

THE NZ JOURNAL OF RESPIRATORY HEALTH

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(Photo: Asthma New Zealand)



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DISTANCE LEARNING ASTHMA/COPD NURSING COURSE INFORMATION

Dear Nurse

Applications are now invited from nurses wanting to enrol on the Asthma Nursing Course in February 2015 and COPD Nursing Course in April 2015. 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, over 1000 nurses have enrolled over 46 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 – 10 February 2015
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For information contact: Ann/Swarna
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Upcoming events and courses

ASTHMA NEAT COURSE

18 March 2015
17 June 2015

HALF DAY COPD COURSE

15 April 2015
15 July 2015



WORLD ASTHMA DAY



5th May 2015

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



MESSAGE TO READERS

What a year it's been! As we approach the holiday season, it's time to reflect on the year's activity and think about our goals for the future.

We've had some great events over the course of the year, including two Super8 boxing events, where we were the recipient charity, our intrepid supporter Scott Donaldson presenting to schoolchildren and the public about his adventure, and an open day for World COPD Day.

One of the biggest events of the year, the national election posed an opportunity for Asthma New Zealand. We're hoping to establish a relationship with Dr. Jonathan Coleman, our new Minister of Health, to raise the status of asthma as a government health priority.

Currently, COPD is a government priority, which benefits those who are affected by the condition. However, we think it's time that the government dedicated resources to the treatment and prevention of asthma, proportional to the number of people whom it affects. In 2015, we'll be looking to raise awareness of those affected by asthma in New Zealand, and gain governmental support in making a real difference to their lives. We'd like asthma to be added to the government's health priority list, and we hope Dr. Coleman is up to the challenge!

Our Auckland branch's open day for World COPD Day was a huge success! People came in for information and advice, and to listen to talks on COPD medication, nutrition, and how to maintain a clean, healthy environment. This year's theme was 'It's not too late', with a focus on smoking cessation. Our specially trained nurses offered free spirometry testing to identify symptoms and answered questions, and we're very grateful for their hard work!

While long lunches and catching up with friends sounds very appealing, it's important not to forget your family's health needs while you celebrate the silly season. Here are a few hints to keep you happy and healthy over the holidays:

- Dust and pollen are common triggers during summer. If you're going away, make sure the place you are staying is clean and well ventilated.
- Pollen rises in the morning and settles in the evening, so it's best to dry laundry outside during the middle of the day, otherwise, hang it indoors or use a dryer.
- Are you affected by stress? Pre-empt it! Ensure your medication is in-date and you have enough to last you through the festive season, and use your preventer regularly.

We've been humbled by the amount of support we've received this year, through people donating their time, money, skills and resources to help us help those with asthma. Everyone who contributes makes a difference, and we'd like to thank all those involved. Your support is hugely valuable, and together, we'll continue improving the lives of Kiwis with asthma.

We'd like to wish everyone a happy and safe holiday season. Relax, enjoy time with friends and family, and stop in and see us in the New Year.

Linda Thompson
Executive Director
Asthma New Zealand

CHRONIC COUGH LASTING FOR MORE THAN 8 WEEKS IS COMMON IN THE COMMUNITY

By Karen Little RN
Asthma Nurse Educator

We see adults and children in the community being prescribed Ventolin or Flixotide where a wheeze has never been heard, but the main complaint is a persistent cough, especially at night. Diseases causing chronic cough include asthma, eosinophilic bronchitis, gastro-oesophageal reflux disease, postnasal drip or rhino sinusitis, chronic obstructive pulmonary disease, pulmonary fibrosis and bronchiectasis.¹ Adult protocols emphasizing the treatment of persistent cough with medications for asthma, postnasal drip/sinusitis and gastro-oesophageal reflux (GOR) have been extrapolated to children although there is very poor evidence that these same factors are common causes of persistent cough in children. The use of isolated cough as a marker of asthma is controversial with more recent evidence showing that in most children isolated cough does not represent asthma.² Wright et al. showed that recurrent cough in children was significantly different to classical asthma in terms of airway hyper-responsiveness, IgE levels and atopy.³

Understanding what different types of cough could mean may help parents know when to seek medical advice. A "barky cough" is often caused by a swelling in the upper part of the airway. This is often caused by croup, which is a swelling of the larynx and trachea. Croup is the result of a virus but can also come from allergies or a change of temperature at night. Children younger than 3 years old are at the most risk for croup because their airways are so narrow. Often a child with croup will also have stridor, which is a noisy, harsh breathing that occurs when a child inhales.

Whooping cough is another name for pertussis, which is caused by the bacteria *Bordetella pertussis*. This can cause back to back coughs without breathing between. At the end of the coughing, the child will take a deep breath in, which can make a "whooping" sound.

A cough with a wheezing sound when breathing out could be a sign of asthma or from a virus which causes bronchiolitis. Also a wheezing sound can happen if an airway is blocked by a foreign airway.

Lots of coughs get worse at night. When sleeping, the mucus from the nose and sinuses can drain down the throat and trigger a cough during sleep. Asthma can also trigger night-time coughs, because the airways tend to be more sensitive and irritable at night. If you have an allergy to dust mites this could also trigger asthma at night. If cold air is a trigger for asthma, try to keep the bedroom warm and have the head of the bed away from the window.

Cold air or activity can make coughs worse in the daytime. Check that nothing in the house like air freshener, pets or smoke is making the cough worse.

Children often cough so much that it can trigger their gag reflex, making them vomit. Also, if a lot of mucus drains into the stomach this can cause nausea and vomiting.

The most common irritant that children are exposed to at home is tobacco smoke. These children cough more, and also get 2-4 times as many respiratory infections.

An interesting study by Thomson, Masters and Chang, found that of a review of 49 children referred for persistent cough, 61% were diagnosed with asthma at referral, with similar



referral rates from general practitioners and paediatricians. Children with isolated cough were just as likely to have been diagnosed with asthma as children with cough and wheeze. Medication use (asthma, gastro-oesophageal reflux and antibiotics) prior to referral was high, with asthma medications most common. The referral diagnosis of asthma was unrelated to the nature of the cough, presence of wheeze, positive family history of asthma, effort limitation, or exertional dyspnoea. This highlights the importance of assessment of response to treatment and the importance of not increasing ICS or oral steroids when the cough does not respond. However this may be difficult particularly when the natural resolution of the underlying condition such as a viral infection may mimic a response to treatment. Following investigation at a tertiary respiratory clinic, none of the 49 children's coughs were associated with asthma as a final diagnosis, and pre-referral medication was weaned in all children. In fact, one child who had been treated with asthma medications for 12 years was found to have unrecognised obstructive bronchiectasis secondary to an inhaled foreign body. The most common abnormality found (46.9%) was a bronchoscopically defined airway lesion.⁴

Cough is due to irritation of sensory nerve endings, particularly in the larynx, trachea and major bronchi. Cough receptors are sparse in the pharynx, epiglottis, above the vocal cords and in the respiratory bronchioles and alveoli. Normal children wearing cough meters have been recorded as coughing 10-11 times per day, but rarely at night. During a respiratory infection this may increase to 60-100 times during the day and less often at night.⁵ Professor Philip Pattermore, Associate Professor of Paediatrics at Christchurch School of Medical and Health Sciences, informs us that if a child has a recurrent or nocturnal cough in the absence of wheezing it is very unlikely to be asthma. From the age of 2-5 children may have 4-10 respiratory infections a year, mostly during winter. Persistent coughing after each infection may seem to blend together and be described as a chronic 3 month cough.⁶ The coughing bouts in whooping cough usually last for three to four months. Swabs for culture are insensitive after the first few weeks of illness. Antibiotics do not affect the course of the coughing, but if given in the first two weeks may shorten the infectious period.⁷

There are various drugs which may partially suppress cough, although the cough reflex is very difficult to eradicate. There is also lack of evidence for the efficacy of most antitussive drugs. British Thoracic Society guidelines state: "There are no effective treatments controlling the cough response per se with an acceptable therapeutic ratio." Cough medicines are not recommended for children under the age of 6.⁸

Coughs caused by colds due to viruses can last weeks, especially if your child has one cold right after another. Asthma, allergies, or a chronic infection in the sinuses or airways also may cause a persistent cough. If the cough lasts for 3 weeks, see your doctor. Of course also see your doctor if there is a high fever, cyanosis, the child is under 3 months old and has been coughing for longer than 3 hours, is coughing up blood, has stridor or wheeze.

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DEAR NURSE



Dear Nurse, when my nose gets blocked with hay fever (allergic rhinitis) why does my asthma get worse?

At least three out of four people with asthma also have allergic rhinitis. Effective treatment for allergic rhinitis can help you keep your asthma under control. The nose is there to warm and filter the air that we breathe. If it is blocked it cannot do its job. People who have both allergic rhinitis and asthma should use both a preventer nasal spray and an asthma preventer inhaler regularly. Remember that both these medicines may take at least two weeks to start to work. Ask your nurse how to use a nasal spray correctly or read the instructions.

Dear Nurse, I am the mother of an eight year old and he tells me he can't run around with his friends at school, and they always beat him when they do athletics because he has to stop as he runs out of breath, and feels like he can't breathe properly.

He may have exercise induced asthma. There are many different triggers that cause asthma symptoms. One of the main triggers is sport or exercise. Some people ONLY have exercise induced asthma (EIA) while others have many different triggers, of which exercise is just one. Please make an appointment to see your doctor. The doctor will probably prescribe a blue puffer (reliever medication) to use. This is taken 10 minutes before exercise or sport to help stop the muscles on the outside of the airways constricting and causing the airway to become narrowed. Make sure you talk to the nurse so she can show you both how to use it correctly with a spacer and explain when your son should use it. He must take his blue puffer with him at all times. If he is using the reliever puffer more than two times a week he may need to go onto a preventer inhaler. If you are concerned see your doctor for a review. Remember exercise is important for people with asthma as it helps to improve their fitness. People with asthma can participate in sport or exercise at the top level if they have good asthma control.

IF YOU HAVE A QUESTION PLEASE EMAIL OR POST TO:
editor@asthma.org.nz or Dear Nurse, Asthma New Zealand,
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ALCOHOL – DOES IT EFFECT YOUR ASTHMA?

By Alice Paul RN
Asthma Nurse Educator

Alcohol plays a major role in the social life of people the world over and this includes people with asthma. According to the NZ-statistics alcohol is one of the most commonly used drugs in New Zealand. And it notes that while most New Zealanders enjoy alcohol in moderation, there are negative health and social consequences associated with drinking.

(<http://www.alcohol.org.nz/research-resources/nz>)

There are several articles written about the adverse effects that alcohol has on health and the risks the person faces when they have consumed too much alcohol. We are all too aware of the youth binge-drinking culture and the negative effects it has on their health but seldom hear about how or if those young people with asthma are adversely effected.

We know from the numerous studies that have been carried out that asthmatics and non asthmatics alike who suffer an adverse reaction to even a small amount of alcohol are more likely to be oversensitive to some of the ingredients found in the alcohol.

What ingredients in alcohol cause an allergic reaction?

If you have a food allergy then it is possible that you are allergic to one or more of the ingredients in alcohol. The allergic reaction is not caused by the ethanol which is produced by the fermentation of sugars by yeasts, which causes alcohol intoxication if consumed in sufficient quantities.

Alcohol is a complex substance and contains many ingredients including gluten/wheat, histamine, sulphites, yeast, grapes, corn, artificial flavourings and colour. An allergy to any one of these individual ingredients may be the culprit in causing the allergic reaction.

Gluten: Gluten is found in rye, barley and wheat. Some people have an allergy to wheat and wheat products. Malted barley, which contains gluten and wheat are both used to make beer, so people who seem to have an alcohol allergy could actually have sensitivity to gluten or wheat.

Histamine: It is a natural substance found in our bodies and is directly involved with the allergic process. It is a chemical which occurs naturally in certain foods/alcohol drinks. When your body meets an allergen, it makes chemicals called IgE antibodies. They cause the release of chemicals like histamine, which causes swelling and inflammation.

Sulfites: Sulfites have been used for centuries, mainly as food additives, but can also occur naturally in foods such as fermented beverages and wines. These are sulfur-containing compounds naturally found in wine and beer. They help prevent bacteria (germs) from growing in these liquids. Sulfites can trigger severe allergic reactions leading to anaphylaxis or asthma attacks in sensitive people, although the severity of the response is directly related to the amount of alcohol consumed. Organic wines are not necessarily

sulfite-free, but generally have the lowest amount because no additional sulfites are added, as with most wines.

Yeast: Fermented foods/alcohol drinks may cause allergy symptoms because they are either rich in histamine or because yeast or mould is involved in the fermentation process. A fungus called Brewer's yeast is used as part of the fermenting process in beer, wine, hard cider and other beverages like those. Allergies to this type of yeast are quite common in people also allergic to mould.

Grapes: A person with an allergy to red grapes might be allergic to the grapes themselves or to other substances on the grapes. Yeast, pesticides and mould can be found on grapes and are potential causes of an allergic reaction. Grapes are not a common food allergy, but some people are allergic to grape should avoid wine and champagne. (Rebecca Chancellor: <http://www.livestrong.com/article/276237-allergy-to-red-grapes/>)

Corn: Some people have an intolerance to corn proteins. Corn is always used in the production of bourbon. But it may also be used to produce some beers and other hard liquors. It is believed that distilled alcohols such as bourbon and whiskey do not contain the actual corn protein that triggers symptoms, but there is not enough scientific evidence to be 100 percent sure.

Artificial flavorings and color: If you are allergic to certain artificial coloring or flavorings this could be the reason for a reaction to alcohol, especially in liqueurs or brandies.

Conclusion:

Alcohol in moderation is always the key. If you have food allergies it is advisable to look at the contents of the beverage and ensure it does not contain the trigger that causes your asthma.

Information sourced from: <http://www.healthcentral.com/allergy/c/3387/115306/understanding/> Understanding Alcohol Allergy and Alcohol Intolerance: Kathleen MacNaughton, RN 2010.



CARDIAC ASTHMA...

By Cathy Gasparini, RN, BHSc; PGCert,
Asthma Nurse Educator

The term cardiac asthma is often heard in the community and is sometimes used by medical professionals – what is it and how is it different from bronchial asthma? Although these two conditions have symptoms of shortness of breath and a wheeze, they are from completely different causes. This article looks at these two conditions and will explain the differences.

The term cardiac asthma relates to the heart whereas bronchial asthma relates to the lungs.

Cardiac Asthma

Cardiac asthma is the result of heart pump failure, known as heart failure or congestive heart failure. About 35% of people with heart failure over the age of 65 years will wheeze, and this wheeze is referred to as cardiac asthma.¹ This wheeze mimics the wheeze of acute bronchial asthma.

The signs and symptoms of cardiac asthma results from heart failure, where there is reduced pumping efficiency of the left side of the heart. This impaired pump function results in excess fluid in the pulmonary circulation, where fluid is pushed into the alveolar lumen, thereby impairing gas exchange in the lungs. Heart failure in the left ventricle can lead to heart failure in the right ventricle as well, and this is termed congestive heart failure.²

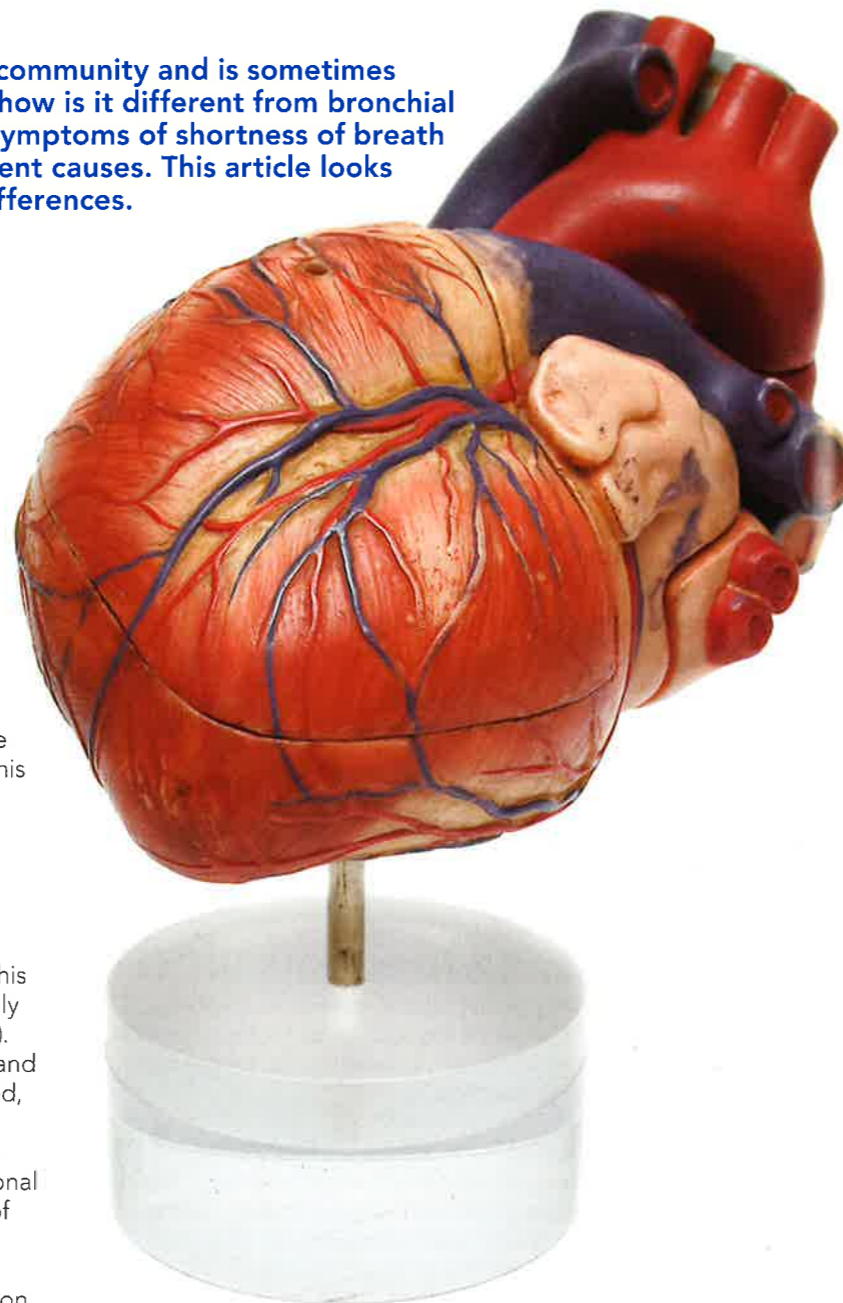
Injury or malfunction to any part of the heart can result in heart failure. Heart failure is a complex syndrome where, after an insult to the heart muscle has occurred, the body tries to compensate. The cardiac output and therefore the blood pressure decreases after the heart injury, however this triggers compensatory mechanisms in the body that initially support the pump action of the heart (ventricular function). Over expression of multiple peptides with different short and long term effects on the cardiovascular system are released, and this neurohormonal activation initially maintains the pump function of the heart, so that organs and tissues are still adequately perfused. However, sustained neurohormonal activation eventually leads to increased stress to the wall of the heart, dilation, and a change in shape of the ventricle (ventricular remodelling), which further impairs the pump function of the heart muscle, contributing to the progression of heart failure.³

In left-sided heart failure, blood and fluid back up into the lungs. The root cause of this is the left ventricle's inability to propel the blood forward.

The symptoms of left-sided heart failure are primarily pulmonary in nature. The backup of blood into the lungs results in increased hydrostatic pressures in the alveoli, which forces fluid into the alveolar sacs and prevents O₂/CO₂ exchange, therefore causing the symptoms of shortness of breath.⁴

A diagnosis of heart failure involves a complete medical history and examination, along with a chest x-ray, ECG, and if strongly suspicious of heart failure, an

echocardiogram. The most specific signs of heart failure on examination are elevated jugular venous pressure, a third heart sound, and a laterally displaced apical pulse. Heart failure can be difficult to diagnose, as sometimes the symptoms can be non-specific. In the primary care setting, a blood test to measure the amount of a peptide called Brain Natriuretic Peptide that is released into the blood stream in response to transmural wall stress is often used to aid in the diagnosis of heart failure, and can differentiate between a cardiac cause of symptoms versus a pulmonary cause.^(4, 5)



Signs and symptoms of heart failure are:

- Wheezing
- Cough
- Dyspnea (shortness of breath)
- Orthopnea (shortness of breath when lying down)
- Sputum (frothy and bloody)
- Symptoms worse at night
- Increase in heart rate and blood pressure

Other symptoms suggestive of heart failure include:

- Lower extremity oedema
- Decreased exercise tolerance⁵

The shortness of breath in people with heart failure typically becomes worse after they go to bed at night, and those with heart failure will often find they wake up a few hours later, gasping for breath. This is due to the accumulation of fluid in the lungs when lying down, leading to shortness of breath.

The pharmaceutical treatment of cardiac asthma is to treat the underlying condition, which is either pulmonary oedema or heart failure. In the acute setting, this is with IV Frusemide, IV Glyceryl Trinitrate, morphine, oxygen, and when needed, positive pressure ventilation. For ongoing management of chronic heart failure, medications such as ACE inhibitors, angiotensin receptor blockers, beta blockers, aldosterone antagonists, and frusemide are used. Digoxin is also used in some cases to improve congestive symptoms in people with heart failure. Lifestyle changes are also recommended, which include a healthy, well-balanced diet that is low in salt, regular exercise as able, weighing oneself daily to monitor for fluid retention, and smoking cessation.⁵

Bronchial Asthma

Bronchial asthma is a chronic lung condition where the airways in the lungs are oversensitive and become easily irritated, making them red and swollen. Inflammation is present in the airways of asthmatics, which makes the airways hyperresponsive to various stimuli. The inflammatory cells present in the asthmatic airway go on to release multiple inflammatory mediators which are responsible for co-ordinating, amplifying and perpetrating the inflammatory response and attracting additional inflammatory cells. The inflammatory mediators result in bronchoconstriction, mucus secretion, exudation of plasma, and airway hyperresponsiveness.⁶

For most people with bronchial asthma, the pattern is periodic attacks of coughing and wheezing alternating with periods of quite normal breathing.

The signs and symptoms of asthma are:

- Cough
- Wheeze
- Shortness of breath
- Chest tightness

Bronchial asthma attacks can be triggered by various factors, including respiratory infections, cold weather, exercise, allergens such as pollen and house dust mites, cigarette smoke, to name a few. Some people can also develop asthma due to an intolerance that their body develops to aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs).⁶

Asthma is diagnosed by a careful history taking and based on the presence of characteristic symptoms. A physical examination may find a wheeze on auscultation which confirms the presence of airflow limitation, however, in some people wheezing may be absent or only detected when the person exhales forcibly. Measurement of lung function can be helpful in assessing the severity of airflow limitation, its reversibility and its variability, and provides confirmation of the diagnosis of asthma. The two most widely used lung function tests are Spirometry and Peak Expiratory Flow measurement. However, these tests cannot be done on children under 6 years old, where a diagnosis is made by a history of signs and symptoms, and responsiveness to inhalers.⁷

The distinction between cardiac asthma and bronchial asthma is important because treatments for asthma and heart failure are different. Treatments for heart failure can help improve your symptoms for both the heart failure and the cardiac asthma. Overusing treatments for true asthma (bronchial asthma), such as rescue inhalers, may actually worsen cardiac asthma and could cause dangerous heart rhythms.⁸

Therefore, if you have any concerns about your symptoms, please see your doctor.

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CREATING AN ASTHMA AND ALLERGY FRIENDLY GARDEN

By Adie Riddell RN
Asthma Nurse Educator, Wellington Asthma Society

Is there such a thing as an allergy friendly garden? At this time of the year those of us with gardens will be busy planting, weeding, redesigning or creating new gardens. But if like me you suffer from asthma and allergy – this can also be quite a miserable allergenic time. Just because you have allergies shouldn't mean that you can't have a great garden, and one that is sneeze-free. There are websites devoted to helping people with allergies and asthma create gardens that won't make them sick. And for those gardeners and designers who are lucky enough not to have allergies, – creating gardens and landscapes that are allergy-friendly is always the kind, considerate thing to do.

According to Thomas Leo Ogren¹ (a renowned American horticulturist) our modern landscapes are stacked with highly allergenic plants. His interest in allergy free gardens was sparked by his wife's allergic response to various plants. Research he has done over the years with his students has revealed that certain flowers never made anyone sneeze, that some flowers made only a few students sneeze, and that there were others that almost always caused trouble. When looking into the plants that caused skin reactions he found that there were plenty of plants that caused skin reactions and others that 'never' did. He continued with his research eventually building up a very large body of plant/allergy data that no one else had. In the following years he has undertaken more in-depth study on plant/allergy connections and on the different plant flowering systems.

One thing that he observed was that so many separate-sexed (dioecious) trees and shrubs often triggered severe allergies. The very 'worst' plants were dioecious, and only the males produced pollen. He concluded that since female plants never produced any pollen, that they were the ones that would be most truly allergy-free. He was the first to notice and then write and publish about how the sex of plants influenced pollen allergies.

But while the female plants are most likely to be less allergenic they are more likely to be 'messier' – producing seed, fruits, messy flowers or old seed pods. For this reason in public urban areas planting 'male' plants was favoured as they were much tidier and required less maintenance. Unfortunately they also have huge amounts of allergenic pollen. The pollen from these planted urban trees does not simply trigger episodes of allergy but potentially can worsen asthma conditions. He comments that there has been a significant increase in pollen counts in most American cities over the years in line with increased plantings of trees that were mainly all wind pollinated male clones.

Some New Zealand cities have also been increasingly concerned about the large increase in urban allergies. New Zealand arborist societies brought Tom to New Zealand to personally inspect their city landscapes for pollen-allergy potential and he discovered that they, too, had almost the exact same kind of landscape problems found in American cities...too many male cloned plants. As a result of the five weeks he spent there, some major cities in NZ are now adopting allergy-free planting principles.

When considering what plants to put in your garden check that they are allergy-free – preferably the female variety. We now have available many asexually-propagated cultivators

of all kinds of plants that produce no pollen at all. There are hundreds of named varieties of shrubs and trees that are female and non-pollinating. There are also others that simply never bloom, such as the non-allergenic olive variety, 'Swan Hill.' These non-bloomers of course produce no pollen. Some vines and ground covers, honeysuckle is a good example, frequently are implicated as allergy causing. Lawns that are weedy or not kept mowed will produce allergenic pollens.



By maintaining good control of your asthma and ensuring you are receiving optimal preventative management for your allergies and asthma, this will lessen the impact of any exposures. Consider using a non-sedating antihistamine prior to working in your garden. Suffering from allergies shouldn't stop you from enjoying your beautiful home garden.

- Avoid plants that pollinate themselves via the wind, they release millions of tiny pollen grains that react with our eyes, nose, sinus, and airways. Choose plants that are pollinated by birds and insects rather than wind. These plants don't release pollen into the air.
- Avoid plants with strong fragrances or odour.
- Use organic mulches such as pebbles and gravel to reduce weeds and cut down on mould spores which can trigger your asthma.
- Avoid gardening on windy days when pollen may be airborne.
- If you have a highly allergenic male plant in your garden – especially if it is under a bedroom window or near a main door then you are best to replace it with a female plant. If you really want to keep the plant, then plant a female plant of the same species very close to it which will catch and trap the pollen from the male.

References

- 1 Allergy Free Gardening <http://www.allergyfree-gardening.com>
Eden Gardens www.edengardens.com.au
Asthma Foundation NSW <http://www.asthmaaustralia.org.au>



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IT'S NOT TOO LATE

Kiwis need to be made aware of the growing burden of COPD (Chronic Obstructive Pulmonary Disease). Few New Zealanders are aware of it, despite it being the fourth leading cause of death in this country behind heart disease, cancer and stroke.

COPD is a progressive, obstructive lung disease characterised by chronically poor airflow. Symptoms include frequent breathlessness and coughing and once established causes irreparable lung damage.

Executive Director of Asthma New Zealand Linda Thompson says the leading cause of COPD is smoking and is a particular concern for the Māori and Pacific Island community.

"With COPD mortality almost three times higher for Māori aged 45 years and over than for non-Māori, more needs to be done to reduce the incidence of Māori who smoke, which remains as high as 42%. As a society we need to do more work in raising awareness across these ethnicities to lower the mortality from this preventable disease," she says.

"It's not too late, quit now" says COPD sufferer, Diane Fellowes. Diane spends 16 hours a day attached to an oxygen cylinder. Growing up with her parents smoking, Diane took up cigarettes when she was 17 and continued the habit for most of her adult life. "It was just normal then, we didn't think anything of it. It was always that 'Nothing bad will happen to me' sort of attitude."

However, Diane now warns people against ever taking up smoking – and says current smokers should quit now. "I see people smoking and I get a bit angry, to be honest," she says. "I feel like saying 'Look at what could happen to you – what's happened to me'."

"It's not just your lungs either – they don't function properly but neither does your heart. I have fluid issues as well, and weight issues – my whole body is affected."

Diane has just been released from hospital with CO₂ retention which is a pathophysiological process in which too little carbon dioxide is removed from the blood by the lungs. The end result is hypercapnia – an elevated level of carbon dioxide dissolved in the bloodstream.

Diane was experiencing some problems and believes if she had gone to the Dr sooner she wouldn't have ended up in hospital. She is not naïve, perhaps a bit stubborn, and says that "learning to know your body and identifying the signs of a lung infection before it's too late, is key".

Other causes of COPD include smoking cannabis, passive smoking and long term exposure to irritants in the home or workplace.

Thompson says New Zealand employers also need to realise they have a role to play by ensuring industrial workplaces are well ventilated and providing support for quit smoking programmes.

"Also those who are employed in dusty work environments such as mechanics, builders and bakers, could have an



Diane Fellowes suffers from Chronic Obstructive Pulmonary Disease (COPD) after decades of smoking and is urging others to quit, it's never too late!

increased risk of developing COPD. Prolonged exposure to harmful substances at work, for example coal dust, silica dust and welding fumes, is also a contributing factor for COPD," she says.

Auckland City Hospital Respiratory Specialist, Dr Robert Young, says while COPD affects approximately 1 in 10 adults and as many as 1 in 4 smokers, it is often missed due to a lack of public awareness about the disease.

"Many people with COPD attribute their early symptoms of exercise-related breathlessness (easily getting puffed) to just getting older, when in fact it is the first signs that they have COPD," says Dr Young. "In studies where current and former smokers are screened with lung function (simple blowing) tests, they find that as much as 70% of people with COPD did not know they had it."

For more information visit <http://www.asthma.org.nz>

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- Cigarette smoke is a complex combination of over 7000 chemicals, including more than 40 known carcinogens
- Inhaled tar and carbon monoxide pose the greatest health risk to smokers
- Nicotine is the addictive component – it does not cause cancer or heart disease
- Once you decide to quit, there is help out there...phone Quitline 0800 778 778 or go to www.quit.org.nz. Quitline provides free advice and support over the phone, via text or online – whichever works best for you. For a face-to-face consultation, contact your healthcare provider
- Nicotine replacement therapy is also available from Quitline, as well as your health professionals
- Obtain a free copy of The Quit Book if you are ready to quit, or Time to Quit if you are thinking about it, from www.quit.org.nz, or call us here at Asthma Auckland and we will send you a copy
- If at first you don't succeed, try, try, and try again!



Cathy Gasparini – Asthma Nurse Educator.



November 19 2014



Karen Little – Asthma Nurse Educator.



The work of the Asthma Auckland staff

By Janet Delooze RN
Asthma Nurse Educator

At Asthma Auckland, there are five Asthma Nurse Educators who provide free asthma and COPD education to people throughout the greater Auckland area from Wellsford to Tuakau, and east and west. We visit people at home, at work and in schools, and provide asthma and COPD education for health professionals too. This article provides a snapshot of some of the work that we have done in the last few months.

Our Asthma Nurse Educators, Ann – who is also Nurse Manager, Elaine, Karen, Janet and Cathy are all experienced registered nurses from various backgrounds. Britt, who is a registered nurse, also works as an asthma nurse educator one day each week. We are supported by Linda, our CEO, and Swarna, Judith and Jee Ho who provide administrative, fundraising and accounting back-up. Not forgetting Diane of course, who kindly volunteers her time on Fridays to hold the fort in reception.

The last two months have been particularly busy with new referrals for asthma education which roll off the fax machine daily, usually from the local hospitals, medical centres, Plunket and other nurses. Clients can refer themselves too so the 'phone lines are always busy. Although much of our work takes place in the home, people are always welcome to be seen in our rooms, 581 Mt Eden Road. We can also carry out lung function tests such as spirometry and NIOX.

Home visits

The bulk of our work focuses on individual education sessions with people at home. We usually spend about an hour on an initial visit taking a history of medical issues and the effect that asthma has been having on people's lives. We check peak flows to give a snapshot of lung function on that day and compare it to the expected peak flow reading according to the person's age, gender and height. Ideally, peak flow measurements should be recorded twice daily over a period of several weeks whilst they are well to ascertain the best reading. This is then used as a guide on the action plan to compare with if symptoms are present.

Peak flow monitoring

Peak flow readings are useful for the doctor or nurse to see how well your medications are working, or to see if your asthma is improving, stable or getting worse. Peak flows are a helpful tool to be used alongside symptom monitoring, and can be used for anyone over the age of



6 years. Paediatric peak flow meters, with lower more accurate increments, are available for children – see your family doctor or local pharmacy.

Symptom diary

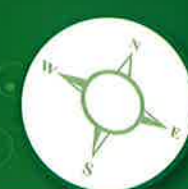
We often ask people to keep a symptom diary. Any symptoms of breathlessness, cough, wheeze or tight chest is recorded on the diary together with the number of times that the reliever inhaler has been used. If relievers are used more than twice weekly on a regular basis the asthma may not be controlled and so your family doctor should be consulted to review your asthma.

Triggers

The management of asthma is mostly dependent on two factors: medication and trigger management so when we are assessing people's asthma, triggers are an important topic for discussion. There are many triggers and most people have several. They can be allergy-related triggers such as dust mite, pets, pollen, mould, cockroaches, and non-allergic respiratory infections such as colds and 'flu, second-hand smoke, exercise, chemical fumes and workplace irritants, and air pollution. Keeping a symptom diary can help people to pinpoint what has triggered their symptoms. How you deal with the triggers depends on what the trigger is. For example, you cannot prevent colds and 'flu but you can start to use your reliever at the first sign of a cold until it has subsided. The airways often become hypersensitive with viruses and using the reliever usually 4-hourly helps to keep them open. This should be written on your action plan from the doctor. See your asthma nurse for help with the management of other triggers, and don't forget your 'flu vaccination!

Action plans

Everyone with asthma or COPD should have a completed action plan. They usually have guidelines to follow when you are well, for example, to take your preventer inhaler twice



daily; what to do if you are getting symptoms and what to do if your condition gets worse and emergency treatment. The message is generally to follow the plan, take your medications when appropriate and don't stay home too long if your condition is worsening. Action plans need to be completed by the health professional who has prescribed your medications.

Medications

We always discuss medications at our visits and checking inhaler technique is an important part of our job. There are many medications for asthma and COPD which fall into some general categories. Short-acting relievers are usually blue



in colour and work quickly to relax the airways and relieve symptoms. Preventers are orange or brown and work slowly; they are most effective when taken every morning and night. Symptom controllers are long-acting relievers and usually last for about 12 hours. They MUST be taken with a preventer for people with asthma. People with COPD can take them alone, as prescribed. Combination inhalers have a long-acting reliever and a preventer together in one inhaler. They need to be taken twice daily too. It is important to use a spacer with any metered-dose inhaler – those with a small canister inside – as they will enable three times more medication to reach the airways. Inhalers often come in different devices. Always talk to your doctor or asthma nurse if you feel that your inhaler is not working.

Plan

We always write back to the person who has made the referral and the GP with the person's permission of course. This will include our findings, what we have done and talked about and any recommendations. We always provide plenty of literature for people to peruse at their leisure.

COPD

As well as our individual visits to people with chronic obstructive pulmonary disease (COPD), we provide three COPD support groups in West Auckland, North Shore and Mt Eden. The groups provide help and advice to people about COPD and its management. We try to get a guest speaker in at each session usually on a health related topic, and of course, a cuppa and a chat to round off the session! The West, and sometimes the North Shore group, is supported by physiotherapist Janette Tolich. Janette assists with breathing exercises and is also a qualified Tai Chi instructor. If you would like to attend any of our groups please give us a call on 09-630 2293.

Group education

Apart from individual visits to clients, the nurses also provide group education for various community groups. This includes schools, 'kindies', and community centres, and we also talk to health professionals at GP practices, nurses meetings,

pharmacists and PHOs. We take part in the pulmonary rehabilitation rolling programmes at North Shore, Waitakere and Greenlane hospitals, giving information on our services and promoting the COPD groups.

Nurse education

Our one day asthma (NEAT course) and half day COPD courses run several times each year at Mt Eden. Ann also facilitates the distance learning papers on asthma and COPD in conjunction with Unitec. Each term, we also teach a session on asthma management for student nurses at a local university.

Student nurses, and sometimes physiotherapy students, come out on placement to Asthma Auckland each semester. We teach them as much information in the short time that they are here, to give them the basics on asthma and COPD management. We also appreciate the project work that they carry out during their time with us.

Schools

Each term, we visit around 30 secondary schools between the five nurses, and provide asthma assessment and management for the students. Often we go in the mobile units – we have two – unless the school is able to provide a room for us. We really appreciate the work of the school nurses who organise the students and enable the clinics to run smoothly.

Community initiatives

We are always pleased to be able to attend services within the community to reach as many people as possible and to promote our services. Each year we have a stand at the Gluten Free and Allergy Show at ASB showgrounds, Greenlane. This is a great opportunity to see lots of people as it is always well attended. This month has been quite busy with other community work as you will see from the other articles in the magazine. Karen and I recently attended the Manurewa Community Expo with lots of other health and social services, and Cathy and Elaine spent a morning at Pomaria Primary School as part of their 'Growing a healthier community' day.

Other services

We sell or hire nebulisers but only on special request from a doctor – most people with asthma do not need home nebulisers. Our shop at Mt Eden also sells dustmite-proof bedding.

Online information is provided at www.asthma.org.nz, at the Asthma New Zealand Facebook page and our free Iphone App, Asthma NZ.

The great efforts of our fundraising staff enable us to offer most of our education services for free, and the many brochures and magazine that go out.

We always welcome new referrals, but only with the permission of the person concerned.

WHAT DID WE LEARN FROM OUR VISIT TO QUEENSTOWN?

By Ann Wheat RN BN
Asthma Nurse Educator

In August this year, four nurses attended the Thoracic Society of Australia and New Zealand (TSANZ) local branch conference. It was again held in beautiful Queenstown at the Hilton Hotel on the shores of Lake Wakatipu. While there we had all weathers from beautiful sunshine on the day we arrived to snow on the day we were supposed to leave, yes we were delayed by 24 hours coming back to Auckland. The conference is not only for scientists, but specialists, doctors and nurses from all respiratory disciplines of the health system in New Zealand.

TSANZ Conference covered many topics of interest from managing malignant pleural effusions, cystic fibrosis management, multi-disciplinary care in advanced lung disease which included palliative care, nutrition and end-stage lung disease and advanced care planning in practice; the lung in pregnancy, including obstructive sleep apnoea, managing lung disease in pregnant women and pulmonary arterial hypertension. Later that day we had an update on diving medicals and a very light-hearted debate on the pros and cons of medical therapies for COPD and if they do more harm than good, which was presented by several specialists attending the conference. The following day there was a session on 'Doctor It's My Metabolism' and then 4 young investigator presentations. This was followed by the lungs through the ages from laying the foundations in childhood to our aging society and respiratory disease. It was overall a very



interesting programme and well attended. In this article, I will discuss some of the topics that we found of most interest.

Advanced Care Planning (APC) is one of the most difficult topics that any medical practitioner has to address. Most people think that APC is only for those people that may be dying from a disease such as Chronic Obstructive Pulmonary Disease (COPD). This in fact is not true and everyone should be thinking of the issues around health and illness that may occur in the future, and what if any treatments you may wish to have. There is a questionnaire on the APC website – www.advancecareplanning.org.nz – that can assist with how you may feel about these issues and what you would like to happen when and if the end is near. It is not until you have thought about the issues raised in the document, which can be filled in and either saved or printed off, that you should talk with someone about what you would like to happen. Remember ACP is not just for the terminally ill but for everyone to make plans for their health care in the future. On the above website there are information brochures that can assist with all your needs. This could save all sorts of problems by other family members who may not be able to come to a decision at the time. Family should always be included in the discussions and should know where the document is so that they can use it at the appropriate time.

One other point we learnt about APC is that for health professionals it is important that they are educated in the intricacies about APC as many health professionals find it a difficult topic to initiate and navigate. E-learning modules are available on the website for upskilling health professionals.¹

The second topic we found of interest was about "A Lung transplant" Offering Hope and Managing Death. In New Zealand there have been approximately 196 lung transplants since 1993.² Lung transplants are carried out mainly for people with COPD and Cystic Fibrosis. The survival rate is approximately 7.3 years now but people with Cystic Fibrosis have better outcomes than for those with COPD especially if they have pulmonary hypertension with the COPD. Another factor that is important for the survival rate of lung



Left to right: Ann Wheat, Cathy Gasparini, Elaine Murray and Karen Little.

NORTH & SOUTH



transplant patients is their Body Mass Index.³ If they have low BMI's then they will have a lower survival rate.³ People who have COPD should be referred for assessment for lung transplantation if they are on maximum therapy and their quality of life is still deteriorating.² We were advised that the sickest people do get priority but everyone is reviewed every three months. People can be removed from the waiting list for lung transplantation if their weight changes, they are non-compliant with medications, if they have renal failure, if they have a new virulent pathogen and they have a poor response to therapy.² It is important to note therefore that the important factors for the primary health care team to be aware of is that patients must be referred early, have good nutrition, go to pulmonary rehabilitation and if needed be referred to palliative care.²

The third interesting topic was "Managing Lung Disease in Pregnant women".⁴ It is well-known that women are getting pregnant at an older age than they previously used to. Fertility treatment is also increasing the ability of women to have children at a later age. Even in normal pregnancy, up to 75% of women will experience physiological breathlessness.⁴ So for people with lung conditions such as asthma, it is really important to optimize lung function.⁴ Most investigations into lung health can be carried out during pregnancy and most medications can be given. Approximately 20% of women will have an exacerbation of their asthma with about 6% requiring hospital admission.⁵ Exacerbations often occur late in the second trimester and the main causes are viral infections and poorly controlled asthma.⁵ It is therefore essential that women with asthma have good control, by using their prescribed medications regularly, stopping smoking and reducing allergen loads.^(4, 5)

The final topic that I will discuss which was quite interesting was "Doctor it's my metabolism – untangling the facts from myths in obesity research"⁶ The speaker advised that although fad diets often work (the French woman's diet, the Paleo diet) people will often replace all that weight quite quickly. Foods that you chew are better for people than foods that you drink. It is important to have the correct portion and the correct plate size when trying to lose weight. High protein diets such as the Atkins diet cause people to feel less hungry and this is why the Atkins diet may work and in fact high protein diets may help prevent diabetes.⁶ We were also advised that some fats can help with weight loss so it is really important to have the correct information when trying to lose weight. One of the most vital factors with losing weight is preventing weight regain after finishing a diet.

The conference was excellent in a fantastic venue. The four nurses would like to thank our sponsor the Asthma Education Charitable Trust for allowing us to attend this well worth-while conference.

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'It's good to have a home for the preventer so you can always find it.'

– Michelle, (Mother of asthmatic)



Papakura Whanau Fun Day

Saturday 20th September

By Karen Little RN
Asthma Nurse Educator

Asthma Auckland was invited to attend this wonderful day on the 20th September. This was the third year community groups and churches had come together promoting key messages for three campaigns against family violence, bullying and problem gambling.

The Koru trust gave away 400 pairs of shoes to an appreciative line of people. The stage provided a variety of entertainment, including girls from Papakura High School performing beautiful waiata.

Karen Little and Janet Delooze provided asthma education and advice from 9am until 2pm. During the day over 80 people came to our stall to receive education and pamphlets on asthma. Smoking cessation advice was also discussed with many people.

The day was very well attended with 30 stalls accommodated in the wharekai and surrounding grounds of the marae. Whanau supplied all who attended with a free sausage sizzle, fruit and plates of French bread with delicious toppings.



Asthma Nurse Educator, Janet Delooze with one of the many children who received asthma education on the day.

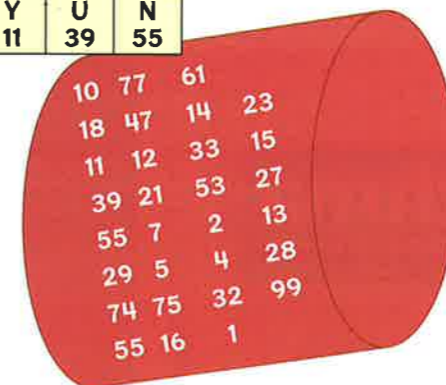
Kid's Page

1 Match up a circle with a square so that the letters create the name of a country.

T N A M	NO N	DEN M	RIA
CRO	GER M	VIE	GIU M
LEB A	ARK	AUS T	LIA
AN Y	ATI A	AN D	GAR Y
ENG L	HU N	SO MA	BEL

2 On the bingo card below cross off all the numbers that appear on the Cylinder. The letters next to the numbers on the card that haven't been crossed off, write the word reading bottom to top.

BINGO					
B 1	M 16	I 28	K 4	K 5	A 93
D 27	R 53	K 21	L 23	M 94	S 14
O 47	P 99	Q 32	H 24	B 75	R 13
X 2	O 7	T 24	G 15	F 33	U 12
G 61	S 64	M 77	V 55	X 74	T 29
A 44	Z 10	W 18	Y 11	U 39	N 55



3 SUDOKO
In a sudoku each 3 X 3 box, as well as each row and each column, must contain all the numbers 1 to 9. Work out the numbers.

1		9	2		3			7
6		8			9			
7						4	9	
9			6	3				7
	2			8			4	
	6			9	2			3
	8	1						5
			1			9		4
5			3		7	1		2

2	8	1	7	h	3	9	6	5
h	9	6	8	5	1	3	7	2
5	3	7	9	2	6	1	8	h
3	1	5	2	6	7	h	9	8
6	h	9	1	8	5	7	3	2
8	7	2	h	3	6	5	1	6
6	9	h	5	1	8	2	3	7
1	2	3	6	7	h	8	5	9
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A	K	K	I	M	B
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GASTRO-OESOPHAGEAL REFLUX DISEASE (GORD) AND ASTHMA

By Elaine Murray RN
Asthma Nurse Educator

What is gastro-oesophageal reflux disease (GORD)?

GORD is a digestive disorder that occurs when acidic stomach juices, or food and fluids back up from the stomach into the oesophagus. It can affect people of all ages from infants to older adults.

Usually, stomach acid is kept in the stomach by a muscular ring at the bottom of the oesophagus called the lower oesophageal sphincter. If this sphincter becomes relaxed, it can allow stomach contents to back up into the oesophagus, producing a burning sensation that is commonly referred to as heartburn.

Everyone has experienced gastro-oesophageal reflux – it happens if you burp, have an acid taste in your mouth or have heartburn. If these symptoms interfere with your quality of life, you need to seek medical advice.

It is estimated that more than 75% of patients with asthma also experience frequent heartburn. People with asthma are twice as likely to have GORD as those people who do not have asthma. Of the people with asthma, those who have severe chronic asthma that is difficult to treat are most likely to also have GORD.¹

There are two types of GORD – lower oesophageal sphincter insufficiency or hiatal hernia. Untreated, long term GORD can lead to oesophagitis, oesophageal stricture, oesophageal ulcers, and malignant oesophageal tumours.²

Does GORD cause asthma?

Although studies have shown a relationship between asthma and GORD, the exact relationship is uncertain. GORD may worsen asthma symptoms, however, asthma and some asthma medications may worsen GORD symptoms. But often, if you treat the GORD there is an improvement in asthma symptoms.¹

If asthma begins in adulthood (late onset asthma) or symptoms get worse after a meal, after exercise, at night or after lying down and does not respond to the standard asthma treatments, then the doctor may consider GORD as the cause.

Several proposed mechanisms about the pathophysiology of GORD induced asthma exist, although these mechanisms are not completely understood. Proposed mechanisms of GORD induced asthma include a vagal mediated reflex, heightened bronchial reactivity, micro-aspiration and immune system modification.³

A recent study conducted at Duke University showed that GORD may alter the immune system's response to allergens, further strengthening the link between GORD and asthma. Researchers compared the immune system's response to allergens in mice with gastric fluid in the lungs to its response to normal mice. Results showed that the mice with GORD developed a response similar to that found in patients with asthma by releasing a type 2 helper T cell. The comparison group's response was more balanced, releasing both type 1 and type 2 helper T cells. This study shows that micro

aspiration may lead the immune system to generate an asthmatic response.³

Other factors

There are many factors that may lead to GORD developing in patients with asthma. These include an increased pressure gradient, airway obstruction, and asthma medications.

During an asthma exacerbation, there may be a negative pleural pressure on the diaphragm.

This may override lower oesophageal pressure, thereby promoting reflux. Using bronchodilator medications not only relaxes the muscles around the airways but also relaxes the lower oesophageal sphincter allowing more acid to reflux into the oesophagus.²

How can GORD affect asthma?

As previously mentioned, the exact link between the two conditions is uncertain. However, there are a few possibilities as to why GORD and asthma coincide. One possibility is that the acid flow causes injury to the lining of the throat, airways and lungs, making inhalation difficult and often causing a persistent cough.

Another potential link to asthma for patients with GORD is that when acid enters the oesophagus, a nerve reflex is triggered, causing the airways to narrow in order to prevent the acid entering. This will cause a shortness of breath.

This persistent cough and shortness of breath may be thought to be asthma and when the bronchodilator medication is used to relax the tightened smooth muscle in the airway to relieve these symptoms, it may also cause relaxation of the muscles of the lower oesophageal sphincter, allowing more gastric juices to reflux into the oesophagus.²

Diagnosis of GORD

Recognising the clinical presentation of GORD in patients with asthma is important for diagnosis, and physicians should incorporate questions regarding reflux symptoms into their evaluation of patients with asthma. Chronic productive or unproductive persistent cough is a common symptom of reflux in asthma patients, which may worsen after ingesting large meals or fatty foods or when the patient is lying down. Also, nocturnal reflux can contribute to nocturnal asthma symptoms. One study's findings suggest that 46-48% of cough and wheeze cases are associated with acid reflux. In addition, it has been reported that 35-50% of asthma patients have abnormal oesophageal acid exposure but no other obvious symptoms of reflux.⁴

Evaluating patients for GORD may be especially important in patients whose asthma remains uncontrolled despite

standard therapy, even in the absence of suggestive symptoms.⁴

What should you do if you have asthma and GORD

If you have both asthma and GORD, it is important that you take your asthma medications as prescribed as well as reduce your exposure to your asthma triggers as much as possible.

Fortunately, many of the symptoms of GORD can be treated and/or prevented by taking steps to control or adjust personal behaviour.⁵ Some of these steps are:

- Raise the head of your bed by 6 inches
- Eat smaller meals
- Eat meals at least 3-4 hours before going to bed. Avoid bedtime snacks
- Maintain a healthy weight
- Limit consumption of fatty foods, chocolate, peppermint, coffee, tea and alcohol
- Avoid acidic foods that can irritate the oesophagus
- Give up smoking
- Wear loose belts and clothing

GORD by itself is not necessarily life threatening, although left untreated it can lead to life threatening circumstances that

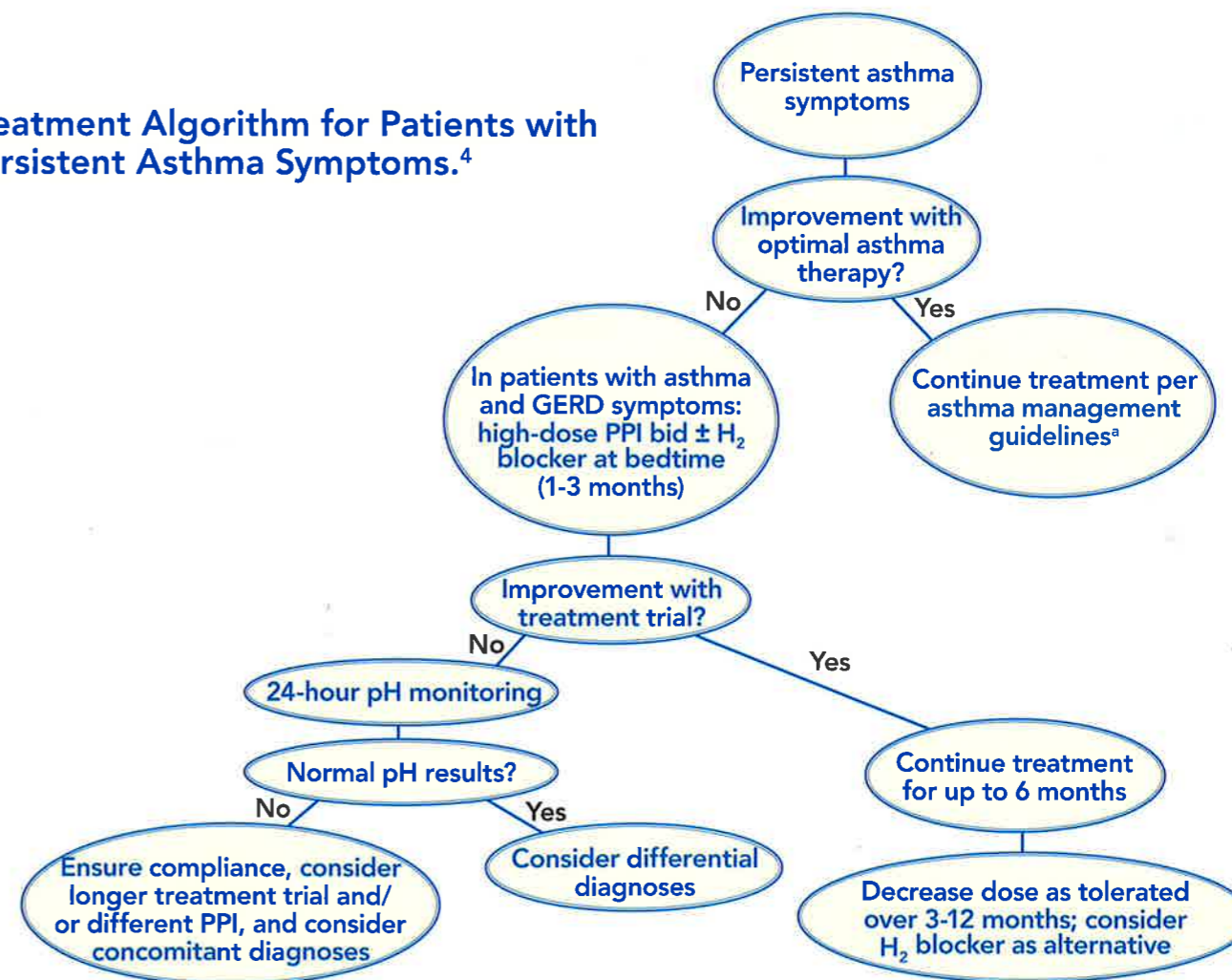
include oesophageal cancer. Asthma, however, CAN be life-threatening on a much more acute scale. If asthma symptoms are directly being caused by GORD then the GORD is, in a sense, becoming a life-threatening circumstance.

The key to asthma control is prevention of asthma symptoms. To many asthmatics this also means prevention of symptoms of GORD as well. In either case this means the right combination of medications, and certain life-style changes that include exercise and dietary changes. Always see your GP for regular reviews.

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Treatment Algorithm for Patients with Persistent Asthma Symptoms.⁴



EOSINOPHILIC GRANULOMATOSIS WITH POLYANGIITIS (EGPA) FORMERLY CHURG-STRAUSS SYNDROME (CSS)

By Vicki Lyford RN
Asthma Nurse Educator

In 1951 Pathologists Drs' Jacob Churg and Lotte Strauss described a syndrome which consisted of 'asthma, eosinophilia, fever and vasculitis of various organ systems'.^(1, 3) They also reported symptoms of cardiac failure, renal damage and peripheral neuropathy², however the three main signs that were specific to EPGA were necrotising vasculitis, tissue eosinophilia and extravascular granuloma and distinguished it from the similar polyarteritis nodosa (PAN) and granulomatosis with polyangiitis (GPA).³

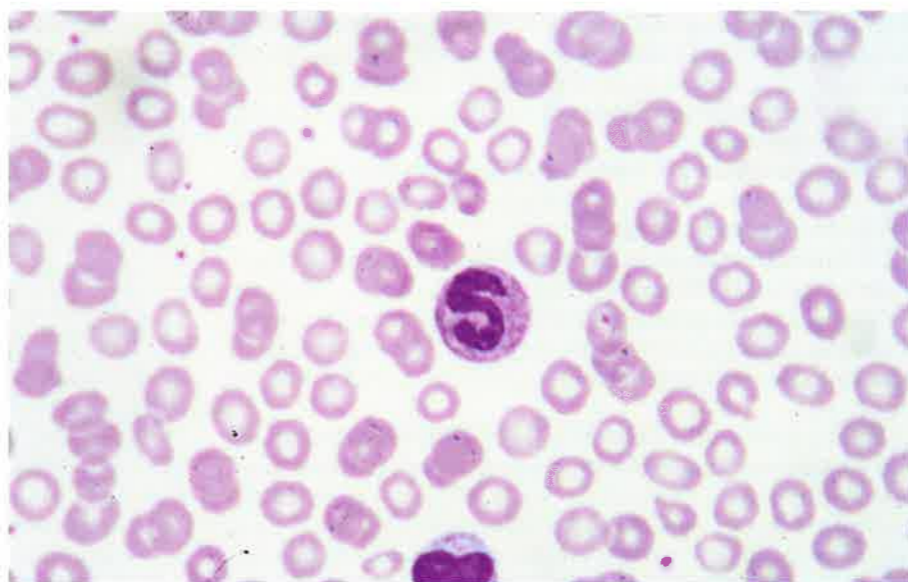
Eosinophilic Granulomatosis with Polyangiitis (EPGA) is a rare, chronic and lifelong disease that is not contagious or inherited. It is reported to be associated with some asthma medications called leukotriene modifiers however it is not yet known if they do cause the disease or if the patients that use these medications have more severe asthma and a propensity to develop EPGA. Asthma is one constant in this disease.

Other signs and symptoms of this disease include weight loss, fatigue, cough, shortness of breath and chest pain is because of vasculitis of the lungs. Sometimes the person's asthma will improve as the disease takes hold elsewhere. The extremities can get nodules (skin lumps), in the abdomen – vessel inflammation causes diarrhoea and pain and the prostate gland and bladder can become inflamed. There can be weakness or numbness in the extremities as a result of vasculitis causing nerve injury. Confusion or seizures can occur if the brain is affected.²

It is a systemic vasculitis (specifically the small arteries and veins), and is commonly seen in patients with a history of allergies or asthma. While it consists of 3 stages, it is classed as a highly variable condition as it presents as inflammation of the blood vessels (angiitis) of the lungs, abdomen, nerves and skin however it is the small veins and arteries that are affected in EPGA. However not everyone develops all 3 Stages or progress through these stages in order, therefore it is considered extremely irregular in its presentation and development.¹

Stage 1: PRODROMAL (allergic) or early – Nearly all patients show signs of airway inflammation, asthma +/- allergic rhinitis. 90% have a history of newly diagnosed asthma or worsening asthma that may need systemic corticosteroid treatment. Generally asthma develops 3-9 years before other signs or symptoms. The allergic rhinitis alone has symptoms of nasal obstruction and runny nose (rhinorrhoea), nasal polyps can form and these may require surgical intervention more than once.⁴

Stage 2: EOSINOPHILIC – is characterised by an abnormally high level of eosinophils in the blood and tissues (normally they comprise 5% of the total white cell count however in EPGA this level can reach as high as 60%).³



Eosinophils are shown by the dark pink stain.

Symptoms depend on which area is affected but usually it is the lungs and digestive tract. Symptoms can include asthma, abdominal pain, cough, GI bleeding, night sweats, weight loss along with fever and ill health. This stage can last for months to years but its symptoms may disappear only to return at a later date. Some patients experience the third stage concurrently.

Stage 3: VASCULITIS – which can lead to cell death and be life threatening. The hallmark of EGPA is the inflammation of blood vessels and subsequent reduction of blood flow to organs and tissues. This vasculitis, which can involve the skin, lungs, nerves and kidneys, produces new symptoms which compound the local/systemic ones. Commonly complaints are of abdominal problems, possibly due to peritonitis or perforations of the GI tract but sometimes related to granulomatous appendicitis or acalculous cholecystitis. In severe cases the damaged arteries may have blood clots, especially in the abdominal area which can lead to infarction, cell death or slow atrophy. Nerves can also be involved (neuropathy/mononeuritis multiplex) which can manifest as numbness, severe tingling, shooting pains and severe muscle wasting leading to power loss in the hands or feet.

However nearly half of the deaths from EGPA are caused by Heart Disease. High levels of eosinophils cause inflammation of the heart muscle and inflammation of the arteries that supply cardiac blood, or pericardial tamponade.

Diagnosis: Begins with the Doctor noting abnormalities of

the skin, nerves or lungs. There may be high blood pressure. Blood screening shows raised eosinophil levels and other white cells can also be elevated. Kidney function tests and urinalysis is needed. They may order a chest x-ray or CT scan if the lungs are suspected of being inflamed. Ultimately a biopsy is needed to show the characteristic inflammation pattern.^(4, 5)

The American College of Rheumatology (ACR) 1990 Criteria for diagnosis of Churg Strauss Syndrome list criteria as:

- Asthma
- Eosinophils greater than 10% of a differential white blood cell count
- Presence of mononeuropathy or polyneuropathy
- Transient pulmonary infiltrates
- Presence of paranasal sinus abnormalities
- Histological evidence of extravascular eosinophils

Four of the six criteria need to be met before a diagnosis of EPGA is made.

Death related to EPGA is predicted by a 5 point system developed by the French Vasculitis Study Group.¹

- Reduced renal function (Creatinine >1.55 mg/dl or 140µmol/l)
- Proteinuria (>1g/24H)
- Gastrointestinal haemorrhage, infarction or pancreatitis
- Involvement of the Central nervous System
- Cardiomyopathy

There is a 5 year mortality rate (11.9%) if none of these

factors are present. One factor present indicates severe disease with a 5 year mortality rate of 26%. 2 or more factors indicate very severe disease with a 5 year mortality rate of 46%

Treatment: in a lot of cases the disease can be put into what is referred to as a type of chemical remission. This is done through drug therapy consisting of glucocorticoids (prednisone) and immunosuppressant drugs (azathioprine, methotrexate or cyclophosphamide), these will calm the inflammation of the blood vessels and suppress the immune system.^(1, 2) This therapy can last for up to 1-2 years and the prognosis is good with early detection and treatment but overall the prognosis is dependent of the disease severity and organ involvement,⁵ however remission is possible.

Today it has a prevalence of 0.6-6.8 cases per million people per year. Typically those who get EPGA are middle aged however the disease is equal among men and women.⁶

The name of this vasculitic disease was officially changed from Churg Strauss Syndrome (CSS) to Eosinophilic Granulomatosis with Polyangiitis (EGPA) in 2011.

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Errata: A typesetting error in the last issue of our O₂ magazine (August 2014) on The direct relationship between smoking and Chronic Obstructive Pulmonary Disease (COPD), page 24 reported 'We need to prevent young people from starting to smoke and prevent those who already smoke to stop'. It should have read We need to prevent young people from starting to smoke and encourage those who already smoke to stop. Apologies for this error.

Source: N Engl J Med

Withdrawal of inhaled glucocorticoids and exacerbations of COPD; Magnussen H, Disse B, Rodríguez-Roisin R, Kirsten A, Watz H, Tetzlaff K, Towse L, Finnigan H, Dahl R, Decramer M, Chanez P, Wouters E, Calverley P; WISDOM Investigators; New England Journal of Medicine (NEJM) 371 (14), 1285-94 (Oct 2014)

BACKGROUND: Treatment with inhaled glucocorticoids in combination with long-acting bronchodilators is recommended in patients with frequent exacerbations of severe chronic obstructive pulmonary disease (COPD). However, the benefit of inhaled glucocorticoids in addition to two long-acting bronchodilators has not been fully explored.

METHODS: In this 12-month, double-blind, parallel-group study, 2485 patients with a history of exacerbation of COPD received triple therapy consisting of tiotropium (at a dose of 18 µg once daily), salmeterol (50 µg twice daily), and the inhaled glucocorticoid fluticasone propionate (500 µg twice daily) during a 6-week run-in period. Patients were then randomly assigned to continued triple therapy or withdrawal of fluticasone in three steps over a 12-week period. The primary end point was the time to the first moderate or severe COPD exacerbation. Spirometric findings, health status, and dyspnea were also monitored.

RESULTS: As compared with continued glucocorticoid use, glucocorticoid withdrawal met the prespecified noninferiority criterion of 1.20 for the upper limit of the 95% confidence interval (CI) with respect to the first moderate or severe COPD exacerbation (hazard ratio, 1.06; 95% CI, 0.94 to 1.19). At week 18, when glucocorticoid withdrawal was complete, the adjusted mean reduction from baseline in the trough forced expiratory volume in 1 second was 38 ml greater in the glucocorticoid-withdrawal group than in the glucocorticoid-continuation group (P<0.001); a similar between-group difference (43 ml) was seen at week 52 (P=0.001). No change in dyspnea and minor changes in health status occurred in the glucocorticoid-withdrawal group.

CONCLUSIONS: In patients with severe COPD receiving tiotropium plus salmeterol, the risk of moderate or severe exacerbations was similar among those who discontinued inhaled glucocorticoids and those who continued glucocorticoid therapy. However, there was a greater decrease in lung function during the final step of glucocorticoid withdrawal.

Source: Arch Bronconeumol

Characteristics of candidates for lung transplantation due to chronic obstructive pulmonary disease and alpha-1 antitrypsin deficiency emphysema; Giacoboni D, Barrecheguren M, Esquinas C, Rodríguez E, Berastegui C, López-Meseguer M, Monforte V, Bravo C, Pirina P, Miravittles M, Román A; Archivos de Bronconeumología (Oct 2014)

INTRODUCTION: COPD and emphysema due to alpha-1 antitrypsin deficiency (AATD) are the first and fourth indications for lung transplantation worldwide, respectively. Despite this, there is little information regarding the health status of these patients at the time of transplantation.

METHODS: Patients who received a lung transplant in the Hospital Vall d'Hebron between July 1993 and August 2013 were identified and data from the evaluation prior to the transplant were collected.

RESULTS: A total of 217 patients who received a lung transplant for COPD and 19 in whom the indication was AATD were included. These patients were severely impaired at the time of the evaluation for lung transplantation, although the trend in recent years has been to evaluate patients at earlier stages of the disease. Baseline characteristics were similar in both groups except that patients with AATD were younger [43 (7.7) vs. 53.6 (6.1) years old, P<0.01], with less exposure to tobacco [23.9 (15) vs. 50 (29) packs-year, P<0.02] and lower PCO₂ [41.7 (7.6) vs. 47.9 (9.7) mmHg, P<0.04].

CONCLUSIONS: The number of patients receiving a lung transplant for COPD has progressively increased and the tendency is to perform the evaluation in earlier stages of the disease. Patients receiving transplants for COPD and AATD had similar characteristics at the time of the evaluation, although AATD patients were younger and had less exposure to tobacco and lower PCO₂.

Source: Clin Respir J

Cytokine response to the 6-minute walk test in individuals with different degrees of COPD; Dorneles G, Vianna P, Lima D, Galant L, Dias A, Chies J, Monteiro M, Peres A; The Clinical Respiratory Journal (Oct 2014)

INTRODUCTION: Physical exercise is a key part of rehabilitation programs in COPD patients, although it could modulate immune system responses by altering the cytokine profile of such individuals. Furthermore, the degree of severity of COPD could influence the inflammatory response induced by exercise.

OBJECTIVE: To evaluate the cytokine profile of individuals with different degrees of COPD in response to a six-minute walk test.

METHODS: 41 patients with COPD were classified according to the severity of the disease by GOLD method: moderate = 14 individuals; severe = 14 individuals; very severe = 13 individuals. Blood sample collection was performed in the subjects pre and post a six-minute walk test. Cytokine plasma levels were analyzed to determine the cytokine profile using a CBA assay in flow cytometry.

RESULTS: A significant difference was observed in the IL-6 levels after test between very severe and severe groups (p=0.036). Also, lower levels of IL-4 were observed in the severe group compared to the very severe and the moderate groups in the pretest (p=0.029; p=0.003, respectively), and different values between the moderate and severe groups in the post test (p=0.044). A significant time pre-post effect was found in the IL-4 levels on the very severe group (p=0.046).

CONCLUSION: After the 6MWT, a discrete inflammatory response was observed in COPD patients, independent of the degree of severity. The results concerning IL-4 and IL-6 levels can be indicative of an attempt to control inflammation after the 6MWT in COPD patients.

Source: Clin Respir J

Tiotropium may improve asthma symptoms and lung function in asthmatic patients with irreversible airway obstruction: The real life data; Abadoglu O, Berk S; The Clinical Respiratory Journal (Oct 2014)

BACKGROUND: Some patients with asthma have poorly controlled disease despite the use of high dose inhaled glucocorticoids (ICS), long-acting beta-2 agonists (LABAs) and antileukotrienes.

AIM: The aim of the study was to assess the effectiveness of tiotropium as an add-on therapy to the standard treatment with high dose ICS/LABA on asthma control and lung function in patients with severe asthma.

METHOD: Of the 633 asthmatic patients, 64 (10.1%) patients with severe asthma who were add-on treated at least for 3 months were evaluated. Number of exacerbations, emergency department visits, hospitalizations and lung functions of patients belonging to 12 months before starting add-on treatment were compared with those of 12 months after starting add-on treatment.

RESULTS: The mean duration of add-on tiotropium treatment was 8.3±0.5 months. For patients with severe asthma that was poorly controlled with standard combination therapy, tiotropium improved asthma control in 42.2%, decreased the number of emergency department visits in 46.9%, and decreased the number of hospitalizations in 50.0% of them. The mean baseline forced expiratory volume in 1 second (FEV₁) before add-on tiotropium was 57.5±1.9% and forced vital capacity (FVC) was 74.3±15.6%. However, after 12 months of add-on tiotropium treatment these rates became 65.5±1.9% and 82.5±15.1%, respectively. The addition of tiotropium significantly improved the percentages of the number of emergency department visits, the number of hospitalizations (p<0.05).

CONCLUSION: Our study has suggested that, for patients with poorly controlled asthma despite of the use of ICS/LABA, the addition of tiotropium to standard care may be beneficial.

Source: J Asthma

The Use Of A Work-Related Asthma Screening Questionnaire In A Primary Care Asthma

Program: An Intervention Trial; Killorn K, Dostaler S, Groomer P, Lougheed M; Journal of Asthma 1-29 (Oct 2014)

ABSTRACT OBJECTIVES: The Work-related Asthma Screening Questionnaire (Long-version) (WRASQ(L)) is a 14-item tool designed to increase the recognition of work-related asthma (WRA) in primary care. The purpose of this study was to assess whether the WRASQ(L) provided additional information about a patient's likelihood of WRA, beyond what is collected in standard care, and to assess the use of the WRASQ(L) in the primary care setting.

METHODS: This was an intervention study involving two Ontario primary care sites. Standard care for asthma patients in these sites involved completing the Asthma Care Map (ACM), a template for asthma management that includes seven WRA screening items. Participation in this study involved completing an electronic WRASQ(L) at each visit for participants and prompted care providers to record details related to WRA investigations. Ethics approval was obtained from an Institutional Review Board.

RESULTS: The study sample (N=37) was predominantly female (73.0%), with a mean age of 46.3 years (SD, 10.9). Use of the WRASQ(L) identified additional work-related symptoms in 38% and exposures in 60% of participants over and above those identified by the ACM. Two participants were newly-suspected of WRA during the study period.

CONCLUSIONS: The WRASQ(L) provided added information about possible WRA over standard care. Use of the questionnaire's results by care providers was limited due to barriers encountered in incorporating the use of the electronic version of the WRASQ(L) into clinical practice. Once validated and implemented in practice, the WRASQ(L) has the potential to increase the recognition of WRA.

Source: Arch Bronconeumol Posted 5 days ago

Inflammatory Patterns in Asthmatic Children Based on Alveolar Nitric Oxide Determination; Corcuera-Elosegui P, Sardon-Prado O, Aldasoro-Ruiz A, Korta-Murua J, Mintegui-Aramburu J, Emparanza-Knorri J, Pérez-Yarza E; Archivos de Bronconeumología (Oct 2014)

INTRODUCTION: Nitric oxide (NO) levels can be measured at proximal (maximum airway NO flux [J'awNO]) and distal (alveolar NO concentration [CANO]) levels. Four inflammatory patterns have been described in asthmatic individuals, although their relevance has not been well established. The objective was to determine J'awNO and CANO in order to establish four inflammatory categories in asthmatics.

MATERIAL AND METHODS: Cross-sectional study of a sample consisting of healthy and asthmatic children. Exhaled NO was determined at multiple flows. J'awNO and CANO were obtained according to the two-compartment model. The asthma control questionnaire (ACQ) and spirometry were administered to asthmatic children. Patients were categorized as typei (normal J'awNO and CANO), typeii (elevated J'awNO and normal CANO), typeiii (elevated J'awNO and CANO) and typeiv (normal J'awNO and elevated CANO). Correlation between FENO₅₀, J'awNO and CANO was analyzed using Spearman's R Correlation Test. Analysis of variance and paired comparisons were performed using the Bonferroni correction.

RESULTS: One hundred sixty-two children were studied, of whom 49 (32.23%) were healthy controls and 103 (67.76%) asthmatics. In the control subjects, FENO₅₀ (ppb)(median and range) was 11.5 (1.6 to 27.3), J'awNO (pl/s) was 516 (98.3 to 1470) and CANO (ppb) was 2.2 (0.1 to 4.5). Forty-four (42.7%) of the asthmatic participants were categorized as typei, 41 (39.8%) as typeii, 14 (13.5%) as typeiii and 4 (3.88%) as typeiv. Good correlation was observed between J'awNO and FENO₅₀ (r=0.97). There was no association between J'awNO and CANO. FEV₁/FVC decreased significantly in typeiii (mean 79.8±7.5). Morbidity was significantly higher in typesiii and iv.

CONCLUSIONS: Normal values obtained are similar to those previously reported. Asthmatics with high CANO showed higher morbidity. No correlation was found between proximal and distal inflammation.

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References: 1. Seretide Datasheet, GSK 2. Tarsin WY et al. Int J Pharm. 2006; 316: 131-137 3. Bateman ED et al. Am J Respir Crit Care Med 2004;170 (8): 836-844 4. Pharmaceutical Schedule April 2014, PHARMAC.



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