THE NZ JOURNAL OF RESPIRATORY HEALTH

SPRING / SUMMER EDITION 2017

O2

Well controlled asthma equals fun in the sun!

0800 2BREATHE • 0800 227 328

ISSN 1176-7847

Breathe Easy

asthma NEW ZEALAND THE LUNG ASSOCIATION

asthma NEW ZEALAND THE LUNG ASSOCIATION

THE NZ JOURNAL OF RESPIRATORY HEALTH

ISSN 1176-7847

PUBLISHER
Asthma New Zealand
– The Lung Association
581 Mt Eden Road, Mt Eden
Auckland 1024
PO 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

ON THE COVER
Well controlled asthma equals fun in the sun!

CONTENTS

DISTANCE LEARNING ASTHMA/COPD NURSING COURSE INFORMATION

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

Since the commencement of the Asthma and COPD Nursing Courses, 1,100 nurses have enrolled in these courses. Many applicants had not undertaken any additional study since completing their nursing training, which may have been years before. However, most find the courses to be challenging but a thoroughly enjoyable learning experience that is within the grasp of any competent nurse practitioner.

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

For information contact: Ann/Swarna
Asthma New Zealand – the Lung Association
PO Box 67066, Mt Eden, Auckland
Phone 09 623 4777 Ann or 09 623 4771 Swarna
Fax 09 623 0774
Email annw@asthma.org.nz
swarnah@asthma.org.nz

The closing date for enrolment is: 9th February 2018 for Asthma Nursing Course
23rd April 2018 for COPD Nursing Course

Upcoming events and courses

ASTHMA NEAT COURSE – AUCKLAND

20 September 2017
21 March 2018
20 June 2018
11 July 2018 – School nurses
19 September 2018

HALF DAY COPD COURSE – AUCKLAND

18 October 2017
18 April 2018
15 August 2018
17 October 2018

World COPD Day 2017

November 15 2017

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

MESSAGE TO READERS

This is the time of year, with the change of season and weather patterns, when we see a major increase in flu and respiratory related illnesses. Our hospitals are operating almost at capacity dealing with conditions like asthma and other chronic respiratory conditions.

Looking after yourself and managing your asthma appropriately with good medication habits will help reduce the need for additional GP or hospital visits. If you don't have one already, get your GP to write an asthma management plan and make sure you take your medication as prescribed. If you suffer from hay fever or allergies in addition to asthma, make sure these are well controlled too.

It's election time and it will be well worth watching what each party is offering in terms of health before we vote! Issues of substandard care and a huge gap in what is needed to fund the country's health services will make health a key election topic. The big issue that New Zealanders are increasingly concerned about is that a growing number of people seem to be missing out and others doing very well. At the core of that sits the housing issue, not just the fact we have a shortage but also that many homes are still not fit for purpose. Many homes still lack adequate insulation and heating combined with many homes frequently becoming infected with mould.

We look forward to the NZ Child and Adolescent Asthma Guidelines being released later this year especially as we had the privilege of having some input into these and they are well overdue. The guidelines are designed to aid health professionals in delivering asthma care in the community and in emergency departments, providing simple, practical and evidence-based guidance. Implementing the national guidelines will mean all asthma patients receive the same level of care and up to date information. As with previous guidelines they are based on landmark research undertaken in New Zealand.

Lastly, we will now only be publishing two magazines per year, a spring / summer edition which will be out in September each year and an autumn / winter edition will follow around March or April. We hope this will allow us to have more focus and relevancy to each season and, therefore, current needs.

Have a great summer everyone!

Linda Thompson
Executive Director – Asthma NZ

OMALIZUMAB – A TREATMENT FOR SEVERE ALLERGIC ASTHMA

By Janet Hutchison MHPrac (nursing), RN

Omalizumab is a monoclonal antibody used in the treatment of severe persistent allergic asthma where inhaled corticosteroids (ICS) are not controlling asthma symptoms and exacerbations.[1] Monoclonal antibodies or biologic medicines as they are sometimes known, are man-made antibodies that act against proteins that attack the tissues of people with autoimmune disorders. They can be used in the treatment of conditions such as rheumatoid arthritis, systemic lupus erythematosus, multiple sclerosis, some cancers and of course, in the management of asthma.[2]

Monoclonal antibodies are so-called because they are cloned from human immune cells with each monoclonal antibody binding to one type of antigen.[2] You won't see omalizumab on general guidelines for the management of asthma as it is usually prescribed by a specialist for severe refractory asthma[3] which affects over 3% of people with asthma, and accounts for a high burden of suffering and healthcare costs.[4]

Monoclonal antibodies (Mabs) can be recognised from other drugs by the suffix 'mab', for example, omalizumab, adalimumab and infliximab. Naming drugs in this manner is something that Pharmac will continue in the future so that drugs can be recognised by their group even though a specific drug may not be known.

How does omalizumab work?

In allergy and allergic type asthma, the immune system overreacts to an allergen as though it were dangerous by producing antibodies called immunoglobulin E (IgE). IgE travels to the cells that release inflammatory chemicals resulting in an allergic reaction, or asthma symptoms being triggered. (Diagram 1 shows the effects of IgE on various cells[5]). Omalizumab works by blocking the IgE from binding to its receptor so that the inflammatory chemicals cannot be released thus preventing the cascade of events from occurring.[1]

Omalizumab is given by injection just under the skin either in the thigh or the deltoid region of the arm. The dose and frequency is determined by body weight and serum IgE levels. Common side effects include headaches, upper abdominal pain and injection site reactions such as pain, redness, swelling, itching and bruising.[6] More severe reactions such as allergic reaction are less common, and careful monitoring is carried out following the injection.[2] Benefits and side effects are carefully considered by specialists, and these are discussed with clients before commencing treatment. Diagram 2 shows the mechanism of action of omalizumab.[7]

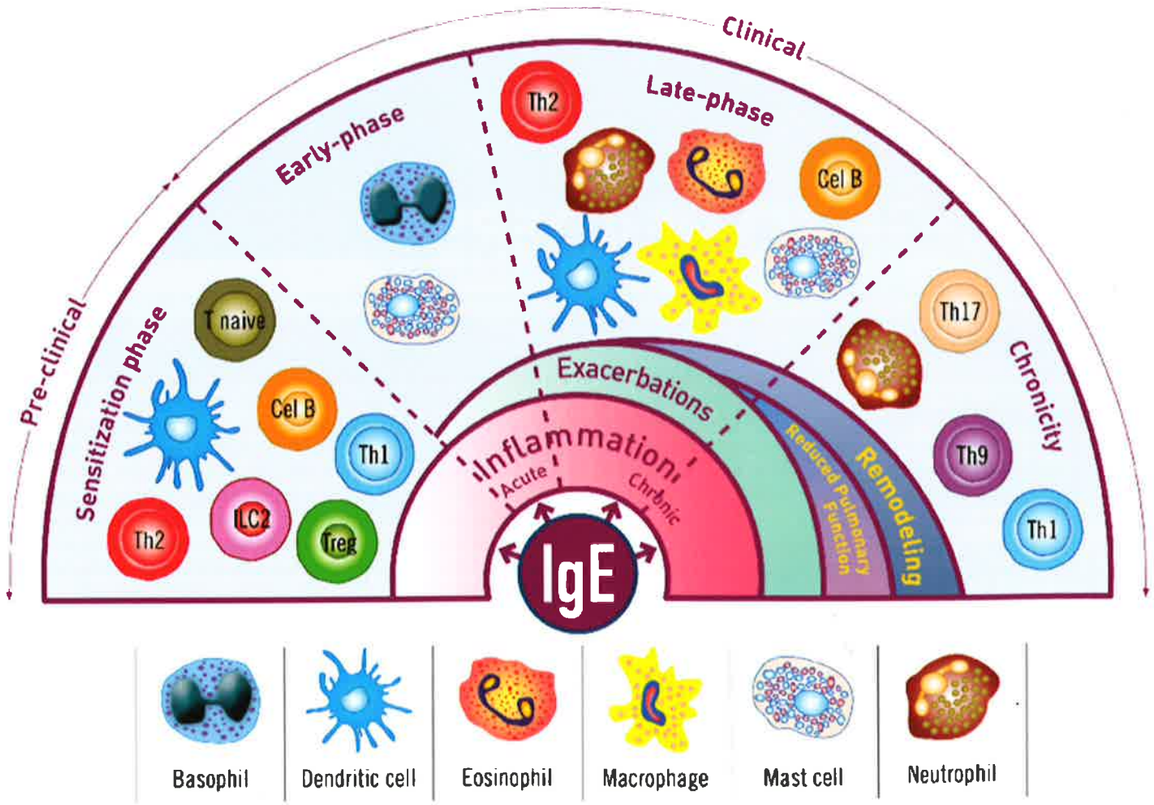


Diagram 1. The effects of IgE on cells in the inflammatory process.5

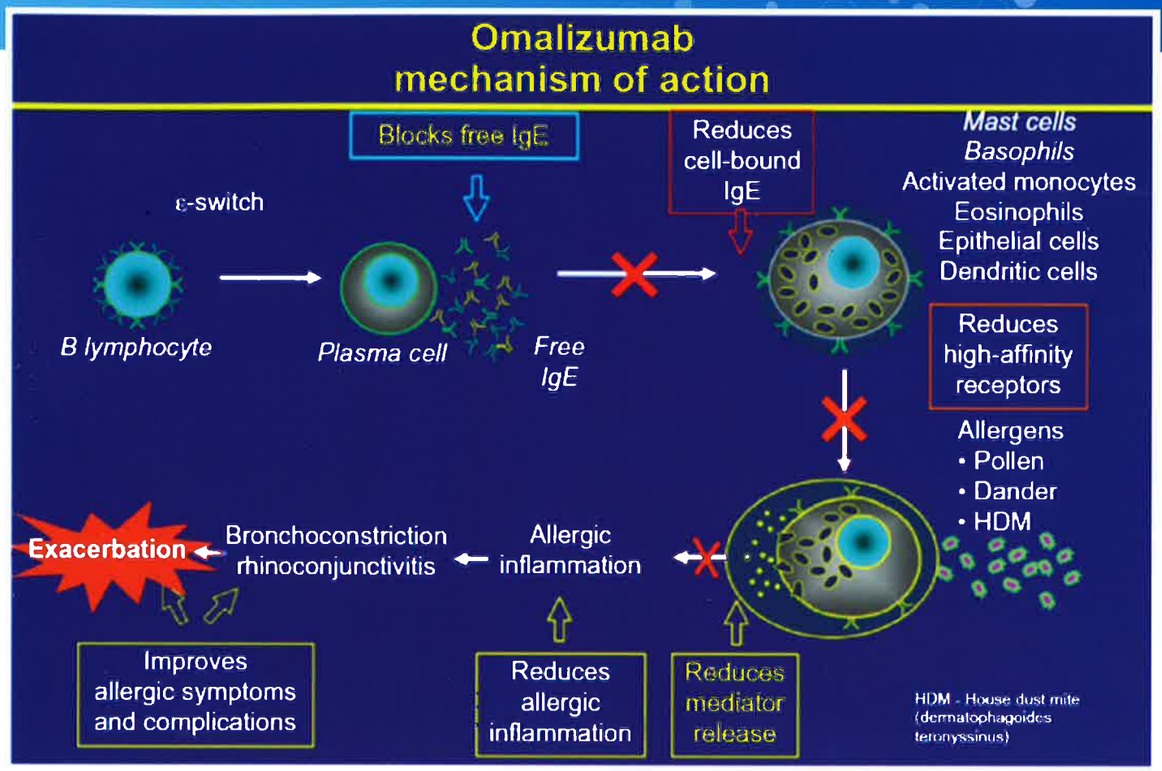


Diagram 2.7

Omalizumab is licensed in New Zealand under the trade name of Xolair for six years and over, with treatment being given at 2 to 4 week intervals.[6]

Studies have shown that omalizumab improves asthma control and reduces severe exacerbations in severe disease and elevated serum IgE levels in adults.[8] A double-blind, placebo-controlled randomised trial was carried out over 48 weeks in almost 200 sites across the US and Canada. 850 patients aged 12 to 75 years who were already on high dose inhaled corticosteroids (ICS) and long-acting beta2 agonists (LABAs) were given additional treatment with omalizumab or placebo. The results showed that those who received omalizumab had fewer asthma exacerbations, reduced reliever inhaler use, and improved symptom and quality-of-life scores over 48 weeks.

A similar trial involving 419 inner-city children, adolescents and young adults aged 6 to 20 years of age with persistent allergic asthma was conducted over 60 weeks (ICATA study).[9] The omalizumab group were found to have fewer days with asthma symptoms, fewer asthma attacks and fewer hospital visits because of asthma. The subsequent PROSE study in 2012/13 of 727 inner-city youth had similar findings in that adding omalizumab to ongoing guidelines-based treatment reduces asthma exacerbations in the autumn months particularly amongst those with a recent exacerbation.[10]

Monoclonal antibodies have so far proved to be a breakthrough in therapy for severe allergic asthma where symptoms are often difficult to control. Perhaps the future will bring improved treatments that can be easily administered by a parent or client themselves.

References:

1 Tourangeau, L. M., Kavanaugh, A., & Wasserman, S. I. (2011). The role of monoclonal antibodies in the treatment of severe asthma. *Therapeutic advances in respiratory disease, 5*(3), 183-194.

2 MedicineNet. (2016). *Monoclonal antibodies.* Retrieved 28 July, 2017, from http://www.medicinenet.com/monoclonal_antibodies/article.htm

3 Bousquet, J., Mantzouranis, E., Cruz, A. A., Aït-Khaled, N., Baena-Cagnani, C. E., Bleecker, E. R., ... & Casale, T. B. (2010). Uniform definition of asthma severity, control, and exacerbations: document presented for the World Health Organization Consultation on Severe Asthma. *Journal of Allergy and Clinical Immunology, 126*(5), 926-938.

4 Hekking, P. P. W., Wener, R. R., Amelink, M., Zwinderman, A. H., Bouvy, M. L., & Bel, E. H. (2015). The prevalence of severe refractory asthma. *Journal of Allergy and Clinical Immunology, 135*(4), 896-902.

5 Palomares, O., Sánchez-Ramón, S., Dávila, I., Prieto, L., Pérez de Llano, L., Lleonart, M., ... & Nieto, A. (2017). dIvergEnt: How IgE Axis Contributes to the Continuum of Allergic Asthma and Anti-IgE Therapies. *International journal of molecular sciences, 18*(6), 1328.

6 *MIMS New Ethicals*. (2017). Jan-June. Auckland, NZ: MIMS (NZ) Ltd.

7 Incorvaia, C., Mauro, M., Russello, M., Formigoni, C., Riario-Sforza, G. G., & Ridolo, E. (2014). Omalizumab, an anti-immunoglobulin E antibody: state of the art. *Drug design, development and therapy, 8*, 197.

8 Hanania, N. A., Alpan, O., Hamilos, D. L., Condemi, J. J., Reyes-Rivera, I., Zhu, J., ... & Busse, W. (2011). Omalizumab in Severe Allergic Asthma Inadequately Controlled With Standard TherapyA Randomized Trial. *Annals of internal medicine*, 154(9), 573-582.

9 Busse, W. W., Morgan, W. J., Gergen, P. J., Mitchell, H. E., Gern, J. E., Liu, A. H., ... & Chmiel, J. F. (2011). Randomized trial of omalizumab (anti-IgE) for asthma in inner-city children. *New England Journal of Medicine, 364*(11), 1005-1015.

10 Teach, S. J., Gill, M. A., Togias, A., Sorkness, C. A., Arbes, S. J., Calatroni, A., ... & Kercsmar, C. M. (2015). Preseasonal treatment with either omalizumab or an inhaled corticosteroid boost to prevent fall asthma exacerbations. *Journal of Allergy and Clinical Immunology, 136*(6), 1476-1485.

DEAR NURSE

Dear Nurse, I take Flixotide every morning and night through my spacer and my asthma is well controlled, why won't my doctor give me the new Breo Ellipta device that you only need to take once a day?

If you are well controlled on Flixotide, the doctor will not change you to Breo Ellipta because inside the Breo are two medications: a preventer (fluticasone furoate) as well as a long-acting beta agonist (vilanterol). The vilanterol is like your blue puffer but lasts for 24 hours. Doctors do not want to prescribe medications that are not necessary and as your asthma is well controlled with Flixotide, you do not need this combination medication.

Dear Nurse, I believe that feather duvets are not good for people with asthma. Is this true?

Dear Reader, feathers and down can be triggers for people with asthma and therefore, people with asthma should not use a feather and down duvet or pillow. For others that do not have a feather allergy, then it is quite safe for them to use one. Feather duvets do have a very close weave on the fabric that surrounds the duvet helping to reduce the effects of the feather and down, and also preventing a problem with dust mite allergy. Dust mites are another major trigger for people with asthma and dust mites feed off our dead skin. Therefore, for people with a dust mite allergy, it is worth considering the use of barrier bedding covers.

Dear Nurse, I use a Symbicort turbuhaler twice daily and Ventolin for in-between symptoms for my asthma. My friend also has a Symbicort but she uses hers more than twice a day if she has any symptoms but has no reliever inhaler. Why is this?

Symbicort turbuhaler is a combination inhaler containing two medications. One is the preventer medication, available on its own called Pulmicort, and the other is a long-acting reliever called Oxis. Taking these medications together helps to improve asthma control more than a preventer on its own. There are other medications on the market with similar properties such as Vannair, Seretide and Breo Ellipta.

The point of difference with Symbicort, is that it can be used for symptom relief in-between your twice daily doses. However, this needs to be prescribed for you and written on your action plan by your doctor or prescribing nurse. They will advise how many times it can be taken, for example, up to 12 inhalations per day for adults and 8 inhalations per day for children. This is a short term measure for up to 3 days at a time. It is recommended that you contact your health professional if you require more than this or if your asthma control is not getting better.

The following except is taken from the manufacturers website www.oneinhaler.co.nz/turbuhaler

TREATING YOUR SYMPTOMS AND AVOIDING FLARE-UPS

Asthma symptoms are caused by two things – inflamed, swollen airways and the muscles around the airways tightening. To get better control of your asthma you need to address both of these causes.

You need to relieve and prevent your asthma symptoms.

Many people who have asthma tend to rely heavily on their blue reliever inhaler, using it several times a week or even every day. This medication only relaxes the muscles around their airways but does not treat the swelling inside their airways. In order to reduce the swelling a preventer medication is needed as well.

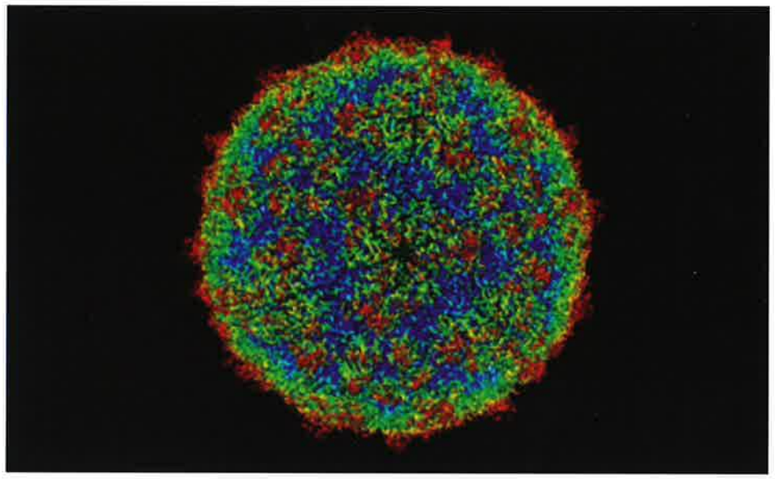
Preventer medication is important because it makes airways less sensitive to triggers, so fewer symptoms are experienced. The preventer medication also helps to prevent asthma flare-ups in the future.

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

PREVENTION OF VIRAL ILLNESS IN YOUNG CHILDREN WITH ASTHMA

By Renee Goldbert RN – Asthma Nurse Educator

Asthma is a chronic inflammatory disease of the airways characterized by hyper-responsiveness to a wide variety of triggers, recurrent episodes of wheezing, respiratory distress, and cough, associated with reversible airway obstruction. It is one of the most prevalent chronic diseases worldwide, affecting more than 155 million people, so that impact of asthma is severe, and incidence is growing, particularly in developed countries.[1] Over 3000 children in New Zealand were admitted to hospital for life-threatening asthma in 2015,[2] and internationally, viral respiratory infections are the main cause of asthma exacerbations in children (80-85%) and are a major risk factor for admission to hospital every autumn.



Example of human rhinovirus. Image courtesy of https://pixabay.com

In the first year of life, especially the first few weeks, the new-born's immune system is developing and is highly variable during this critical time of post-natal maturation. This is shaped by genetic and environmental factors including: mode of delivery, as neonates born by means of vaginal delivery are exposed to mother's gut, skin, and vaginal flora. These factors, along with breast feeding, build the new-born's immune system and this protects against respiratory, gastrointestinal, and other infections; with breast milk being a biologically active substance that supports immunity development. Young children with susceptible genetic background, involving reduced immunity, are at risk of developing respiratory symptoms including viral-induced wheeze during this time, and thus, are associated with a major risk factor for development of asthma.[3]

Parents of children with asthma are rightly concerned about acute asthma exacerbations in their young children due to a viral infection or common cold, and ask how to minimize the risk during the winter viral season. Major risk factors for acute exacerbation include previous acute exacerbation, allergy, young age, poorly controlled asthma, and, in particular, viral respiratory infections. Human Rhinovirus (HRV)and Respiratory Syncytial Virus (RSV) are the most common viruses found in young children with wheeze in the first year of life and school children with lower respiratory tract infections causing exacerbation of asthma. Most children have been exposed to RSV by the age of 2 years, experiencing only mild respiratory symptoms, however, children with viral-induced wheeze and asthma are particularly at risk.[4]

In order to protect at risk children, it is important to note that HRV is released two to four days after infection and then decreases sharply; however, nasal samples can be positive for HRV for up to five weeks after a symptomatic infection. There are three ways of common cold transmission in children:

1. inhalation of small particles in the air by coughing
2. large particle droplets from saliva expelled while sneezing
3. contamination after touching a person or object with the cold virus and touching the eyes or nose

Respiratory viruses can be prevented from spreading by hygiene measures (such as handwashing), especially around younger children and can reduce transmission from children to other family members.[3]

Several simple general strategies can be used to help prevent respiratory viral infections in asthmatic children which include:

1. good personal hygiene – use tissues once and dispose
2. hand-washing after touching body fluids
3. avoid close contact with people who have colds in the first 3 days of their illness
4. avoidance of cigarette smoke

Meticulous hand hygiene is the best measure to prevent the common cold; frequent hand-washing and avoid touching one's nose and eyes. An international study showed that handwashing was associated with a 12-34% reduction in respiratory-tract infections and colds in child-care centres in the USA, Canada and Australia.[3]

Other strategies include drugs and vitamin supplements to support immune response and these include antihistamines, nasal sprays, and Vitamin D supplementation. Vitamin D plays an important role in adequate function of the immune system, with production of protective proteins by airways which control the inflammatory response to viral infections. Vitamin D deficiency has been associated with higher incidence of respiratory tract infection, wheezing illness in children and severe asthma exacerbations so parents can request Vitamin D testing from their GP and subsequent supplementation to support children at risk. Current anti-viral drugs for the prevention and treatment of virus-induced exacerbation of asthma are poorly effective so alternative therapies are needed.[3]

One promising development is a clinical trial of an ante-natal RSV vaccine currently in progress in New Zealand. Counties Manukau Health and Middlemore Clinical Trials is one of the 19 centres in 6 countries taking part in the trial which is aiming to test the vaccine's effectiveness in preventing RSV disease in the babies born to vaccinated mothers. This is year two of the four-year trial which is aiming to recruit 8,000 women, with 300-400 coming from two New Zealand sites, Counties Manukau and Christchurch. The current trial protocol stipulates autumn vaccination of expectant mothers in order to test the protection of babies over the winter when RSV disease is at its most prevalent and the Middlemore Clinical trials team have already vaccinated eligible mothers in May 2016, with follow up the babies in their first year of life.[4]

The best protection against viral illnesses we have currently in New Zealand is the influenza (flu) vaccine which is advocated for children with asthma on preventer therapy and from 6 months and older. The best time to get a flu vaccine from your GP is from March to July every year and this is fully funded. If you would like more information and support for your young child with asthma, then contact one of the Asthma New Zealand – asthma nurse educators at one of our branches in Auckland, Rotorua and Wellington. For more details see www.asthma.org.nz

ASTHMA CAN BE CONTROLLED

Do you:

- Use your blue reliever more than two times a week?
- Miss school or work because of asthma symptoms?
- Wake up at night feeling breathless or coughing?
- Become short of breath when you exercise?
- Have frequent hospital/A&E/GP presentations?

If you have answered yes to any of these questions, then your asthma may not be well controlled.

Ask your practice nurse or your GP to review asthma medications and your technique for using your inhaler/spacer.

Or call your local asthma society, many societies have asthma nurse educators, qualified to give you expert advice.

Understanding Asthma Medication

As asthma nurse educators, we see many children with persistent asthma who have been prescribed a daily preventer, yet not taking the medications. We talk to many parents about the inhalers their child has been prescribed, and often, it seems that parents have very little understanding of what these medications do, or why they have been prescribed for their child. They often complain that they get different advice from the hospital and their GP.

In addition, many do not understand the difference between preventer and reliever medications, and they very rarely get offered a yearly review of their child's asthma control.

As a parent what you can do:

- Be more proactive and ask for explanations about which medications your child should be taking.
- If you stop giving any pre-scribed medication let your health provider know which medications they are, and the reason why you have stopped them.
- Ask for a written **'Asthma Action Plan'** that lists all the medications your child should be taking.

As a health professional what you can do:

- Be sure your client fully understands what you are saying.
- Write an 'Asthma Action Plan' that includes all the medications the child should be taking.
- Get the practice nurse to provide an education session reviewing inhaler/spacer technique.
- Refer on to your regional asthma education service.

If both provider and client take more active approaches, communication will improve and an improvement in asthma symptoms should follow.

Are You Using Your Inhaler Correctly?

Why is inhaler technique so important?
Recent data indicates that, of those who use inhalers, **90%** of them use them incorrectly! It is even more concerning that **75%** of inhaler users believe that they are using them correctly, however, when they were checked, only **10%** of them could demonstrate good inhaler technique!

Do you know how to use yours?
Poor technique is known to increase the COPD and asthma patients' risk of being admitted to hospital. Side effects, such as hoarseness and mouth infections also occur more often. Good technique improves lung health and results in fewer flare ups. This is reflected in lower medication costs and less time away from work and or school.

References:

1 Garcia-Garcia, M. L., Rey, C. C., & del Rosal Rabes, T. (2016). Pediatric asthma and viral infection. *Archivos de Bronconeumologia (English Edition), 52*(5), 269-273.

2 Asthma and Respiratory Foundation. (2016). *Key Statistics: Respiratory Disease in New Zealand.* Retrieved from: https://www.asthmafoundation.org.nz/

3 Ahanchian, H., Jones, C. M., Chen, Y. S., & Sly, P. D. (2012). Respiratory viral infections in children with asthma: do they matter and can we prevent them? *BMC pediatrics, 12*(1), 147.

4 Immunisation Advisory Centre. (2017). *Counties Babies in RSV Trial.* Retrieved from: http://www.immune.org.nz/

THUNDERSTORM ASTHMA – WHAT IS IT?

By Ann Wheat RN BN

In Melbourne Australia one evening in November last year, a freak storm struck. During the next few hours every Accident and Emergency clinic was full to overflowing with people having trouble breathing. As a result, 9 people died of an acute asthma episode caused by the thunderstorm and many more were in intensive care fighting for their lives. Previous to this, the only other known thunderstorm asthma death had been in the United Kingdom in 2002. Throughout the world though, there have been several instances where acute asthma episodes have been seen during and following thunderstorms. Over the years, Melbourne has had several of these.[1] There are not many studies that have been completed on thunderstorm asthma however, they all say that there is an increase in hospital presentations on the day of, or shortly after, the severe thunderstorm. In fact, the rate of asthma exacerbations can reach epidemic proportions with a five to tenfold increase of people seeking medical attention.[2] It is surmised that 9900 attended hospital during the Melbourne episode.[3]

So What is Thunderstorm Asthma?

The condition is still not properly understood but certain factors are known. Thunderstorm asthma is where there is usually a high pollen count (often due to rye grass pollen), high winds and a concurrent thunderstorm. It usually occurs in springtime but luckily not every thunderstorm will cause these unprecedented events and they are actually quite rare. Mould has also been surmised to be a contributing factor. In the case of the Melbourne storm, it was also the hottest day that they had had so far that year in the spring season.

Pollen can be a major trigger for both asthma and hay fever. Normally, the pollen from the rye grass only gets into the nose and the upper airways as the particles are too large to be breathed into the small airways of the lung. Pollen grains are normally 12 – 60 micrometre diameter.[4] A single pollen grain contains starch granules which can contain grass pollen allergens.[4] Due to the wind, the pollen particles are picked up into the air, and the rain and thunder are then thought to burst the large pollen particles (pollen particles can absorb moisture) into much smaller particles. These are much more likely to be breathed into the small airways of the lungs, thus triggering a severe asthma episode.

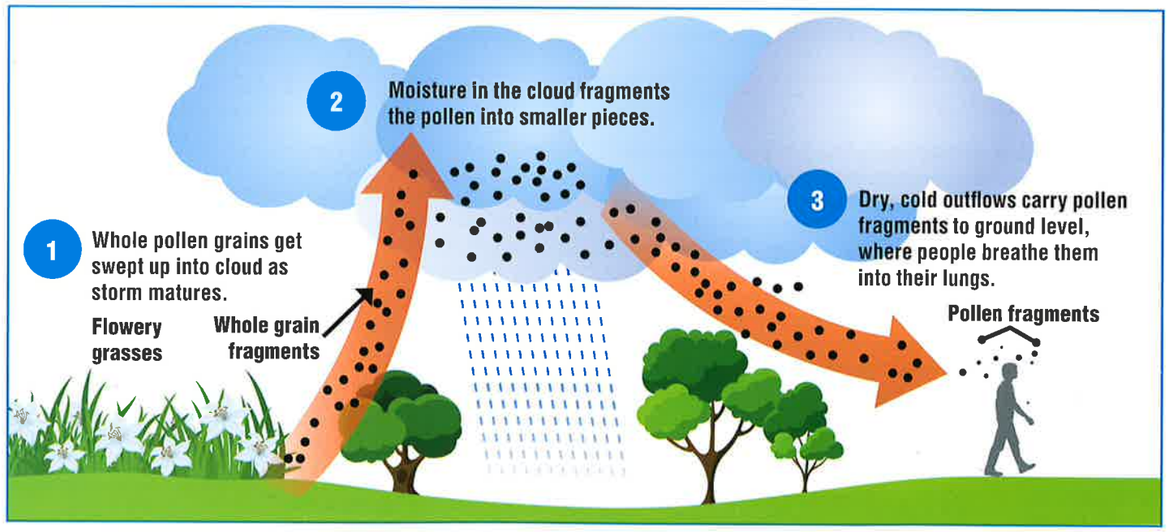
So Who is Affected

Thunderstorm asthma can occur not only in people who have asthma, but also in people who have hay fever only, with no evidence of asthma previously.[5] According to Thien, individual susceptibility factors include: prior sensitization to pollen allergy, a history of allergic rhinitis and, most importantly, people who are not taking their inhaled steroid medications as prescribed in those already diagnosed with asthma.[3] It is thought that during the first 20 – 30 minutes of a thunder storm people who have a pollen allergy may inhale high concentrations of the minute allergic material that is in the atmosphere.[6]

What can be done to try to prevent Thunderstorm Asthma?

Thunderstorm asthma appears to occur mainly in springtime. Springtime for many people is a difficult time of the year anyway as they have hay fever and asthma that are triggered by pollens. It is essential therefore, that people are aware of their triggers and if they are not, they should be tested to see what allergens they actually have. Rye grass is a great pasture grass and is grown in New Zealand in our farming sector. Pollen can travel kilometers carried on the air and so although we have never had a thunderstorm asthma event and it is extremely unlikely that we will, it is essential people need to know what to do.

As for anyone who has hay fever and or asthma, the most important factor that can help prevent these two conditions is to take prescribed medications every day as per a personal action plan. Inhaled corticosteroids taken twice daily even when well, is the mainstay of asthma management. By not taking inhaled corticosteroids twice daily, people are putting themselves at greater risk of having an acute asthma episode without having the added risk of a thunderstorm. Using corticosteroid nasal sprays and oral antihistamines to control hay fever is also recommended.[4]



If you do not have any medication, it is necessary to see your general practitioner to obtain a new supply and to have your action plan updated. Corticosteroid medication should be started well before the spring season arrives as it takes up to 3 – 4 weeks to come up to full effect. Action plans advise what to do when your asthma becomes worse so again it is imperative that people have an action plan.

Another way to help control pollen allergy is to have allergen immunotherapy (desensitization). This can help with hay fever as well as allergic asthma.[4]

Avoid being outside on high pollen count days especially if it is windy and thunderstorms are predicted. Keep windows closed in both the home or the car. If in the car, have the car air conditioning system on recycling.

Use a spacer at all times as this helps to increase the medication that is reaching your lungs. Know how to use it correctly:

- Shake the puffer and insert into the spacer
- Put mouthpiece into mouth and obtain a good seal around the mouthpiece
- Fire one puff into the spacer and breath in and out 6 times normally.
- If a further puff is required, repeat the above steps.

If you have signs of an acute asthma episode seek help urgently or call an ambulance. Ensure a good supply of reliever medication and use as prescribed.

Conclusion:

Thunderstorm asthma is a rare phenomenon that occurs during a thunderstorm, high pollen count days and on windy days. It can affect people with and without asthma but they usually have hay fever and are allergic to pollen. It is therefore essential to maintain well-controlled asthma and hay fever.

References

1 Wood, S. (2017). Thunderstorm asthma: the night a deadly storm took Melbourne's breath away. *Sydney Morning Herald.* Retrieved from: http://www.smh.com.au/good-weekend/thunderstorm-asthma-the-night-a-deadly-storm-took-melbournes-breath-away-201703

2 Grundstein, A., Shepherd, M & Miller, P. (2017). The Role of Mesoscale-Convective Processes in Explaining the 21 November 2016 Epidemic Thunderstom Asthma Event in Melbourne, Australia. *Journal of Applied Meteorology and Climatology.* Retrieved from, http://journals.ametsoc.org/doi/abs/10.1175/JAMC-D-17-0027.1

3 Thien, F. (2017). Thunderstorm asthma: potential danger but a unique opportunity *Asia Pacific Allergy,* 7(2), 55. https://doi.org/10.5415/apallergy.2017.7.2.55

4 Australian Society of Clinical Immunology and Allergy. (2016). Thunderstorm Asthma. Retrieved from, https://www.allergy.org.au/patients/asthma-and-allergy/thunderstorm-asthma

5 Levingston, S.A., (2014, July 21). Thunderstorms can worsen asthma and allergies. *The Washington Post.* Retrieved from, https://www.washingtonpost.com/national/health-science/thunderstorms-can-worsen-asthma-and-allergies/2014/07/21/2f338242-06e2-11e4-8a6a-19355c7e870a_story.html?utm_term=.178177c91b51

6 D'amato, G., Vitale, C., D'amato, M., Cecchi, L., Liccardi, G., Molino, A., ... & Annesi-Maesano, I. (2016). Thunderstorm-related asthma: what happens and why. *Clinical & Experimental Allergy,* 46(3), 390-396.

HOUSING AND OUR PACIFIC POPULATION

By Karen Little – Asthma Nurse Educator

Many houses that I go into in South Auckland are extremely cold in winter. Often it feels colder inside than outside, and I can see the breath in front of my face. The World Health Organisation recommends a minimum of 18 degrees Celsius in the living room. I have a basic thermometer and it often reads 11 degrees Celsius. Damp houses are much harder to heat than dry ones, and the health consequences, especially with children, of cold damp houses are well known. Those on low incomes, living in poorly maintained, uninsulated, overcrowded houses are the worst affected.

The term Pacific people, refers to a diverse group of people who come from 20 Pacific Islands. According to the 2013 Census, there were 57 distinct groups in New Zealand. The largest Pacific group is Samoan 49%, followed by Tongan 24%.[1] The majority of Pacific people in New Zealand (66%) live in Auckland, and over half of Auckland's Pacific population reside in South Auckland, particularly in the Mangere-Otahuhu area. The Pacific population in NZ has the highest proportion of children aged 0-14years, 37% of the Pacific population, compared to 19% for the European population.[1] Pacific people are projected to make up 17.6% of the Auckland population by 2038. Projected numbers 146,100, European 120,100, and Maori 101,100.[2]

Pacific people are 3.7 times and Maori 2.9 times more likely to be hospitalised for asthma than other New Zealanders. People living in the most deprived areas are 3.2 times more likely to be hospitalised than those in the least deprived areas.[3] Pacific people in Auckland live in areas of higher socio-economic deprivation. In 2013, 71% of Pacific people in Auckland lived in an area rated 8-10 on the NZDep (social deprivation index). This is considerably larger than Maori, 50%, Asian, 28%, and European 16%. 10 indicates poor outcomes, and 1 positive outcomes, on a range of key socio-economic variables at the household level.[4] Pacific people are also more likely to live in larger households than other ethnic groups. This is due to larger families, multi-family households, and more intergenerational households.[5] The Ministry of Health 2014, cites reports that show household crowding is an important risk factor for infectious diseases, such as respiratory infections, which are a very common cause for a flare up of asthma.[6] It also states that adults and children living in crowded households are less likely to access health care services than those in non-crowded households. Rates of rheumatic fever have been reported to be dropping for the New Zealand population as a whole, but remain at an eight times higher rate in the Pacific population.[7] The relative affordability of housing should be acknowledged as the main causal factor in overcrowding in Auckland. Pacific people are recorded as having the worst overcrowding in Auckland of all ethnic groups, with 45% of all pacific people living in overcrowded households, compared to Maori with 25%.[8] The unemployment rate for the European ethnic group is 4.4%, compared to 15% for the Pacific ethnic group.[9] The report contrasts work-rich households with work- poor ones, and concludes that work-poor households are less likely to be able to invest in post-secondary qualifications which is fundamental to reducing inequality.

Living in extended family groups, and supporting those beyond the immediate family circle financially is embedded in Pacific culture. Those in the most extreme financial stress are required to demonstrate their financial hardship to many social service providers who at times seem to work independently of one another. Always at Asthma Auckland, we endeavour to be advocates for our clients by

writing letters of support to Housing New Zealand, WINZ, and landlords to request repairs, insulation, transfers and generally to try to improve living conditions.

The Healthy Homes Initiative was launched in 2001 throughout the country to identify and support families at risk of serious health complaints associated with their housing. In May 2016, the Government announced that it is investing a further $418 million over four years to expand the programme.[10] This will help to improve insulation, ventilation and heating. The Pacific Housing Action Plan 2016/17 aims to provide Pacific social housing clients with warm, healthy, comfortable homes. The point of difference in the plan is that it is to be undertaken by Pacific providers.[11] The Auckland Plan sets out a 30-year vision for Auckland.[12] A strategic direction is to reduce the disparity in home ownership rates between Maori and Pacific people, and the overall rate to less than 10% by 2030. It also has a target to raise living standards, focusing on those most in need, and to accelerate the prospects of Auckland's children and young people through a focus on secure, healthy homes.

Unfortunately, the Government-funded Warm Up New Zealand programme ends in July 2018. A warrant of fitness for houses has been debated in Parliament since 2007. The National party does not want to introduce an "extreme" Warrant of Fitness as it believes it would drive up rents and force rented houses off the market. Instead, changes to the Tenancy Laws came in effect in July 2016, that states insulation in rental properties must meet a required standard and new tenancy agreements must state the level of insulation. Landlords must meet these requirements by July 1st 2019.[13]

Some things that all households can try to do to cut costs and warm up, include trying to control indoor moisture which provides a breeding ground for mould which has been linked to respiratory illness; moist air is also harder to heat. Ventilate your home for 15 minutes in winter, don't dry washing inside, open a window or use extractor fans when showering or cooking. Insulation is the first step to making a house warmer and drier. Block off unused chimneys and use lined curtains that reach the floor. If tenants hold a Community Services Card, they may be eligible for some free curtains from the South Auckland Curtain Bank. Try to eliminate draughts by using "door snakes" or rolled up towels inside door frames. Make the most of the sun. Pull curtains in the morning and close them again when the sun goes down to retain the heat.

References

1 Statistics New Zealand. (2013). *New Zealand Census of Population and Dwellings*. Retrieved from, http://www.stats.govt.nz/Census/2013-census/data-tables/population-dwelling-tables.aspx

2 Statistics New Zealand. (2015b). *Subnational Ethnic Population Projections: 2013(base) – 2038*. Retrieved from, http://www.stats.govt.nz/browse_for_stats/population/estimates_and_projections/Sub nationalEthnicPopulationProjections_HOTP2013base.aspx

3 Telfar Barnard, L., Baker, M., Pierse, N., & Zhang, J. (2015). *The impact of respiratory disease in New Zealand: 2014 update*. Wellington, NZ: Asthma Foundation.

4 Atkinson, J., Salmond, C., & Crampton, P. (2014). *NZDep2013 Index of Deprivation*. Wellington, NZ: Department of Public Health, University of Otago.

5 Statistics New Zealand (2016b). *Changes in home-ownership patterns 1986-2013: Focus on Māori and Pacific people*. Retrieved from http://www.stats.govt.nz/browse_for_stats/people_and_communities/housing/changing-Māori-pacific-housing-tenure.aspx.

6 Ministry of Health. (2014). *Analysis of household crowding based on Census 2013 data*. Wellington, NZ: Ministry of Health

7 Jones, N. (2016, March 8). New Zealand has had what many health workers consider a scandalously high rate of rheumatic fever, a Third World disease associated with poverty and especially household overcrowding. *New Zealand Herald*.

8 Goodyear, R., and Fabian, A. (2014). *Housing in Auckland: Trends in housing from the Census of Population and Dwellings 1991 to 2013*. Wellington: Statistics New Zealand.

9 The Royal Society of New Zealand. (2014). *Our Futures Te Pae Tāwhiti*. The 2013 census and New Zealand's.

10 New Zealand Government. (2016). *$36m for warmer, healthier homes*. Retrieved from, https://www.beehive.govt.nz/release/36m-warmerhealthier-homes

11 Ministry for Pacific Peoples. (2015). *The Pacific Housing Action Plan 2016/17*. Ministry for Pacific Peoples. Retrieved from, http://www.mpp.govt.nz/pacific-people-in-nz

12 Auckland Council (2012a). *The Auckland Plan*. Retrieved from, http://theplan.theaucklandplan.govt.nz.

13 Residential Tenancies Amendment Act. (2016). *Residential Tenacies Amendment Bill*. Retrieved from, https://www.parliament.nz/en/pb/bills-and-laws/bills-proposed-laws/document/00DBHOH_BILL67990_1/residential-tenancies-amendment-bill

Some Eco — Friendly Ways to Manage Moulds

Mould can often be a problem through the winter months, particularly in moist warm areas. We can all be exposed to some mould, usually with no ill effect. However, for people with asthma and other respiratory diseases inhaling mould spores can induce a flare up of their asthma and even for non-asthmatics, trigger an allergic reaction resulting in upper respiratory responses such as wheezing, coughing and itchy runny eyes.

Mould can be difficult to eliminate due to its ability to grow in wall cracks and other challenging places that are warm moist areas. The problem starts when mould spores drift through the air, eventually settling on a surface that provides moisture and the right temperature to grow. Mould spores are smaller than pollen grains and can be inhaled into the airways without getting trapped by the normal airway filters.

The best way to eradicate mould is to clean, and keep surfaces dry. Controlling the moisture levels in your home is crucial to preventing mould.

Here are a few effective and inexpensive eco-friendly remedies to get rid of mould in your house, that won't hurt your family, pets or the environment. You are best to wear gloves and if you do have asthma then you are best to get another member of the household to do this.

Baking Soda: Mix this with vinegar (white is best) and water or just water. Dissolve the baking soda with the water/vinegar solution, and spray onto the surface. Let it sit, then scrub or wipe with a damp cloth. Baking soda is a natural disinfectant and very mild, so this solution will clean mould without leaving behind a scent.

Vinegar: Vinegar is a great fungicide to remove mould from any surface. Spray onto offending area directly and leave for several hours, then scrub the mould with a brush. Studies have shown that white vinegar kills 82 percent of mould spores, as well as viruses and bacteria. Vinegar also can prevent mould if you spray it on surfaces and leave it to dry (again white vinegar is best).

Combine vinegar and baking soda to make a runny paste and you have a very effective mould remover. Let it sit, then scrub and wipe with a damp cloth. This is ideal for removing mould from the corners of bathtubs and showers.

We suggest that you:

- Ventilate. Open windows and doors for at least 10-20 minutes during the winter.
- Fix any plumbing leaks and other water problems as soon as they arise and dry any damp areas or items completely.
- Install an extractor fan, particularly in bathrooms and laundries.
- Dry clothes outside or in a drier that is ventilated to the outside.
- Wash and/or air clothing and shoes if wet.
- Clean (and dry) bathroom at least weekly.
- Clean out fridge and drip tray often.

ASTHMA NURSE EDUCATORS WITH THE ASIAN COMMUNITY

Janet and Karen had a busy month working with Asian community workers who provide services to support the health of Asian people in the community. We have attended various venues in central and north Auckland, to provide education and information on Asthma Auckland services, and on the management of asthma and COPD. Thank you to Jenny Kim and her team at Waitemata Asian Health Services for kindly translating our powerpoints into Chinese and Korean. Thank you to Lily Xu and her team for inviting us to speak at the central Auckland venues.

Karen with the Asian Network Inc. at Pakuranga Library.

Janet with the Asian Network Inc. team at Onehunga Library.

WORLD ASTHMA DAY

World Asthma Day was promoted on the 2nd May 2017. The theme this year was, "You can control your asthma". As usual, the asthma nurses at Asthma Auckland were busy in the community raising awareness of asthma, and providing education and information to a wide variety of people. The day commenced with Karen Little and Ann Wheat at Southmall working from a booth, kindly provided for us by Neil Punja the manager of Southmall. Over 30 people were given information to help control their asthma.

Karen was then invited to discuss asthma on Radio 531pi's Health Talk. She was joined by East Tamaki Healthcare Dr Richard Hulme, and Joseph Liava'a Community Manager, East Tamaki Healthcare.

Janet Hutchison attended Hillsborough Primary School to provide asthma education for the teachers at the end of the school day. This is a free service available for all schools to help teachers confidently deal with children with asthma in school.

In the evening, Karen and Janet went to the City Mission with free comfort packs (kindly donated by Trevor Lowe, Asthma Auckland's Treasurer), which included toiletries and warm socks. After dinner, the nurses discussed asthma and medications with over 20 homeless people, who are so wonderfully supported by the Mission.

Ann and Karen at Southmall with manager, Neil Punja.

Dear Transpower,

Janet Hutchison and I would very much to thank you for the amazing grant that enabled Asthma Auckland to buy two new cars.

We have three registered nurses who give asthma education and information to people of all ages. We also provide education, information and support to people with Chronic Obstructive Pulmonary Disease (COPD). Our nurses cover the whole of the Auckland region. I work mainly in South Auckland and it is not unusual for me to cover 70 kilometers in a day. The service we provide is so worthwhile as we visit people in their own homes at a time that suits them. When a family is in hospital supporting their child with asthma, they are often too frightened and upset to retain information that is given at that time. Studies have shown that over 80% of emergency treatments and hospital admissions are avoidable if the correct asthma medication and understanding of the condition has been given to the family.

Pacific people are 3.9 times, and Maori people 3.4 times more likely to be hospitalized than other New Zealanders with asthma and people living in the most deprived areas are 3.2 times more likely to be hospitalized than those living in the least deprived areas. 66% of pacific people live in Auckland and of those 60% live in the Mangere – Otahuhu area which is part of the area I cover. So I can assure you that your grant is really making a difference and reaching people in need.

Considering at least 67 people a year die from asthma each year, we still have a lot of work to do. It is very rewarding to help children sleep through the night without coughing and wheezing, they also are not so tired and attend school on a regular basis. It is disappointing that many parents still believe that children with asthma cannot play sports and participate in PE, asthma should not stop adults and children from reaching their full potential.

As you are aware, we are a non-for-profit organization and need to fundraise constantly. If it was not for your company, I think I would have been driving my old car for many years to come. The car I was driving was very basic, and small, and did not have the safety features that my new car does.

Again, my sincere thanks to you and your organization.

Kind regards
Karen Little RN
Asthma Nurse Educator
Asthma Auckland

Pictured, Janet Hutchison (left) and Karen Little (right).

Kid's Page

Unscramble words then name the pictures

1 epro	5 Reet	9 tah
2 PPale	6 Sifh	10 ipg
3 Rac	7 Gdo	
4 Tac	8 relahin	










Answers
1 rope
2 Apple
3 Car
4 Cat
5 Tree
6 Fish
7 Dog
8 Inhaler
9 Hat
10 Pig

Tree Farm

R	E	D	W	O	O	D	A	C	A	C	I	A	A	D
H	Y	O	O	A	L	D	E	R	O	A	T	I	S	N
O	N	O	L	G	E	L	D	E	R	C	L	T	L	O
L	O	W	L	R	W	M	A	N	G	O	O	U	A	M
E	B	X	I	A	T	O	C	M	N	W	N	N	B	L
P	E	O	W	D	G	B	O	G	A	E	E	R	U	A
U	M	B	R	E	L	L	A	D	P	G	L	E	N	T
T	B	I	R	C	H	M	W	S	N	E	A	T	E	S
H	L	A	U	R	E	L	A	A	S	P	L	T	D	U
C	E	H	I	C	K	O	R	Y	L	W	D	U	N	C
R	L	M	U	Z	E	O	M	A	T	N	O	B	I	O
A	P	R	L	T	K	G	T	D	H	T	U	O	L	L
L	P	I	E	O	T	A	H	O	L	L	Y	T	D	L
S	A	B	E	E	C	H	E	S	T	N	U	T	X	T
C	H	E	R	R	Y	K	P	O	P	L	A	R	J	P

Acacia
Alder
Almond
Apple
Aspen
Balsa
Basswood
Beech
Birch
Boxwood
Butternut
Catalpa
Cedar
Cherry
Chestnut
Coconut
Dogwood
Ebony
Elder
Hemlock
Hickory
Holly
Larch
Laurel
Linden
Locust
Magnolia
Mango
Orange
Poplar
Redwood
Spruce
Tupelo
Umbrella
Walnut
Willow

COMMUNITY ACQUIRED PNEUMONIA

By Adie Riddell RN

Community acquired pneumonia (CAP) is a serious and potentially fatal acute infection of the lung parenchyma in one or both lungs that can be caused by bacteria, viruses, fungi, or chemical irritants which are present in the air we breathe. It is defined as an inflammation and consolidation of lung tissue due to an infectious agent.

It has sometimes been referred to as the forgotten killer. The World Health organisation estimates that lower respiratory tract infection is the most common infectious cause of death in the world with almost 3.5 million deaths yearly.[1] It is one of the most important serious infectious diseases, accounting for a considerable number of hospital admissions, with an increasing incidence in many parts of the world and an increasing rate of serious complication.

In New Zealand, pneumonia is a significant cause of hospitalisation and has a reported mortality between 6.5 – 8% among both children and adults,[2] with Maori and Pacific peoples being at increased risk compared to other people in New Zealand. In a research paper published in the New Zealand Medical Journal, it was noted that there was a distinctive disparity in prevalence between Maori and non-Maori.[3] Maori have been identified as being six times more likely to die from pneumonia than non-Maori, and Pacific peoples also have a higher risk of pneumonia then European New Zealanders. They determined that it was very likely that socioeconomic factors impacted on these statistics. Overcrowded living conditions, economic status, and access to medical care were also likely to be influencing factors. Smoking both active and passive, particularly for children, is a well-documented risk factor for CAP. The main mechanisms for this predisposition relate to the suppressive effect that smoking has on the protective actions of the airway mucociliary clearance mechanism, on the various components of the innate and adaptive immune systems of the host, as well as direct effects on microbial pathogens that promote their virulence, and possibly antibiotic resistance.[4]

There are many causes of pneumonia with the main causative organisms being bacterial, viral and mycoplasma. It is usually caused by inhalation of micro-organisms from the upper respiratory tract and usually the body's immune system can prevent these foreign bodies from impacting on the airway. It is a serious infection or inflammation in which the air sacs fill with pus and other liquid. It causes cough, fever and respiratory restriction. (Figure 1. Shows mucous casts coughed up 3 weeks post-pneumonia in an 8 year-old child.)

Bacterial pneumonia is caused by a bacterium the most common being Streptococcus pneumoniae (pneumococcus).[5] While this can affect all age groups – it is more often seen in people with weakened immune systems, chronic respiratory illness, cigarette smokers and post-surgery. It usually occurs when the body is weakened in some way – and the bacteria are able to work their way into the lungs.

Viral pneumonia is caused by various viruses including influenza A and B, this being the main cause in adults. In infants and children Respiratory syncytial virus, or RSV, is more common than in adults. Coronavirus, rhinovirus, parainfluenza and adenovirus are other causative organisms.

Viral pneumonia tends to develop slowly over a number of days, whereas bacterial pneumonia usually develops quickly, often over a day.

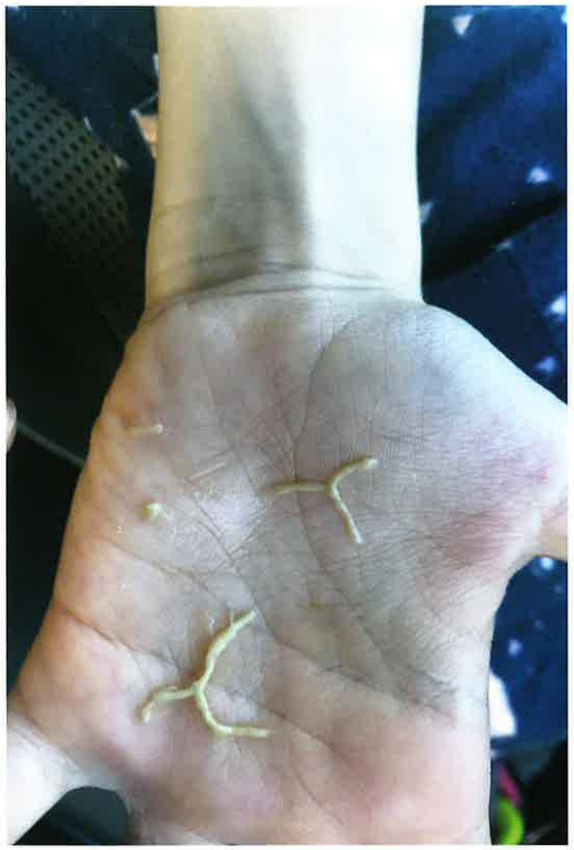


Figure 1. Bronchial casts coughed up post-pneumonia. Courtesy of an 8 year old girl and her mum.

Mycoplasma pneumonia usually has a prolonged and gradual onset. It is a common cause of community acquired pneumonia (CAP). It is caused by the bacterium Mycoplasma pneumoniae and is generally a mild, widespread pneumonia that can affect all age groups.

The most common presenting symptoms suggestive of bacterial and viral pneumonia are likely to be a productive cough (producing green, yellow or bloody mucous), fever, shaking chills, shortness of breath, low energy, chest pain and extreme tiredness.[5] Symptoms of mycoplasma pneumonia can be different in that patients often present with a mucous producing prolonged cough.

Treatment for bacterial pneumonia in children is usually with antibiotics and not usually tailored to a specific organism. Hydration is important as is analgesia (pain relief). In adults, antibiotics are also first line treatment and further investigation may be required to manage a suspected atypical infection.

There is no good treatment for viral pneumonia, which usually gets better on it's own. Fluids, analgesia, fever control, rest and healthy diet all contribute to recovery.

Prevention of CAP can be supported by treating underlying illnesses increasing its risk, such as smoking cessation, vaccination and preventative management of asthma. Handwashing before and after meals, after blowing your nose and going to the bathroom, and after coming into contact with people who are sick can help prevent CAP.

There are three vaccines available in New Zealand to prevent some types of CAP. The 10-valient pneumococcal vaccine PCV10 is a part of the childhood immunisation schedule (given at six weeks, three, five and fifteen months).[6] The 13-valent vaccine, PCV13 Prevenar 13, is used for children at high risk of complications, followed by the 23-valent vaccine, 23PPV Pneumovax 23, after age 2 years. Adults aged over 65 years and those at increased risk of complications from pneumonia should receive the vaccine Pneumovax 23. With a second dose three to five years after their first dose. Seasonal influenza vaccine is also recommended for people at high risk to help prevent post –viral pneumonia or pneumonia secondary to influenza.[6]

CAP is an infection that has the potential to cause serious lung infection and most people will respond to appropriate and prompt treatment. Young children and older adults are most at risk. With treatment most people will improve within two weeks.

References

1 Wunderink, R. G., & Waterer, G. W. (2014). Community-acquired pneumonia. *New England Journal of Medicine, 370*(6), 543-551.

2 Chambers, S., Laing, R., Murdoch, D., Frampton, C., Jennings, L., Karalus, N., ... & Town, I. (2006). Maori have a much higher incidence of community-acquired pneumonia and pneumococcal pneumonia than non-Maori: findings from two New Zealand hospitals. *The New Zealand Medical Journal (Online), 119*(1234).

3 *bpac*^{NZ}. (2012). The management of community acquired pneumonia. Retrieved from, www.bpac.org.nz/BPJ/2012/August/pneumonia.aspx

4 Feldman, C., & Anderson, R. (2003). Cigarette smoking and mechanisms of susceptibility to infections of the respiratory tract and other organ systems. *Journal of Infection, 67*(3), 169-184.

5 5. Brown, J. S. (2012). Community-acquired pneumonia. *Clinical Medicine, 12(6),* 538-543.

6 6. Ministry of Health. (2011). Immunisation Handbook. Wellington, NZ: Ministry of Health.

NEWSTREAM

Source: **Allergol Int**

Early control treatment with montelukast in preschool children with asthma: A randomized controlled trial; Nagao M, Ikeda M, Fukuda N, Habukawa C, Kitamura T, Katsunuma T, Fujisawa T, LePAT (Leukotriene and Pediatric Asthma Translational Research Network) investigators ; Allergology International (May 2017)

BACKGROUND: While Japanese guideline recommends initial control treatment for preschool children with asthma symptoms more than once a month, Western guidelines do not. To determine whether control treatment with montelukast was more effective than as-needed β2-agonists in this population, we conducted a randomized controlled trial.

METHODS: Eligible patients were children aged 1-5 years who had asthma symptoms more than once a month but less than once a week. Patients were randomly assigned in a 1:1 ratio to receive montelukast 4 mg daily for 48 weeks or as-needed β2-agonists. The primary endpoint was the number of acute asthma exacerbations before starting step-up treatment with inhaled corticosteroids. This study is registered with the University Hospital Medical Information Network clinical trials registry, number UMIN000002219. RESULTS From September 2009 to November 2012, 93 patients (47 in the montelukast group and 46 in the no-controller group) were enrolled into the study. All patients were included in the analysis. During the study, 13 patients (28%) in the montelukast group and 23 patients (50%) in the no-controller group had acute exacerbations with the mean numbers of 0.9 and 1.9/year, respectively (P = 0.027). In addition, 10 (21%) and 19 (41%) patients received step-up treatment, respectively. Cumulative incidence of step-up treatment was significantly lower in the montelukast group (hazard ratio 0.45, 95% confidence interval 0.21 to 0.92; P = 0.033).

CONCLUSIONS: Montelukast is an effective control treatment for preschool children who had asthma symptoms more than once a month but less than once a week.

Source: **Respir Care**

Smoke, Biomass Exposure, and COPD Risk in the Primary Care Setting: The PUMA Study; Montes de Oca M, Zabert G, Moreno D, Laucho-Contreras M, Lopez Varela M, Surmont F; Respiratory Care (May 2017)

BACKGROUND: The evidence indicates that risk factors other than smoking are important in the development of COPD. It has been postulated that less traditional risk factors (eg, exposure to coal and/or biomass smoke) may interact with smoking to further increase COPD risk. This analysis evaluated the effect of exposure to biomass and smoking on COPD risk in a primary care setting in Latin America.

METHODS: Subjects attending routine primary care visits, ≥40 y old, who were current or former smokers or were exposed to biomass smoke, completed a questionnaire and performed spirometry. COPD was defined as post-bronchodilator FEV1/FVC<0.70 and the lower limit of normal. Smoking was defined by pack-years (≤ 20, 20-30, or>30), and biomass exposure was defined as an exposure to coal or wood (for heating, cooking, or both) for ≥ 10 y.

RESULTS: One thousand seven hundred forty-three individuals completed the questionnaire, and 1,540 performed spirometry. Irrespective of COPD definition, approximately 40% of COPD subjects reported exposure to biomass versus 30% of those without COPD. A higher proportion of COPD subjects (post-bronchodilator FEV1/FVC<0.70) than those without COPD smoked>30 pack-years (66% vs 39%); similar results were found with the lower limit of normal definition. Analysis of exposure to biomass>10 y plus smoking>20 pack-years (reference was no exposure) found that tobacco smoking (crude odds ratio [OR] 4.50, 95% CI 2.73-7.41; adjusted OR 3.30, 95% CI 1.93-5.63) and biomass exposure (crude OR 3.66, 95% CI 2.00-6.73; adjusted OR 2.28, 95% CI 1.18-4.41) were risk factors for COPD, with smoking a possible confounder for the association between biomass and COPD (post-bronchodilator FEV1/FVC<0.70); similar results were found with the lower limit of normal definition.

CONCLUSIONS: Subjects with COPD from primary care had a higher exposure to biomass and smoking compared with non-COPD subjects. Smoking and biomass are both risk factors for COPD, but they do not appear to have an additive effect.

Source: **Annals of Allergy; Asthma; & Immunology**

Different prevalence and clinical characteristics of asthma-chronic obstructive pulmonary disease overlap syndrome according to accepted criteria; Jo Y, Lee J, Yoon H, Kim D, Yoo C, Lee C; Annals of Allergy; Asthma; & Immunology 118 (6), 696-703.e1 (Jun 2017)

BACKGROUND: A unified definition of asthma-chronic obstructive pulmonary disease overlap syndrome (ACOS) is not available, which makes it difficult to evaluate the prevalence and clinical features of patients with ACOS.

OBJECTIVE: To investigate the prevalence and clinical characteristics of ACOS according to the updated widely accepted diagnostic criteria.

METHODS: Participants were enrolled from a prospective cohort study conducted between April 2013 and November 2016 in South Korea. We adopted 4 criteria of ACOS: modified Spanish, American Thoracic Society (ATS) Roundtable criteria, the Latin American Project for the Investigation of Obstructive Lung Disease (PLATINO), and the Global Initiative for Asthma/Global Initiative for Chronic Obstructive Lung Disease (GINA/GOLD) criteria. The prevalence, clinical characteristics, and exacerbations of ACOS were investigated.

RESULTS: Among 301 patients with chronic obstructive pulmonary disease, 31.3%, 11.9%, 48.3%, and 46.15% were diagnosed with ACOS according to the modified Spanish, ATS Roundtable criteria, PLATINO, and GINA/GOLD criteria, respectively. Compared with other criteria, patients with ACOS diagnosed according to the modified Spanish criteria had better exercise capacity and lung function at baseline but higher risk of moderate to severe (adjusted hazard ratio, 1.97; 95% confidence interval, 1.14-3.41; P = .01) and total (adjusted odds ratio, 2.10; 95% confidence interval, 1.33-3.31; P<.01) exacerbations during at least a 1-year follow-up period than patients without ACOS.

CONCLUSION: The prevalence of ACOS varied according to the diagnostic criteria. Among the different criteria, the modified Spanish criteria could identify patients with more asthmatic features and higher risk of exacerbation.

TRIAL REGISTRATION ClinicalTrials.gov Identifier: NCT02527486.

Source: **J Asthma**

Factors Associated with In-School Physical Activity among Urban Children with Asthma; Reznik M, Islamovic F, Choi J, Leu C, Rowlands A; Journal of Asthma (Jul 2017)

OBJECTIVE: A cross-sectional study was conducted to determine if in-school physical activity (PA) varied by age, gender, weight and asthma status, participation in physical education (PE), outdoor recess, and other in-school PA among urban schoolchildren with asthma.
METHODS: PA was measured by tri-axial accelerometers. Height and mass were measured and overweight defined as BMI ≥85(th) percentile. Asthma impairment and risk were assessed as per national guidelines and asthma status variable with 3 categories (mild, moderate and severe) was created. Multivariable generalized linear mixed models adjusting for clustering due to school and student were fitted to identify variables predictive of PA.
RESULTS: 108 children with asthma participated. Children spent 374 minutes in school, of which 253 minutes were sedentary, 105 minutes in light PA and 16 minutes in moderate-vigorous PA (MVPA). Only 3 participants reached the recommended ≥30 minutes/day of MVPA. Multivariable analysis revealed age, gender, participation in PE class, outdoor recess, and other in-school PA as independent predictors of PA. BMI and asthma status were not associated with PA.
CONCLUSIONS: Children with asthma were mostly sedentary at school. Older children and girls were particularly at risk for inactivity. PE, recess, other in-school PA participation are modifiable factors that should be targeted in school-based interventions aimed at increasing PA in this population.

Source: **J Asthma**
Biologic treatment eligibility for real-world patients with severe asthma: The IDEAL study; Albers F, Müllerová H, Gunsoy N, Shin J, Nelsen L, Bradford E, Cockle S, Suruki R; Journal of Asthma 1-9 (Jun 2017)
OBJECTIVES: Severe asthma comprises several distinct phenotypes. Consequently, patients with severe asthma can be eligible for more than one biologic treatment targeting Th2 inflammation, such as anti-interleukin (IL)-5 and anti-immunoglobulin (Ig) E. The objective of this study was to describe treatment eligibility and overlap in treatment eligibility for mepolizumab (anti-IL-5), omalizumab (anti-IgE) and reslizumab (anti-IL-5) in patients with severe asthma, who were recruited from clinical practice.
METHODS: This cross-sectional, single-visit, observational study in six countries enrolled patients with severe asthma (defined by American Thoracic Society/European Respiratory Society guidelines). Assessable patients were analysed as a total cohort and a sub-cohort, who were not currently receiving omalizumab. Treatment eligibility was defined according to the local prescribing information or protocol-defined inclusion/exclusion criteria. Patients currently receiving omalizumab were automatically categorised as omalizumab-eligible.
RESULTS: The total cohort comprised 670 patients who met the analysis criteria, of whom 20% were eligible for mepolizumab, 31-41% were eligible for omalizumab (depending on eligibility criteria used), and 5% were eligible for reslizumab. In patients not currently receiving omalizumab (n = 502), proportions eligible for each biologic were similar (mepolizumab: 20%, reslizumab 6%) or lower (omalizumab 7-21%) than those for the total cohort. Overlap in treatment eligibility varied; in mepolizumab-eligible patients not currently receiving omalizumab (n = 101), 27-37% were omalizumab-eligible and 18% were reslizumab-eligible.
CONCLUSIONS: Treatment eligibility for mepolizumab and omalizumab was higher than that for reslizumab. Although there was some overlap in treatment eligibility, the patient groups eligible for treatment with anti-IL-5 or anti-IgE therapies were often distinct, emphasising the different phenotypes and endotypes in severe asthma.

Source: **Respir Med**
Effect of a single exacerbation on decline in lung function in COPD; Halpin D, Decramer M, Celli B, Mueller A, Metzdorf N, Tashkin D; Respiratory Medicine 128 85-91 (Jul 2017)
BACKGROUND: COPD exacerbations are associated with accelerated lung function decline, but whether they are causal is unknown. We evaluated the effect of a single exacerbation on rate of lung function change using data from the 4-year Understanding Potential Long-term Impacts on Function with Tiotropium (UPLIFT(®)) trial.
METHODS: Retrospective analysis of annual rates of decline in FEV1 and FVC before and after a single (and the only) moderate-to-severe exacerbation in patients during UPLIFT(®) (exacerbator subgroup), compared with changes between the first and second half of the study in a non-exacerbator subgroup. A sensitivity analysis examined annual rates of decline in matched pairs of exacerbators and non-exacerbators.
RESULTS: Following the single moderate-to-severe exacerbation, mean annual decline in post-bronchodilator lung function increased compared with the rate of decline before the exacerbation (FEV1 76.5 vs. 39.1 mL/year, p = 0.003; FVC 106.5 vs. 34.7 mL/year, p = 0.011). In non-exacerbators, there were no differences in rates of decline between the first and second halves of the study (post-bronchodilator FEV1 38.2 vs. 41.8 mL/year, FVC 45.3 vs. 43.9 mL/year. Before the single (moderate-to-severe) exacerbation in the exacerbator subgroup, declines in post-bronchodilator FEV1 or FVC were similar to non-exacerbators in the first half of the study; after the single exacerbation they were significantly higher than for non-exacerbators in the second half of the study. The sensitivity analysis showed similar results.
CONCLUSION: A single COPD exacerbation may result in significant increase in the rate of decline in lung function.

asthma NEW ZEALAND THE LUNG ASSOCIATION

Unitec NEW ZEALAND Te Whare Wānanga o Wairaka

Congratulations

Asthma New Zealand – The Lung Association, in conjunction with Unitec is proud to announce and congratulate the successful students from the distance learning Asthma Nursing Course in 2017 – 1st semester.

Johanna Bickerstaff – Napier
Vernie Butler – Christchurch
Diane Jennings – New Plymouth
Amrita Archna Kumar – Auckland
Stephanie Helen Muir – Whanganui
Lisa Saunders – Auckland
Ruci Cabemaiwai -– Tauranga

Asthma New Zealand wishes to thank the generous support of the following funders and business –

- Alexander Harold Watson Charitable Trust
- Auckland Council
- Autex Industries Ltd
- B & A Wade Charitable Trust
- Blue Sky Community Trust
- Blue Waters Community Trust
- Boehringer Ingelheim
- BP
- COGS
- Constellation Community Trust
- Dragon Community Trust Ltd.
- DVS Ltd.
- Estate of George Sevicke Jones Trust
- First Sovereign Trust
- Foundation North
- Four Winds Foundation Ltd
- Fujitsu General NZ Ltd
- GSK NZ Ltd
- Hutt Mana Charitable Trust
- Infinity Foundation
- J A Redwood Charitable trust
- Jack Jeffs Charitable Trust
- John Ilott Charitable Trust
- Johnston Ebbett
- Leys Charitable Trust
- Marvyn & Doug Smith Charitable Trust
- Mt Wellington Foundation
- New Zealand Lottery Grants Board
- New Zealand Post
- North & South Trust
- NZCT
- Ocean Bridge Shipping Ltd
- Pakeke Lions Club of Temuka Charitable Trust
- Pelorus Trust
- Perpetual Guardian
- Pub Charity Ltd
- Rotorua Energy Trust
- Sir John Logan Campbell Residuary Estate
- St Joans Charitable Trust
- Ted & Mollie Carr Endowment Trust and Estate of Ernest Hyam Davis
- TG McCarthy Trust
- The Lion Foundation
- The Southern Trust
- The Transpower Community Care Fund
- The Trusts Community Foundation
- Trillian Trust
- Trust House Community Enterprise
- Winton & Margaret Bear Charitable Trust
- Youth Town Inc.

Let's fight Asthma together

"We need your help"

Our family and friends may have asthma, but let's not let asthma have them. Your support to help our community breathe easy has always made a difference in thousands of people who fight to breathe.

Breathe Easy

Please support generously

☐ Yes, I would like to help New Zealanders breathe easy! Here's my gift to support your work

☐ $25 ☐ $50 ☐ $100 ☐ Other: _____

☐ Auckland ☐ Rotorua ☐ Wellington

My gift marked above is to be charged to my credit card

☐ Visa ☐ American Express ☐ MasterCard

Card Number

☐☐☐☐ ☐☐☐☐ ☐☐☐☐ ☐☐☐☐

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.

Mr/Mrs/Miss/Ms _____

Address: _____

_____

_____

Telephone: _____ Email: _____

☐ Please send me information on how I can help Asthma New Zealand through my will

☐ I have already left a bequest for the Asthma Society through my will

☐ I would love to do some voluntary work to fight asthma

Asthma New Zealand-the Lung Association
581 Mt Eden Rd, PO Box 67-066
Mt Eden, Auckland 1024, NZ.
Phone 09 623 0236, Fax 09 623 0774
Email anz@asthma.org.nz

asthma NEW ZEALAND THE LUNG ASSOCIATION

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

Asthma New Zealand's partner societies around New Zealand:

ASTHMA AUCKLAND
PO Box 67066, Mt Eden 1349
581 Mt Eden Road, Auckland 1024
Ph (09) 630 2293

CANBREATHE
196 Hills Road
PO Box 13091
Christchurch 8141
Phone (03) 386 0278

RESPIRATORY SUPPORT GROUP
Kapiti Community Centre,
Ngahina Street,
Paraparaumu 5032
Ph: (04) 297 0573

ASTHMA ROTORUA
PO Box 645, Rotorua 3040
Level 1, 1172 Haupapa Street
Rotorua 3010
Ph: (07) 347 1012

SOUTHLAND ASTHMA SOCIETY
70 Forth Street, Invercargill 9810
Ph (03) 214 2356

WAIRARAPA ASTHMA SOCIETY
Wairarapa Community Centre
41 Perry St
Masterton 5810
Ph: (06) 377 1175

ASTHMA WELLINGTON
Level 1 – Salvation Army Bldg
125-137 Johnsonville Road
Johnsonville, Wellington 6037
PO Box 13520, Wellington 6440
Ph: 04 237 4520

WHAKATANE ASTHMA AND COPD GROUP
141-143 King Street, Whakatane 3120
Ph (07) 307 1447

NORTH OTAGO ASTHMA SOCIETY INC
Community House
100 Thames Street, Oamaru 9400
Ph (03) 434 3202

ASTHMA WAIKATO
PO Box 7013, Hamilton East
Hamilton 3247
Ph (07) 838 0851

Questions, Letters, Articles, Advertisements

0_2 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

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

Breo*® *Ellipta*®** (fluticasone furoate/vilanterol trifenatate inhaler 100/25mcg per inhalation) is a **Prescription Medicine. *Breo Ellipta is used for the regular treatment of asthma (12 years of age and older) and for adults with Chronic Obstructive Pulmonary Disease (COPD). ***Breo Ellipta* 100/25mcg is a fully funded medicine; *Breo Ellipta* 200/25mcg is a private purchase medicine (dose indicated in asthma only). Use strictly as directed. *Breo Ellipta* is not for relief of acute symptoms. Always carry your reliever inhaler. Do not discontinue *Breo Ellipta* abruptly. This medicine has risks and benefits. Tell your doctor:** If you are taking any other medicines or herbal remedies, you have liver disease, heart problems, high blood pressure, pulmonary tuberculosis (TB), infection of the lungs (pneumonia) or weak bones (oesteoporosis). **Side Effects:** headache, common cold, oral thrush, infection of the nose sinuses or throat, flu (influenza), pain and irritation at the back of the mouth and throat, inflammation of the sinuses, pneumonia (in patients with COPD) and weakening of the bones, leading to fractures. **If symptoms continue or you have side effects, see your doctor, pharmacist or health care professional.** For more information including additional side effects, see *Breo Ellipta* Consumer Medicine Information at www.medsafe.govt.nz. Normal doctor's office visit fees apply. Ask your doctor if *Breo Ellipta* is right for you.

Breo and *Ellipta* are registered trade marks of the GlaxoSmithKline group of companies. *Breo Ellipta* was developed in collaboration with Innoviva Inc. Marketed by GlaxoSmithKline NZ Limited, Auckland. **Adverse events involving GlaxoSmithKline products should be reported to GSK Medical Information on 0800 808 500. TAPS 8925NA/17MA/FFT/0020/17**

INNOVIVA