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April 2012

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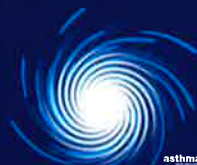


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ASTHMA CONTROL TEST

➔ Answer these simple questions

Q1 In the **past four weeks**, how often did your asthma prevent you from getting as much done at work, school or home? **SCORE**

All of the time 1 Most of the time 2 Some of the time 3 A little of the time 4 Not at all 5

Q2 During the **past four weeks**, how often have you had shortness of breath?

More than once a day 1 Once a day 2 3 to 6 times a week 3 Once or twice a week 4 Not at all 5

Q3 During the **past four weeks**, how often did your asthma symptoms (wheezing, coughing, shortness of breath, chest tightness or pain) wake you up at night or earlier than usual in the morning?

4 or more times a week 1 2 to 3 nights a week 2 1 night a week 3 Less than 1 night a week 4 Not at all 5

Q4 During the **past four weeks**, how often have you used your reliever medication (such as your blue inhaler or rescue inhaler)?

3 or more times a day 1 1 or 2 times a day 2 2 or 3 times a week 3 Once a week or less 4 Not at all 5

Q5 How would you rate your asthma control during the **past four weeks**?

Not controlled 1 Poorly controlled 2 Somewhat controlled 3 Well controlled 4 Completely controlled 5

➔ Add up each score to get your total **TOTAL**

➔ Your test result is an assessment of your level of asthma control.^{1,2} It can help you and your health care professional decide if your asthma is controlled or whether there is room for improvement.

SCORE: 20-25

Well done. Your asthma appears to be controlled.² Even so, it can change over time so it's important to retest yourself regularly. Continue to talk to your health care professional about your asthma control.

SCORE: 19 or less

Your asthma may be uncontrolled or only partly controlled.² Talk to your health care professional about how you can improve it.

Even if you are happy with your level of asthma control, it is important that you discuss your Asthma Control Test™ results or any other concerns about your asthma with your health care professional.* asthmacontrol.co.nz

References: 1. Nathan RA et al. *J Allergy Clin Immunol.* 2004;113:59-65. 2. Thomas M et al. *Prim Care Resp J.* 2009;18(1):41-49. *Please note that normal doctor fees will apply.



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Asthma and COPD Nursing Course Information

Applications are now invited from registered nurses wanting to enrol in the Asthma New Zealand/Unitec Asthma Nursing Course for July 2012 and COPD Nursing Course for April 2012. The programmes are offered by distance learning. The primary aim of the Asthma and COPD Nursing Courses are 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, 892 nurses have enrolled over 35 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 New Zealand in association with Unitec New Zealand offers these courses within the Bachelor of Nursing Programme. Asthma Nursing Course is a level 7 course and attracts 24 credits. COPD Nursing Course is a level 7 course with 12 credits. **A grant towards the cost available for registered nurses.**

For an enrolment form and information for the 2nd Semester please contact:

Ann/Swarna

Asthma New Zealand/The Lung Association

PO Box 67-066, Mt Eden, Auckland

Phone 09 623 4777 Ann or 623 4771 Swarna

Fax 09 623 0774

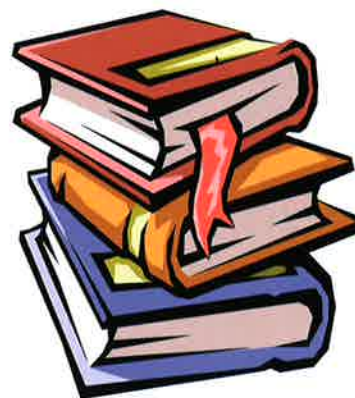
Email annw@asthma-nz.org.nz

swarnah@asthma-nz.org.nz

The closing date for 2nd semester enrolment is

June 2012 for Asthma

Mid April 2012 for COPD



Upcoming events and courses

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message to readers

2012 promises to be another year of progress and development for Asthma New Zealand – the Lung Association (Inc). As indicated in the last issue a meeting had been held between personnel from Asthma New Zealand and the Asthma Foundation in Wellington to discuss the likelihood of creating one body for asthma within New Zealand. In general terms what was promoted was the establishment of a new organisation named Asthma New Zealand and that current Societies dis-incorporate and become branches of that body. The suggestion was made that the new entity would be based in Wellington. Asthma New Zealand would obviously prefer an Auckland based national body and that most other organisations have their head office in the Auckland area. However, there are major issues in terms of Societies dis-incorporating and that process would mean that the assets of the organisation would go to the national body. There would be a number of Societies, who would be loath to give up their independence and their financial situations. It is interesting to note that the Societies within Diabetes New Zealand have already voted to go down the same track and develop a branch-based national body.

The latest development within Asthma New Zealand is that the South Canterbury Society has decided to become a branch of Asthma New Zealand – the Lung Association (Inc). Asthma New Zealand will essentially become the operating body for Asthma South Canterbury from the 1st April 2012. Asthma New Zealand personnel look forward to working with the South Canterbury Asthma Society and to develop programmes and strategies that meets the needs of people with asthma and their families throughout the South Canterbury region. Asthma New Zealand continues to oversee the Wellington Regional Asthma Society and it is making very good progress.

Asthma New Zealand has embraced mhealth (Mobile Health) as a way of effectively engaging people with Asthma. Asthma New Zealand is close to releasing its Breathe Easy Asthma Management App which thanks to its sponsors, Asthma New Zealand, GlaxoSmithKline, First Sovereign Trust, Infinity Trust and VADR will be free for NZ iPhone and

iTouch users to download. The app has been developed with industry experts to improve and eventually replace current paper based Asthma Management plans. The aim is to help people with Asthma or their carer to take early action to prevent or reduce the severity of an Asthma attack as there is no current "cure" for Asthma.

Once again, I would advise that the courses through the Unitec Institute of Technology at Auckland have been over-subscribed with the latest programme enrolments. It shows the commitments of the doctors and nurses throughout general practice in New Zealand that they are committed to providing more in-depth educational services to their patients with asthma and their families. It is a great credit to them.

I would like to take this opportunity of thanking you all for your support throughout 2011 and I would ask that you could continue to give generously to Asthma New Zealand – the Lung Association (Inc) throughout 2012.

Kind regards

Gerry A. Hanna
Secretary/Treasurer
Asthma New Zealand – the Lung Association (Inc)



asthma and osteoporosis – myths and facts



Compiled by Sharron Daniels RN BN

I am often asked about the link between asthma and osteoporosis. Most asthmatics know that asthma brings with it a heightened risk of osteoporosis. Many are aware that the active ingredient in most asthma medications can contribute to an increased risk of osteoporosis. Like most diseases of this type, many factors can combine to result in an increased likelihood of a diagnosis of osteoporosis. In this article I will outline some proven contributing factors and discuss what this means for asthmatics.

Osteoporosis is the single most common type of bone disease (Langley, Samaranyaka and Campbell 2011). Osteoporosis New Zealand (2011) reported that over half of women and a third of all men over sixty will suffer a fracture because of osteoporosis. At around age 25 our bones are the strongest they will ever be. Part of the normal aging process past this point includes a natural thinning of the bones and a resulting reduction in bone density. As you age, the reabsorption rate of calcium and phosphate from the bones back into the body can become higher than the creation of new bone. If this happens, it can result in brittle, fragile bones. Consequently, the chances of suffering a fracture increases and there is a chance that the individual will eventually suffer from osteoporosis. This loss of bone density occurs gradually over many years with a person possibly experiencing a fracture before becoming aware that the disease is present. Usually, by the time a fracture occurs, the disease is in its advanced stages.

Bone health is measured using a bone density test (DEXA scan) with results reported back as T-scores and as Z-scores. Clinicians use the T-score on a bone scan to assess osteoporosis. This score compares a patient's bone density with that of a 25-year-old (considered the ideal). Looking at a T-score higher than -1 is considered normal, while a T-score of -1 to -2.5 would result in a diagnosis of osteopenia; with a risk of developing full osteoporosis. A T-score of less than -2.5 results in a diagnosis of osteoporosis.

While the T-score compares bone density with our 25 year old, a Z-score compares the results to others of the same age, weight, ethnicity, and gender. This is useful in identifying whether there is something unusual contributing to the bone loss. A Z-score of less than 1.5 raises concern of factors other than aging as contributing to osteoporosis.

Almost all anti-inflammatory medication for asthma management contains a form of steroid in very low doses. Steroid based medication is the most important type of therapy for most people with asthma because these medications prevent asthma attacks on an ongoing basis. Steroids, also called "corticosteroids," work by reducing swelling and mucus production in the airways. As a result, airways are less sensitive and less likely to react to triggers.

So what are Corticosteroids?

Corticosteroid's, eg. Cortisone, are part of a family of substances which are produced by the body to help it function normally. They are natural agents that prevent inflammation. The corticosteroids that are used to treat asthma are similar to your own naturally occurring cortisone. These are not the same as the anabolic steroids that are usually associated with those athletes and body-building use to enhance their muscles and gain strength. Anabolic steroids can have serious side effects. According to the Asthma Management Handbook (2006), the risk of adverse effects is dose-related but there is also some individual patient sensitivity to the effects of corticosteroids.

The salience of this is to find a balance between benefits and risks for each patient.

Corticosteroids are known to interfere with the production of sex hormones. This in turn can contribute to bone loss, and may cause muscle weakness. When taken in doses of 7.5 mg (milligrams) or higher on a daily basis steroids may cause significant bone loss, especially if taken within the first year of a child's life. However in comparison, daily preventer doses for the purpose of asthma control typically deliver extremely low corticosteroid doses of up to 250mcg (micrograms). At these levels the contribution of corticosteroids as a factor is relatively low. When putting this into perspective, a milligram is a thousand times stronger than a microgram.

Exercise is a well-known trigger for asthma exacerbations. Exercise-induced asthma (EIA) is a condition of respiratory difficulty that is related to histamine release and is triggered by aerobic exercise and can last for several minutes (Asthma Management handbook 2006). Causes include medical conditions, environmental factors, and medications. Schoenstadt, (2006), found anecdotally that those who had asthma tended to avoid weight-bearing exercise. Options such as swimming were more popular because this form of exercise is less likely to cause an asthma attack.

For peak bone health, weight-bearing exercise is preferred. Some of the best exercises to help strengthen bones are walking, weight training and dancing. For many people who suffer from exercise-induced asthma these types of exercises can lead to an asthma attack. Incorporating regular weight bearing exercises will improve long-term bone health. If you are prone to exercise induced asthma, normal precautions prior to exercise should apply. Undertaking weight bearing exercises will help to strengthen bones.

Certain chemicals are vital to good bone health. Calcium, phosphate and vitamin D are vital maintaining bone density. The best source of calcium is, of course, dairy. Phosphate sources include protein rich foods such as meat, poultry, fish, eggs, dairy products, nuts and legumes. McCall (2010) suggests that people who have asthma tend to be less active and may have vitamin D deficiency. Vitamin D is known as the sunshine vitamin as the skin manufactures it when exposed to sunlight. It is not uncommon for those who have asthma to be lactose intolerant or to have some other allergy that rules out some or all of the food groups mentioned above. Others may exclude these food groups from personal choice. If your diet is deficient in calcium or phosphate or if you avoid the sun your bones may not be getting the building blocks they need to remain strong. If your diet does not include a regular intake of calcium or phosphate rich foods consider taking supplements.

Other areas to address are by looking at healthier lifestyle options. If you smoke, consider stopping. Along with all of the other associated risk factors smoking is bad for the bones as well. It has been well

documented that smoking affects the blood vessels and therefore affects bone mineral density.

Finally, if a person with asthma is diagnosed with osteoporosis their doctor will normally prescribe the lowest possible dose of corticosteroid required to maintain control of signs and symptoms. A small, regular dose of corticosteroid is still far preferable to emergency interventions that will contain large corticosteroid doses in comparison.

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dear nurse

Dear nurse I am worried about my child starting school, who will look after him if he gets asthma?

The first thing to do is get an extra blue puffer and spacer and put it in a cloth bag or plastic box, (not a plastic bag), to leave at the school's office or sick bay. Inform the school that your child has asthma and provide contact details. Most staff are aware of what to do if your child has an asthma episode. If however they seem unsure let them know that the nurses at Asthma Auckland visit primary schools to educate staff and provide written information about asthma. We can also provide a letter that enables the Headmaster to obtain a blue reliever from the pharmacy without a prescription. In my experience however it is better to have a clearly named box with your child's reliever medication in it to be left at the school. A five year old child is far too young to administer their own medication without supervision.

Dear nurse my child has white spots in her mouth what could it be?

Thrush is a yeast infection of the mucus membrane lining the mouth and tongue. Thrush appears as whitish, velvety sores in the mouth and on the tongue. You will need to see your doctor and obtain a liquid prescription of antifungal mouthwash or lozenges. People taking inhaled preventers (orange, brown, or combination inhalers) have a slight chance of developing oral thrush. By rinsing your mouth and using a spacer, if applicable when using a puffer, the chance of getting thrush is greatly reduced. When children are old enough it is a good idea to teach them how to gargle and spit.

Dear nurse what is the difference between Bronchial Asthma and Cardiac asthma?

Bronchial asthma is a respiratory tract condition, where there is an element of chronic inflammatory process, with reversible narrowing of the airways and an associated airway hyper responsiveness. Asthma can be controlled by using bronchodilators such as Ventolin and corticosteroids such as Flixotide. Cardiac asthma is a condition where there is acute left ventricular failure (left heart failure) or congestive (left and right) cardiac failure. In this condition, the heart's left side has become damaged leading to reduced capacity to pump the blood out of the heart. Fluid can build up in the lungs which can cause shortness of breath, coughing and wheezing-that may mimic asthma. The distinction is important because treatments for asthma and heart failure are very different. If you have a heart murmur or have had heart problems in the past make sure your Doctor is aware of this, if he diagnoses you with asthma.



Dear nurse after your visit and explanation about dust mites my daughter is having nightmares, what shall I do?

I agree the pictures of dust mites can be very frightening. It is important to explain that everyone in New Zealand has dust mites and even the Queen in England has them! If you could show her a picture of a microscope and explain that lots of things look frightening when they are magnified it may help. It can be fun to look at pictures of magnified hair or even the cells from inside your mouth. Reassure her that dust mites are not like fleas as they do not bite. If your daughter has an allergy to dust mites it is important to put in place ways to reduce exposure to them. Try to make going to bed at the same time a routine, with stories and cuddles.

Dear nurse other children are calling my daughter "Crusty" as her hands are very dry and cracked due to her eczema, any suggestions?

Atopic eczema usually occurs in people who have an atopic tendency, (hyper allergic). This means they may develop any or all of three closely linked conditions; atopic eczema, asthma and hay fever. Often these conditions run within families. The first thing to do is make it clear that eczema is not contagious! It develops because of a complex interaction of genetic and environmental factors. Be reassured that Atopic Eczema affects 15-20% of children but only 1-2% of adults. Treatment may be required for many months and possibly years. It nearly always requires reduction of exposure to trigger factors, regular moisturisers, (apply when skin is warm after a bath or shower), and intermittent topical steroids. If topical steroids are prescribed please make sure that you follow the instructions and apply for the whole prescribed time, usually once or twice daily for 5-15 days. Applying the cream once or twice will not bring the eczema under control. Wrapping the hands in glad wrap or wearing cotton gloves at night may help the creams or ointments to absorb more efficiently. If you do decide to try alternative therapies observe closely to make sure they are being effective. If this verbal bullying continues I do advise you to talk to your child's teacher.

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

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

This years flu vaccine includes SWINE FLU (H1N1)



SWINE FLU (H1N1) may cause more severe symptoms for people with asthma or other respiratory conditions.

ALERT: Ensure you are using your preventer, even when you feel well, as prescribed and have your asthma under control. Seek medical advice early if your inhalers are not helping!

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

literacy and health outcomes

Compiled by Elaine Murray RN

Asthma Nurse Educator

The National Institute of Health (NIH) has defined health literacy as the "degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions"¹.

Health literacy includes the ability to understand instructions on prescription drug bottles, appointment slips, medical education brochures, doctor's directions and consent forms, and the ability to negotiate complex health care systems. Health literacy is not simply the ability to read. It requires a complex group of reading, listening, analytical, and decision-making skills, and the ability to apply these skills to health situations².

Why is health literacy so important?

- Health literacy is an essential life skill for individuals; it may help individuals seek and use information and take control over their health
- Health literacy is a public health imperative; building health literacy improves overall population health
- Health literacy is an essential part of social capital; low health literacy is a strong contributor to health inequalities
- Health literacy is a critical economic issue; low health literacy costs millions each year³

International research shows that there is a relationship between a person's level of health literacy and their health status. Poor health literacy is linked to poor health status and may also be a strong contributor to health inequalities.

People with poor health literacy:

- Are less likely to use prevention services (such as screening)
- Have less knowledge of their illness, treatment and medicines
- Are less likely to manage their long-term/chronic condition
- Are more likely to be hospitalised due to a chronic condition

- Are more likely to use emergency services
- Are more vulnerable to workplace injury, because they do not understand safety precautions⁴

People with limited health literacy have been found not only to have lower levels of disease specific knowledge, but also to know less of the practical and instrumental knowledge critical to self-management such as which medication to take in an asthma exacerbation.¹ Self-management requires not only the knowledge of what to do but also the will and capacity to carry out the health care plan.

A critical element of successful self-management is medication adherence. Self-management is now the accepted term used to describe the day-to-day decisions and activities that people engage in to live with and control their illnesses.

People with chronic disease need to monitor their condition and adjust therapy, but people with low health literacy are less able to understand their disease and symptoms, or know how to monitor their disease e.g. check peak flow reading, and then to follow management plan on what to do, or use their inhalers as they should. People with low health literacy often feel a sense of shame and decreased worth, and may feel too ashamed to ask the doctor to explain or repeat instructions or relevant information, therefore misunderstand what the medications do, how to use the inhalers correctly or as prescribed. Incorrect use of the inhalers can continue for some time with, as a consequence, poor asthma control and/or "over use" of the reliever medication for on-going symptoms. In a study, it was reported that although metered dose inhaler skills were better among more literate patients, they were still inadequate⁵.

A study done at Boston University School of Medicine showed that despite an intensive program to improve patients' self-management skills, 28% did not understand the discharge regimen and 30% had not mastered the metered dose inhaler technique after one full round of education. These observations suggest that dramatic gains from the use of effective therapies in asthma are not reaching this high-risk population and highlight the need for evaluating patients' comprehension when providing discharge instructions and the development of systemic approaches to tailored inpatient asthma education⁶.

National efforts to reduce asthma morbidity by reducing emergency department admissions and hospitalisations, have focused on producing guidelines for asthma management that stress improving patient education and self-management.

Asthma education programmes improve knowledge and self-management skills

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and decrease morbidity. Greater health literacy facilitates a greater understanding about what asthma is, how to recognise the symptoms (and worsening symptoms of asthma), what triggers are (and why you need to avoid or minimise exposure to them), how to use a peak flow meter correctly and why we use a peak flow meter, and the role of reliever, preventer and combination medications, and how to use inhalers correctly; all part of asthma management⁶.

When working with a patient to enable them to manage their asthma effectively, health professionals should:

- Acknowledge that objective measures of lung function alone do not adequately reflect the person's asthma status, and that subjective symptoms and quality of life are important considerations in treatment
- Encourage the patient or carer to become more involved in decision making, yet continue to take professional responsibility for patients' medical care
- Consider patients' individual circumstances
- Provide information in a suitable language and medium⁷

Essential elements of asthma self-management education are:

- Written information
- Self-monitoring of symptoms and peak flow
- A written asthma action plan
- Regular review by a doctor

Asthma control is improved when patients receive appropriate education in asthma management. It will help them understand:

- Basic pathophysiology and natural history of asthma
- Different roles of the reliever and preventer medications, and symptomatic controllers, if prescribed
- Correct way to use the inhaler they have been prescribed, and why using a spacer is important with a metered dose inhaler
- Why doing peak flows is important, and how to do them correctly
- What triggers are and how they need to avoid or minimise exposure to them
- The importance of having an asthma management plan and the need to have it reviewed regularly by their GP⁷

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Is your asthma under control?

Go to www.asthmacontrol.co.nz and do the Asthma Control Test (ACT).
If you need an asthma education session, contact your local Asthma Society.
Take the steps required to control your asthma. Do not live with symptoms and reduce your quality of life.

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The Gluten Free Food & Allergy Shows are owned and organised by Healthy Life Media, publishers of popular monthly magazine Healthy Food Guide.

SHOW DATES & TIMES

Auckland: 9-10 June 2012 – ASB Showgrounds
Wellington: 25-26 August 2012 – TSB Bank Arena
Christchurch: 27-28 October 2012 – Pioneer Recreation and Sport Centre
10am to 5pm daily, only \$10 entry (children under 10 free), Senior Citizen discount

For more information, visit www.glutenallergy.co.nz

Asthma NZ has 10x double passes to give away to the Gluten Free Food & Allergy Show in Auckland on 9-10 June 2012 at the ASB Showgrounds.

To enter to win email your name and address to editor@asthma-nz.org.nz before 30 May 2011 remember to put GFFA Show in subject line.

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managing asthma over winter

Compiled by Elaine Murray RN
Asthma Nurse Educator

Saying good-bye to the long days of summer is hard for everyone as we know that winter is just around the corner. And, as asthma sufferers know, winter time may spell danger.

Saying good bye to the long days of summer is hard for every one as we know that winter is just around the corner. And, as asthma sufferers know, winter time may spell danger.

So, why is this? Firstly, what is asthma?

Asthma is termed a chronic inflammatory condition of the airways, characterised by air flow obstruction that varies and is reversible spontaneously or with treatment, but in some patients there may be an element of irreversible air flow obstruction (Barnes & Godfrey, 2000).

It is a complex inflammatory disease involving many inflammatory cells which interact releasing inflammatory mediators that cause bronchoconstriction and complex inflammatory effects on the airways (Barnes & Godfrey, 2000), who also go on to state that "fiberoptic bronchial biopsies have shown that inflammation is present even in patients with mild asthma who are asymptomatic".

The underlying causes of asthma are unknown. Asthma can be allergic (extrinsic), non-allergic (intrinsic) or occupational and there are several factors that increase the risk of developing asthma.

The symptoms of asthma are:

- Coughing, usually a dry cough (especially in children) or it may be moist with some phlegm present
- Shortness of breath
- Tight chest
- Wheezing, often intermittent, worse on expiration AND can be relieved by bronchodilator medication
- Waking at night coughing or with a tight chest and shortness of breath

There are several factors that trigger asthma symptoms and these are different for everyone. These include allergens (e.g. house dust mite, pollen, animal dander, and moulds), irritants such as tobacco smoke, fumes and air pollutants, physical factors (exercise, cold air, laughing and hyperventilation), upper respiratory tract infections, weather changes, time of the day, emotions, occupational chemicals/fumes, food additives, some medications, endocrine factors (menstrual cycle, pregnancy, thyroid disease).

There are many triggers that can trigger an asthma attack. Identifying the trigger is important, so exposure to it can be avoided or minimised.

The cold air that winter brings can set off asthma attacks. Cold air is often directly responsible for the onset of asthma symptoms, but respiratory infections that are common in wintertime can also cause asthma attacks.

The respiratory system from the nose to the alveoli sacs is lined with a mucous membrane that is warm and moist. It is also lined with cilia, tiny hairs that waft the mucous from the nasal passage backwards, and then swallowed, and the tiny hairs in the lower respiratory tract waft upwards moving the mucous up and then swallowed.



It is important to breathe through the nose as the air is warmed and moistened. The cilia protect the airways by trapping particles and organisms.

Cold air can alter the effectiveness of the mucous lining, making people more vulnerable to infections. Cold air also makes the mucous thick. The thick mucous and the trapped particles then become difficult to remove from the respiratory system.

The cold air causes the nasal congestion in the nose, and in the lower airways the lungs react to the cold air by releasing histamine, which causes wheezing, especially in asthma sufferers.

Indoor air quality is worse in winter time as closed windows and doors prevent the air from circulating, leading to higher concentrations of allergens such as mould, house dust mite and pet dander. Proper care to minimise exposure to these allergens could greatly reduce their impact.

Winter can be a depressing time. Depression rates among those with chronic diseases are significantly higher than those without them, and "research has also indicated that people with asthma who are depressed may not follow their asthma plan, resulting in poor self-management and worsening symptoms" (Achoo Allergy)

Exercise is an important component of an effective asthma treatment regimen because it helps to improve lung capacity. It also makes you feel better.

Exercising during the winter months can be challenging for those with asthma due to the effects of the cold air. Breathing through the nose and wearing a mask to help control the temperature of the inhaled air will greatly reduce the incidence of exercise-induced asthma.

The aim is to have your asthma controlled so that you can cope with whatever triggers may come along.

So try this check list for managing your asthma in winter

- Get your doctor to review your asthma regularly especially before winter
- Talk to your doctor about the influenza vaccine
- At the first sign of a cold or flu follow your Asthma Action plan given to you by your doctor. If you do not have a written Asthma Action Plan please discuss this with your doctor next time you visit
- Pay close attention to your asthma symptoms. If you notice warning signs of an asthma episode-such as coughing, wheezing, chest tightness or shortness of breath-adjust your medication as directed by your doctor e.g. the use of the blue reliever 2 puffs 4 hourly from day 1 of a cold and continue for the duration of the cold. Quick action can prevent a severe attack
- Use a peak flow meter to monitor how well your lungs are working from day to day. Take your readings at the same time every day. If you notice a drop in your peak flow rate, adjust your medication as directed by your doctor
- Avoid smoke from tobacco, fireplaces and wood stoves as this can trigger symptoms

- Protect yourself from the cold by dressing warmly and wearing a scarf around your mouth and nose, and try to breathe through your nose as this warms and moistens the air
- Try and keep the inside of your home at an even temperature throughout
- **AND**, the most important thing to remember is to use your preventer every day morning and night even when well. If you have not been using the preventer over summer, start using it again in March

Some tips to help reduce the spread of colds and viruses.

- Keep your hands away from your eyes, nose and mouth
- Use tissues to wipe your nose, and then discard it
- Wash your hands after blowing your nose
- Cough or sneeze into the side of your elbow
- Wash your hands before preparing or eating food
- Do not share cups or cutlery with other people
- Avoid people with coughs and colds
- Take good care of yourself
- Rest
- Drink plenty of fluids
- Always have your blue reliever with you at all times (check expiry date and ensure you have enough medication in the inhaler)

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Coping with Asthma During Winter
Down loaded from the web 10.02.2012
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GET IMMUNISED

Protect yourself, Protect your family,
Protect your community'

Influenza is not just a 'bad cold'. Although some of the symptoms are the same, influenza is usually much more severe. Influenza illness can include any or all of these symptoms: fever, muscle aches, headache, lack of energy, dry cough, sore throat, and possibly runny nose and generally feeling miserable.

Individuals with asthma or COPD are especially vulnerable when it comes to colds and flu. They can be a major trigger for asthmatics and the severity of the cold or flu is normally much worse for anyone with an underlying respiratory condition, often resulting in the need for hospitalisation. Influenza can lead to serious complications, particularly in people with some existing medical conditions such as heart or lung conditions. Complications include pneumonia, heart failure and worsening asthma.

You can spread the flu to people, including your family/whanau and friends, who are at most risk of complications. Influenza can affect anyone, no matter how fit, active and healthy they may be. Get protected each year as the flu virus is always changing. Influenza immunisation cannot give you the flu.

Eligibility for funded seasonal vaccine.

- Anyone aged 65 years or over
- Anyone aged under 65 years with long-term medical conditions (including children with asthma if they are prescribed preventer medication)
- Pregnant women

Influenza is transferred through droplets of moisture from breathing, coughing or sneezing.

It can also be transferred through hands touching droplets infected with the virus and then touching the mouth or nose. Washing and drying hands thoroughly is a good habit!

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laboratory lung function tests

Compiled by Karen Little RN

Lung function tests for asthma include numerous procedures to diagnose lung problems. This magazine has described spirometry and Niox testing in the past, but not some of the other tests that are performed at the Respiratory Physiology Laboratory at the Greenlane Clinical Centre. I visited the centre recently and Buba Milivojevic, Senior Respiratory Physiologist was kind enough to let me observe a Histamine Saline Challenge test and the Bodyplethysmography Box in action.



Bronchoprovocation testing may be requested if a person's symptoms and spirometry do not clearly or convincingly establish a diagnosis of asthma. A spirometer is a device used to measure timed expired and inspired volumes. Asthma is a disease characterised by an increased responsiveness or inflammation in the airways to various stimuli. If this test is requested, a person inhales a nebulized solution or performs exercise to see if symptoms of asthma or airflow obstruction occur, which is measured by spirometry. If you demonstrate a positive response your airways are classified as hyperresponsive. Commonly used tests can be pharmacological agents such as histamine, acetylcholine, metacholine, and adenosine-5-monophosphate. Hypertonic stimuli include exercise, hypertonic (4.5%) saline, manitol, and cold air. A specific allergen or irritant may also be used. Due to the fact that no bronchoprovocation test is both 100% specific and 100% sensitive, none of these tests can definitely diagnose asthma. They are used in conjunction with other evidence such as symptoms and history (Auckland District Health Board, 2010). Before any challenge test, a spirometry will be performed to ensure the person is able to perform the test and to obtain a baseline for subsequent measurement. The person must also meet certain criteria, such as not having had a recent myocardial infarction, cerebral vascular accident or uncontrolled hypertension. The person must not be using ant-histamines, or have a respiratory infection. Preparation criteria will be sent to the person before the test.

A Bodyplethysmography Box is used to measure the functional residual capacity (FRC) of the lungs (the volume in the lungs when the muscles of respiration are relaxed) and total lung capacity (TLC). This measurement cannot be obtained by spirometry, as it includes the Residual volume (RV), which is the volume of air remaining in the lung at the end of a maximal exhalation. The patient is placed inside a sealed chamber the size of a small telephone booth, with a single mouthpiece. At the end of normal expiration, the mouthpiece is closed. The patient is then asked to make an inspiratory effort. As the patient tries to inhale (a manoeuvre which looks and feels like panting), the lungs expand, decreasing pressure within the lungs and increasing lung volume. This in turn increases the pressure within the box, since it is a closed system and the volume of the box compartment has decreased to accommodate the new volume of the subject. Boyle's Law is used to calculate the unknown volume within the lungs. Boyle's law describes the inversely proportional relationship between the absolute pressure and volume of a gas, if the temperature is kept constant within a closed system. The difference between full and empty lungs can be used to assess diseases and airway passage restrictions. An obstructive disease will show increased FRC, because some airways do not empty normally, while a restrictive disease will show decreased FRC (Wanger et al, 2005).

As many people are unsure if their asthma will prevent them joining our Defence forces, I contacted Dr Alison Drewry Director of Defence Health, which includes the Army, Navy, and Air Force. She informed me that when an applicant states that they have asthma or require asthma medication they will then be required to fill out a more comprehensive questionnaire, and to have (and pay for) a Hypertonic Saline Challenge Test. In Auckland this is usually done at the Respiratory Physiology Laboratory at Greenlane Clinical Centre; however there are various places nationally that can perform this test. In Auckland you can go

privately to The New Zealand Respiratory and Sleep Institute at Greenlane East. The person will have a pre-test spirometry and exhaled nitric oxide measurement, then incremental challenge doses are nebulised, each followed by measurement of spirometry. Commonly the saline challenge is interpreted categorically as either demonstrating hyper-responsiveness to saline or not. If Forced Expiratory Volume in one second (FEV1) decreases by $\geq 20\%$ the test is considered to be positive. (Ellyett, n.d.). Dr Drewry informed me that it is quite common for people having this test to have no hyper-responsiveness. If the test is positive the applicant will be commenced on inhaled corticosteroids and then retested some months later. If the repeat test is then negative, there is no reason why the applicant cannot be deployed on inhaled asthma medication. The defence forces, however, do not use long-acting beta2 agonists as if the supplies are cut off there may be a more rapid decline than if the person was on a short-acting beta2 agonist.

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asthma and surgery

Compiled by Ann Wheat RN BN



Most people do not look forward to having surgery at any time because of the inconvenience of surgery such as time away from work and not being able to do normal activities due to pain and loss of mobility. But to make matters worse there are always inherent dangers that can occur not only due to the surgery itself, but also from anaesthesia and problems that can arise such as deep vein thrombosis and chest infections. For people with asthma, the risks can be even more of a worry as there is always the possibility of severe bronchospasm during anaesthetics which can be life threatening. People most at risk are those that are having upper abdominal or chest surgery (Woods & Sladen, 2009).

People who have asthma that is well controlled are often no more at risk of complications than people without asthma. But for those that are not well controlled, the complications can be varied. This is really important for those who need to undergo emergency surgery with very little preparation time. These complications are often due to airway hyper-reactivity causing bronchospasm from instrumentation, drugs, plus perioperative complications such as aspiration, infection or trauma. People coming out of anaesthetic are at risk of laryngospasm and bronchospasm so special care is given at this time. Pain, fluid shifts, the inability to cough, and delayed mobilization are just a few of the factors that can cause increased risk of postoperative pulmonary complications in people with poor asthma control. People who smoke and have asthma are also more at risk (Woods & Sladen, 2009).

So prior to surgery it is imperative that people with asthma are in the best optimum health. So how can optimum health be achieved?

The most important factor for all people with asthma is to ensure that they are taking their medication as prescribed, especially their preventer medication such as Flixotide, Pulmicort, Oxis, Serevent, Seretide or Symbicort/Vannair. If control is not optimum, then a short course of oral corticosteroids may be needed prior to surgery. These are the medications that help to reduce the hyper-reactivity of the lungs and help to keep us well and therefore if an unexpected event that requires surgery occurs, hopefully a person will be in the best shape that they can possibly be in. It is also imperative to try to reduce allergen exposure whenever possible. This includes: cats, dogs, mould, dust mites, etc. and in particular cigarette smoking. If a person with asthma is a smoker, they must stop prior to surgery. (Asthma Initiative of Michigan, 2007).

If surgery is planned, then there is often more time to achieve good control. When seen at pre-admission, asthma history, physical examination, medications, allergies, previous surgery will all be investigated and in some cases, lung function testing will be undertaken to give an accurate assessment of lung health. It is important to assess at this stage for the following:

- Increased use of inhaled short acting beta agonist and use per week. This included medications such as Ventolin, Respigen, Salamol or Bricanyl
- Current and past use of inhaled corticosteroids for example, Flixotide or Pulmicort
- Recent asthma exacerbations that also may have required hospital or Accident and Emergency visits as this will delay planned surgery
- How long ago a course of oral corticosteroids was required
- Recent upper respiratory or sinus infections as again these may delay surgery
- Recent pneumonia and was this confirmed on chest X-ray.
- Whether there is a history of intubation or intensive care admission
- Any prior pulmonary complications with previous surgery.

- History of long-term oral corticosteroid use or corticosteroid-dependent asthma (Tirumalasetty & Grammer, 2006, Woods & Sladen 2009)

At this time an anaesthetic plan will be formulated with the patient. This will include the type of anaesthetic to be used such as regional anaesthetic, spinal or general anaesthetic. They will decide on what medications to use that avoid the worst of any complications that can be caused from these medications themselves. It will also be discussed that a Short Acting Beta Agonist will be taken into theatre as a precaution against an acute episode of asthma during anaesthetic as the patient's own will be used to help control the episode (Woods and Sladen, 2009, Yamakage, Iwasaki and Namiki, 2008).

Once surgery has been completed, standard post-operative treatment will be undertaken. Oxygen therapy may be required for both a short time or even for several days following both minor and major surgery. It is essential that pain relief is given regularly to minimize the effects of pain on the respiratory system and in abdominal and thoracic surgery an epidural or intravenous route may be the pain reliefs of choice in the early stages post operatively. Early ambulation plus deep breathing are essential and respiratory rehabilitation should be undertaken to assist with recovery. Post operatively, routine asthma medications should be restarted at the earliest possible time (Mercer, 2000).

In conclusion, surgery can have serious complications in people with asthma. The most important message is that preoperatively asthma should be well controlled with regular use of medications. A preoperative assessment should be carried out to ensure that the person is as well as can be and that adequate time is allowed to ensure that the person is well controlled whenever possible, that anaesthetic assessment is carried out to ensure the best possible outcome and that postoperative care is maintained to ensure a complete recovery.

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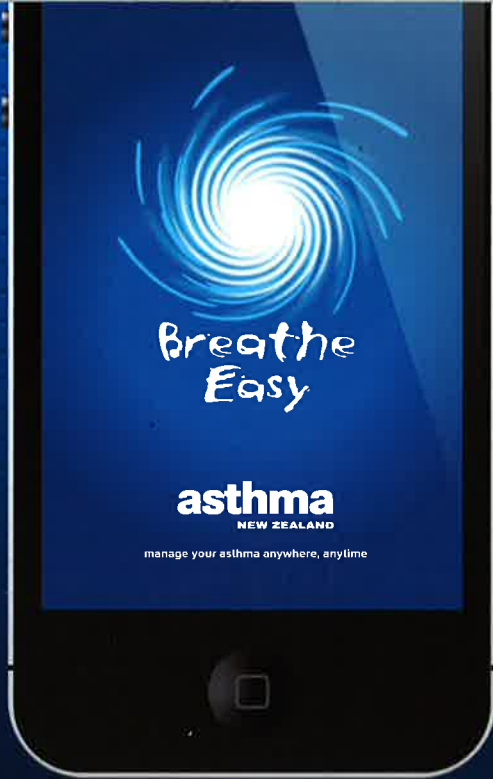
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*Full terms and conditions for this competition can be found at www.breatheeasy.co.nz

It is estimated there are currently 4.6 million mobile phones in New Zealand, consisting of 800,000 smartphones in New Zealand, this represents a higher penetration rate per household than SKY TV. Surprisingly, New Zealand already has more mobile phones per capita than the USA. If you are looking for a way to engage Kiwis then you have to be looking seriously at the mobile space.

"Asthma New Zealand has embraced mhealth (Mobile Health) as a way of effectively engaging people with Asthma. Asthma New Zealand is close to releasing its Breathe Easy Asthma Management App which thanks to its sponsors, Asthma New Zealand, GlaxoSmithKline, First Sovereign Trust, Infinity Trust and VADR will be free for NZ iPhone and iTouch users to download. The app has been developed with industry experts to improve and eventually replace current paper based Asthma Management plans. The aim is to help people with Asthma or their carer to take early action to prevent or reduce the severity of an Asthma attack as there is no current "cure" for Asthma," Gerry Hanna, Asthma New Zealand.

Sadly, non-adherence costs New Zealand \$700 million annually. This is simply a result of people not taking their medication when they should or in the case of Asthma keeping an accurate record of their peakflow so they can be aware of the danger signals. A recent PWC study found that physicians make recommendation based on incomplete information for 70% of patients.

"The Breathe Easy App provides a useful way to keep track of your asthma symptoms, peakflow and provides automatic reminders for when you need to take your medication and next visit your doctor. It also includes the Asthma Control Test™, a scientifically validated test that can tell quickly whether your asthma is actually under control" Geoff McDonald, GlaxoSmithKline NZ.

Asthma New Zealand plans after initial feedback to further develop the application for Android and Windows handsets. The product roadmap includes pollen alerts and gamification subject to further funding. VADR, a sponsor and the developer of the app are an enthusiastic partner of the project. "It's fantastic to be involved in projects that are of real social benefit and utility to the end user. It is also great to see the initiative so well supported by the medical community, especially young doctors and people with Asthma," said John McRae, CEO of VADR.

VADR (formerly Business Republic) have fast developed a reputation for developing apps in the mHealth space. Beyond the 800,000 smartphones in New Zealand, VADR are targeting globally the one billion smartphone owners predicted by Forester research by 2016. "Mobile is the new face of engagement, whether its health, government, music, events or retail". Mobile is personal, persuasive and pervasive, it's an exciting and disruptive space to be in."

The app allows users to opt in to a research programme which will

allow them to contribute to ongoing research in Asthma within New Zealand.

Linda Thompson
PR / Marketing Manager
Asthma New Zealand

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NEWS FROM AROUND THE REGIONS ...

wellington region



The Wellington Asthma Society has been extremely fortunate in receiving a grant from the latest round of funding of the ANZ New Zealand Staff Foundation. The monies for funding are generously provided by the staff of both the ANZ and National banks, who contribute an amount of their choosing each week to the fund, which is then matched dollar for dollar by the bank. The Staff Foundation supports projects that have a charitable focus and meets its objectives which may include:

- Special education and health projects of general benefit to the community
- Projects which give people the skills to better manage their lives and increase their employment opportunities
- Projects which assist communities to conserve and protect their natural and cultural resources
- Charitable projects aimed at improving parenting skills, reducing violence and relieving poverty

All projects must have the support of a Staff Foundation member who will nominate the application, to the board. The application by Asthma Wellington was very kindly supported by Kim Gross, Manager of the local Porirua branch. Asthma is something Kim has had many sleepless nights with over the years as her son had asthma from an early age.

The monies have been granted for the advertising of the Society's services, in the local papers throughout Wellington to endeavour to increase the public's awareness of the free service that is provided

by our two Asthma Nurse Educators. This is an in home service to provide support and assistance to asthmatics and their families. One of the advantages of having an Asthma Nurse come into your home is the opportunity for her to see if there are triggers within the home that the patient may be unaware of. There is no requirement to be referred through a doctor or specialist – it is as easy as picking up the phone and asking for help. Our contact number is 04 237 4520 and if the office is unattended please feel free to leave a message.

The Asthma Nurse Educators have also been keeping busy once again, carrying out education sessions throughout the community, to empower caregivers with the confidence in dealing with asthma attacks as well as the day to day management and prevention.

These have once again been very well received with a great turnout of staff at the various rest homes where they have been held.

Don't forget we have a range of nebulisers available for sale or hire. These can easily be obtained with a referral from your medical practitioner.

Kim Jansen
Administrator/Fundraising Coordinator

what are our nurses up to in auckland and wellington?

Nurses have had a very busy couple of months since returning back following the supposed summer break. Not only have they completed many home visits but they have also undertaken various education sessions for health professionals and community groups around the two cities.

Nurses have received updates on pathophysiology, the latest changes to the pharmaceutical treatment of asthma and tips on how to manage and help control asthma for their clients. Community groups have been given strategies on asthma management for themselves and their whanau. Smoking cessation practitioners have also been given an update on asthma and COPD. We have completed our first lecture on asthma for the year to student nurses around Auckland and Wellington. Wellington Nurses have also been talking to Wellington University students.

Nurses are now undertaking visits to secondary schools, primary and preschools to educate staff and assess students in the management of asthma.

All our nurses have attended a lecture on Asthma by Professor Ken Chapman from Canada. Two nurses have recently attended the South Island Respiratory Nurse Educator's Forum in Christchurch where he also spoke to the gathered educators. The main thrust of his talk was about the research on the benefits of stepping up or down preventer and combination therapies. Nurses are maintaining links with other Respiratory health professions around both cities.

Asthma nurses are running and attending COPD groups for people with the associated conditions to educate and offer support and social interaction.

Finally, Asthma Timaru is about to rejoin the fold and will be operating from the Community Centre from March 5th with a nurse who has many years' respiratory experience.



asthma canterbury – what's new?

We have been off to a busy start in 2012 in Canterbury. We are one of the main organisers for the South Island Respiratory Educator Forum (SIREF) held annually here in Christchurch for over 10 years. The 2012 Forum was held on 16th and 17th February with over 40 delegates (mainly nurses and physiotherapists) attending from around New Zealand. Our theme this year was 'Out of the Blue' with day two having a Pulmonary Rehabilitation focus. We were very fortunate to again have excellent speakers from around NZ and also a late addition, courtesy of GSK, Professor Ken Chapman from the Institute of Medical Science in Toronto. Our opening speaker was Asthma Canterbury's Patron, Dick Tayler, who provided a very entertaining insight into his experience training for and winning the Gold Medal for the 10,000 metres at the Commonwealth Games in Christchurch in 1974. Feedback from attendees was very positive and our thanks to our speakers and sponsors for their continued support of SIREF.

We are also pleased to welcome a new nurse to our team, Louise Swatton who joined us in January. Louise registered as a nurse in 1979, in the UK, and went on to become a Midwife, Health Visitor and Nurse Prescriber, specialising in community based child and adult health care; including health education. She emigrated to New Zealand with her family in 2004, and has worked as a Practice Nurse in New Zealand for 7 years, being based in Lyttelton for the last four and a half years.

We are braced for another busy and challenging year as there is still significant damage to homes and environments around Christchurch which can be a problem to those with underlying lung conditions.

Teresa Chalecki
Manager

In February this year Glaxo Smith Kline in conjunction with Asthma New Zealand provided me with the opportunity to attend the South Island Respiratory Education Forum held in Christchurch. There was a very full agenda with excellent presenters .

Highlights for me was a lively presentation on the value of Oxygen therapy by Dr Chris Drennan, and a presentation on the introduction of Prescribing by diabetes nurses with the potential for Respiratory nurse prescribing in the future. Food for thought. These forums always provide a great means of networking and sharing which is always valued amongst nurse.

Adie Riddell
Asthma Nurse Educator Wellington

A big "thankyou" to Asthma Canterbury for running the SIREF "Out of the blue" conference.

The venue was great. The weather was wonderful.

AND-No shaking!! No rolling!!

Dick Tayler's opening address started the day in a positive way. The guest speakers were informative and easy to listen to, and I left with some very good thought provoking information.

Elaine Murray
Asthma Auckland

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NEWS FROM AROUND THE REGIONS ...

changes ahead for asthma south canterbury



Asthma South Canterbury has decided to become a branch of Asthma New Zealand and from 1st April welcome Jane Dunbar as the new asthma nurse. Asthma New Zealand would like to thank the outgoing committee for their wonderful work; raising funds and awareness of asthma in the South Canterbury Region. They would also like to thank previous asthma nurse Sally Levie (pictured above) for her service and passion to serve and meet the communities needs. Sally left before Christmas and now lives in Dunedin to be nearer her daughter during her last year at school. Asthma New Zealand marketing and public relations manager Linda Thompson, hopes the changeover will be seamless. "We're going to be managing the bills, but it will be kept local and the organisation will continue as before; it just won't be overseen by a local committee. In all honesty, this moves makes the future of the South Canterbury branch more certain."

hello my name is jane dunbar



I qualified as a Registered Nurse in 1995, at Wellington Polytechnic after being an Enrolled Nurse for many years. I am married with two children and have lived in Timaru for over 10 years.

Up until recently I have been working in the Respiratory area of nursing, mostly in a relieving role for the South Canterbury District Health Board.

I am excited about returning to Asthma South Canterbury where I worked in 2008. I really enjoy working in a community environment supporting and educating those living with a Respiratory disease. The information and life experience that I gain from each person/family member living with breathing difficulties, helps me to gain a better understanding of how life can be.

I look forward to working under Asthma New Zealand, within a friendly and professional organisation.



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NEWS FROM AROUND THE REGIONS ...

tawa college realise the dream student

Adrina Venayagam was one of 19 secondary school students from around New Zealand that was selected for the Genesis Energy Realise the dream event organised by the Royal society of New Zealand in December 2011. Genesis Energy Realise the Dream is a prestigious week-long event where students are rewarded for undertaking an outstanding piece of science research.

Adrina spent months working on her science project and this led to her being selected for Realise the Dream. Adrina researched the effect of smoking on the human's lung capacity. She surveyed 20 smokers and 20 non-smokers with a peak flow meter. Each participant took three vital breaths (a deep, hard blow) and three tidal breaths (a normal breath). Adrina found a major difference in smokers and non-smokers lung capacities. Adrina found that 10% of the smokers that she surveyed were in the danger zone as smoking tar and chemicals damage the lung vessels.

During a week in December 2011 Adrina and the other participants travelled by coach from Auckland to Wellington. Activities included a day visit at the Liggins Institute, Auckland: Genesis Energy – Tokaanu, Dairy NZ, Hamilton and Massey University Palmerston



From left to right —
Mr Malcom Alexander, General Manager, Corporate Affairs, Genesis Energy – Adrina Venayagam, Realise the dream 2011 participant – His Excellency, The Right Hon Sir Jerry Mateparae

North and concluded with a cocktail Awards evening at the Government House. Adrina said "the highlight of the trip was being able to learn about the science New Zealand has to offer".

a nebuliser for your chicken? "say that again"



Ladybird is one of a group of hens kept as pets. They are far more than just egg layers – being very much part of the family. When her owners noticed she was unwell they brought her to see us at the clinic. It was clear that her breathing was laboured and she was definitely under the weather. X-rays showed a lesion in her lungs resulting from a fungal infection called Aspergillus. This is very serious and without treatment, Ladybird would likely not survive

long. Once started on oral medication the other component of treatment is to use a nebuliser. This delivers a very fine "fog" of anti-fungal medication, which when breathed in, helps to kill the infection. Once again our friends at Asthma Auckland were there to help – supplying an out-of-service nebuliser to use with Labybird. Older machines become obsolete for human care but still do a pretty good job for chickens!



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Kid's Page

Joe's Race

By Karen Little

"Choice" Joe said to his sister Karen. "Today Granddad is coming to school to see me run in the Cross country".

"I bet you will not finish the race as usual" replied Karen in a nasty voice.

Joe ate his breakfast and did not reply. He finished all his cereal as he wanted to have extra strength for the race.

Joe reminded his mum to help him get down his orange puffer from the top of the fridge; the medicine was now kept there because his beastly little sister Mary could not reach that high up. Last month she had kept puffing it into the air until it all ran out.

Mum watched while Joe put one puff into the spacer and took six breaths. He had a drink of water after this as he did not want to have a sore throat.

"There you go son" said mum "I can't wait to see you run today, it's now been one month since you started your asthma preventer. Remember how your nurse said it would take that long to really work?"

"Thanks mum" replied Joe grumpily, "sounds like weird medicine that takes so long to help".

"Not all things work the same way" said Joe's mum in a kind voice, "we will soon see if it is working today when you run".

Joe got all his school gear together and remembered to put his blue puffer in his bag. He had been surprised when his nurse said he could have two puffs of the blue reliever ten minutes before hard out exercise. In the past he had only had it when he was really wheezy and sick.

"Granddad, Granddad" yelled Joe "here I am"!

Joe was really proud to have Granddad at school. Joe inched his way to the starting line, he made Shure that he was near the front and nowhere near that bully Tom who laughed at him last year when he had to stop running.

On Your Marks, Get Start, Go, boomed the loud speaker.

Joe was surprised how great he felt. He could not ever remember running this hard without the annoying wheeze in his chest.

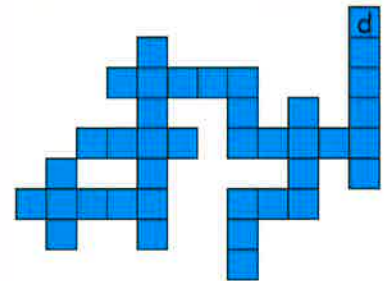
He kept running, and running, and running...

"Go Joe, Go Joe, Gooo Joeee" screamed granddad.

Joe felt the white finishing tape break on his chest, he had won the race!

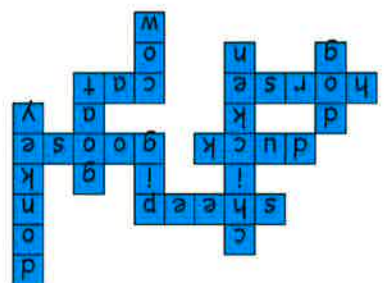


Farm Animal Crossword



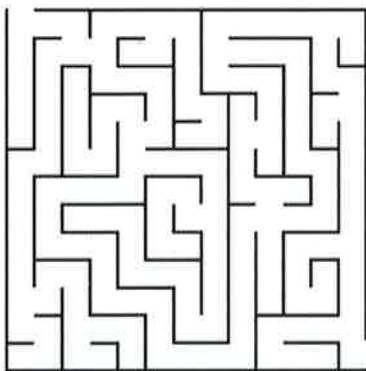
- | | |
|-----------|----------|
| 1 Cat | 7 Goat |
| 2 Chicken | 8 Goose |
| 3 Cow | 9 Horse |
| 4 Dog | 10 Pig |
| 5 Donkey | 11 Sheep |
| 6 Duck | |

Do you know which animal is the most likely to cause allergies to kids with asthma?
- Cat



Answers

Help! Olivier is having trouble breathing. Help him find his inhaler, quick!



sleep apnoea

Compiled by Janet Delooze RN

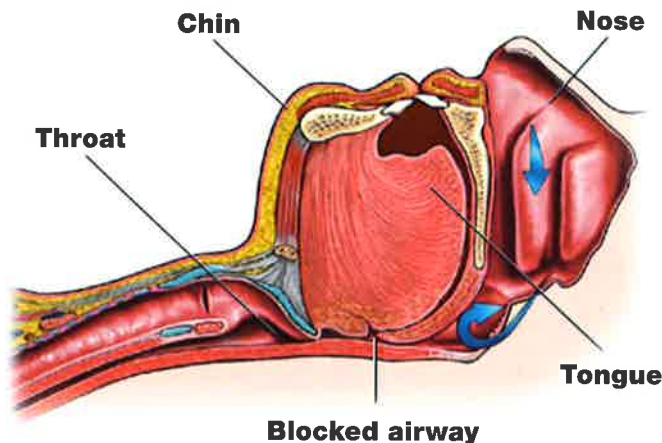
Is your bed partner keeping you awake, snoring and snorting? There could be more to it than you think. Studies have shown that as many as 7% of the population suffer from sleep apnoea (Punjabi, 2008).

Sleep apnoea is a sleep disorder where breathing stops completely for short lengths of time or where there are periods of abnormally low breathing rate, known as hypopnoea. There are three types of sleep apnoea:

- Obstructive sleep apnoea 84%
 - Central sleep apnoea 0.4%
 - Complex or mixed (a combination of both) 15%
- (American Academy of Sleep Medicine, 2001)

Sleep apnoea affects more adults than children, and is more prevalent in men, although the incidence in women increases after menopause. In children, however, the numbers are equally divided between the sexes with a peak age range of 2 to 6 years (Halblower et al, 2006).

Obstructive sleep apnoea (OSA) is the most common form of sleep apnoea and is caused by partial or complete collapse of the soft tissues of the airways which blocks the flow of air to the lungs. These episodes can typically last for 20 to 40 seconds, after which the person usually takes a huge inspiratory gasp. These apnoeic episodes can occur as many as 5 to 30 times an hour; snoring very often follows and the person is usually unaware of any breathing abnormalities (Punjabi, 2008).



During CSA the respiratory drive is absent and the brain does not respond to changing blood gases. Premature infants are at high risk of CSA because of their immature brain and reflex systems even if they are otherwise quite healthy. (NHLBI, 2010)

Contributing factors

- Smoking; chemical irritants
- Obesity
- Pregnancy (especially 3rd trimester)
- Post menopause
- Brain injury and neuromuscular disorders
- Cranio-facial syndromes, e.g. Downs syndrome
- Familial tendency

(Punjabi 2008)

Other common characteristics of sleep apnoea are restless sleep, loud snoring and daytime sleepiness. Less common problems include morning headaches and insomnia.

Also:

- Forgetfulness, poor concentration
- Irritability, anxiety, depression and adverse personality changes
- Increased heart rate and blood pressure
- Decreased sex drive
- Unexplained weight gain
- Increased urination and nocturia
- Gastro-oesophageal reflux
- Nights sweats
- Hindered or slower healing process after illness

(Veale et al, 2002)

OSA can be a temporary condition such as during an upper respiratory tract infection where there may be throat swelling and enlarged tonsils. Consumption of excessive amounts of alcohol or opiates can also relax the soft tissues and interfere with normal sleep patterns.

In **central sleep apnoea (CSA)** the brain's respiratory control centres are imbalanced and do not react quickly enough to maintain an even respiratory rate. The sleeper stops breathing, usually for about 10 to 30 seconds, carbon dioxide levels rise and oxygen levels fall, then eventually the neurological drive to breathe kicks in, and the sleeper inhales again. If this persists for long enough the body's cells will become depleted of oxygen and brain damage and even death can occur. (NHLBI, 2010).

Diagnosis of sleep apnoea is usually by patient history and tests, either in the laboratory or at home. This is usually instigated by the bed partner as the sufferer is generally not aware of the problem. Referral can be made for further investigation by the family doctor. Sleep studies, or polysomnography, measure breathing patterns, oxygen saturation levels, air flow, pulse rate and snoring. Sometimes home oximetry is enough to confirm the diagnosis of sleep apnoea (Punjabi, 2008).

Treatment

Once a diagnosis has been confirmed treatment can be commenced. In OSA, a mouth brace can help to keep the lower jaw in such a position as to keep the airways open. Surgery such as tonsillectomy and adenoidectomy has improved OSA in some cases although this is not always the complete answer. One of the most common treatments for all types of sleep apnoea is with continuous positive airways pressure (CPAP) which allows the breathing pattern to be uninterrupted whilst asleep (Sleep Apnoea Association of New Zealand, 2007). A mask worn over the nose, mouth or both delivers continuous airflow at a constant pressure.

Long term issues

Continuous disruption of sleep pattern leaves people feeling exhausted, sleepy during the day, irritable and unable to concentrate properly. This impacts significantly on relationships, work and all other aspects of daily living. Impaired quality of life has been demonstrated in several studies on sleep apnoea (Veale et al, 2002; Lacasse, Godbout & Series, 2002). For drivers, the consequences of daytime sleepiness can be dangerous and even fatal in many cases. Estimates of the contribution of sleepiness to road traffic accidents vary across the globe from 1-3% in the US, 10% in France to over 30% in Australia (George, 2004).

One of the most significant impacts of sleep apnoea on health,

however, is the changes within the cardiovascular system. Moderate to severe sleep apnoea has been associated with hypertension, coronary artery disease, congestive heart failure and stroke, even when contributing factors such as obesity, smoking and alcohol consumption and familial predisposition have been considered (Marshall et al, 2008; Yaggi et al, 2005).

So, if you're sleeping with someone whose snoring and interrupted sleep pattern is driving you mad, give them a nudge ... not to wake them up of course! They should talk to their GP about further investigations. It could change their life for the better.

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Source: Respir Res

Is low dose inhaled corticosteroid therapy as effective for inflammation and remodeling in asthma? A randomized, parallel group study;

Baraket M, Oliver BG, Burgess JK, Lim S, King GG, Black JL; Respiratory Research 13 (1), 11 (Feb 2012)

ABSTRACT: BACKGROUND: While most of the clinical benefits of inhaled corticosteroid (ICS) therapy may occur at low doses, results of dose-ranging studies are inconsistent. Although symptom/lung function response to low and high dose ICS medication is comparable, it is uncertain whether low dose ICSs are as effective as high dose in the treatment of inflammation and remodeling. **METHODS:** 22 mild or moderate asthmatic adult subjects (corticosteroid free for >2 months) participated in a randomized, parallel group study to compare effects of fluticasone propionate (FP) 200mcg/day and 1000mcg/day. Alveolar macrophage (AM)-derived cytokines and basement membrane thickness (BMT) were measured at baseline and after 7 weeks treatment while symptoms, spirometry, exhaled nitric oxide (eNO) and airway hyperresponsiveness (AHR) to mannitol at baseline and 6 weeks. **RESULTS:** FP improved spirometry, eNO, symptoms and AHR with no difference between low and high dose FP. Both high and low dose FP reduced GM-CSF, TNF-alpha and IL-1ra, with no change in BMT and with no differences between low and high dose FP. **CONCLUSIONS:** 200mcg/day of FP was as effective as 1000mcg/day in improving symptom control, airway inflammation, lung function and AHR in adults with mild to moderate asthma in the short term. Future studies should examine potential differential effects between low and high dose combination therapy (ICS/long acting beta agonist) on inflammation and airway remodeling over longer treatment periods.

Source: J Pediatr

Breastfeeding Protects against Current Asthma up to 6 Years of Age;

Silvers KM, Frampton CM, Wickens K, Pattermore PK, Ingham T, Fishwick D, Crane J, Ian Town G, Epton MJ, New Zealand Asthma and Allergy Cohort Study Group; Journal of Pediatrics (Jan 2012)

OBJECTIVE: To investigate the effects of breastfeeding on wheezing and current asthma in children 2 to 6 years of age. **STUDY DESIGN:** Infants (n=1105) were enrolled in a prospective birth cohort in New Zealand. Detailed information about infant feeding was collected using questionnaires administered at birth and at 3, 6, and 15 months. From this, durations of exclusive and any breastfeeding were calculated. Information about wheezing and current asthma was collected at 2, 3, 4, 5, and 6 years. Logistic regression was used to model associations between breastfeeding and outcomes with and without adjustment for confounders. **RESULTS:** After adjustment for confounders, each month of exclusive breastfeeding was associated with significant reductions in current asthma from 2 to 6 years (all, P<.03). Current asthma at 2, 3, and 4 years was also reduced by each month of any breastfeeding (all, P<.005). In atopic children, exclusive breastfeeding for ≥3 months reduced current asthma at ages 4, 5, and 6 by 62%, 55%, and 59%, respectively. **CONCLUSION:** Breastfeeding, particularly exclusive breastfeeding, protects against current asthma up to 6 years. Although exclusive breastfeeding reduced risk of current asthma in all children to age 6, the degree of protection beyond 3 years was more pronounced in atopic children.

Source: Int J Clin Pract

Is FE(NO50) useful diagnostic tool in suspected asthma?;

Sleich FN, Asandei R, Manise M, Sele J, Seidel L, Louis R; International Journal of Clinical Practice 66 (2), 158-65 (Feb 2012)

Background: Asthma diagnosis is based on the presence of symptoms and the demonstration of airflow variability. Airway inflammation measured by fractional exhaled nitric oxide, measured at a flow rate of 50 ml/s (FE(NO50)) remains a controversial diagnostic tool. **Aim:** To assess the ability of FE(NO50) to identify bronchial hyperresponsiveness (BHR) to methacholine (provocative concentration of methacholine causing a 20% fall in FEV(1); PC20M ≤ 16 mg/ml) and to establish whether or not symptoms relate to FE(NO50) and PC20M in patients with no demonstrated reversibility to (2) -agonist. **Methods:** We conducted a prospective study on 174 steroid naive patients with respiratory symptoms, forced expiratory volume in 1 s (FEV(1)) ≥ 70% predicted and no demonstrated reversibility to (2) -agonist. Patients answered to a standardised symptom questionnaire and underwent FE(NO50) and methacholine challenge. Receiver-operating characteristic (ROC) curve and logistic regression analysis assessed the relationship between PC20M and FE(NO50) , taking into account covariates (smoking, atopy, age, gender and FEV(1)). **Results:** A total of 82 patients had a PC20M ≤ 16 mg/ml and had significantly higher FE(NO50) (19 ppb vs. 15 ppb; p < 0.05). By constructing ROC curve, we found that FE(NO50) cut-off value of 34 ppb was able to identify not only BHR with high specificity (95%) and positive predictive value (88%) but low sensitivity (35%) and negative predictive value (62%). When combining all variables into the logistic model, FE(NO50) (p = 0.0011) and FEV(1) (p < 0.0001) were independent predictors of BHR whereas age, gender, smoking and atopy had no influence. The presence of diurnal and nocturnal wheezing was associated with raised FE(NO50) (p < 0.001 and p < 0.05, respectively). **Conclusion:** The value of FE(NO50) > 34 ppb has high predictive value of PC20M < 16 in patients with suspected asthma in whom bronchodilating test failed to demonstrate reversibility or was not indicated. However, FE(NO50) ≤ 34 ppb does not rule out BHR and should prompt the clinician to ask for a methacholine challenge.

Source: Can Respir J

Oxygen desaturation during a 6 min walk test is a sign of nocturnal hypoxemia;

Scott AS, Baltzman MA, Chan R, Wolkove N; Canadian Respiratory Journal 18 (6), 333-7 (Nov 2011)

BACKGROUND / OBJECTIVES: Patients with chronic obstructive pulmonary disease (COPD) may experience sleep disordered breathing with nocturnal desaturation. An exploratory study was performed to determine whether any commonly measured clinical parameters were useful in predicting nocturnal desaturation in patients with COPD. A validation study was subsequently performed to confirm the utility of the parameter identified in the exploratory study as most useful in this regard. **METHODS:** A total of 103 (exploratory cohort) and 200 (validation cohort) consecutive patients with COPD admitted for pulmonary rehabilitation were evaluated. Standard outcome measures including nocturnal oximetry and the 6 min walk test (6MWT) on room air with continuous pulse oximetry were assessed. Patients with sleep apnea or those undergoing long-term oxygen therapy were excluded. **RESULTS:** In the exploratory study, the mean (± SD) patient age was

70±9.9 years, with forced expiratory volume in 1 s of 0.76±0.34 L, which was 36±16% of predicted. Body mass index, arterial oxygen tension, oxygen saturation by pulse oximetry at rest and during the 6MWT all demonstrated significant correlations with percentage of time spent with a saturation <90%. When the lowest pulse oximetry during the 6MWT was ≤ 88%, 10 of 21 patients demonstrated a saturation <90% for at least 30% of sleep time. This measure yielded a positive likelihood ratio of 3.77 (95% CI 1.87 to 7.62) compared with those who did not reach this threshold value. The validation study confirmed similar detection characteristics. **CONCLUSIONS** Results from the present study suggest that monitoring oxygen saturation changes during a 6MWT is useful in helping to identify COPD patients who may experience significant nocturnal desaturation.

Source: Respiration

Predictors of Adverse Outcome in Patients Hospitalised for Exacerbation of Chronic Obstructive Pulmonary Disease;

Matkovic Z, Huerta A, Soler N, Domingo R, Gabarrús A, Torres A, Miravittles M; Respiration (Feb 2012)

BACKGROUND: It is crucial to identify risk factors for poor evolution of patients admitted to hospital with chronic obstructive pulmonary disease (COPD) in order to provide adequate intensive therapy and closer follow-up. **Objectives:** To identify predictors of adverse outcomes in patients hospitalised for exacerbation of COPD. **Methods:** A prospective, observational study was conducted in patients admitted for exacerbation of COPD. Demographic and clinical parameters were evaluated, including different multidimensional prognostic scores. Adverse outcomes included the following: death during hospitalisation or 1-month follow-up, intensive care unit admission, invasive or non-invasive mechanical ventilation, prolonged hospitalisation (>11 days) and COPD-related emergency visit or readmission within 1 month after discharge. Univariate and multivariate analysis were performed. **Results:** Of 155 patients included, an adverse outcome occurred in 69 (45%). Patients with an adverse outcome had lower forced expiratory volume in 1 s ($p = 0.004$) and more frequent exacerbations ($p = 0.011$), more frequently used oxygen at home ($p = 0.042$) and presented with lower pH ($p < 0.001$), lower ratio of arterial oxygen pressure to the fraction of inspired oxygen ($p = 0.006$), higher arterial carbon dioxide pressure ($p < 0.001$) and a worse score on several prognostic indices at admission. Independent predictors of adverse outcome were exacerbation of COPD in the previous year [odds ratio 3.9, 95% confidence interval (CI) 1.6-9.9; $p = 0.004$], hypercapnia (odds ratio 9.4, 95% CI 3.7-23.6; $p < 0.001$) and hypoxaemia (odds ratio 4.3, 95% CI 1.5-12.6; $p = 0.008$). In the presence of all three characteristics, the probability of an adverse outcome was 95%, while hypercapnia was the strongest prognostic factor with a risk of 54%. **Conclusions:** Patients with previous exacerbation of COPD, hypercapnia and hypoxaemia had the highest risk of an unfavourable evolution. The calculation of prognostic indices did not provide additional discriminative power.

Source: Chin J Tuberc Respir Dis

[The relationship between inflammatory mediators and pulmonary hypertension in patients with chronic obstructive pulmonary disease];

Jiang YW, Pang L, Fang QH, Ma YM; Chinese Journal of

Tuberculosis and Respiratory Diseases (Zhonghua Jie He He Hu Xi Za Zhi) 34 (12), 904-8 (Dec 2011)

OBJECTIVE The levels of C-reactive protein (CRP), tumor necrosis factor (TNF)-, brain natriuretic peptide (BNP) and endothelin-1 (ET-1) were investigated to analyze the systemic inflammation in chronic obstructive pulmonary disease (COPD) patients with and without pulmonary hypertension. **METHODS** From January 2006 to December 2010, 89 patients with COPD were enrolled in our hospital. There were 67 males and 22 females, with a mean age of (70 ± 7) and a mean FEV(1) of (47 ± 13)%. Pulmonary pressure was assessed by Doppler echocardiography. The levels of plasma BNP, TNF- and ET-1 were measured by enzyme-linked immunosorbent assay kits. High-sensitivity plasma CRP level was assessed by chemiluminescent immunoassay. **RESULTS** Forty-two patients were classified as COPD with pulmonary hypertension group and 47 patients as COPD without pulmonary hypertension group. The level of CRP [51.4 mg/L (20.1 - 92.0) mg/L], ET-1 [5.9 ng/L (3.7 - 10.4) ng/L] and BNP [303.2 ng/L (112.5 - 824.7) ng/L] in patients with pulmonary hypertension were significantly higher than that in patients without hypertension, CRP [26.7 mg/L (11.5 - 62.9) mg/L], ET-1 [2.1 ng/L (1.3 - 4.7) ng/L] and BNP [143.7 ng/L (85.5 - 306.7) ng/L]. The level of TNF- showed no difference between the 2 groups [8.5 ng/L (4.8 - 13.7) ng/L and 6.7 ng/L (3.2 - 10.3) ng/L], respectively. Multivariate analysis showed that PaO₂ ($P < 0.05$), CRP ($P < 0.05$) and BNP ($P < 0.05$) could predict pulmonary hypertension independently. **CONCLUSION** The level of CRP, ET-1 and BNP were related to pulmonary hypertension in COPD patients, suggesting that systemic inflammation play a role in the pathogenesis of pulmonary hypertension in COPD.

Update on Inhaler Subsidies (sourced from Pharmac website)

There have been some changes in the subsidy and access requirements for some inhalers as detailed below.

From 1st February 2012 there will again be full funding on all strengths of Symbicort Turbuhaler and Vannair inhaler. This applies to both new and existing users.

From 1st February 2012 there will be surcharges on the following inhalers— Oxis Turbuhaler and Foradil. Access to combination inhalers will be improved with the removal of the requirement for patients to be on separate ICS (preventer) and LABA (symptom controller) inhalers for at least three months prior to being eligible for a combination.

Patients who have trialed a minimum of three months on an ICS (preventer) may now go straight on to a combination inhaler such as Seretide, Symbicort or Vannair. A special authority number is still required and your GP can complete the necessary form for this.



Don't chase asthma symptoms
with a blue inhaler.
Seek control instead.¹



If you're using your blue reliever inhaler more than twice a week, chances are your asthma is not as good as it could be.¹ Work with your doctor to help control your asthma.

Seretide[®]
Fluticasone propionate/Salmeterol xinafoate



Ask about the purple inhaler – Seretide[®]^{2,3}



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

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