THE NZ JOURNAL OF RESPIRATORY HEALTH
August 2010

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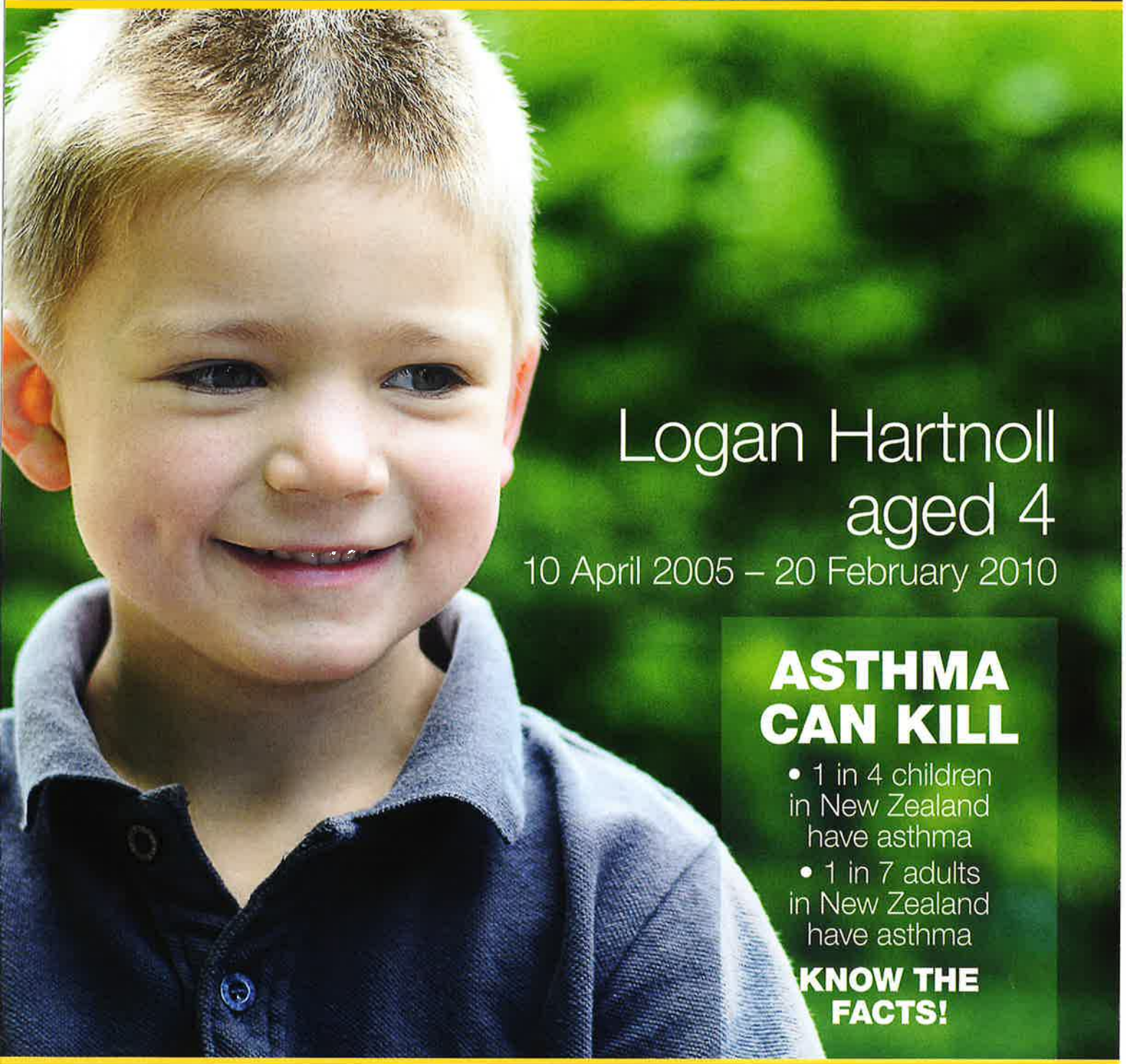

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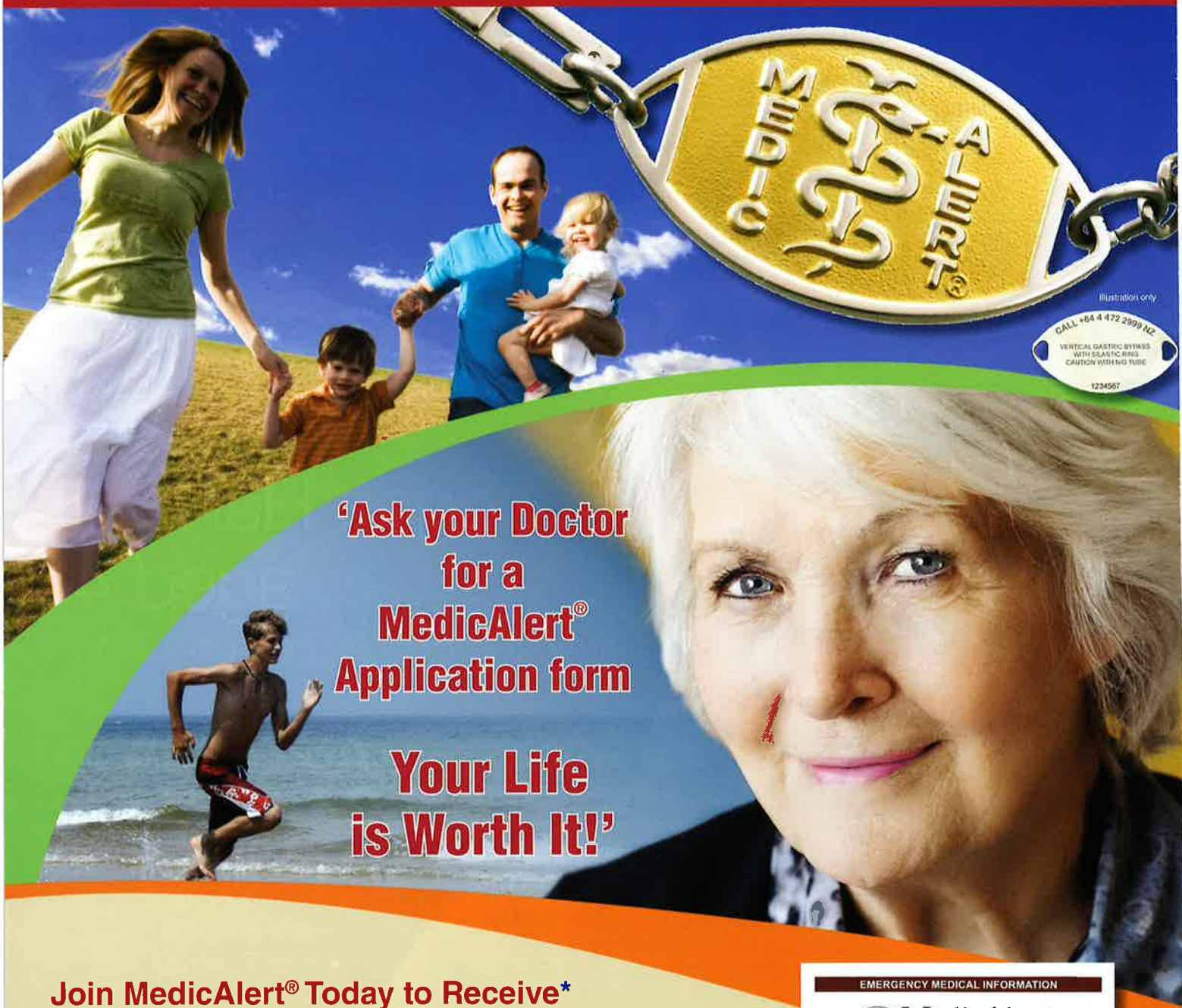

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THE NZ JOURNAL OF RESPIRATORY HEALTH

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on the cover:
Logan Hartnoll aged 4
10 April 2005 – 20 February 2010

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Unitec NEW ZEALAND Te Whare Wānanga o Wairaka

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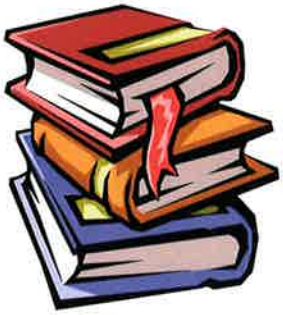
Applications are now invited from registered nurses wanting to enrol in the Asthma New Zealand/Unitec Asthma Nursing Course for February 2011 & COPD Nursing Course for April 2011. The programmes are offered by distance learning. The primary aims of the Asthma & COPD Nursing Courses is to provide nursing health professionals with a high level of evidence-based asthma & COPD knowledge that promotes best practice and is consistent with national policy.

Since the commencement of the Asthma & COPD Nursing Courses, 843 nurses have enrolled over 32 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 is available for registered nurses.**

For an enrolment form for the1st Semester please contact:



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P O Box 67-066, Mt Eden, Auckland
Phone 09 623 4777 Ann or 09 623 4771 Swarna
Fax 09 623 0774
Email annw@asthma-nz.org.nz or swarnah@asthma-nz.org.nz
The closing date for 1st Semester enrolment is 30 January 2011 for Asthma
30th March 2011 for COPD

Upcoming events and courses

GLUTEN FREE FOOD AND ALLERGY SHOW
TSB Bank Arena, Wellington 28 August – 29 August 2010

1 DAY 'NEAT' ASTHMA COURSE FOR REGISTERED NURSES
8 September 2010

½ DAY COPD COURSE FOR REGISTERED NURSES
13 October 2010

ASG PARENT AND CHILD SHOW
Auckland 30 October – 1 November 2010

ADIDAS AUCKLAND MARATHON – TEAM LOGAN
31st October 2010

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

AN EVENING WITH DENNIS CONNOR AND FRIENDS IN AID OF ASTHMA NEW ZEALAND
When: November 2010, Auckland

REDWOOD PARK CHARITY GOLF DAY IN AID OF ASTHMA AUCKLAND
When: Friday 19 November 2010
Where: Redwood Park Golf Club Inc
13 Knox Road
Swanson

Message to Readers

Dear Reader

When Asthma New Zealand – the Lung Association (Inc) was founded some thirteen years ago its primary concern was to develop training courses for nurses in Asthma and COPD. In general terms nurse educators are non-threatening and are able to relate well to their patients. Asthma New Zealand introduced courses through the Unitec Institute of Technology in Asthma and COPD. These courses were at Level 7 providing 24 credits. At this point over nine hundred nurses have been successful with these courses. This means that the wealth of knowledgeable practice nurses throughout New Zealand can provide up to date modern Asthma and COPD education to their patients. Education is vital and if taken onboard will change behaviour. In general terms these courses continue to be over-subscribed and there is an increasing demand from the qualified personnel that Asthma New Zealand provide ongoing updates in both these disciplines. The problem with that is that the nine hundred nurses are spread right throughout New Zealand and it would be a massive task to be able to provide ongoing updates on a regular basis. Updates have been given in some areas and up to sixteen nurses attended in order to update their knowledge. At times non-qualified nurses in asthma and COPD attend and often they will sign up for the courses in order to provide better information to their patients. It is tremendous to see the commitment that these nurses have for their patients with asthma and with COPD.

Asthma New Zealand is growing and is now running the Wellington Asthma Society. Asthma New Zealand believed that in time it was imperative that a branch-based organisation was developed throughout New Zealand. This is a big undertaking in terms of finance, travel and time. The work at Asthma Wellington is now being carried out with professionalism and commitment. I congratulate the Wellington staff for their commitment to people with asthma and COPD in the Wellington area. I would like to concentrate on building the Society in order to provide greater commitment to the Wellington area. There are a number of other Societies that have expressed an interest in becoming branch-based. However, it is a delicate task and does require a serious financial commitment to make it happen. In order for it to happen there must be an increase in funding streams to Asthma New Zealand and it would be beneficial that the Ministry of Health could provide seed funding to develop the organisation. One has to recognise that in New Zealand today the Ministries and the District Health Boards operate with extremely tight financial budgets and the desire may be there to support us but the funding may not be available. However, Asthma New Zealand will continue to work both at Ministry level and at District Health Board level to attract funding to make this happen.

I wish all our readers all the very best.

G. A. Hanna
Secretary/Treasurer

Mould growth and your health

Elaine Murray
R.N. Asthma Nurse Educator

Is your home making you sick? Do you have an allergy to mould?

If you have a respiratory mould allergy, your immune system overreacts when you breathe in mould spores. This reaction triggers a cascade of reactions that lead to allergy symptoms. Like other respiratory allergies, mould allergy can make you cough, make your eyes itch and cause other symptoms that make you miserable. In some people, mould allergy is linked to asthma. In some people, exposure to certain moulds can cause a severe asthma attack.

About one third of New Zealand homes have mould in one or more rooms, particularly in deprived neighbourhoods. Current available research indicates there is sufficient evidence for association between damp and mouldy homes and the development of respiratory symptoms, and there are links between living in mouldy homes and increased asthma severity. This conclusion is backed up by a 2009 WHO report on indoor air quality, respiratory symptoms and inflammation.

Professor Howden-Chapman states that mould in houses is a major health, social and economic problem in New Zealand, made significantly worse by poor building standards and inadequate regulation in the 1990's.

So, what is mould?

Mould is a type of microscopic fungi that lives on plant or animal matter which they decompose for their nourishment. They can be found indoors and outside. Indoor moulds are found in dark warm humid and musty environments such as damp basements, cellars, attics, bathrooms and laundries. It can be found on damp clothing known as mildew. They are also found where fresh food is stored, in the refrigerator drip trays, garbage bins, air conditioners and humidifiers. Outdoor moulds grow in moist shady areas. They are common in soil, decaying vegetation, compost piles, rotten wood and fallen leaves. Mould spores produced outside are dispersed through the air therefore they are everywhere, even inside the home.

There are many different varieties of mould. The most common is the mould we get on bread. Some moulds produce penicillin or are useful for agriculture and food production, others produce toxins or cause plant and animal diseases. Many moulds reproduce by releasing spores in to the air. These airborne spores, when inhaled, cause allergic responses in some people. People can be exposed by eating, breathing in or touching mould spores.

There are four kinds of health problems that come with exposure to mould:

- Allergic reactions
- Irritation of tissues
- Infections
- Toxic effects due to mycotoxins.

Inhaling or touching mould or mould spores can cause allergic reactions. These reactions can be immediate or delayed up to six hours. Symptoms such as coughing, sneezing, wheezing, nose and throat irritation, nasal and sinus congestion, runny nose, eye irritation, headache and fatigue may occur. A study implicated fungus/mould in almost all of the people with chronic sinusitis problems. Mayo Clinic(2008).

In high concentrations mould fragments and spores and mycotoxins can trigger symptoms in people who have no allergies and can cause severe asthma attacks in asthmatics and aggravate other respiratory and allergic conditions. The symptoms will depend on the amount of airborne spores a person is exposed to and how sensitive they are to moulds.

Recent studies have linked mould to the rapid rise of the asthma rate over the past 20 years.

People with a weakened immune system and with chronic lung disease, such as COPD, may develop mould infections in their lungs.

Alternaria Alternata is a common species occurring on many plants, in soils, foodstuffs and textiles. It causes the black spots on tomatoes and is frequently found on window frames. It is considered an outdoor mould and appears when weather is warm. It is an important cause for asthma and epidemics of asthma have been reportedly associated with weather changes.

Cladosporium herbarum is the most frequent encountered mould in the air. It is found in un-cleaned refrigerators, foodstuffs, on moist window frames, in houses with poor ventilation, and in damp areas.

Aspergillosis is a group of moulds found everywhere worldwide. It grows on grains, is found in barns, and indoors in damp homes (especially the bathroom). Most people are naturally immune. However when disease does occur it takes several forms.

Allergic Rhinitis symptoms include runny nose, itchy nose, sneezing, nasal congestion, sniffing, sore throat, cough, itchy eyes, and runny eyes. Children may have a history of recurrent respiratory infections (including sinus infections) and otitis media and an increased prevalence of adenoid hypertrophy is reported in children with mould allergy. Nearly 40% of children with allergic rhinitis have positive skin test or radioallergosorbent testing (RAST) reactivity to mould allergens. Huang (2009)

Allergic Asthma onset may be acute or insidious, and may not differ from that of any other allergic asthma. Signs include cough, wheeze, prolonged expiration, and tachypanea. A deformed chest wall is sometimes observed in children, especially in those with chronic allergic asthma.

Allergic Bronchopulmonary Aspergillosis is quite common in

asthmatics and cystic fibrosis patients, as they reach adolescence and adulthood. The symptoms are similar to those of asthma; intermittent episodes of feeling unwell, coughing and wheezing. Some patients cough up brown-coloured plugs of mucous. The diagnosis can be made by x-ray or by sputum, skin and blood tests. The treatment is with inhaled or oral steroids. An oral antifungal drug is useful in reducing the amount of steroids required.

Chronic pulmonary aspergillosis is a very different disease caused by the Aspergillus mould. The fungus grows within the cavity of the lung, which has previously been damaged during an illness such as T.B. or Sarcoidosis. The spores penetrate the cavity and germinate, forming a fungal ball. The fungus secretes toxins which may make the person ill, often presenting with weight loss, chronic cough, and lethargy. They also may be coughing up blood.

Aspergillis sinusitis is associated with long standing symptoms of runny or blocked nose and nasal polyps. Treatment may include surgical removal of the polyps, treatment of any bacterial infection, local steroids or short course oral steroids plus local application of antifungal.

How do you know if you have a mould allergy?

A skin prick test is the most useful method to detect IgE antibody against mould allergens.

RAST is not generally considered as sensitive as skin testing, but a positive result confirms allergen-specific IgE in the peripheral blood.

Nasal cytology and CT of sinuses can help in the diagnosis of allergic rhinitis.

Risk factors for those with a mould allergy

If you are allergic to moulds, your symptoms may be worse if you;–

- Work in an occupation that exposes you to mould e.g. gardening, farming, dairy work, logging, baking, millwork, carpentry, greenhouse work, and wine making.
- Live in a house where the humidity is higher than 50%. Mould will grow anywhere if the conditions are right e.g. basements, in wall framing, wall paper, curtains, on soap-coated grout in bathrooms/ showers, in the carpet or under the carpet, window sills.
- Work or live in a building that's been exposed to excess moisture. Leaky pipes, water seepage, flood damage (this moisture will allow mould to flourish along with other common allergens such as cockroaches and dust mites.
- Live in a house with poor ventilation.

Prevention

- Eliminate sources of dampness in basements, such as ground seepage. Promote groundwater drainage away from the house. Regularly clean out gutters.
- Avoid heavy vegetation around the house. Keep the garden free of fallen leaves.
- Use a dehumidifier in all areas of your home where condensation is a problem and where it smells damp and musty. (Remember to clean the filter, collection bucket and the coils regularly).
- Ensure all bathrooms and kitchens are well ventilated so moisture can be removed.
- Regularly clean all bathroom walls, and other areas where mould is a problem, with a bleach solution.
- Don't allow clothing to remain damp – dry immediately after washing. Vent the clothes-dryer to the outside to prevent putting moisture and dampness inside.
- Install a home ventilation system.
- Install an air conditioner to help keep the humidity levels below 50%.
- Install extractor fan in the kitchen or bathroom to help reduce moisture.
- Keep the fridge drip-tray clean.
- Watch for mouldy fruit and bread and remove. Check dried fruit in the pantry.

What to do to avoid exposure

Mould sensitive individuals should avoid exposure to areas of high mould growth, such as basements, compost piles, fallen leaves, cut grass, barns and wooden areas. A face mask should be worn when exposure is unavoidable.

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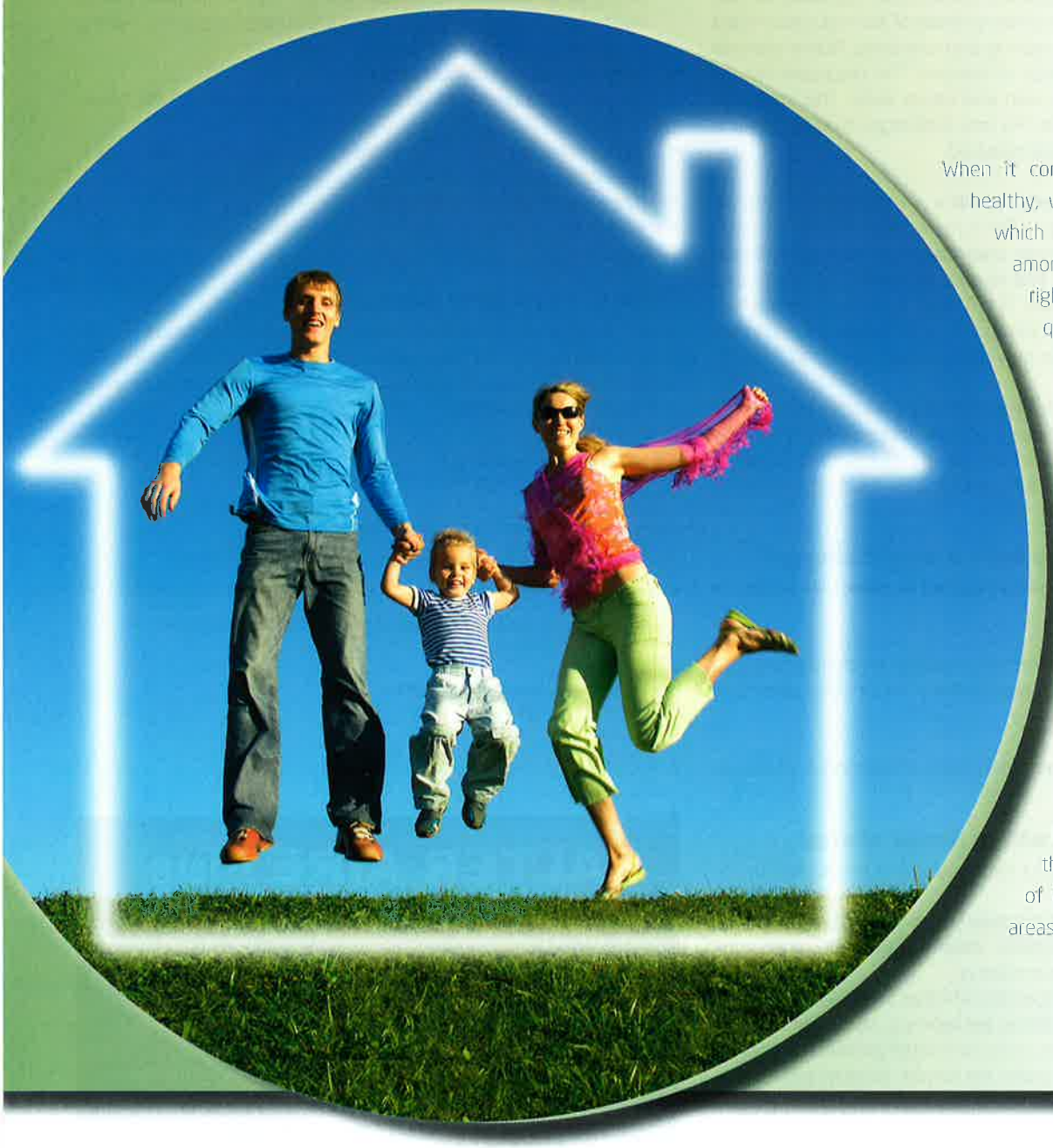
Enjoy a healthier, more comfortable home



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Medication and information Key to success

Steve with his two boys, Alex 5 years and James 10 years – Western Springs 2010

2007 my final year of Competition, I could look back with a sense of pride and achievement I had gained 7 New Zealand National titles, three Australian National titles, three Oceania International titles and an all time best World Ranking of 10th. We either held or equaled every New Zealand National record for Dance Skating.

Certainly the last 10 years of my International Career were very successful, that was not the case for the first 14 years. I can absolutely say one of the major factors of my success was controlling my asthma. In my early years of competition (17yrs to 31yrs old) I was constantly dogged by asthma. I was in and out of hospital more than I care to admit and was in intensive care at least twice. On average I would take my Berotec inhaler (later Ventolin)3 to 6 times a day (sometimes more). My asthma was the biggest obstacle I had to achieving the sporting success I craved so badly.

The turning point happened in 1993. At that stage the most devastating sporting moment of my life – I was knocked out of the NZ National Roller Skating Champs by Asthma. That was the year we should have skated for gold. After 10 + years of intense training – 6 days a week 3 to 4 hours a day of very hard yaka I was devastated. As a result some years later (I don't know why it took me so long!!) I eventually made contact with the Asthma Nurse Educator, it was at that point when things changed. At first I did not believe what was being said to me, I didn't think it was possible to have that much control over Asthma, especially when I heard that with proper technique and medication my Ventolin use should drop to 1 or 2 times per week. This to me was unthinkable – I had wheezed my entire life, I had found that fitness and good food (as few preservatives, additives and colorings as possible) along with keeping away from my Asthma triggers, was as successful as any previous medication I had been on.

So I decided to make some changes and give things a go. I changed my medication to Serevent and Flixotide, and armed with up to date information, I found my life was revolutionised. My lifelong dream of wishing to know what it was like without wheezing everyday was realised ! It was life changing for me, through medication and knowledge my life forever changed and a whole world of new possibilities opened up for me. I was lucky enough to find success in the sporting field, I would not (could not) have been as successful without the help I received. In my opinion an excellent first step for anybody wanting to make a difference with their asthma would be to contact your local Asthma Nurse – that's where it started for me.

a whole world of new possibilities opened up for me

I now work as a photographer, and I am still an asthmatic, my day to day asthma is kept well under control. Maybe I take my Ventolin inhaler once every week or two, I take my Seretide (preventative/ sympton controller) twice a day. I still unfortunaty suffer (from time to time) with acute anaphylactic asthma – early use of the spacer with medication usually improves the outcome of those attacks, however a trip to the hospital is still sometimes required.

Steven Neville

Steve Neville and Leanne Raffles skating their way to 10th place – Argentina 2003

Spacers
What are they? Do you use one?

Elaine Murray RN
– Asthma Nurse Educator

Spacer devices are attachments to the mouth piece of the pressurised metered dose inhaler. They are usually made of light weight, clear plastic and vary in size from tube spacers with a volume of less than 50mls as used for young children to a larger holding chamber with a volume of 750mls and have a one way valve system. They are very easy to use. They can be used with a mask for very young children.

Poor metered dose inhaler technique in many patients results in poor asthma control and side effects. Patients need to be able to breathe in at the same time as they press on the metered dose inhaler to ensure that at least some of the medication reaches the airways in the lungs. This is not always achieved. In addition, the medication in the metered dose inhaler is mixed with a propellant and when the inhaler is pressed it is fired out at approx 92 kilometres an hour which readily impacts on the mouth and pharynx. The propellant may also cause patients to stop inhaling. The percentage of medication the patient will get using this technique is only 10-15%.

By using a spacer device it reduces the problems of poor technique and increases the amount of medication that reaches the airways in the lungs (where the medication has the desired effect) to 20-30% and lessens the amount deposited in the mouth and pharynx and swallowed. This is very important in the case of the metered dose inhaled glucocorticosteroids. Not only is the medication "wasted" but also has the potential to cause hoarse voice, sore throat and oral thrush. Don't forget to rinse gargle and spit after taking your preventer.

By attaching a mask to a small spacer it makes it possible to use metered dose inhalers for very young children but the mask must be fitted firmly around the child's mouth and nose. Once a child can firmly seal their lips around the mouth piece of the spacer and breathe in and out making the valve move they no longer have to use the mask but do not discard it as it may be necessary to use it in an emergency, when due to acute breathlessness and possible anxiety, the child may not be able to seal the lips around the mouth piece sufficiently enough to use the spacer correctly.

Because spacers are made of plastic they will attract static electricity and if they are not "primed" the medication will cling to the sides. To prime the spacer it is necessary to wash once a week in warm soapy water (dish washing liquid is very effective) do not rinse or towel dry—allow to air dry, or puff 10 puffs of your reliever metered

dose inhaler into the spacer. When washing the spacer do not use a brush as this will scratch the surface. Do not keep the spacer in a plastic bag as this will reintroduce the static electricity.

To use the spacer, shake the inhaler, (this mixes the medication and propellant) put the inhaler into the spacer, firmly seal your lips around the mouth piece(or ensure the mask is firmly over the child's mouth and nose), press the inhaler once, (keep the spacer still whilst being used) slowly breathe in and out 6 times. If a second puff is required, shake the inhaler again, place it in the spacer, seal your mouth around the mouth piece, press the inhaler and do another 6 slow breaths. To maximise the amount of medication the patient is going to get, it is important to inhale as soon as possible after the inhaler is pressed. A 20-second delay time can reduce the drug delivery by two-thirds (Newman). Do not put more than 1 puff at a time into the spacer as this will markedly reduce the amount of medication inhaled, due to the clumping together of the small particles into larger particles and these will stick to the sides of the spacer.

A large volume spacer is recommended for preventer metered dose inhaler medication from the age of six years upwards. A small volume spacer is permitted for use with the reliever metered dose medication when patient is away from home as it is easy to carry in a school bag or purse and will provide a more effective way to administer the reliever medication in an event of an acute asthma attack, when coordination is likely to be at its poorest.

Spacers have several important roles to play in asthma therapy

- They can make inhalers easier to use for those who have problems coordinating the activating of the inhaler to coincide with inspiration.
- A metered dose inhaler using the spacer may be a better option for patients who are using a Turbuhaler but have poor inspiration.
- They allow a higher dose of preventer medication to be deposited in the airways which in turn may give better asthma management and may reduce the amount of preventer medication required.
- They reduce the amount of medication that is deposited in the mouth and pharynx therefore reducing the side effects.
- They can deliver large doses of bronchodilators in severe acute asthma and COPD.
- When used with a mask they are the device of choice for inhaled medication in children under three.
- They are cheap and easy to clean.
- Portable
- Do not need electricity to run.

In an emergency using the reliever metered dose inhaler medication through the spacer is as effective as using a nebuliser.

For children under five with severe symptoms you can use 6 puffs of the blue reliever inhaler (one puff at a time) through a spacer with the mask every 6 minutes until seen by emergency services as per emergency action plan for children under five. (Asthma New Zealand 2006).

For young people with severe symptoms take 6 puffs of the blue reliever inhaler through the spacer (1 puff at a time to every 6 breaths) every 6 minutes until help arrives as per management plan for young people. (Asthma New Zealand 2006).

For an adult with severe symptoms take 6-12 puffs of the blue reliever inhaler through the spacer (1 puff at a time to 6 every breaths) every 6 minutes until help arrives as per adult action plan. (Asthma New Zealand 2007).

Keeley (1992) has suggested that every patient who uses a metered dose inhaler should possess a large volume spacer and know when and how to use it.

Do you use a metered dose inhaler?

Do you have a spacer? Do you use your spacer?

Spacers are free. They are available from your GP, Practice Nurse or Pharmacist.

Spacers should be replaced every 6-12 months or sooner if it has been dropped, cracked or scratched.

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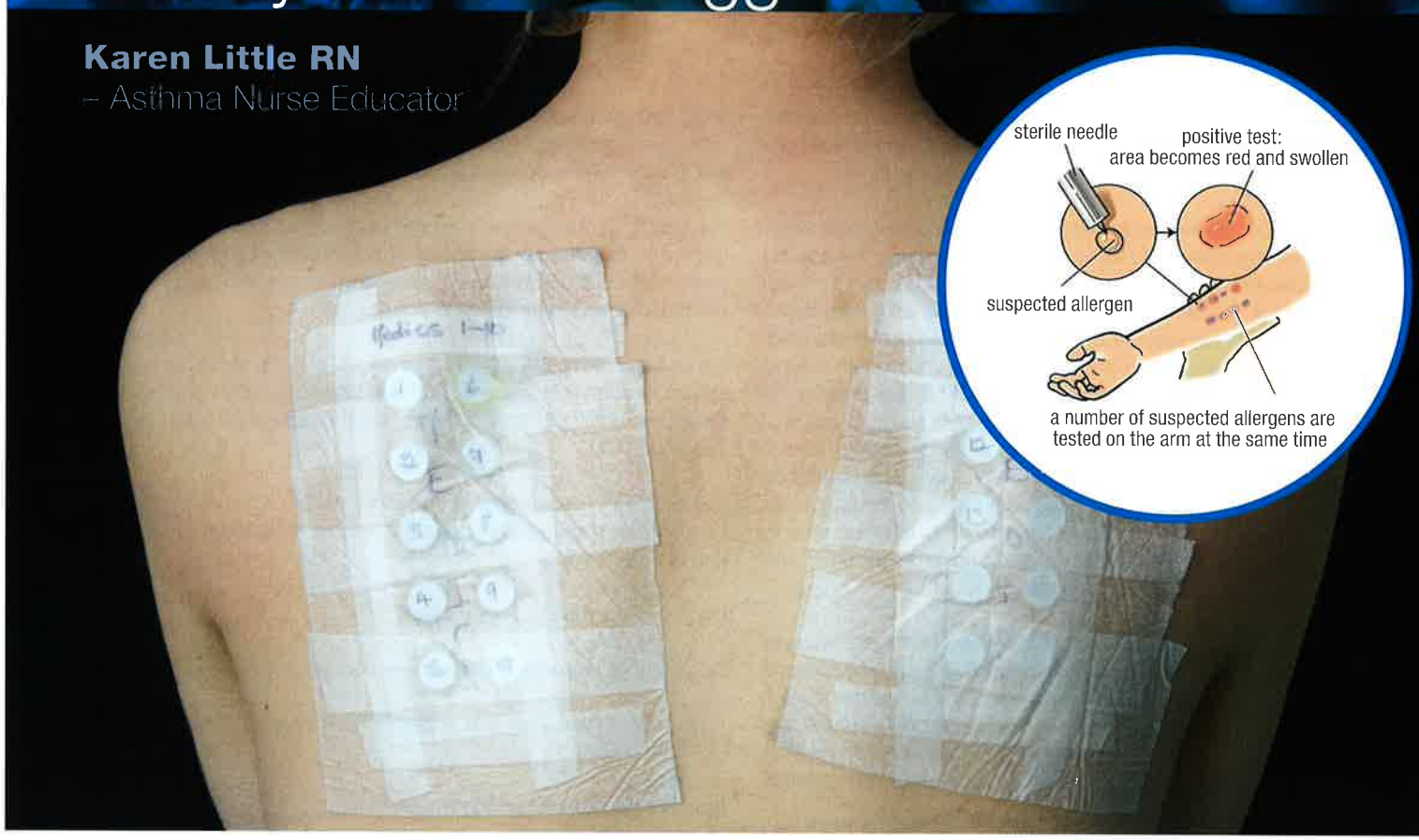
Skin Prick Testing
Identify and avoid trigger factors

Karen Little RN
– Asthma Nurse Educator



Many patients and health professionals are confused about the value of allergen avoidance techniques.

Such confusion was seriously compounded by the Cochrane review in 1998 which suggested that avoidance measures for dust mite allergen in asthma showed no benefit, (Cotzche, Hammarquist and Burr, 1998). This review was widely criticised at the time, both for inadequate sample size in the Meta analysis and for including a large number of negative studies. Larger trials are clearly needed and in the meantime there is reason to recommend allergen avoidance.

Anecdotal evidence suggests that some families are undertaking extensive allergen avoidance strategies without first identifying their specific allergies. Clearly, it would be helpful for patients to know what they are allergic to, so that they can, if possible, undertake simple and appropriate avoidance procedures. The simplest method of determining atopy and specific allergic sensitivity is by skin prick testing.

The principal purpose of establishing specific IgE mediated sensitivities by skin prick testing for the majority of asthmatic patients is to inform them about specific avoidance, such as for pets and to guide them regarding how to reduce dust mite exposure.

Skin prick testing for allergy is a simple procedure, but few general practices in New Zealand offer this service to their patients. Martin and Hope, (2002) found that of 34 patients skin prick tested, only four (12%) had their test performed in general practice.

One of the concerns of some health professionals appears to centre round the worry that their patients may become obsessive in their allergen avoidance measures. While this is a potential problem, discussion of this issue should be part of patient education while the health professional and the patient work together to decide what measures may be useful and practical.

New Zealand evidence suggests that the most prevalent allergic sensitisations are house dust mite, cat, grasses, mould and pollen, (Sears, Herbison, Holdaway et al., 1989). It is reasonable to assume these will be included in an allergic screen.

Lab Tests inform me that for a child under the age of two a food panel, (consisting of 14 foods) are tested and over the age of two an environmental panel (consisting of 10 substances) with the food panel are tested for. Of course if the GP or specialist requests a specific allergen be tested for, this is done.

Many health professionals advise that it is best to wait until the child is at least four years old as a skin prick test done before this age may result in a false negative. Dr V Crump, Allergist and Physician, informs me however that if the result is interpreted by a specialist the results are very reliable. The physician must be aware of the many reasons for false positive and false negative reactions to properly interpret test results. A skin test may be positive both before the allergy is clinically apparent and years after the cessation of symptoms. Particular caution should be used when interpreting skin tests for foods. Not only are they much less reliable than tests with inhaled allergens, but also only a fraction of patients with positive food skin tests will react during a food challenge. Therefore food allergen avoidance should never be based only on skin test results (Crump, n.d.).

Sensitation to foods is a common early manifestation of allergic disease, and a significant proportion of children with food allergies will develop inhaled allergies and allergic airway disease (asthma and/or allergic rhinitis). In a minority of sensitised individuals, exposure to foods can trigger anaphylaxis with associated wheezing, which should be distinguished from asthma. Patients with anaphylaxis

require treatment with adrenaline as a priority over other treatments such as bronchodilators.

Currently available allergy tests detect the presence of allergen-specific IgE. The presence of these antibodies indicates sensitzation but does not necessarily predict the presence, pattern or severity of clinical reactivity. Allergy tests should be interpreted in the clinical context in consultation with an allergy specialist or a medical specialist trained in allergy.

During a skin prick test, small drops of the potential allergens are placed on your arm (or back for a small child). A tiny prick is then made in the skin so the allergens come into contact with tissue. A red and raised area will develop around the drop you are allergic to. All patients undergoing skin prick testing should also have a positive histamine control and negative diluents (saline) control test included. An itchy weal should develop at the histamine puncture site within ten minutes. Test solutions are standardised to give a mean weal diameter of 6mm. The maximum or mean diameter of the weals to various allergens should be read at 15 minutes. A weal of 3mm or more in diameter is generally considered to represent a positive response (indicating sensitisation to the allergen). However, a skin weal 6mm or more across is more likely to be clinically relevant. A weal 10 to 15mm diameter suggests the patient is moderately sensitive and a weal greater than 15mm suggests the patient is very sensitive. It is important that these reactions are interpreted in conjunction with the clinical history.

Skin prick tests do not work if you are taking anti-histamines, using steroid creams or have recently taken a course of oral steroids. Skin prick tests are not suitable if you have severe eczema, a severe peanut allergy (if suspected) or for distressed infants. Skin Prick tests with peanuts, eggs or latex should only be done in a specialised clinic/ hospital setting in patients who have had anaphylactic reaction to these agents.

Another option is a radioallergosorbent test (RAST). This blood test checks for reaction to various allergens. You can have this test done while using antihistamines and steroid creams. There is also no risk of severe allergic reaction as your blood is taken away and analysed.

In cases where the food allergy is severe, you or your child may need to wear a Medic Alert bracelet and carry special medication such as antihistamines or an auto-injector such as an Epi-Pen. You should discuss this with your Doctor.

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Kid's Page

SUDOKU

6				9	8	3		7
			6		1			
			2		3	6		4
	6		1		7	8		
7				4			6	
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Which inhaler is the preventer and which one is the reliever?

Kid's page

TRIGGERS

How many Cats? ☐

How many smoking cars? ☐

How many dust mites? ☐

How many plants? ☐

SUDOKU answers ... other kids puzzles answers page 19

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

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

North & South

Logan – typical busy day at Botany Downs Kindergarten ...

In memory of Logan Hartnoll

10 April 2005 – 20 February 2(

Logan Hartnoll died of an exacerbation of asthma in February 2010, aged 4. In memory of Logan 34 friends and family of Dean and Kirsten Hartnoll (Logan's mum and Dad) are supporting them by taking part in this years' Adidas Half Marathon at Auckland on 31 October 2010 to raise money for asthma and awareness of poor asthma control in New Zealand.

They have raised a fundraising page on www.fundraiseonline.co.nz/teamlogan. Please support "Team Logan" by donating now, www.fundraiseonline.co.nz/teamlogan

They hope to raise money to assist us with the purchase of a desktop NIOX machine at a cost of $32,600 and we are right behind them.

Nitric Oxide (NIOX) testing when used in conjunction with education, spirometry testing and peak flow recording assists in improving asthma management by recording changes in airway inflammation in order to assess the response to treatment. The results are provided to the patient's GP who in turn can alter (either increasing or decreasing) asthma medications to gain and maintain better control.

Modern medicines and treatments for asthma have never been more effective, but work best when taken in a timely manner. Furthermore, they must be taken properly and, with particular reference to the inhaled medications, that is easier said than done. Consequently, our Asthma Educators spend a great deal of time in instructing clients how to use their inhalers in the most efficient manner. Education is paramount to empowerment and in conjunction with NIOX testing

Tea

O

our health system receives the benefit by way of reduced repeat hospitalisation. Children will have fewer days away from school and adults from their workplace.

Niox measurement constitutes a unique way to monitor diseases such as asthma routinely in clinics, provided that a standardised measurement technique and standardised reference data are used. Exhaled Nitric Oxide may be used as a marker to diagnose asthma, to monitor the response to anti-inflammatory treatment, to check on patient compliance and to predict upcoming asthma exacerbations.

We would like to request that you support "Team Logan" to support us with the purchase of a Niox machine and to continue to provide free education, Niox and Spirometry testing in schools on all the facets of asthma from triggers to inhaler use including instructions on equipment care, minimising trigger exposure and ultimately empowering people with asthma to take the necessary steps to home management and thus reduce hospitalisation and re-admissions for asthma.

The cost of this machine is $32,600 excluding GST.

Thank you

Linda Thompson
PR/Fundraising Manager
Asthma New Zealand

ogan

Logan Hartnoll
10 April 2005 – 20 Feb 2010

Logan's Story...

Our beautiful Logan was born nearly 4 weeks early on a sunny Sunday on April 10th at 1.00pm. We loved him instantly. He was beautiful! He had a little boxers nose so we called him Tyson as a joke for a little while. He was so relaxed after he was born I had to keep checking him to see if he was still breathing as he came out, cried for about 2 minutes and that was it, he laid in my arms just looking around and sleeping. That is how he stayed for many months after. In his first 6 months he was only unsettled 3 times (I know because I wrote it in his Plunket book). The rest of the time he was a contented baby sleeping and loving cuddles from everyone.

He lasted like this until he hit about 17 months and then boy did we know Logan had arrived! He was never naughty just very busy. He started climbing out of his cot at 17 months and standing on the top railing of it, in fact at that age he climbed on everything! so out went the cot and into a bed he went. Not that he slept in it very much, at about 19mths we had to take everything out of his room except his bed because he would pull everything out of his drawers to sit in them and take all his books off his shelf to read. Not so good when we were trying to get him to sleep at night, and then he would wake up all hours of the night to do the same thing. When he finally did get to sleep it would only be till 5.00 or 5.30 and then Logan would start his day, he woke up every morning at that time till the very end. He didn't like missing out on life.

Logan loved being outside. He would be out there from 7.00 in the morning till 6.00 at night and hated having to come in. I don't ever remember him sitting still for very long at all. Getting him to have his dinner was such a mission. He also never walked anywhere, he ran. He was such a character, and loved by so many people even back then.

Logan got up to many antics in his little life. Once he cut his own hair and got a bee sting on his thumb from picking it up, all in one week. Dean said to him "where did we get you from Logan?" Logan said "from a cage". Dean said "are you a monkey" and Logan replied "no monkeys in my cage dad".

Another time I went to pick him up from kindy and one of the teachers came up to me and said Logan had a busy afternoon. He had decided to take all his clothes off and run naked through the sandpit. When the teacher told him to go and get some clothes on he got himself dressed in a girls pink dress up outfit, and rode a trike with no undies on underneath.

Logan loved drumming from the age of about 3 years. He would get chopsticks and drum on everything. He was so good at it that we brought him his own drum kit. Logan loved putting on little shows for us, his dad would play the guitar and Logan would drum. I loved watching him drum.

At the age of 3½ he got on his sister's two wheeler bike and rode it without falling off once. So off went his trainer wheels of his big bike and away he went. He had such determination he could do anything he put his mind to.

He loved anything sporting, loved his skateboard, scooter but mostly his bike and was just learning to do jumps with it. At kindy he was often seen outside in the sandpit, but he loved doing everything at kindy, baking, playdough table, drawing and building. He was a boy never to miss out on anything. At the age of two he decided he wanted a real leafblower. We thought it would just be a passing phase but no, every year for his birthday and Christmas he would ask for one, so finally last Christmas Santa bought him one. The first thing he said when he saw all the presents under the tree was, which one is my leaf blower.

He was so happy to finally have one, the look on his beautiful face was priceless.

He would always help me cook, I miss him sitting on the bench next to me saying "I can do that", or he would be outside with his Dad chopping up wood, digging in the garden or mowing the lawns. He also loved playing with Sophie and Dylan. They would often play outside together on the bikes or the trampoline. I loved hearing them all laughing together.

Logan was such a georgeous boy inside and out. People would often come up to me and tell me the funny things he had said or how he had looked after their children on their first day at kindy. He loved animals and babies. He was so gentle with them. He had such a sense of humour too, he would always make us laugh with the things he said or the funny little songs he had made up or the little dances he did.

Our life will never be the same without our beautiful boy.

Regards Kirsten Hartnoll

PUZZLE answers from kid's page:

Inhaler puzzle:

Blue = Reliever
Orange = Preventer

How many?

Cats = 4
Smoking Cats = 4
Dust Mites = 5
Plants = 12

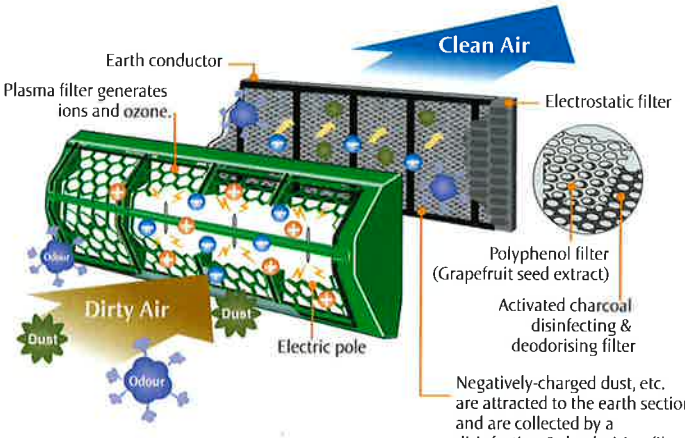
Air-born allergens COLLECTED HERE!

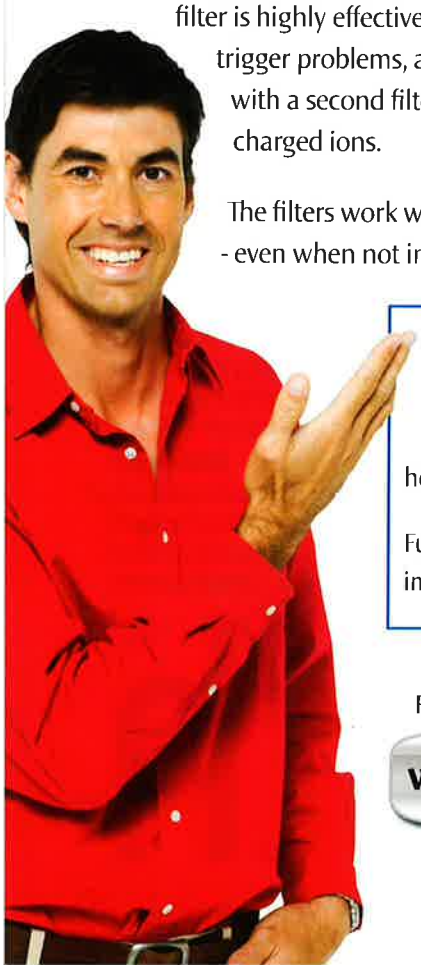
WE ALL KNOW THAT HEAT PUMPS CAN SAVE ON WINTER HEATING COSTS, AS WELL AS COOL AND DEHUMIDIFY YOUR HOME IN SUMMER.

But, importantly for allergy and asthma sufferers, Fujitsu has developed a special plasma filter, which collects allergens such as minute dust particles, pollen, pet fur, mite carcasses - even mould spores from the air. This improved electrostatic filter is highly effective in collecting the dust that can trigger problems, as well as suppressing odours, with a second filter which uses negatively charged ions.

The filters work whenever you switch on the fan - even when not in heating or cooling mode.

The result is a cleaner, fresher home which is as warm as toast in winter, and cool and comfortable in summer.





THE FUJITSU PLASMA

This top-of the-range inverter "Hi-Wall" includes Fujitsu's brilliant plasma filter. It is a highly effective and very efficient heater and cooler, plus it adds cleaner air to your home.

Fujitsu heat pumps add comfort, luxury and lifestyle to your home. That's a fantastic home improvement. Available in a full range of sizes - to suit spaces from 15 to a huge 90 square metres.

Find your nearest accredited installer here

www.fujitsugeneral.co.nz

FUJITSU HEAT PUMPS

NEW ZEALAND'S FAVOURITE AIR™

FG1680

Myth:
Heating your house in winter makes you sick

This is a commonly held belief among many of the tenants that we visit as part of the Healthy Housing Programme. With the exception of unflued gas heaters, research has shown that the reverse is true.

There is a lot of evidence regarding cold, damp homes and how this increases the incidence of asthma attacks particularly in young children.[1] One of the most common barriers to heating homes that we encounter is the cost of power. We often discuss the cost of heating versus the cost of medical care and prescriptions, time spent taking children to the GP, time off school for children and time off work for adults.[2] The follow on consequences of the above is often more expensive than power but is not an immediate cost on the tenant's pocket.

Seventy to eighty percent of the households we visit are on a benefit. We have found that a family of four likes to keep their power bill under a $100 a month all year round. Many have come close to having their power cut off and have changed to a recharge card system to control and pay for their power usage. We discuss how to manage heating their house economically in winter and paying for the power.

Another problem is trying to heat a damp house. Dehumidifiers are not an option for many of our clients because they are expensive to run. We give advice on other ways to reduce moisture such as ventilation and fixing leaks. A dry house is easier to heat and therefore costs less to keep warm.

We frequently find that there is poor understanding of how insulation works. Tenants think that the insulation alone will make the house warm and subsequently comments have been made that "my house is still cold even though insulation has been installed". Insulation will increase the temperature inside the house by 1°C. We emphasise the importance of heating their homes as insulation works by retaining the warmth and in keeping heating costs down.

It is recommended by the World Health Organisation that our houses inside should be at least 18°C in winter. It is widely acknowledged through research that people living in homes at less than this temperature and who have chronic health issues have a higher rate of mortality.[3,4] The lowest temperatures we found were 8.5°C in the bedroom and 10°C in the living areas. New Zealand studies have shown that adequately heating homes improves asthma symptoms and results in fewer days off school.[5] In a home where we identify respiratory conditions the Healthy Housing Programme may provide an appropriate heating device. Unflued gas heaters are always discouraged because they produce moisture and other gases which exacerbate respiratory conditions.

One house where we completed an assessment included a woman with a chronic respiratory condition. A large tree which was blocking the sun was removed from the front of the property and she was provided with a wood burner. Following this she stated that she had "the best winter ever" with regards to her health.

The Healthy Housing Programme was initiated in 2000 in response to research which found that children had high rates of infectious diseases e.g meningococcal disease when living in crowded housing.

Healthy Housing, a unique programme, is a joint initiative between Housing New Zealand Corporation (HNZC) and District Health Boards in Counties Manukau, Auckland and Hutt Valley. It has evolved from a focus of dealing with crowding and damp, mouldy homes to a broader approach that includes issues such as ventilation, heating, disability design improvements and finding housing solutions to improve families' health.

We work as Public Health Nurses in this programme. Healthy Housing is currently available to HNZC tenants in Auckland Central (Glen Innes and Onehunga), South Auckland (Otara and Papakura) and Hutt Valley.

We visit families along with a HNZC staff member to assess their health and housing needs. Once the housing part of the assessment is completed the HNZC Co-ordinator leaves and the Public Health Nurse undertakes a comprehensive health assessment. The assessment takes 1-2 hours and covers a broad range of issues including ongoing health problems, links to education, nutrition, budgeting, safety in the home, family violence, social support systems and welfare entitlements. Our role is to identify the families' health and social needs and link them to appropriate services eg Asthma Auckland, Diabetes Clinic, Occupational Therapist, Green Prescription, breast and cervical screening and general practitioners.

The Healthy Housing Programme has been evaluated a number of times over the last few years. It has been satisfying to find that following an area taking part, acute hospitalisations for housing -related preventable conditions have been reduced by 12% in 0-4 year olds and 26% in 5-45 year olds.[6]

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North & South

NEWS FROM AROUND THE REGIONS ...

WIN

tickets to

Wellington Gluten Free Food & Allergy Show

The Gluten Free Food & Allergy Show has ideas and solutions for a wide range of allergy and intolerance issues. At the show you will get to sample a wide range of food, and view products suitable for people with allergies. This is the perfect opportunity to try before you buy, and take advantage of fantastic show specials. There is a free seminar series running both days with practical advice from leading experts. For more information go to www.glutenallergyshow.co.nz

FIRST TIME IN WELLINGTON

28-29 August 2010 – TSB Bank Arena, Queens Wharf 10am to 5pm.
Only $10 entry fee. Children under 5 get in free.

We have **FIVE** double passes to give away and **ONE** Healthy Food Guide Magazine Subscription for 12 months to give away for one lucky entry.

Entries close 26 August 2010 for FIVE double passes and 31 October 2010 for ONE 12 month Healthy Food Guide Magazine Subscription.

Name, address on back of envelope to:
Asthma New Zealand
PO Box 67066, Mt Eden
Auckland

Wellington Asthma Society rocks on!

The team at Asthma Wellington all work part-time but their schedule is programmed to allow optimal overlaps to occur. Good progress is being made in raising the profile of the organisation and knowledge about the educational and other services which we can provide for people in our region. The admin / funding coordinator Shaun Waugh has been extending our funding base, developing greater networks and professional relationships, and generally trying to keep the administration systems 'ticking over'. Shaun is currently completing a Masters in photography at Massey University, he gladly shares his skills. Liz Macdonald who has been working for the organisation as a nurse educator since October 2009 is also employed by Capital and Coast District Health Board as an ED nurse. Liz finds this is a good practice synergy. It also incidentally provides spontaneous opportunities for her to promote referrals to Asthma Wellington by health professionals working in the tertiary sector. Sue Marlow joined the organisation as a nurse educator in March 2010. She also does some contract teaching in the tertiary education sector and has a background in palliative care nursing. Both Sue and Liz are finding the engagement with the community professionally satisfying; Sue says "we are observing a consistent pattern of people expressing that their quality of life has increased markedly due to much improved symptom control".

Liz and Sue are finding that it is quite common for people to refer themselves or family members for educational sessions. We have also been receiving referrals from the paediatric ward, the ED department, the Medical Assessment Patient Unit, the medical ward and general practice settings. In order to lift awareness further we have continued the work initiated by Asthma Auckland Nurse Manager Debra Leutenegger in visiting general practices in the Capital and Coast District Health Board area. A connection has now been established with every practice and we have also delivered group education sessions to practice nurse and doctors at several of them. Over the past two months group teaching sessions have been delivered to hospital staff working in various wards and departments, nursing students, childcare organisations, schools and staff at corporate organisations.

A highlight for Liz and Sue has been engaging in the activities of the Wellington Regional Respiratory Nurses' Network which meets three monthly. This offers peer support and raises awareness across the sector about the contribution each team can make in the support of people living with respiratory conditions. At each meeting three professional presentations are delivered by group members or outside speakers. Asthma Wellington will be hosting the September session. Another upcoming event is our attendance at the Gluten and Allergy Show in late August. We anticipate this will assist further in our quest to generate heightened awareness of what we can offer to Wellingtonians in terms of education to support their optimal management of their asthma, COPD and other respiratory conditions.

The Asthma Wellington team

COPD and weather

Compiled by Ann Wheat RN
– Asthma Nurse Educator

For many people with COPD the weather is not a friend. Symptoms which include coughing, breathlessness and increase in phlegm can become worse for some both in very cold air and hot and humid air. Every person though is different and what will affect one person with COPD will not necessarily affect another.

How can weather conditions affect a person with COPD?

Several factors can play apart in how the weather can affect patients. These include temperature changes, humidity, barometric pressure and elevation and even strong wind.

Temperature Changes: Rotech Healthcare (Rotech) (2005) state that it is known that extreme hot or cold conditions can have a stressful effect on the body as we try to maintain our body temperature (98.6°F or 37°C). This happens because we use up more energy as we try to keep warm or cool and as a result our bodies are using more oxygen. Secondly breathing in hot or cold air can have a drying or irritating effect on the airway which causes the muscles to tighten around the airways. This therefore makes it more difficult to get air in and out of the lungs and increases shortness of breath.

Humidity: Many people with COPD are often more aware when weather is about to become hot and humid as they become more breathless (McCoy, 2010 and Rotech, 2005). There are a couple of possible reasons for this including that humidity can affect the pollution levels in the air which can affect people. The other reason is that increasing humidity increases the density of the air which causes airway airflow resistance thus increasing the work of breathing (Rotech, 2005).

Barometric Pressure and Elevation: As a weather front passes over, there is a corresponding drop in the barometric pressure which causes a drop in oxygen available in the air. This therefore causes less oxygen to reach the air sacs in the lungs and although this may only be a slight drop this can increase breathlessness.

Strong Winds: This can go hand in hand with cold weather as well. Strong winds can make it more difficult to walk especially if walking into the wind as this will mean that you require more energy to walk and therefore you will become tired much quicker. If it is very cold as well then the fatigue can be made much worse (McCoy, 2010)

What can you do to minimise the affect of weather on your COPD?

1. One of the most important factors that you can do is to ensure that you take your medications as prescribed by your doctor.
2. Breathe through your nose as this warms and moistens air. When outside on cold windy days wear a scarf over your nose and mouth as this allows you to breathe in warm air and not cold air.
3. Exercise inside if the weather is extremely windy.
4. On hot humid days, stay inside and if possible, use an air-conditioner to maintain a controlled temperature. If this is not possible, the use of fans and keeping windows open will help to circulate the air in the house.
5. Arrange your activities if possible for times when the temperatures are not so extreme.
6. On hot days do not get into a car that has been parked in the sun, so try to park in the shade if possible. (Martin. 2010)
7. Drink plenty of water especially on hot days.

So remember, weather can have a deleterious effect on your COPD control. Be prepared and know what makes your COPD worse and put measures in place so that you know what to do when the weather affects your breathing.

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Asthma / COPD
Medications made simple

RELIEVER INHALERS

(SHORT ACTING BETA2-AGONISTS or SABA's) ARE BLUE – These work quickly to relax the muscles of the airways and last up to four hours. Use these when you have symptoms of cough/wheeze/shortness of breath or chest tightness.

Ventolin – Salbutamol
Salamol – Salbutamol
Respigen - Salbutamol
Bricanyl – Terbutaline

PREVENTERS – INHALED CORTICOSTEROIDS

MOST IMPORTANT: These work slowly and quietly on the inflammation in the airways and need to be used every morning and night as prescribed even when well. Rinse mouth afterwards

ORANGE	OR	BROWN
• Flixotide – Fluticasone propionate		• Pulmicort – Budesonide • Beclazone – Beclomethasone dipropionate

LONG ACTING RELIEVERS (LONG ACTING BETA2 – AGONISTS OR LABA'S)

THESE SHOULD NEVER BE USED ALONE, ALWAYS WITH AN ORANGE OR BROWN PREVENTER.

They are relievers which relax the muscles of the airways and work slowly over a 12 hour period.

- Serevent – Salmeterol
- Oxis – Formoterol

COMBINATION INHALERS

Contain both a preventer and a long acting reliever. Use every morning and night as prescribed even when well. Rince mouth afterwards.

PURPLE	OR	RED
• Seretide – Fluticasone Propionate and Salmeterol		• Symbicort – Budesonide and Eformoterol • Vannair – Budesonide and Eformoterol

OTHER INHALERS

Atrovent – Ipratropium Bromide – Short acting Anti-cholinergic

Combivent – Salbutamol and Ipratropium Bromide – Short acting Beta2-Agonist (SABA)/Anti-cholinergic

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References: 1. Price A, Clissold S. *Drugs.* 1989;38(1):77-122. **2.** Gillies J et al. *N Z Med J.* 2005;118(1220):79-83.
3. N Z Guidelines Group. *The diagnosis and treatment of adult asthma.* Wellington: NZGG; 2002. **4.** Ventolin Data Sheet, GSK New Zealand.

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Thorax. 2010 Jun;65(6):516-22.
Effect of diet on asthma and allergic sensitisation in the International Study on Allergies and Asthma in Childhood (ISAAC) Phase Two.

Nagel G, Weinmayr G, Kleiner A, Garcia-Marcos L, Strachan DP; ISAAC Phase Two Study Group.

Collaborators (149)

Weiland SK, Büchele G, Dentler C, Kleiner A, Rzehak P, Weinmayr G, Priftanji A, Shkurti A, Simenati J, Grabocka E, Shyti K, Agolli S, Gurakuqi A, Stein RT, Urrutia de Pereira M, Jones MH, Pitrez PM, Cooper PJ, Chico M, Chen YZ, Zhong NS, Lai CK, Wong GW, Riikjärv MA, Annus T, Annesi-Maesano I, Gotua M, Rukhadze M, Abramidze T, Kvachadze I, Karsanidze L, Kiladze M, Dolidze N, Leupold W, Keil U, von Mutius E, Weiland SK, von Mutius E, Keil U, Weiland SK, Arthur P, Addo-Yobo E, Gratziou C, Priftis K, Papadopoulou A, Katsardis C, Tsanakas J, Hatziagorou E, Kirvassilis F, Clausen M, Shah JR, Mathur RS, Khubchandani RP, Mantri S, Forastiere F, Di Domenicantonio R, De Sario M, Sammarro S, Pistelli R, Serra MG, Corbo G, Perucci CA, Svabe V, Sebre D, Casno G, Novikova I, Bagrade L, Brunekreef B, Schram D, Doekes G, Jansen-van Vliet PH, Janssen NA, Aarts FJ, de Meer G, Crane J, Wickens K, Barry D, Nystad W, Bolle R, Lund E, Batlles Garrido J, Rubi Ruiz T, Bonillo Perales A, Gonzalez Jiménez Y, Aguirre Rodriguez J, Momblan de Cabo J, Losilla Maldonado A, Daza Torres M, García-Marcos L, Martinez Torres A, Guillén Pérez JJ, Piñana López A, Castejon Robles S, García Hernandez G, Martinez Gimeno A, Moro Rodríguez AL, Luna Paredes C, Gonzalez Gil I, Morales Suarez-Varela MM, Llopis González A, Escribano Montaner A, Tallon Guerola M, Bråbäck L, Kjellman M, Nilsson L, Mai XM, Bråbäck L, Sandin A, Saraçlar Y, Kuyucu S, Tuncer A, Saçkesen C, Sumbul glu V, Geyik P, Kocabas C, Strachan DP, Kaur B, El-Sharif N, Nemery B, Barghuthy F, Abu Huij S, Qlebo M, Aït-Khaled N, Anderson HR, Strachan DP, Flohr C, Williams H, Forastiere F, Asher I, Ellwood P, Stewart A, Mitchell E, Crane J, Pearce N, Beasley R, Björkstén B, Brunekreef B, Foliaki S, García-Marcos L, Keil U, von Mutius E, Weiland SK, Weinmayr G, Lai CK, Wong GW, Mallol J, Montefort S, Odhiambo J, Robertson C.

Institute of Epidemiology, Ulm University, Ulm, Germany. gabriele.nagel@uni-ulm.de

Abstract

BACKGROUND: The increasing prevalence of asthma and allergy might be related to diet, particularly in Western countries. A study was undertaken to assess the association between dietary factors, asthma and allergy in a large international study including objective measurements of atopy. METHODS: Between 1995 and 2005, cross-sectional studies were performed in 29 centres in 20 countries. Parental questionnaires were used to collect information on allergic diseases and exposure factors and data from 50,004 randomly selected schoolchildren (8-12 years, 29,579 with skin prick testing) were analysed. Random effect models for meta-analysis were applied to calculate combined ORs. RESULTS: Fruit intake was associated with a low prevalence of current wheeze in affluent (OR(adj) 0.86, 95% CI 0.73 to 1.02) and non-affluent countries (OR(adj) 0.71, 95% CI 0.57 to 0.88). Consumption of fish in affluent countries (OR(adj) 0.85, 95% CI 0.74 to 0.97) and of cooked green vegetables in non-affluent countries (OR(adj) 0.78, 95% CI 0.65 to 0.95) was associated with a lower prevalence of current wheeze. Overall, more frequent consumption of fruit, vegetables and fish was associated with a lower lifetime prevalence of asthma, whereas high burger consumption was associated with higher lifetime asthma prevalence. None of the food items was associated with allergic sensitisation. Except for fruit juice and fruit consumption, no associations were found with atopic wheeze. Food selection according to the 'Mediterranean diet' was associated with a lower prevalence of current wheeze and asthma ever (p(trend)=0.03). CONCLUSION: Diet is associated with wheeze and asthma but not with allergic sensitisation in children. These results provide further evidence that adherence to the 'Mediterranean diet' may provide some protection against wheeze and asthma in childhood.

Pediatr Int. 2010 May 17.
Consistently high levels of exhaled nitric oxide in children with asthma.

Sakai T, Sugiyama N, Hirai K, Muramatsu R, Hagiwara S, Oh Y, Mochizuki H, Arakawa H.

Department of Pediatrics, Tokai University School of Medicine.

Abstract

ABSTRACT Background: Exhaled nitric oxide (eNO) levels in children are unstable because it is regulated by many potent factors. The purpose of the current study was to evaluate the reliability of the eNO levels between long interval and other lung functions in normal and asthmatic children. Methods: Eighty-three elementary school children (aged 11 to 12 years, male : female = 39:44) participated in this study. Lung function, airway resistance and eNO levels were measured two times; the first was in autumn 2007, and the second one year later. Results: There were 62 non-asthmatic control children (male : female = 31:31) and 21 asthmatic children (male : female = 8:13). In both the first and the second examination, the levels of eNO in children with asthma were higher than that in children without asthma. The parameters of lung function and the respiratory resistance in children without asthma showed a good correlation between the results of the first and second examinations. The eNO level in non-asthmatic children showed a good correlation between the two. On the other hand, the peripheral airway parameters of lung function and the respiratory resistance in children with asthma were not correlated between the first and the second examinations. The eNO level in these patients was well correlated between the two examinations. Conclusions: These data suggest that the eNO level showed good reproducibility in children with and without asthma. The eNO level is therefore considered to be a useful marker for reproducibly evaluating a subject's airway condition.

Respir Med. 2010 May 14.
Choosing inhaler devices for people with asthma: Current knowledge and outstanding research needs.

Haughney J, Price D, Barnes NC, Virchow JC, Roche N, Chrystyn H.

Centre of Academic Primary Care, University of Aberdeen, Foresterhill Health Centre, Westburn Road, Aberdeen AB25 2AY, Scotland, UK.

Abstract

Recommendations in asthma guidelines presuppose that practitioners have the evidence, information, knowledge, and tools to select inhaler devices appropriate for individual patients. Randomised controlled trials usually exclude patients with suboptimal inhaler technique. There

is therefore little evidence on which to base inhaler selection in the real world, where patients often use their inhalers incorrectly. The lung deposition of inhaled drug varies according to inhaler device, drug particle size, inhalation technique, and pattern of inspiratory flow. Even with training, not all patients can use their inhalers correctly and maintain inhaler technique; patients may have inability to handle the inhaler, strong negative preferences, or natural breathing patterns that do not match their prescribed inhaler. Therefore, matching device to the patient may be a better course of action than increasing therapy or training and retraining a patient to use a specific inhaler device. Several research questions require answers to meet the goal of helping prescribers make a more informed choice of inhaler type. Is the level of drug deposition in the lungs a key determinant of clinical short- and long-term outcomes? What should be measured by a clinical tool designed to check inhaler technique and therefore help with device selection? If we have a tool to help in individualising inhaler choice, will we achieve better asthma outcomes? Do we have to refine inhaler device choice for each individual, or will we get better outcomes if we select our current best option in light of current knowledge and apply this on a population level?

Chest. 2010 Jun 24. Reported Pneumonia in *COPD*: Findings From the INSPIRE Study.

Calverley PM, Stockley RA, Seemungal TA, Hagan G, Willits LR, Riley JH, Wedzicha JA; on behalf of the INSPIRE investigators.
1 University Hospital Aintree, Liverpool, UK. E-mail: pmacal@liverpool.ac.uk.

Abstract

BACKGROUND: Pneumonia is an important complication of chronic obstructive pulmonary disease (**COPD**) and is reported more often in patients receiving inhaled corticosteroids (ICS). Little is known about the clinical course and factors pre-disposing to pneumonia in **COPD**. We investigated patient characteristics and symptoms occurring before pneumonia reports in the INSPIRE study. METHODS: A 2-year, double-blind, double-dummy parallel study of 1,323 patients randomized to salmeterol/fluticasone propionate 50/500 mug BID (SFC) or tiotropium (Tio) 18 mug once daily. Baseline demographics including serum C-reactive protein (CRP) were measured and Daily Record Cards (DRCs) were completed. RESULTS: We identified 87 pneumonia reports from adverse event records (SFC = 62; Tio = 25) in 74 patients (SFC = 50; Tio = 24), compared with 2,255 exacerbations (SFC = 1,185; Tio = 1,070). Pneumonia was commoner in patients with severe dyspnea and in those with a baseline CRP > 10 mg/L. Numbers of de novo pneumonias (events that were not preceded by symptoms of an exacerbation) were similar between treatment groups, but pneumonia was more likely after either a treated or untreated unresolved exacerbation in patients receiving ICS (SFC = 32; Tio = 7). Similar results were seen when analysis was confined to radiologically confirmed events. CONCLUSIONS: Pneumonia is much less frequent than exacerbation in **COPD**. The excess of events with ICS treatment appears to be associated with protracted symptomatic exacerbations. Earlier identification and treatment of these events to prevent pneumonia merits further investigation.

Arch Intern Med. 2010 May 24;170(10):880-7. Beta-blockers may reduce mortality and risk of exacerbations in patients with chronic obstructive pulmonary disease.

Rutten FH, Zuithoff NP, Hak E, Grobbee DE, Hoes AW.
Julius Center for Health Sciences and Primary Care, University Medical Center Utrecht, PO Box 85060, Stratenum 6.101, 3508 AB Utrecht, the Netherlands. F.H.Rutten@umcutrecht.nl

Comment in:
Arch Intern Med. 2010 May 24;170(10):849-50.

Abstract

BACKGROUND: Physicians avoid the use of beta-blockers in patients with chronic obstructive pulmonary disease (**COPD**) and concurrent cardiovascular disease because of concerns about adverse pulmonary effects. We assessed the long-term effect of beta-blocker use on survival and exacerbations in patients with **COPD**. METHODS: An observational cohort study using data from the electronic medical records of 23 general practices in the Netherlands. The data included standardized information about daily patient contacts, diagnoses, and drug prescriptions. RESULTS: In total, the study included 2230 patients 45 years and older with an incident or prevalent diagnosis of **COPD** between 1996 and 2006. The mean (SD) age of the patients with **COPD** was 64.8 (11.2) years at the start of the study, and 53% of the patients were male. During a mean (SD) follow-up of 7.2 (2.8) years, 686 patients (30.8%) died and 1055 (47.3%) had at least 1 exacerbation of **COPD**. The crude and adjusted hazard ratios with Cox regression analysis of beta-blocker use for mortality were 0.70 (95% confidence interval [CI], 0.59-0.84) and 0.68 (95% CI, 0.56-0.83), respectively. The crude and adjusted hazard ratios for exacerbation of **COPD** were 0.73 (95% CI, 0.63-0.83) and 0.71 (95% CI, 0.60-0.83), respectively. The adjusted hazard ratios with the propensity score methods were even lower. Subgroup analyses revealed that patients with **COPD** but without overt cardiovascular disease had similar results. CONCLUSION: Treatment with beta-blockers may reduce the risk of exacerbations and improve survival in patients with **COPD**, possibly as a result of dual cardiopulmonary protective properties.

Respir Med. 2010 May 12. [Epub ahead of print] Energy expenditure and impact of bronchodilators in COPD patients.

Cazzola M, Segreti A, Stirpe E, Appodia M, Senis L, Matera MG.
Division of Respiratory Diseases, Department of Internal Medicine, University of Rome 'Tor Vergata', Rome; Rehabilitation Group, IRCCS, San Raffaele Pisana, Rome.

Abstract

28 Consecutive **COPD** patients performed four 6-minute walking tests (6-MWTs) in 2 different days before and 2, 4 and 6h after the inhalation of formoterol 12mug or tiotropium 18mug, respectively. Physical activity during each 6-MWT was assessed by the SenseWear((R)) Armband. At each time also spirometry was performed. Both formoterol and tiotropium induced a significantly sustained bronchodilation and influenced hyperinflation. Formoterol significantly increased distance walked in 6min at 2h and at 4h, whereas tiotropium significantly increased it at all time points. There was a trend to an increase in calories and metabolic equivalents of task (METs) after formoterol and a decrease after tiotropium, but changes were not statistically significant. Total energy expenditure for each 6-MWT was not changed by formoterol, but decreased in significant manner 6h after the inhalation of tiotropium. Active energy expenditure at physical activity level of more than 3 METs decreased significantly after tiotropium at each 6-MWT, but not after formoterol. We did not find any significant correlation between the changes in lung function and those of parameters recorded with SenseWear((R)) Armband. Our study seems to indicate that tiotropium, but not formoterol, is able to reduce energy expenditure in **COPD** patients, although both drugs elicit significant bronchodilation and are able to increase the distance walked in 6min.

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References: 1. Holt S. *Research Review.* Available at http://www.researchreview.co.nz/NZ%20Inspire%20Report.pdf. Accessed 10 March 2009. 2. Global Initiative for Asthma; *Global Strategy for Asthma Management and Prevention.* Updated 2008. 3. Bateman ED et al. *Am J Respir Crit Care Med.* 2004;170:836–844. 4. Bateman ED et al. *Allergy.* 2008;63:932–938.

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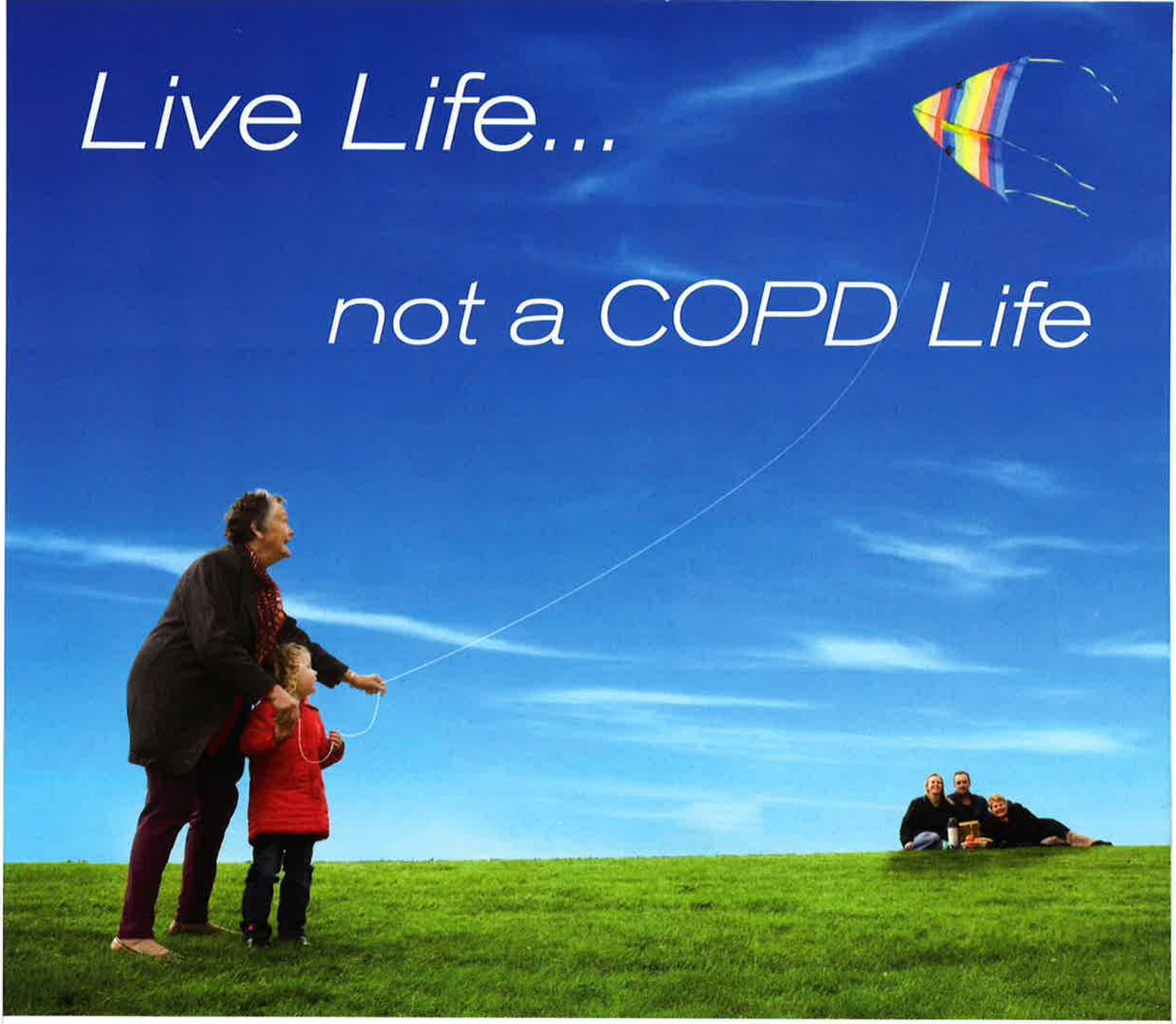

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