater amount of  $O_2$  being taken into the bloodstream. As the tidal volume increases so does the partial pressure of oxygen ( $PaO_2$ ) that is dissolved in arterial blood and a decrease in the partial pressure of carbon dioxide ( $PaCO_2$ ).<sup>1</sup>



**Lung Volumes and Lung Capacities** – (sourced from [www.tutorvista.com](http://www.tutorvista.com))

This naturally occurring process during pregnancy creates a higher pH resulting in a mild respiratory alkalosis. The body counteracts this by excreting more bicarbonate through the kidneys, maintaining the acid-base balance that is essential for good health. This would explain the need to pass more urine during early pregnancy.<sup>1</sup>

The importance of knowing there will be a higher  $PaO_2$  in pregnancy becomes relevant for the health professional when using pulse oximetry perhaps during an acute exacerbation. What is apparently a normal reading for a non-pregnant woman, could be low for a pregnant woman and may actually be bordering on hypoxaemia (deficiency of oxygen in arterial blood).<sup>1</sup>

There are physiological changes during pregnancy that are beneficial for asthma and some that may be detrimental. For example, increased progesterone relaxes smooth muscle and can have a bronchodilator effect on the airways. Also, increased cortisol levels may calm

inflammatory processes. On the other hand, increased stress and gastro-oesophageal reflux can trigger asthma symptoms.

Pregnant women have an increased susceptibility to viral respiratory infections – they tend to be more severe and last longer. This is thought to be due to alterations in the response of Types I and III interferon which play a part in the immune system. It can take up to six months post-delivery for this to return to normal. Respiratory infections are one of the most common triggers for asthma.<sup>2</sup>

## Management of asthma in pregnancy

The aims and principles of asthma management are the same as for the non-pregnant patient. It is useful to classify pre-existing asthma and treat according to national guidelines. If asthma is suspected for the first time, diagnosis is usually made by history and ideally, spirometry. Absence of cough, wheeze and airway obstruction could be indicative of dyspnoea of pregnancy. There should be no change

in peak expiratory flow rate (PEFR) or forced expiratory volume in one minute (FEV1) during pregnancy. As the uterus grows, it displaces the diaphragm by as much as 4 to 5 cm thus reducing the functional residual capacity (FRC) of the lungs. In an acute asthma episode, this may cause premature airway closure and exacerbate hypoxaemia.<sup>3</sup>

Asthma control can be assessed by ascertaining:

- frequency of asthma symptoms, especially at night time
- reliever medication usage
- impact on daily activities
- visits to other health care providers for acute episodes
- peak flow readings
- patients perception of her asthma control

It is well reported that about one-third of women become worse during pregnancy, one-third will become better and one-third stay about the same. More recent studies have challenged these percentages and suggest that the severity of asthma in the previous year is a better indicator of asthma control during pregnancy. So, women whose asthma was mild to moderate could reasonably expect good maternal and fetal outcomes whereas those with sub-optimal or severe asthma had increased maternal and fetal risks.<sup>4,5</sup>

Most asthma medications have been well tested and have a safe profile for the pregnant woman. If the asthma is newly diagnosed and warrants inhaled corticosteroids (ICS), budesonide is the drug of choice as there are more data regarding its safety profile in pregnancy. However, if a woman is well controlled on her existing medication it would be prudent to keep taking it. Many women reduce or stop their asthma medication in early pregnancy for fear of effects on the fetus. It is even more important during pregnancy to continue with asthma medications and maintain good asthma control to prevent adverse outcomes for both mother and child. Even oral steroids should be prescribed if the asthma condition warrants it. Prednisolone is metabolised by the placenta and very little ever reaches the fetus.<sup>6</sup>

Poorly-controlled asthma can lead to chronic or intermittent hypoxaemia with possible adverse outcomes such as:

- intra-uterine growth restriction
- low birth weight baby
- pre-eclampsia
- preterm delivery and/or Caesarian section with possible sequential complications
- fetal death

If asthma is not well controlled, more frequent fetal monitoring of growth and activity is recommended.<sup>1</sup>

## Education

As with all patients with asthma, asthma education is crucial for good self-management. This should include explanations of asthma and its effects on the body; medications, proper inhaler technique and spacer care; possible triggers; identifying the symptoms of asthma, and emergency care. Everybody with asthma, pregnant or not, should have an action plan completed by their doctor to help them maintain good control and explain what to do in worsening asthma.<sup>1</sup>

Smoking should be discouraged, especially during pregnancy, and support given with smoking cessation. Patients need to be aware that smoking worsens asthma control in pregnancy, that there is a greater decline in lung function, a reduced response to corticosteroids and

generally more frequent hospitalisations. Babies born to smokers are three times more likely to be born pre-term and twice more likely to be low birth weight.<sup>7</sup>

## Delivery

Pain relief during labour and post-delivery should remain the same as for a non-pregnant woman. Acute attacks during labour and delivery are rare. Breast feeding is recommended as medications are excreted in breast milk in small and varying amounts. Figures show that there is a 1:10 chance of atopy in the child of an asthmatic parent, and 1:3 chance if both parents have asthma: breast feeding has been shown to reduce the incidence of atopy.<sup>1</sup>

The incidence of asthma and allergic conditions is higher in babies born by Caesarian section. The cause of this is unknown although there have been various hypotheses to explain it. The hygiene hypothesis suggests that society today is "too clean" and that extensive use of antibiotics and anti-bacterials is having a detrimental effect on the immune system. This idea has further extended to caesarean sections where the infant is delivered into a surgically sterile environment thus impairing the immune system in some way. It has been found that the gut microflora is different between babies born by normal delivery and Caesarian section. Babies born by normal delivery tend to have a gut colonised by *Lactobacillus* which is protective, whereas Caesarian section babies have a mixture of bacteria typically found on the skin and in hospitals, i.e. *Staphylococcus* and *Acinetobacter*. 8A study carried out in Sweden found that there was an increased risk of developing asthma with emergency Caesarian section but not elective Caesarian section. They suggest that emergency Caesarian section babies are disadvantaged because of the indications for the procedure rather than the delivery itself.<sup>9</sup>

In conclusion, it is essential to maintain good asthma control during pregnancy for optimum maternal and fetal outcomes. Pregnant women with asthma should be treated as aggressively as non-pregnant women. If asthma control is sub-optimal, there is a higher risk of acute exacerbations. Additional fetal and maternal monitoring is advisable to detect early signs of hypoxaemia and complications.

Asthma Auckland welcomes all midwives to enrol on the Nurse Education in Asthma Treatment (NEAT) course, a basic one day course on the management of asthma for registered health professionals.

## References

- 1 Hardy-Fairbanks, A. J., & Baker, E. R. (2010). Asthma in Pregnancy: Pathophysiology, Diagnosis and Management. *Obstetrics and Gynecology Clinics of North America*.
- 2 Forbes, R. L., Gibson, P. G., Murphy, V. E., & Wark, P. A. (2012). Impaired type I and III interferon response to rhinovirus infection during pregnancy and asthma. *Thorax*, 67(209-214).
- 3 Namazy, J. A., & Schatz, M. (2011). Asthma and pregnancy. *Journal of Allergy & Clinical Immunology*, 128(6), 1384-1386.
- 4 Belanger, K., Hellenbrand, M. E., Holford, T. R., & Bracken, M. (2010). Effect of Pregnancy on Maternal Asthma Symptoms and Medication Use. *Obstetrics and Gynecology*.
- 5 Giles, W., & Murphy, V. (2012). Asthma in pregnancy: a review. *Obstetric medicine: The medicine of pregnancy*, 1-6. doi:10.1258/om.2012.12008
- 6 Tamási, L., Horváth, I., Bohács, A., Müller, V., Losonczy, G., & Schatz, M. (2011). Asthma in pregnancy – Immunological changes and clinical management. *Respiratory Medicine*. doi:10.1016/j.rmed.2010.11.006
- 7 Murphy, V. E., Clifton, V. L., & Gibson, P. G. (2010). The effect of cigarette smoking on asthma control during exacerbations in pregnant women. *Thorax*.
- 8 Neu, J., & Rushing, J. (2011). Cesarean Versus Vaginal Delivery: Long-term Infant Outcomes and the Hygiene Hypothesis. *Clinics in Perinatology*. doi:10.1016/j.clp.2011.03.008
- 9 Almqvist, C., Cnattingius, S., Lichtenstein, P., & Lundholm, C. (2012). The impact of birth mode of delivery on childhood asthma and allergic diseases – a sibling study. *Clinical & Experimental Allergy*, 42, 1369-1376.

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# dear nurse



## Dear Nurse, my daughter has eczema and I've heard there may be a link between that and asthma. I'm concerned she may develop asthma later on, how likely is it?

*Dear Concerned,* Some studies show that there is about a 30% chance of people with eczema developing asthma later on, so it is possible that she may. However there is also a 70% chance that she won't develop asthma, and her chances are improved if her eczema is well managed and her triggers avoided. You may like to talk to your GP about getting a skin-prick test for her, to help identify her allergens and possible triggers.

## Dear Nurse, I've heard about dust mites from a friend with asthma, and she said they can affect people with eczema too. My daughter has eczema and I'm worried that dust mites may be making her itchy. What can I do to help her avoid them?

*Dear Worried,* Dust mites can be a trigger for people with eczema, and there are a few easy things you can do to reduce your daughter's exposure to them. Ensure all her bed linen and pyjamas are washed weekly in water at least 55°C, and either dried in full sun or in a tumble dryer on hot. If you can afford it, get a dust mite proof mattress protector for her bed, otherwise regular vacuuming and airing in the sun will be beneficial for her mattress. Another option is to use an electric blanket on her bed, turn it to full heat once a week and leave it on for about half an hour. Hang her pillow and duvet/blankets out in the sun every week or two. Try to reduce clutter in her bedroom, especially book shelves and piles of stuffed toys, where dust often collects. If she has a favourite soft toy, you can clean it by putting it in the freezer overnight and hanging it in the sun once a week. Dust the house using a damp cloth every two-three days, and vacuum weekly, preferably using a vacuum cleaner with a HEPA filter.

## Dear Nurse, my doctor has suggested I have a spirometry test done.

### Can you explain what a spirometry test is for?

Spirometry is a test that can help diagnose various lung conditions, most commonly chronic obstructive pulmonary disease (COPD), which includes emphysema, chronic bronchitis or poorly controlled asthma (in which fixed airways obstruction develops).

Spirometry is a physiological test that measures how an individual inhales and exhales volumes of air over time.

In primary care, spirometry is used to measure how much and how fast an individual can blow air out.

It is also useful in the management of obstructive and restrictive lung diseases, particularly to measure and monitor response to therapy. Your doctor may request a spirometry test if you are over 45 years old and have a history of smoking cigarettes.

## Dear Nurse, it is time to buy a new bed and I am wondering which would be the best mattress to buy for a person who has a dust mite allergy?

*Dear allergy sufferer,* Choosing a latex mattress could be a good option as it may be best for those with allergies and asthma, as latex doesn't harbour dust mites. It also has natural antimicrobial properties so dust mites stay away.

Natural latex is white liquid tapped from the trunks of rubber trees. This is blended with synthetic latex and turned into latex foam, using the Talalay process, which produces the finest polymer.

Another purchase consideration could perhaps be a memory foam mattress.

Recommended for allergy sufferers, the most well-known type of memory foam mattress is Tempur, a material originally developed by N.A.S.A. It's composed of billions of viscoelastic cells, which respond to your temperature and weight.

Slat beds should be considered as they help air circulate so that your mattress can breathe better. Breathability lets moisture dry out, so your mattress lasts longer. A drier environment also discourages dust mites, helping to alleviate allergies.

Hope this is some help when choosing a new mattress.

## 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.

IF YOU HAVE A QUESTION PLEASE EMAIL OR POST TO:  
[editor@asthma.org.nz](mailto:editor@asthma.org.nz) or Dear Nurse, Asthma New Zealand,  
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# what happens in asthma?

by **Ann Wheat BN**

Asthma Nurse Educator

Asthma is triggered by many allergens such as dust, pollen, animal dander, mould, cold air, respiratory infections to name just a few. But why is it that people with asthma react to these innocuous substances while most people do not? Unfortunately even today we do not know the answer to that question. We do know what happens when one of these substances enters the lungs. The lungs react with a cascade of events and chemicals which trigger the asthma episode and many cells such as mast cells, macrophages, dendritic cells, eosinophils, neutrophils, lymphocytes (T and B) and basophils all play their part in an asthma episode.<sup>1</sup> We are learning more and more about this as time goes on and in fact our knowledge of what happens in asthma is improving all the time. As well as the cells involved in asthma, the chemicals (inflammatory mediators) that are involved include cytokines, chemokines, leukotrienes, histamine, prostaglandins and nitric oxide.

The first time an allergen such as pollen enters the lungs, in most people, the pollen is accepted as normal and is removed from the lungs with no reaction occurring but in some people's lungs the immune cells of the lungs (our defence system) are sensitised as they see the pollen as a danger, and the cells in the airways become activated to respond to the invader at their next contact.

This activation occurs when an allergen is processed by antigen presenting cells (APCs) from the nasal mucosa and/or the lung pleura.<sup>2</sup> The APCs then migrate to the lymph nodes where the processed allergen is presented to allergen specific T and B Cells. APCs activate T helper (TH) cells which produce the chemical cytokine which trigger the B cells to produce immunoglobulin E (IgE). These cells then migrate around the body in the blood stream and when they reach the lungs, they attach themselves to the mast cells (leucocytes derived in bone marrow which contain granules that have pre-formed mediators within the granules) at the IgE receptor site and on peripheral blood basophils (a type of white blood cell that is produced by the bone marrow). When these sensitised mast cells are presented with the same allergen, it causes the mast cells to release the pre-formed mediators such as histamines, leukotrienes and prostaglandins to name a few. These pre-formed mediators have both an immediate effect and long term effect on the airways and the course of an asthma episode.

So what are some of the effects that these cells and mediators have on the lungs?

**Lymphocytes** as mentioned before can be divided into two sub types T and B. T lymphocytes are also divided into two groups Th1 and Th2 (T helper cells). They both can produce mediators that can increase inflammation and have an effect on airway function.<sup>3</sup> They also accumulate in the asthma airway and release cytokines (interleukins) that start eosinophilic inflammation. They also stimulate the B lymphocytes to produce the immunoglobulin E (IgE) which is known as atopy. IgE levels are greatly increased in the circulation and are the mechanism for allergic reactions in the body and can also cause persistent inflammation.<sup>3</sup> These are associated with the Th2 lymphocyte immune response.

**Mast Cells** release broncho-constrictor mediators (histamine, leukotrienes and prostaglandin D<sub>2</sub>), which go on to cause bronchial hyper-responsiveness or easily triggered bronchospasm. When stimulated by an allergen, they also release pro-inflammatory cytokines which can cause inflammation.<sup>3</sup>

**Eosinophils** are one of the most common cells found in the airways of people with asthma.<sup>3</sup> These cells are often related to a person's

asthma severity when increased. They may also be related to airway remodelling or permanent airway damage from long-term uncontrolled asthma.<sup>3</sup>

**Neutrophils** have an important role in the late asthmatic response because they produce a wide range of products such as cytokines, lipids, proteases and many others.<sup>2</sup> They cause airway narrowing, increased mucous secretion and airway smooth muscle responsiveness.

**Macrophages** also play a part in both allergic response and inflammation in the airways.<sup>2</sup> They secrete cytokines and chemokines that are connected to the recruitment of other inflammatory cells and their activation. Other products such as nitric oxide and lipids can have an effect on blood vessel smooth muscle tone, bronchial epithelial cells and bronchial smooth muscle tone. They are also immune-regulators by inducing reversible T cell non-responsiveness which affects the allergic response.<sup>2</sup> It is also thought that they may inhibit allergic inflammation by producing inhibitory mediators and that these mediators may have impaired secretion in people with asthma.<sup>2</sup>

**Dendritic cells (an APC)** are involved in both allergen presentation and the late asthmatic response. They are situated just below the epithelial layer of the airways and extend tentacles through this layer into the airway lumen looking for inhaled allergens<sup>4</sup> which are then presented to the Th2 cells. The constant representation to the Th2 cells of allergen is thought to exacerbate acute asthma and continue the chronic inflammation that is present in the airways thereby contributing to airway remodelling and airway hyper-responsiveness in chronic asthma.

**Cytokines** are small signalling molecules that are used in cell signalling. The main ones in asthma are interleukins.<sup>5</sup> These cells co-ordinate the inflammatory response in asthma and defines how severe the response will be.<sup>3</sup> There are many different interleukins involved in the asthmatic response including IL-3, IL-4, IL-5, IL-9, IL-10 and IL-13, all having their own specific effect on the airways.

**Chemokines** recruit inflammatory cells into the airways and may be involved in airway injury (airway remodelling) as it relates to asthma.<sup>3</sup>

**Leukotrienes** are involved in inflammatory cell recruitment into the airways, vascular leakage and possibly airway remodelling.<sup>2</sup> They originate from mast cells and eosinophils. They are also potent broncho-constrictors<sup>3</sup> and also increase mucous production and plasma exudation and decrease mucociliary clearance.<sup>2</sup> It is also thought that they may increase eosinophilic inflammation.

**Histamines** are released from mast cell and play a part in the inflammatory response as well as broncho-constriction.<sup>3</sup>

**Prostaglandins** are also produced by the mast cells. They are involved with broncho-constriction and in the recruitment of Th2 cells into the airways.<sup>3</sup> They may also be connected with plasma exudation and sensitisation of the nerve endings.<sup>2</sup>

**Nitric oxide** is a potent vasodilator. It is found when there is inflammation in the lungs caused from asthma.<sup>3</sup> It is thought that it contributes to airway narrowing by vasodilatation, increased blood flow and oedema of the airways.

It can be seen therefore that asthma is a very complex condition with many cells and chemicals involved in the asthma process and some of these have not even been mentioned in this article. The important recommendation is that asthma needs to be controlled to maintain good management. The use of inhaled corticosteroids twice daily even when well is essential for good management of this condition.

**References**

- 1 Barnes, P.J. & Drazen J.M., (2009). Pathophysiology of Asthma. In P.J Barnes, J.M. Drazen, S.I. Rennard & N.C. Thomson (Eds) Asthma and COPD (2nd Ed) (pp. 401-423) London:Elsevier
- 2 Bloemen, K., Verstraeten, S., Van Den Heuvel, R., Witters, H., Nelissen, I., & Schoeters G. (2007). The Allergic Cascade: Review of the most important molecules in the asthmatic lung. Science Direct: Elsevier
- 3 Killeen, K. & Skora, E. (2013). Pathophysiology, Diagnosis, and Clinical Assessment of Asthma in the Adult. Nursing Clinics of North America 48: 11-23
- 4 Mullane, K. (2011). Asthma translational medicine: Report Card, Biochemical Pharmacology 82: 567-585
- 5 Wikepaedia (2013)

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# pulmonary sarcoidosis

by Karen Little RN

Asthma Nurse Educator

Sarcoidosis is a disease of unknown cause that leads to inflammation and subsequently affects your body's organs. In people who have sarcoidosis, the inflammation doesn't go away. Instead, some of the immune system cells cluster to form lumps called granulomas in various organs in your body.<sup>1</sup> Virtually any organ can be affected but are most often located in the lungs or the lymph nodes.

Sarcoidosis may result from an infection or an abnormal response of the immune system; inherited factors may be important. It typically develops between the ages of 20 and 40 and is most common amongst people of Scandinavian ancestry and American blacks, although it can occur in any one.<sup>2</sup>

Onset is usually gradual; it may be asymptomatic or chronic. It commonly improves or clears up spontaneously. More than two-thirds of people with lung sarcoidosis have no symptoms after 9 years. About 50% have relapses and 10% may develop serious disability. It is primarily an interstitial lung disease in which the inflammatory process involves the alveoli, small bronchi, and small blood vessels. About 90% of patients will have an abnormal chest x-ray as pulmonary localisation is by far the most common presentation. Overall about 50% develop permanent pulmonary abnormalities.<sup>3</sup>

A study of the prevalence of asthma and atopy in sarcoidosis found that the rates of atopy and self-reported asthma and allergy symptoms in patients with sarcoidosis appears the same as the normal population. Patients with sarcoidosis can still develop atopy and asthma.<sup>4</sup>

Many people with sarcoidosis have no symptoms and the disorder is discovered on a chest x-ray that is taken for other reasons. Most people have minor symptoms, serious symptoms are rare. The main symptoms when the lungs are involved are enlarged lymph nodes, coughing and shortness of breath. Breathing can become difficult and sometimes the person may cough blood. Severe involvement of the lung can eventually strain the right side of the heart causing

right-sided heart failure.

More general symptoms may include fever, fatigue, weight loss and aching joints. Fever and night sweats may occur. The skin is frequently affected with raised tender lumps usually on the shins. About 70% of people with sarcoidosis have granulomas in their liver.

These granulomas often produce no symptoms, and the liver seems to function normally. High levels of calcium may accumulate in the blood and urine if present for a long time this may lead to the formation of kidney stones.<sup>2</sup>



Doctors most often diagnose sarcoidosis by observing enlarged lymph nodes and abnormal findings on a chest x-ray. Bronchoscopy with lung biopsy is 90% accurate and is the best procedure for people whose lungs are involved. Tuberculosis can cause changes similar to those of sarcoidosis so a tuberculin skin test is also advisable. If lung scarring has occurred pulmonary function tests may show that the amount of air the lung can hold is below normal. People who have sarcoidosis that has not spread beyond the chest do better than those who also have sarcoidosis elsewhere in the body. About 50% of people who once had sarcoidosis have relapses.<sup>2</sup>

Oral and inhaled corticosteroids are widely used to treat pulmonary sarcoidosis, but there is no consensus about when treatment should be started, what dose of steroids should be given and for how long. Corticosteroids are given to reduce symptoms and to minimise long-term effects of the disease. Immunosuppressive and cytotoxic drugs are also given to patients with multisystem sarcoidosis in order to minimise symptoms.<sup>5</sup>

Research is on-going for new and better treatments for sarcoidosis.

## References

- 1 National Heart, Lung and Blood Institute. (2011). *What is Sarcoidosis?* Retrieved from <http://www.nhlbi.nih.gov/health/health-topics/topics/sarc/>
- 2 King, T. E. (2008). Sarcoidosis: Interstitial lung diseases: Merck Manual Home Edition. Retrieved from: [http://www.merckmanuals.com/home/lung\\_and\\_airway\\_disorders/interstitial\\_lung\\_diseases/sarcoidosis.html?qt=sarcoidosis&alt=sh](http://www.merckmanuals.com/home/lung_and_airway_disorders/interstitial_lung_diseases/sarcoidosis.html?qt=sarcoidosis&alt=sh)
- 3 Isselbacher, Braunwald, Wilson, Martin, Fauci, Kasper (1994). *Harrison's Principles of Internal Medicine* (13th Ed.). McGraw Hill. ISBN 0-07-032370-4.
- 4 Wilsher, M., Hopkins, R., Zeng, I., Cornere, M., & Douglas, R. (2011). Prevalence of asthma and atopy in sarcoidosis. *Official Journal of the Asian Pacific Society of Respiriology*, 17, 285-290. doi: 10.1111/j.1440-1843.2011.02066.x
- 5 Paramothayan, S., & Lasserion, T. (2007). Treatments for pulmonary sarcoidosis. *Respiratory Medicine*, 102, 1-9. doi: 10.1016/j.rmed.2007.08.010

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# the use of nebulisers

by **Adie Riddell RN**

Asthma Nurse Educator

Nebulisers have been widely used for respiratory problems for delivery of certain medicines to the airways (mainly bronchodilators such as salbutamol or Atrovent). They convert liquid medication into a fine mist that can then be inhaled. They used to be used by many people to take their asthma medications, but these days are much less common as we have easier, faster and less expensive ways to take the medications. They are used to deliver drugs into the lungs in a mist of particles small enough to reach the bronchioles and in some cases, the alveoli. The aim of treatment with Nebuliser therapy is to deliver a therapeutic dose of the drug as an aerosol in the form of respirable particles within a short period of time 5-10 minutes.

Nebulisers are preferable to hand held inhalers only when large doses of inhaled drugs are required, or when patients are either too ill to be able to use a hand held inhaler or if the drugs are not available in hand held devices.

Nebulisers are most likely to be indicated in severe episodes of acute asthma, and exacerbations of chronic obstructive airflow obstruction, administration of antimicrobial drugs for cystic fibrosis, bronchiectasis, and symptomatic relief in palliative care. There are some drugs such as antibiotics and lignocaine that are unavailable in handheld inhalers.

## Who should use a nebuliser?

Most people with asthma don't need a nebuliser. It takes a lot more care to maintain the equipment, more time to take the medication, and the medication is much more expensive in liquid form. However, there are some situations where a nebuliser is still used:

- If someone is really struggling to breathe in hospital or in an ambulance
- If someone can't use inhalers because they get confused, or have problems with their hands
- For people who have a severe respiratory disease
- For people who have lots of mucus and need the extra moisture in the nebulised treatment to help them clear out the mucus

## Are nebulisers better than inhalers?

Taking the same dose of medication properly using a puffer with a spacer is at least as effective as taking it through a nebuliser, even when you are having an asthma attack. You can take the reliever medication faster and in a lower dose with a puffer and spacer, as it is delivered as effectively as through a nebuliser. One research study showed that children actually spent longer in the emergency department when they received reliever medication via a nebuliser rather than a spacer.

There are a range of different machines available, and the one you choose must be suitable for your needs. Some plug into the car cigarette lighter and others have a built-in battery, but most plug into a power outlet. The main two types available are:

- The ultrasonic nebuliser that uses vibrations to form the mist tend to be smaller, lighter and more portable than others, but these are usually more expensive: the most commonly used is a jet nebuliser that uses compressed air to form the mist.

## There are three components:

**The Compressor:** This is the power source that pressurises (compresses) the air. This compressed air breaks the liquid medication down into tiny droplets (a mist) that you breathe in.

**The Nebuliser chamber:** This is a small plastic cylinder that you put

the liquid medication into. A long, thin tube connects the compressor to the chamber and passes the compressed air through.

**Face mask or mouthpiece:** This is the device you use to breathe the medication into your lungs. It attaches to the nebuliser chamber.

A face mask fits over your nose and mouth and is usually held in place by a thin elastic strap that goes around the back of your head. You breathe normally to get the medication into your lungs. If you use a mouthpiece, you place your lips around it to form a seal and breathe the medication in.

Depending on your condition and the medication used in the nebuliser, you might be able to choose whether to use a face mask or mouthpiece. Mouthpieces are not generally suitable for young children. Some drugs – such as steroids and certain antibiotics – should not be used with a face mask because the mist can get on your skin and into your eyes. As well as steroids and antibiotics another medication that is better used through a mouth piece is Atrovent. If steroid medication gets into your eyes it can increase the risk of cataracts and some antibiotics can cause allergies if they get onto the skin. Ask your health care professional which is best for you.

People often mistakenly refer to the compressor as the nebuliser. A nebuliser is the entire device, including the compressor, the chamber and the face mask or mouthpiece.

## Maintenance

To maintain your nebuliser properly parts need to be cleaned after each use, tubing and the mask or mouthpiece must be replaced frequently (usually every 3 months), filters must be checked, cleaned (where possible) and replaced regularly, and the pump must be serviced every 6 to 12 months to make sure it is producing the right pressures.

If you don't follow the manufacturer's cleaning and care instructions, you may not be getting the right dose of medication, and you are also increasing your risk of getting an infection from the machine. Talk to your pharmacist or local asthma society who may be able to help you, otherwise the nebuliser will need to be returned to the manufacturer / distributor for service and repair.

The drugs used with a nebuliser are available on prescription through your doctor. The nebuliser can be purchased or hired through your Asthma service.

Ask your doctor or health care professional to show you how to use the nebuliser and to give you written instructions, whether you buy, hire or borrow the compressor. The instructions should include:

- How to set up the nebuliser.

- How to keep it clean and get it serviced or repaired.
- How much medication to use, when to take it and for how long; and how to put the medication into the nebuliser chamber.

If you are wondering which nebuliser would suit you or you would like more information, then contact one of the asthma educators at your Asthma society.

#### References

Thorax 1997;52 (suppl 2) :s4 S16  
 American Association for Respiratory Care 2009 A Guide to Aerosol Delivery for Respiratory Therapists, 2nd Edition  
 British Thoracic Society Nebuliser Treatment best Practice Guidelines  
<http://www.asthmafoundation.org.au/Nebulisers>

# tackling asthma in australia – the next five years

Conference  
– 19th & 20th March 2013

by Elaine Murray RN  
Asthma Nurse Educator



**Asthma**  
Australia

The conference was held in Canberra in its centenary year. Asthma Australia invited people interested in influencing and improving asthma management in the community to learn about current asthma research, management and policy, asthma community care and self-management.

The “asthma picture” in Australia is not unlike that of what we see in New Zealand.

Asthma is common, asthma is serious, and community care for people with asthma must improve.

The majority of people with asthma do not have a written asthma action plan, despite national guidelines over the last 20 years recommending their use for people with asthma.

The guest speakers were all excellent and reiterated the same facts; Poor asthma control is related to poor compliance, but there are also other factors to consider, such as

- inadequate understanding of what asthma is
- inappropriate use of medications
- poor inhaler technique
- poor assistance from health practitioner

People live with the symptoms of asthma and poor quality of health, many perceiving the symptoms as the “norm”, and these people are often the ones presenting at the hospital emergency department or the A&E's.

There are now good treatments, but we are not good at doing them!!!

Associate Professor Helen Reddy talked about the Cochrane collaboration as the core to management of asthma. Education alone does not always change health outcomes. There are many challenging barriers to work through with each individual such as;

- literacy/ language
- health literacy
- socio-economic status/environment

So, education must be targeted for the audience or relevant to the individual.

Guidelines recommend active involvement and shared decision making, a written care plan and regular review of asthma status and medications, self-monitoring e.g. peak flows, and ensuring correct inhaler technique.

#### **A written asthma care plan must include;**

- Living with asthma, what to do when well
- What to do when unwell
- Emergency care

All health professionals must work together to achieve the same goal.

Professor Guy Marks concluded in his “over view of asthma in Australia” that we have a long way to go...!

And I agree.

I would like to thank Asthma Auckland for giving me the opportunity to attend the conference, and also GSK for their generous sponsorship. It was very informative and thought provoking. And, yes, asthma education does make a difference, but all health professionals in respiratory need to be working together to achieve the same goal.





# asthma wellington moves to new premises a bid to better service entire community

It was a privilege to be involved as Asthma Wellington celebrated the opening of their new office on Friday 5th July. It was a beautiful Wellington evening with a turnout of over 50 invited guests from the primary health care sector as well as health professionals, academia and local politicians were represented at the opening.

Newly appointed Patron, Hon Annette King, formally opened the premises and delivered a heart-warming speech about how our services would benefit the community by extending our services throughout the Wellington and Hutt Valley Regions. Annette spoke about the high cost of hospital admissions and viewed our service as being the catalyst in reducing these numbers.

"With Annette's interest in health issues we feel she is the perfect fit for our organisation" says the team at Asthma Wellington, Kim, Adie and Alice. Annette spoke of her concerns about asthma in the community "I am privileged to be asked to be Patron of Asthma Wellington. In a small way I hope I can be part of raising awareness of asthma and providing support for a valuable organisation in our community".

The new office is in a much more central and accessible location housed on the first floor of the Salvation Army Building at 125-137 Johnsonville Rd, Johnsonville. The extra space is enabling the nurse educators to see clients in house in addition to home consultations and will allow them to run courses and education sessions there as well. For an appointment phone 04 237 4520 or feel free to pop in if you are passing.

### **Linda Thompson**

PR / Marketing Manager  
Asthma New Zealand







# north & south

NEWS FROM AROUND THE REGIONS ...

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Respiratory nurses Gail, Sue and Barbara.

*I*t's sad to learn 1 in 4 children in New Zealand can't blow up a balloon – their asthma won't let them.



With New Zealand's asthma rate second only to the UK and responsible for 8,000 hospitalisations and claiming dozens of lives a year, it's time for us all to put up our hands to do something about this distressing disease.

I am privileged to be asked to be Patron of Asthma Wellington. In a small way I hope I can be part of raising awareness of asthma and providing support for a valuable organisation in our community.

**Hon Annette King**

MP for Rongotai, including the Chatham Islands



Past president Martin Highgate and present president John Kennedy-Good.



Above: John Kennedy-Good (left) and (right) Hamish Jacob, Dealer Principal of Capital City Motors.

# north & south



## NEWS FROM AROUND THE REGIONS ...

# devonport 7-day pharmacy health seminar

Janet, one of our Asthma Nurse Educators, was invited by Asma Shousha, owner/pharmacist to give a talk on asthma at Devonport 7-Day Pharmacy. This was part of a series of health seminars being organised by the pharmacy to raise awareness of various health topics. Several staff and some members of the community attended, and it was a very worthwhile session.

Pharmacists are a great resource for the general public where health-related issues are concerned. A trial which gives pharmacists greater responsibilities has been carried out by the University of Auckland showing positive results for patients.

During the trial, pharmacists conducted finger prick blood tests in the pharmacy as part of the management of patients on Warfarin, saving an estimated five hours per week of general practice time.

The government estimates this would help to save millions of dollars each year.

From an asthma point of view, pharmacists can inform patients about their inhalers and ascertain if they know how to use them correctly. There is also the opportunity for patients to take the Asthma Control Test™ whilst they are waiting for their prescription if this has not been carried out already by the doctor.



Janet and Asma Shousha, owner/pharmacist Devonport 7-Day Pharmacy.

## thanks capital city motors!

Thanks to the generosity of Hamish at Capital City Motors, Wellington Adie and Alice are now both mobile. The logistics of sharing one car was getting to be harder and harder as our service continues to grow so Hamish came to the rescue with the sponsorship of a Mondeo station wagon. Thanks Capital City Motors!!



## Capital City Motors.



Alice Paul, Asthma Nurse Educator and Hamish Jacob, Dealer Principal of Capital City Motors.

## NZRSI

### NZ Respiratory & Sleep Institute

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# north & south

NEWS FROM AROUND THE REGIONS ...

## pasifika education centre

Karen Little was thrilled to be presented her Samoan Language (Basic level) certificate of achievement by Pippa Wetzell. Pippa gave us a brief outline of her Samoan heritage and stayed for the feast after the ceremony.

Out tutor Lou Alofa over eight weeks managed to teach the class how to count and do simple arithmetic, know at least 100 simple Samoan words and phrases and introduce ourselves in a Samoan setting. The pronunciation sounds from macrons and glottal stops, vowels and consonants are particularly helpful in my role as an asthma educator in South Auckland.

The Pacifica Education Centre runs free classes for people over 16 years of age in Ponsonby and Manakau in various languages. Please phone (09) 260 40 42 or Email: [reception@pec.ac.nz](mailto:reception@pec.ac.nz) for further details.



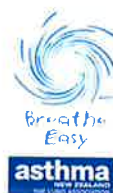
Pippa Wetzell (left) and Karen Little (right).

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# donated equipment received with thanks

Asthma Auckland is very grateful for all donations of equipment that we receive, allowing us to redistribute them to people in need in the community. We were delighted to receive a letter of thanks from a grateful young client who found that the brand new air purifier that had been donated really helped keep her asthma under control. With her and her parent's permission we have reprinted it for all to read – (unedited).

Tuesday 16 April, 2013

Asthma New Zealand

Tribute To New Zealand Health Sector And Asthma New Zealand

I'm Dinuvi Senethma Herath 11 years of age and I'm suffering from asthma during my stay in New Zealand. I have been examined and tested by several doctors and finally directed me to asthma New Zealand. From then onwards they did a number of tests and health experiments. As a result they found out my peak flow is considerably low. Therefore they have kept very frequent touch with me to diagnose further more. After the experimental research they decided that my home wasn't clean air and sufficient of ventilation due to old built. As a solution Asthma New Zealand donated me a portable DAIKIN air purifier which has given an incredible change to increase my peak flow rate.

It is a pleasure and my privilege to appreciate the valuable corporation and assistance to Asthma New Zealand, health organisations, especially to Karen Little and her competent health staff and also kind-generous donators who are patronising to saving our lives.

Once again I'm so grateful to thank asthma New Zealand for helping me to improve and develop my life through Asthma as well as other patients who are suffering from Asthma in New Zealand.

I wish you all the best to upkeep such amazing health assistance on the behalf of the innocent patients throughout the country like me.

Thank you

Yours sincerely

Dinuvi Senethma Herath



## WORLD ASTHMA DAY UPDATE...

Asthma Auckland parked our mobile asthma clinic outside the Westfield Manukau Shopping Centre, providing us with the opportunity to speak to a lot of people about what asthma is and how to manage it, enabling them to lead a life free of asthma symptoms, therefore improving their quality of life.

A lot of people live with the symptoms of asthma every day perceiving this to be the norm. We handed out free information about asthma and also a brochure on the services we provide. I would like to thank Paul Gardner, Centre Manager for his support.



**WORLD ASTHMA DAY  
7 MAY 2013**



# gluten free food and allergy show asb showgrounds 25 & 26 may



Asthma New Zealand was pleased to be able to take part in the annual Gluten Free Food and Allergy Show at the ASB Showgrounds. The event was well attended which gave the nurse educators the opportunity to talk to lots of people about their asthma and how to keep it under control.

Janet spoke at the show seminar on Saturday, and Karen on Sunday about asthma triggers. We had several referrals from people requesting free asthma education in the home.

This year, we are trialling the Asthma Minder™ for Catherine Huxford and the show enabled us to demonstrate its benefits to people out in the community.



Elaine giving some education to a family.

## Fond Farewell...



I joined the Auckland Asthma Society in July 2003 as Receptionist/Office Administrator and have spent a happy and productive nine years and ten months working alongside a professional and dedicated team of people all passionate about improving the health of people with asthma and their families. On a personal note, I have asthma myself and I would like to say that through the education I have received over the years I am now able to manage my asthma to the point where it is no longer such a big problem!

It is never easy to say goodbye and I will miss the support and companionship of my co-workers, who have always been helpful to me and to the many members of the public, who have passed through the Society's doors! The nursing team are an amazing group of highly qualified women dedicated to educating people and their families in the management of asthma. I would like to say thank you to the Chief Executive Officer, Gerry Hanna, who has guided the Society through the years and made it a pleasant environment to work in. I would like to mention the considerable efforts of the PR/Marketing Manager, Linda Thompson, whose expertise in fund raising and event co-ordination is second to none and to her very able assistant Swarna, who has always been more than willing to help everyone in any way she can, also the Accounts Clerk, Jee Ho Rodriguez, who keeps the financial side of things ticking along in her very efficient manner. As for me, my husband Pat and I will look forward to many adventures and travels in our retirement.

I wish the Asthma Auckland well and every success for the future.

Rochelle Butland



## asthma bag success



A grateful mother displays how the asthma bags have kept her children's medication separate and close to hand. Again we thank the sponsors Producers trust and MiteGuard.

# Hoppy the Rabbit



**Written by Karen Little**  
Asthma Nurse Educator

*Joe was very excited as his mum had finally bought the cute rabbit that he had seen in the pet store weeks ago. He had never been allowed to have a pet before. He really wanted a dog but mum had said that she was too busy to take it for walks every day. Joe begged and pleaded that he would take it for a walk each day but mum would not believe him. Mum also said that as he had asthma a rabbit would be better than a dog or a cat, as she knew that sometimes people with asthma could be allergic to cats and dogs.*

"At least rabbits live in the garden and don't need to be taken out each day and have their poos picked up," explained Mum.

"Is the rabbit here yet?" shouted Joe each day as he came home from school. His sister, Mary was excited also, but Joe explained that he was going to be the owner, and if she was not so annoying he might let her play with it sometimes. Finally he came home from school one day and the most beautiful rabbit in the world was waiting for him. It was white and fluffy and had long soft ears.

Dad had built a rabbit pen outside that could be lifted up and moved so the rabbit could have new grass to eat and the ground would be fresh and clean. It had a great little covered over area that the rabbit could sleep in and not get too cold at night.

"I am going to call you Hoppy," puffed Joe as he chased the rabbit around the lawn. As Joe was cuddling the rabbit his eyes began to feel itchy and he started to wheeze.

"Go and have some blue puffer through your spacer Joe" said Mum, "It must be because of all the running around you are doing". Joe felt a little better after two puffs but still he had a tickly throat and his eyes were watering. That night he went to get the rabbit and sneaked it into his bed, as Hoppy was so warm and snuggly.

"Mum, Mum" cried out Joe at 3am in the morning, "I can't breathe". Mum knew what to do this time, after Joe's ambulance ride last year. She knew where his blue puffer and spacer were as the asthma nurse had given them a special bag to keep all his medications in. She also made sure that the puffers were not too old. Joe had six puffs, one at a time to six breaths through the spacer. He felt much better after this and did not need any more blue puffer until the morning, when he had another two puffs before he went to see the doctor with Mum.

"Joe, I know you have been taking your orange puffer morning and night and you don't have a cold so I can't understand what brought your asthma on last night." said the doctor puzzled.

"Well, he was running around after our new rabbit last night," explained Mum.

The doctor looked worried.

"Oh dear, sometimes people can be sensitive to animals; it's

not only cats and dogs. In fact, rabbit's spit and urine can cause allergies as well as the skin scales that flake off," said the doctor.

Joe immediately became very upset.

"I love Hoppy and he is staying with me," he yelled. Mary started crying as well as she loved dressing the rabbit up in doll's clothes.

"Now, now, calm down. There are a lot of things we can do to help you stop getting asthma when you are around Hoppy," the doctor said kindly. "First of all keep Hoppy outside and do not let him into the house. Wash your hands after playing with him, and Hoppy will need to have a bath weekly".

Mary was very happy about this as she couldn't wait to use mum's bubble bath on Hoppy and she could imagine all the fun she and her friends would have making Hoppy squeaky clean.

The doctor continued, "Probably best to use a special pet shampoo. Sometimes this can reduce the amount of dead skin cells falling off by 50%. Use a special t-shirt when you are playing with Hoppy and take it off before you come inside. That will help as the skin cells can be carried on our clothing and can last for a long time. It would also be best to let someone else brush Hoppy. The most important thing though, Joe, is to take your preventer, the orange puffer every morning and night even when you are well".

Joe didn't look at mum when the doctor said this, as he had been forgetting his puffer a lot lately.

"Come and see me in two weeks and we will see how you are getting on. I will also arrange for a blood test called a RAST test to see how allergic you are to rabbits," said the doctor.

Joe felt a little better after the doctor had explained things.

It was a happy Joe who visited the doctor two weeks later.

"How are you getting on now?" asked the doctor.

"Well, everything is much better since I have been taking my preventer and I have been doing everything you said," replied Joe. Mary had been bathing the rabbit with shampoo from the vet and she had also taken over the brushing duties. "I haven't needed my reliever more than twice a week since we started doing everything you suggested".

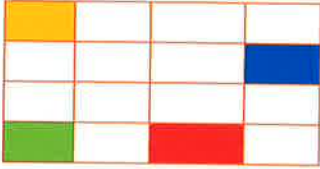
"That's great to hear. Your blood test came back with only a mild reaction to rabbits so I think everything will be okay. You are lucky as some people cannot have pets at all unless they are frogs or fish".

Joe felt very happy as he did not think that fish would be much fun to play with.

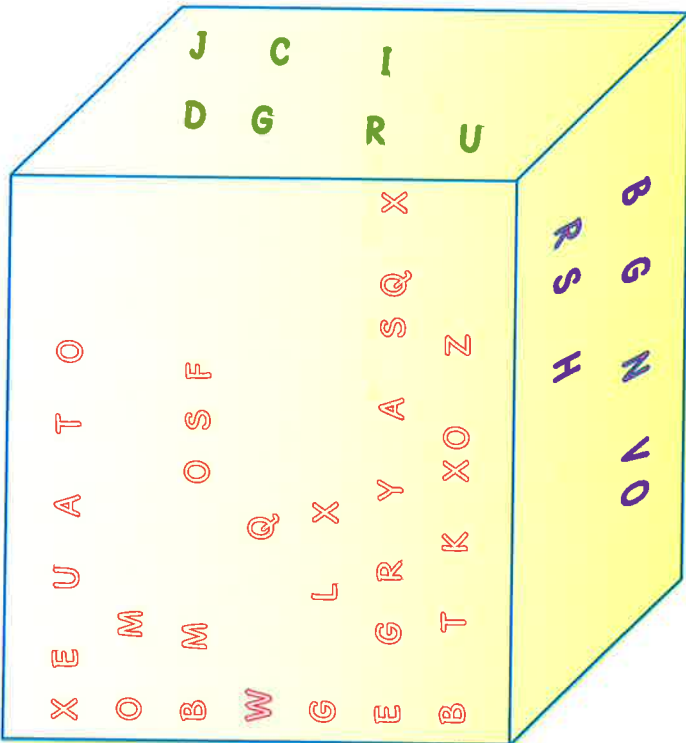
# Kid's Page



**1** Each row and each column, must contain each of the four colours (yellow, red, blue and green) in the grid, work out the colours you need.



**2** One letter of the alphabet cannot be found in the grid. Find the correct answer.



**3** Fill in the gaps

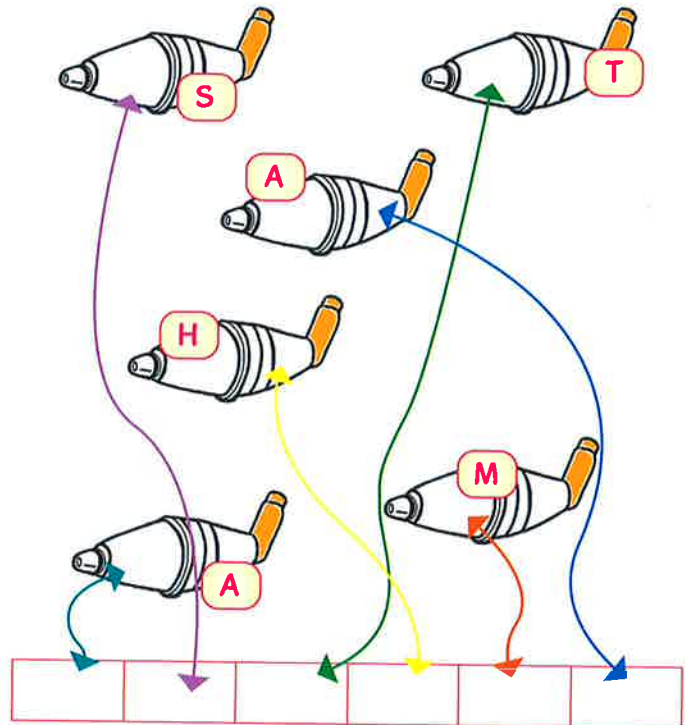
When I have an asthma attack I feel like a \_\_\_\_\_ with no water.

Asthma makes me feel like a bird that can't \_\_\_\_\_.

My asthma flares up when other people \_\_\_\_\_ around me.

I use my \_\_\_\_\_ before sports.

**4** Follow the lines from the spacers to the squares and write down the letters. Once all the letters are in the squares, they will spell a word.



**5** Unscramble the letters to make words that connect to asthma.

gersgtri	
yllreag	
ahteber	
spmoymst	
herlain	
crespa	
akep wlof treme	
gouch	
ceinidme	
eezwhing	

- 5 Triggers
- Allergy
- Breathe
- Symptoms
- Inhaler
- Spacer
- Peak flow Meter
- Cough
- Medicine
- Wheezing

- 2 Letter P
- 3 Fish, Fly, Smoke, Inhaler
- 4 Asthma



Answers

# chronic obstructive pulmonary o

**by Elaine Murray RN**

Asthma Nurse Educator

Chronic obstructive disease (COPD) is estimated to affect 15% of all New Zealanders aged over 45 years.

It is the fourth leading cause of death in New Zealand behind cancer, heart disease and stroke. COPD is permanent, disabling and frequently progressive. Over 85% of cases of COPD are caused by inhalation of tobacco smoke, (*Best Practice 2012*).

Once a person has symptoms of COPD, lung damage has already occurred. This damage cannot be reversed, but can be substantially slowed through smoking cessation and prevention of exacerbations, (*Best Practice 2012*).

Spirometry is required to make a clinical diagnosis of COPD, and should be considered in any patient who presents with breathlessness, chronic cough or sputum production, and has a history of exposure to risk factors for the disease, such as tobacco smoke, smoke from cooking and heating fuels, occupational dusts and chemicals, (*GOLD 2013*).

After a diagnosis of COPD has been made, the goals of treatment should include relief of symptoms, improve exercise tolerance and health status, prevention and treatment of exacerbations, (*Fromer et al 2008*).

An exacerbation of COPD is an event in the natural course of the disease characterised by a change in the patient's baseline breathlessness (especially on exertion, but also at rest), cough and/or sputum production which warrants a change in management, (*GOLD 2013*). Respiratory infections and inflammation play a prominent role in exacerbations.

COPD exacerbations are known to increase the rate of lung function decline and are associated with increased rates of mortality, (*Best Practice 2012*).

Smoking cessation is the only measure shown so far to slow the progression of COPD (Russell et al 2012)

Strategies for managing COPD should include measures for assessing and monitoring the disease, reducing risk factors, having a treatment plan for managing stable COPD and what to do for an acute exacerbation.

Essential skills include the self-administration of inhaled medications, secretion clearance, pursed lips breathing, walking exercise, and early recognition of exacerbations and early intervention.

In order for patients to effectively manage their symptoms, they must have an understanding of the disease process itself. This can often be provided simply by talking through each symptom, and explaining the pathological basis for it (Russell et al 2012). The role of pulmonary rehabilitation can be introduced when discussing what patients can do for themselves, but it should be explained clearly that little can be done to improve the lungs themselves; however, it is vital that patients do as much exercise as possible (Russell et al 2012).

Pulmonary rehabilitation programmes combine multiple approaches to attempt to break the cycle of COPD, where decreased physical activity due to breathlessness leads to further loss of fitness and eventual immobility. Pulmonary rehabilitation also reduces muscle

wasting and weight loss, and programmes that include psychosocial support have been associated with significant reductions in anxiety and depression (*Best Practice 2012*)

It is essential that patients with COPD are treated with the correct medications to ensure the best possible outcomes. Correct medication has been shown to improve lung function, exercise capacity, symptoms and health status according to the American Thoracic Society (2006), but inhaler devices must be used correctly to be effective.

Asthma nurse educators offer free home visits, education about medications, how to use inhaler devices and nebulisers, provide care plans, information and support.

Asthma nurse educators offer brief smoking cessation advice and support.

All the asthma nurse educators at Asthma Auckland are able to assess individuals' eligibility for the total mobility scheme.

## **Successful management of mild to moderate stable COPD is highly dependent upon patient's ability to manage their care at home.**

Patients with COPD are often unable to do daily living activities due to shortness of breath and fatigue, which may lead to anxiety and depression and this in turn results in lowered quality of life.

Bronchodilators are central to symptom management in COPD (*GOLD 2013*). These are prescribed regularly or as necessary to prevent or reduce symptoms of breathlessness, and may be short acting or long acting.

But it is often necessary to change daily activities and the many tasks that need to be done every day.

Remember to use the reliever medication before you do activities or tasks that may cause an increase in breathlessness.

## **Planning daily activities is very important.**

- Allow yourself plenty of time to do tasks.
- Always put some time aside to rest in between activities.
- Where possible, sit down to do the task e.g. ironing or peeling potatoes
- Try and do things when your energy levels are the highest such as preparing your evening meal in the morning and reheat at dinner time. Always have some convenience foods in the freezer for those days when you are too tired.
- When shopping, avoid busy times and where possible use the "higher shelved" trolley so you are not having to bend over. You may be able to use the on-line service and have your groceries delivered. If necessary, have someone do the shopping for you.
- Avoid lifting and carrying at all times
- Use total mobility transport or a taxi when attending hospital appointments to avoid long walks to clinics.
- Avoid situations where you may be exposed to your triggers such as smoke or fumes, the cold air, or respiratory infections.



**Are you concerned about your breathlessness?  
Does it impact on your daily activities?  
Do you have a care plan?**

Ask your GP to give you a written care plan to follow, not only for when you are well BUT for those times when you are concerned about increased breathlessness, increased coughing and an increase in sputum that has changed colour, and you are feeling unwell.

You need to know what to do.

**Have you had your medications reviewed recently?**

**Take the COPD Assessment test (CAT) today.  
(Modified version for use in New Zealand)**

A score between 0-10 suggests low impact, 11-20 suggests a medium impact, 21-30 suggests high impact, and 31-40 suggest a high impact.

For further information and to discuss your results please see your doctor.

**References**

Best Practice Issue 43 April 2012  
Diagnosis and management of COPD pages 14-24  
Fromer, L. & Cooper, C.B. (2008)  
A review of the GOLD guidelines for the diagnosis and treatment of patients with COPD  
International Journal of Clinical Practice, 62, 8, 1219-1236  
Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2013  
Pocket Guide to COPD Diagnosis, Management, and Prevention  
Russell, R.E.K., Ford, P.A., & Barnes, P.J., 2012  
Managing COPD

## How is your COPD? Take the COPD Assessment Test (CAT)

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 improved 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 (X) 2 3 4 5 I am sad

I never cough 0 1 2 3 4 5 I cough all the time

I never cough 0 1 2 3 4 5 My chest if full of phlegm (mucus)

My chest does not feel tight at all 0 1 2 3 4 5 My chest feels very tight

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

I am not limited doing any activities at home 0 1 2 3 4 5 I am very limited doing activities at home

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

I sleep soundly 0 1 2 3 4 5 I don't sleep soundly because of my lung condition

I have lots of energy 0 1 2 3 4 5 I have no energy at all

**TOTAL SCORE**

[Empty box for total score]

# COPD action plan

## How I feel: I feel well:

- I am breathing without shortness of breath
- I am able to do what I need to do and what I want to do
- Mucous is easy to cough up
- I am sleeping well
- I am able to exercise as directed by my GP.

## What I should do:

- Continue regular exercise and diet plan
- Avoid cigarette smoke and other inhaled irritants
- Continue drinking regular fluids to keep mucous thin
- Have regular GP review

## What medication do I take?

- Short acting relievers:  
\_\_\_\_\_
- Preventer:  
\_\_\_\_\_
- Long acting relievers  
\_\_\_\_\_
- Combination:  
\_\_\_\_\_
- Oxygen: \_\_\_\_\_ L/min

## I have concerning symptoms:

- I have increased shortness of breath with usual activity
- I have increased amount of sputum and am coughing more than normal
- Sputum changes from normal colour to yellow, green or rust colour and is thicker
- I have increased wheezing
- I have noticed changes in my mood

- Call your GP to review your condition or make an appointment
- Use pursed lip breathing and relaxation techniques
- Huff, cough and clear sputum frequently
- Get plenty of rest

- Continue daily meds as above  
\_\_\_\_\_
- Start Prednisone \_\_\_\_\_
- Use quick relief medication every hours either by inhaler or nebuliser  
\_\_\_\_\_
- Start antibiotics \_\_\_\_\_
- Increase oxygen to: \_\_\_\_\_ L/min

## Emergency:

- I have severe shortness of breath or shortness of breath at rest
- I have chest pain that doesn't go away
- My lips or fingernails have turned grey or blue
- I feel unusually sleepy or confused
- I am using an increased amount of quick relief medicine.

**Take Action!**  
**Call 111 or go to emergency department.**  
**Call your doctor.**

**Continue with quick relief inhaler until help arrives.**

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Card Number

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Name of Card Holder: \_\_\_\_\_

Signature: \_\_\_\_\_ Expiry Date: \_\_\_\_\_

- Cheque for the above value is enclosed  
Your gifts can attract a tax rebate. We will send you a receipt shortly for your donation.

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Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Email: \_\_\_\_\_

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- I have already left a bequest for the Asthma Society through my will
- I would love to do some voluntary work to fight asthma

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581 Mt Eden Rd, PO Box 67-066  
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Phone 09 623 0236, Fax 09 623 0774  
Email anz@asthma.org.nz



*Thank you for helping us to fight asthma and make  
New Zealand breathe easy*

## Asthma New Zealand's partner societies around New Zealand:

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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.org.nz





**Source: J Allergy Clin Immunol**

**Peripheral lung function in patients with stable and unstable asthma;**

**Thompson BR, Douglass JA, Ellis MJ, Kelly VJ, O'Hehir RE, King GG, Verbanck S; Journal of Allergy and Clinical Immunology (JACI) 131 (5), 1322-8 (May 2013)**

**BACKGROUND:** Exacerbations of asthma are thought to be caused by airflow obstruction resulting from airway inflammation, bronchospasm, and mucus plugging. Histologic evidence suggests the small airways, including acinar air spaces, are involved; however, this has not been corroborated in vivo by measurements of peripheral small-airway function. **OBJECTIVE:** We sought to determine whether asthma severity is linked to small-airway function, particularly in patients with acute severe asthma. **METHODS:** Eighteen subjects admitted for an asthma exacerbation underwent lung function testing, including measures of acinar ventilation heterogeneity (Sacin) and conductive ventilation heterogeneity (Scond) using the multiple-breath nitrogen washout. Treatment requirement was defined according to Global Initiative for Asthma scores. Data were compared with those obtained in 19 patients with stable asthma. **RESULTS:** For the asthma exacerbation group, the median FEV1 was 59% of predicted value (95% CI, 45% to 75% of predicted value), the median Scond value was 185% of predicted value (95% CI, 119% to 245% of predicted value), and the median Sacin value was 225% of predicted value (95% CI, 143% to 392% of predicted value). FEV1 (percent predicted) was correlated with Sacin (percent predicted) values (Spearman rho = -0.67, P = .006) but not with Scond (percent predicted) values (P >.1). The Global Initiative for Asthma score was significantly related to Sacin (percent predicted) (Spearman rho = 0.59, P = .016) but not to Scond (percent predicted) values (P >.1). The unstable group was characterised by considerably lower forced vital capacity (P <.001) and higher Scond (P = .001) values than the stable group. In a subgroup of 11 unstable patients who could be reviewed after 4 weeks, FEV1, forced vital capacity, Sacin, and Scond values showed marked improvements. **CONCLUSION:** Our findings suggest that unstable asthma is characterised by a combined abnormality in the acinar and conductive lung zones, both of which are partly reversible. Functional abnormality in the acinar lung zone in particular showed a direct correlation with airflow obstruction and treatment requirement in patients with acute severe asthma.

(p<0.001), and CAIvNO (p<0.05), relative to baseline. The reductions in FENO were significantly associated with the improvement in airflow limitation assessed by dN2 (r=0.73, p=0.007). The remaining FENO elevation, even after doubling the ICS dose, did not decrease after oral corticosteroid administration. **CONCLUSIONS:** These results suggest that modification of ICS therapy can suppress residual FENO elevation, and that reduction in FENO levels is associated with improvement in airflow limitation. However, steroid-resistance mechanisms may exist in some asthmatic patients with sustained FENO elevations

**Source: J Allergy Clin Immunol**

**Severe adult-onset asthma: A distinct phenotype;**

**Amelink M, de Groot J, de Nijs S, Lutter R, Zwinderman A, Sterk P, Ten Brinke A, Bel E; Journal of Allergy and Clinical Immunology (JACI) (Jun 2013)**

**BACKGROUND:** Some patients with adult-onset asthma have severe disease, whereas others have mild transient disease. It is currently unknown whether patients with severe adult-onset asthma represent a distinct clinical phenotype. **OBJECTIVE:** We sought to investigate whether disease severity in patients with adult-onset asthma is associated with specific phenotypic characteristics. **METHODS:** One hundred seventy-six patients with adult-onset asthma were recruited from 1 academic and 3 nonacademic outpatient clinics. Severe refractory asthma was defined according to international Innovative Medicines Initiative criteria, and mild-to-moderate persistent asthma was defined according to Global Initiative for Asthma criteria. Patients were characterised with respect to clinical, functional, and inflammatory parameters. Unpaired t tests and  $\chi^2$  tests were used for group comparisons; both univariate and multivariate logistic regression were used to determine factors associated with disease severity. **RESULTS:** Apart from the expected high symptom scores, poor quality of life, need for high-intensity treatment, low lung function, and high exacerbation rate, patients with severe adult-onset asthma were more often nonatopic (52% vs 34%, P = .02) and had more nasal symptoms and nasal polyposis (54% vs 27%, P ≤ .001), higher exhaled nitric oxide levels (38 vs 27 ppb, P = .02) and blood neutrophil counts (5.3 vs 4.0 10(9)/L, P ≤ .001) and sputum eosinophilia (11.8% vs 0.8%, P ≤ .001). Multiple logistic regression analysis showed that increased blood neutrophil (odds ratio, 10.9; P = .002) and sputum eosinophil (odds ratio, 1.5; P = .005) counts were independently associated with severe adult-onset disease. **CONCLUSION:** The majority of patients with severe adult-onset asthma are nonatopic and have persistent eosinophilic airway inflammation. This suggests that severe adult-onset asthma has a distinct underlying mechanism compared with milder disease.

**Source: Respir Investig**

**Persistent elevation of exhaled nitric oxide and modification of corticosteroid therapy in asthma;**

**Hirano T, Matsunaga K, Sugiura H, Minakata Y, Koarai A, Akamatsu K, Ichikawa T, Furukawa K, Ichinose M; Respiratory Investigation 51 (2), 84-91 (Jun 2013)**

**BACKGROUND:** Persistent airway inflammation, detected by fractional exhaled nitric oxide (FENO), is occasionally observed in asthmatic patients, even in those treated with inhaled corticosteroids (ICS). However, improvement in residual airway inflammation and pulmonary function through modification of corticosteroid therapy has not been proven. **METHODS:** Thirteen asthmatic patients whose FENO levels were over 40 parts per billion (ppb), despite dry-powder ICS therapy, were enrolled. A 3-step change in steroid treatment was undertaken until FENO was less than 40ppb. In the first step, the powder formula was changed to an ultra-fine particle compound as an equipotent ICS dose. In the second step, the ICS dose was doubled. In the third step, oral corticosteroids were added. We measured pulmonary function and FENO and alveolar NO concentrations (CAIvNO). **RESULTS:** Doubling the ICS dose and changing the ICS formula significantly improved FVC (p<0.001), FEV1 (p<0.05), the slope of the single nitrogen washout curve (dN2) (p<0.01), FENO

**Source: Respir Med**

**The effect of bronchodilators administered via aerochamber or a nebuliser on inspiratory lung function parameters;**

**Ramlal S, Visser F, Hop W, Dekhuijzen P, Heijdra Y; Respiratory Medicine (Jun 2013)**

**BACKGROUND:** In chronic obstructive pulmonary disease (COPD) the clinical efficacy of bronchodilator therapy delivered via a nebuliser versus an aerochamber on FEV1 is controversial. No studies comparing

changes in inspiratory pulmonary function parameters (ILPs) using these inhaler devices are currently available. This information might be of interest because due to dynamic bronchial compression, the relationship between the ILPs and dyspnea is more reliable than that between FEV1 and dyspnea. Therefore, our study aimed to investigate whether changes in ILPs after use of these inhaler devices were similar to the changes in FEV1 and correlate with VAS (Visual Analogue Scale). METHODS: Forty-one stable COPD patients participated in a crossover trial. Spirometry was performed before and after two puffs Combivent (200 mcg salbutamol and 20 mcg ipratropium per puff) using an aerochamber or 2 mL of Combivent (2.5 mg salbutamol and 250 mcg ipratropium per mL) using a nebuliser. Differences in lung function parameters and changes in VAS were measured. RESULTS: ILP values improved significantly from baseline after Combivent administration using both devices ( $p \leq 0.004$ ). With both devices, the mean percent changes were significantly greater for FEV1 than the ILPs ( $p \leq 0.003$ ), except for IC ( $p = 0.19$ ). The mean VAS score did not differ significantly between the devices ( $p = 0.33$ ), but significant correlations were found between the VAS and forced inspiratory flow at 50% of the vital capacity (FIF50) and peak inspiratory flow (PIF) when a nebuliser was used. With an aerochamber, no significant correlations between lung function parameters and VAS were found. CONCLUSIONS: The present study demonstrates that ILPs improved significantly after using either device. Although significant correlations were found between the VAS and FIF50 and PIF for the nebuliser, in stable COPD patients, the pMDI plus spacer is a better route of administration than a nebuliser.

**Source: J Cardiopulm Rehabil Prev**  
**Development and Feasibility of a Self-management Intervention for Chronic Obstructive Pulmonary Disease Delivered With Motivational Interviewing Strategies;**

**Benzo R, Vickers K, Ernst D, Tucker S, McEvoy C, Lorig K; Journal of Cardiopulmonary Rehabilitation and Prevention 33 (2), 113-23 (Mar 2013)**

BACKGROUND: Self-management is proposed as the standard of care in chronic obstructive pulmonary disease (COPD), but details of the process and training required to deliver effective self-management are not widely available. In addition, recent data suggest that patient engagement and motivation are critical ingredients for effective self-management. This article carefully describes a self-management intervention using motivational interviewing skills, aimed to increase engagement and commitment in severe COPD patients. METHODS: The intervention was developed and pilot tested for fidelity to protocol, for patient and interventionist feedback (qualitative) and effect on quality of life. Engagement between patient and interventionists was measured by the Working Alliance Inventory. The intervention was refined on the basis of the results of the pilot study and delivered in the active arm of a prospective randomised study. RESULTS: The pilot study suggested improvements in quality of life, fidelity to theory, and patient acceptability. The refined self-management intervention was delivered 540 times in the active arm of a randomised study. We observed a retention rate of 86% (patients missing or not available for only 14% the scheduled encounters). CONCLUSIONS: A self-management intervention that includes motivational interviewing as the way of guiding patients into behavior change is feasible in severe COPD and may increase patient engagement and commitment to self-management. This provides a very detailed description of the process for the specifics of training and delivering the intervention, which facilitates replicability in other settings and could be translated to cardiac rehabilitation.

**Source: Respir Res**

**Long-acting beta-agonists reduce mortality of patients with severe and very severe chronic obstructive pulmonary disease: a propensity score matching study;**

**Horita N, Miyazawa N, Morita S, Kojima R, Kimura N, Kaneko T, Ishigatsubo Y; Respiratory Research 14 (1), 62 (Jun 2013)**

BACKGROUND: Long-acting beta-agonists were one of the first-choice bronchodilator agents for stable chronic obstructive pulmonary disease. But the impact of long-acting beta-agonists on mortality was not well investigated. METHODS: National Emphysema Treatment Trial provided the data. Severe and very severe stable chronic obstructive pulmonary disease patients who were eligible for volume reduction surgery were recruited at 17 clinical centers in United States during 1988--2002. We used the 6--10 year follow-up data of patients randomised to non-surgery treatment. Hazard ratios for death by long-acting beta-agonists were estimated by three models using Cox proportional hazard analysis and propensity score matching were measured. RESULTS: The pre-matching cohort was comprised of 591 patients (50.6% were administered long-acting beta-agonists. Age: 66.6 +/- 5.3 year old. Female: 35.4%. Forced expiratory volume in one second (%predicted): 26.7 +/- 7.1%. Mortality during follow-up: 70.2%). Hazard ratio using a multivariate Cox model in the pre-matching cohort was 0.77 ( $P = 0.010$ ). Propensity score matching was conducted (C-statistics: 0.62. No parameter differed between cohorts). The propensity-matched cohort was comprised of 492 patients (50.0% were administered long-acting beta-agonists. Age: 66.8 +/- 5.1 year old. Female: 34.8%. Forced expiratory volume in one second (%predicted) 26.5 +/- 6.8%. Mortality during follow-up: 69.1%). Hazard ratio using a univariate Cox model in the propensity-matched cohort was 0.77 ( $P = 0.017$ ). Hazard ratio using a multivariate Cox model in the propensity-matched cohort was 0.76 ( $P = 0.011$ ). CONCLUSIONS: Long-acting beta-agonists reduce mortality of severe and very severe chronic obstructive pulmonary disease patients.

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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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## Ask your doctor\* if **SPIRIVA**<sup>®</sup> is right for you!

*\*Normal Doctor's fees and pharmacy charges apply. SPIRIVA<sup>®</sup> is fully funded for COPD. Special Authority criteria apply.*

**SPIRIVA<sup>®</sup> (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<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> device.** Boehringer Ingelheim PO Box 76 216 Manukau City, freephone 0800 802 461. EP/12/13. TAPS PP1690

