THE NZ JOURNAL OF RESPIRATORY HEALTH
December 2007

O2

SPECIAL FEATURES:

- Toby - Lets Get Inventin'
- Asthma at School
- Plants to Avoid if You're Allergy Prone
- Occupational Asthma

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Message to Readers

Dear Readers

As the end of 2007 approaches at great speed, we often reflect back on our accomplishments as well as the challenges we have faced throughout the year. Hopefully we have had a balance between these or are your scales tipping against you?

Having the knowledge and the tools to take control of and manage not only respiratory conditions but in other areas of our lives is the first, but most important step we should all take.

Together, clients, family/whanau and health professionals have teamed up during the year to support and assist with skills and advice necessary to improve ones quality of life.

We would like to thank all of our clients for making this first step, as well as our supporters for enabling us to be an integral part of this endeavour. We look forward to continuing our assistance to our communities in the New Year and would like to wish each and every one of you a very a safe and happy holiday season.

Maybe for you the year of 2008 will be one of setting goals towards achieving and maintaining an improved level of health.

Season's Greetings

Debra Leutenegger
Deputy Director

Unitec NEW ZEALAND
Te Whare Wānanga o Wairaka

asthma NEW ZEALAND
THE LUNG ASSOCIATION

Asthma Nursing Course Information

Applications are now invited from registered nurses wanting to enrol in the Asthma New Zealand/Unitec Asthma Nursing Course for February 2008.
The programme is offered by distance learning. The primary aim of the Asthma Nursing Course is to provide nursing health professionals with a high level of evidence-based asthma knowledge that promotes best practice and is consistent with national policy.

In the seven years since the commencement of the Asthma Nursing Course, 624 nurses have enrolled over 16 intakes. Many applicants had not undertaken any additional study since completing their initial nursing education, and for some this had been many years. While most find the Asthma course to be challenging, they enjoy the learning experience as it provides necessary knowledge that support their role and scope of practice.

Asthma New Zealand in association with Unitec New Zealand offers this course within Unitec's Bachelor of Nursing Programme. It is a level 7, 24 credit course. A grant towards the cost may be available for registered nurses.

For an enrolment form for the 1st semester 2008 Asthma Nursing Course please contact:

Ann or Swarna
Email: annw@asthma-nz.org.nz or swarnah@asthma-nz.org.nz
Phone: 09 623 0236 ex 804
Fax: 09 623 0774
Asthma New Zealand - The Lung Association
P O Box 67-066
Mt Eden, Auckland 1349

The closing date for 1st Semester 2008 enrolments is 5th February 2008.

Asthma at School

In New Zealand, one in four children has asthma. It is one of the most common chronic childhood illnesses and leading cause of school absences causing learning difficulties. Asthma produces recurring episodes of breathing problems such as coughing, wheezing, chest tightness and shortness of breath. Asthma cannot be cured, but can be controlled and people should expect nothing less.

Asthma management at School is most successful when these three areas are considered:

1. Education
2. Environmental Control
3. Medications

Education

Education is probably the most important tool for treating asthma.

The importance of educating all people who are in regular contact with a person with asthma cannot be stressed enough.

Some of these people include:

- Persons with asthma
- Family
- Caregivers - including babysitter, day care personnel, and supervisors in the before and after school program
- Teachers
- Coaches

It is very important for them to be familiar with:

- The Nature of the Disease
- Triggers
- Exercise Induced Asthma (EIA)
- Warning Signs
- Signs and Symptoms
- First Aid

Environmental Control

Asthma is an inflammatory condition of the airways, which causes breathing to become difficult. In a very severe attack, death can occur. The symptoms are usually difficulty in breathing, coughing, wheezing and chest tightness. Controlling the inside and outside environment may result in less medication for the child with asthma.

Two areas need to be considered.

1. Triggers
2. Food Allergy

Triggers

- Cold Air
- Pets (animal dander, warm-blooded pets including dogs, cats, birds)
- Chalk dust
- Strong fumes - chemicals - photocopy toner, science class chemicals, etc. perfume or aftershave, cosmetics and hairspray, cigarette smoke, cleaning liquids, paint.
- Moulds
- Pollens from grass and trees
- Dust mites
- Respiratory viral infections
- Exercise
- Emotional upsets - excessive laughing or crying can cause hyperventilation which, in turn, dries the airways. This can irritate the airways and the child can experience broncho-spasm.
- Scented products such as hair spray, cosmetics, cleaning products, fresh paint, automobile fumes, and chemicals such as pesticides may trigger or make asthma worse.

Food Allergies

- Milk
- Wheat
- Soy
- Eggs
- Peanuts
- Fish

A child does not always have to eat the food. Symptoms may occur with just smelling or touching the food.

Medications

Medication regimes are very individual. Some children take medication only when needed, others take a variety of daily medication. This depends on what the child is reacting to. For example, if a child is susceptible to viral infections and reacts to moulds, and/or cold air, this child will be on more medication during winter and the flu season than a child who only needs medication before exercising.

There are four main categories of medications used for the treatment of asthma. They are: Preventer, Reliever, Long acting β_2 agonists (LABA's) and Combination inhalers.

In an emergency, a reliever (usually a blue device) is needed.

1. Preventers

Anti-inflammatory/ Inhaled corticosteroids

- Prevent and treat inflammation
- Need to be taken on a regular basis; generally are taken at home morning and evening
- Are slow acting

Examples of more common preventer medications are:

- Pulmicort®
- Flixotide ®
- Beclazone®

2. Relievers (rescue)

Bronchodilators

- Are rescue medications, used only when needed, and rarely on a regular basis (unless the asthma is under poor control)
- Provide quick relief of symptoms - these are the medications, which should be easily accessible if the child has problems breathing.
- Relax the muscles of the airways
- Useful with exercise-induced bronchospasm
- Usually in blue devices

  Examples of bronchodilators are:
  - Ventolin®
  - Salamol®
  - Bricanyl®

3. Long Acting ...β_2 Agonists (LABA's)

- Serevent®
- Oxis®
- Foradil®

4. Combination Inhalers

- Seretide®
- Symbicort®

Sometimes asthma symptoms can get out of control and may become life-threatening. This situation is commonly called an asthma attack, or more accurately, an asthma episode. Normally, asthma episodes do not occur without warning signs. Out of control symptoms require immediate attention. Asthma can sometimes become quickly a life-threatening situation requiring immediate action.

The Asthma mobile unit is one of the few programs that schools allow to visit students at their schools. "It's quite a victory that the school understands that the Asthma mobile unit program is worthy of being on site." The students gain knowledge on control of their asthma, use of appropriate medication, how to monitor the symptoms of asthma and use of peak flow meter readings.

Teachers will encounter students with asthma, and it is a good idea to have a plan worked out with the student, parents and in line with school policy for the management of the child with asthma. Contact your local Asthma Educator or Asthma Society for information and assistance.

Reference: The National Heart, Lung, and Blood Institute (NHLBI)

Plants to avoid if you're allergy-prone

Our special feature helps identify some of the problem plant species for people with asthma and allergies in New Zealand.

Acacia and Albizia (Wattle)

Small to large evergreen trees commonly cultivated in New Zealand. Originally introduced from Australia, several species have now become naturalised. Albizia lophantha (Brush Wattle), a tall Australian shrub naturalised through most of New Zealand, is very closely related to Acacia.

Flowering Period: August – November

Appearance: The alternate leaves have divided lobes or are reduced to flattened, leaf-like stalks. The flowers are small, yellow or cream and arranged in globular heads or spikes. The fruit is a pod.

Allergens: Heavy pollen producers, but the concentration is usually high only near the trees. In this they resemble the privet.

Betula (Birch)

Betula pendula (Silver Birch) is the most common cultivated birch in New Zealand. It is the only naturalised species especially in the inland and eastern areas of the South Island.

Appearance: The plant grows up to 8m in height and 5m in width. The main branches grow upright but the side branches are pendulous. It is deciduous and the foliage turns to gold in the autumn. The mature bark is white with black fissures. Male and female flowers are on the same tree in separate catkins: male hanging, female erect and shorter.

The Silver Birch is a graceful small tree, deciduous, but somewhat decorative with its papery-white peeling stem bearing small, shiny, green oval leaves. Although it can be found in all areas of New Zealand it is best suited to cooler climates.

In late summer this tree produces millions of small bracts of seed – these cause a nuisance to most allergic people. The seeds are so small they creep into the smallest of openings and travel far on the lightest of winds.

Allergens: Big pollen producers. Some people are very sensitive.

Coprosma

Coprosma is one of New Zealand's largest indigenous genera with over 50 species growing throughout the country in a wide variety of habitats. The taupata (C.repens) and karamu (C.robusta) are two common large-leaved species. Both species are also cultivated.

Flowering Period: August – November

Appearance: The plants are erect woody shrubs 1-3m tall with opposite leaves. Male and female flowers, lacking petals, occur on separate plants, highly adapted for wind pollination.

Allergens: These trees are big pollen producers but are low on the allergen scale.

GRASSES

Grasses are annual or perennial herbs, most tufted with radial leaves.

Flowering Period: October – February

Appearance: Leaves linear, flat or in-rolled, aerial stems usually hollow except at the nodes. Flowering head without petals, highly adapted for wind pollination. Flowers usually bisexual (perfect) enclosed in 2 bracts.

Allergens: Grasses are the biggest pollen producers of all and are the major cause of springtime hay fever. The majority of allergy-prone people are sensitive. The pollen, being small, will travel in the wind for many miles and the person's exposure is dictated by their proximity to grasslands and the direction of the prevailing wind.

Browntop
Agrostis capilaris, A.castellana

The abundant fine fuzzy heads of browntop give a brownish haze to dry roadsides and hill-country pastures in the summer and autumn. This densely tufted persistent species dominates large areas of low-fertility hill country and is also our premier lawn grass.

Cocksfoot
Dactylis glomerata

Cocksfoot grass occurs on roadsides and in sunny dry pastures where it provides excellent forage. The folded, bluish-green leaves form dense clumps which eventually produce the distinctive lobed flower heads which give the species its name. Like rye-grass, cocksfoot flowers over a long period during spring and early summer.

Crested Dogstail
Cynosurus cristatus

Crested dogstail is an inconspicuous tufted grass, which occurs in hill pastures and waste places throughout New Zealand. The distinctive small one-sided spikes that appear in summer are borne on tough wiry stems, which are not grazed.

Meadow Foxtail
Alopecurus pratensis

Meadow foxtail is not an important pasture grass but occurs throughout New Zealand on roadsides or in moist fertile situations where grazing is infrequent. The slender spikes dusted with purple anthers appear very early spring.

Phalaris
Phalaris aquatica

Phalaris is a broad-leaved perennial grass forming tall clumps. It is increasingly seen on roadsides especially in the North Island and is sometimes deliberately sown for soil conservation and for drought resistant pasture. The large cylindrical flower spikes dusted with yellow anthers appear most in December.

Rye-Grass
Lolium perenne

Rye-grasses are the basis of most improved pastures in New Zealand because of their year-round growth and ability to resist grazing and treading. The narrow dark green leaves are shiny underneath, and where grazing permits, numerous flattened green spikes are produced over a long season in spring and summer.

Sweet Vernal
Anthoxanthum odoratum

Sweet vernal is one of the most widespread grasses in New Zealand, particularly in waste places and low-fertility pasture. When crushed or made into hay it smells sweetly of coumarin. Numerous small flower head on fine stalks appear early spring and become straw coloured when mature, persisting long after dark hooked seeds are shed.

Tall Fescue
Festuca arundinacea

Tall fescue is most often seen growing in tall clumps on the roadsides but also occurs in damp paddocks and waste places. The coarse leaves of wild forms are unpalatable and can be poisonous to stock, but improved non-toxic varieties are now being sown ad drought-resistant pastures. The large feathery heads of small spikelets produce abundant pollen in spring.

Timothy
Phleum pretense

Timothy is a high-quality late-flowering forage grass that prefers cool moist fertile sites and is mainly found in the South Island. The soft green leaves are often slightly curled, and the slender cylindrical flower heads which appear in mid-summer resemble those of meadow foxtail, giving rise to its alternative name of catstail grass.

Yorkshire Fog
Holcus Lanatus

Yorkshire fog occurs in waste places and low-fertility pastures throughout New Zealand, particularly on damp shady sites. The soft, velvety, grey-green leaves form dense clumps from which the purplish white flower heads appear in late spring.

Ligustrum (Privet)

A very hardy plant that is not easy to eradicate. This plant grows abundantly throughout the middle North Island and is a pest in the Coromandel. When flowering it produces small white highly scented flowers, usually starting late October to December. Whilst in bloom this causes great discomfort for people who have hay fever, eczema and asthma. It should be removed by a non-allergic person and should not be burnt anywhere near people with asthma. Burning is not recommended within the city or built-up area.

Once the plant has been cut down, painting weedkiller onto the stumps should kill the plant. This plant reseeds very easily; bird droppings and winds are the most common ways the seeds move about. It can take a long time to rid the garden of this pest as new seedlings pop up from time to time. These should be pulled out as soon as possible.

Flowering Period: October – March

Allergens: Ligustrum produces plenty of pollen but only a small proportion travels very far, most settling to the ground within 40 or 50 feet of the tree. The flowers produce a perfume which is a potent irritant so people notice symptoms when they are near the tree.

L.Lucidum
Aureo-variegatum/Oleaceae
(Chinese Privet)

Height 6m. The attractive foliage of this handsome evergreen is so heavily variegated in creamy yellow that some leaves have only a few blotches of pale green. In colder parts of the country it grows as a bushy shrub, but in the temperate areas it may reach tree proportions (6m and broadly based).

L. Ovalifolium
Aureum (Golden Privet)

Height 1.5m. The Golden Privet is often planted as a hedge, but is also grown as a single specimen, or with mixed colour foliage in a shrub border. Its rich colours are maintained consistently and for much of the year.

L. Lucidum
Aureo-variegatum/Oleaceae
(Large Leaf Privet)

Height 5m. This round-headed shrub is often grown as a lawn specimen, particularly in temperate climates where it assumes stately proportions. The leaves are mottled green with dullish gold markings, and the young tips have a pinkish hue. The foliage retains its colour throughout the year.

Many of the flowers we love to grow produce allergenic windblown pollens, so they should be avoided. Take care with the Asteraceae family, which includes daisies, chrysanthemums, calendulas and asters.

Pinus (pine)
Pinus spp.

Are tall evergreen trees commonly cultivated in plantations. P.radiata is the commonest planted species. Pollen grains are frequently recorded from air samples.

Flowering Period: June – September

Appearance: Pines have 'needle-like' leaves, male and female cones occur on the same plant.

Allergens: A major source of pollen is P. radiate from forestry plantings. Huge clouds of pollen can be produced from these trees.

Plantago (plantains)
Plantago spp.

An extremely widespread weed in New Zealand, growing on parks, lawns, pastures and roadside verges. The two commonest species are P. lanceolata and P. major. Both are perennial.

Flowering Period: October – February

Appearance: The plants have a basal rosette of leaves, heavily ribbed, and vary in shape from narrow to wide; the leafless erect flowering head is compact and held above the leaves.

Allergens: Plantains are modest pollen producers, which are strongly allergenic.

Quercus (oak)

Quercus trees are common in New Zealand. The commonest species is Quercus robor (English Oak) usually seen in parklands. The pollen grains have been found in air samples during flowering period.

Flowering Period: August – October

Appearance: The plants are broad-leaved, usually deciduous trees, growing up to a height of 40 metres. They can grow to an age of 600-800 years. The male and female flowers are separate on the same trees. The fruit is an acorn.

Allergens: Individual trees are huge pollen producers causing sensitivity in some people.

Rhus Succedanea (Japanese Wax Tree)

Height 3-5m. There is probably no more brilliant autumn foliage subject than the semi-hardy deciduous wax tree. At a distance it seems clothed in a brilliant blaze of orange-scarlet flowers.

Be careful when handling the wax tree as contact with it's young hairy growths can cause serious skin irritation in those who are allergic. In gardens it needs to be grown as a standard to keep its foliage away from children or the unsuspecting allergic person.

Occupational Asthma - how to identify

Occupational asthma is a disease characterised by variable air flow limitation and/or airway hyper- responsiveness due to causes and conditions attributable to a particular occupational environment and not to stimuli encountered outside the work place.

If you notice that your asthma gets worse while you are at work you may suffer from occupational asthma. The prevention of occupational asthma requires environmental interventions and medical management tools such as, patient education, demonstrating behavior changes to avoid asthma triggers, using drug therapies, and frequent medical follow-ups to treat and identify asthma patients. The following references provide information regarding possible solutions for hazards associated with occupational asthma.

Asthma is one of the more serious problems that may be caused by work-related allergy. Occupational asthma symptoms include chest tightness, wheeze, cough or breathlessness during the working week that improves during the weekend and holiday. Workers may be unaware of the possible relationship between symptoms and their work. Even if they do suspect a link, they may still be reluctant to present their concerns to any doctor, fearing adverse consequences for their employment. Employers often have inadequate surveillance procedures to measure the frequency of occupational asthma. Even when cases are brought to their attention, they do not always fulfill their legal obligation of reporting. Caused by exposure to substances in the workplace, occupational asthma is more common for the following people: spray painters, boat builders, bakers, laboratory workers, aluminum pot room workers, cleaners and nurses.

Two types of occupational asthma attacks occur:

Aggravation of pre-existing asthma:
This is by far the most common type. Over time, with regular exposure, you develop hypersensitivity to the trigger. With this underlying asthma, continued exposure to the trigger causes attacks.

Irritant asthma:
Exposure to certain substances or conditions in the workplace irritates the airways, with immediate symptoms. Although this is not an allergic-type reaction, the irritation may cause allergy like or asthma like symptoms. Once the attack is triggered, the airways begin to swell and tighten (bronchospasm) and secrete large amounts of mucus.

In occupational asthma, the trigger is a substance or condition in the workplace that causes asthma symptoms. Most of these substances and conditions are very common and are not normally considered hazardous.

Although these substances and conditions can be encountered in almost any workplace, occupational asthma is most common in workers in the following industries and jobs:

- Plastics industry
- Rubber industry
- Chemical industry
- Textile industry
- Electronics industry
- Painting
- Printing
- Dyeing
- Metalworking
- Welding
- Oil refining
- Cleaning
- Baking and food processing
- Farming
- Gardening, landscaping, and horticulture
- Working with animals
- Laboratory work

Not everyone exposed to these conditions will develop asthma. Some people are more susceptible to asthma than others. Also, exposure to some of these substances can produce chronic lung diseases other than asthma.

Risk factors for occupational asthma include the following:

- Frequent exposure to the trigger
- Allergies
- Family history of allergies or asthma
- Smoking

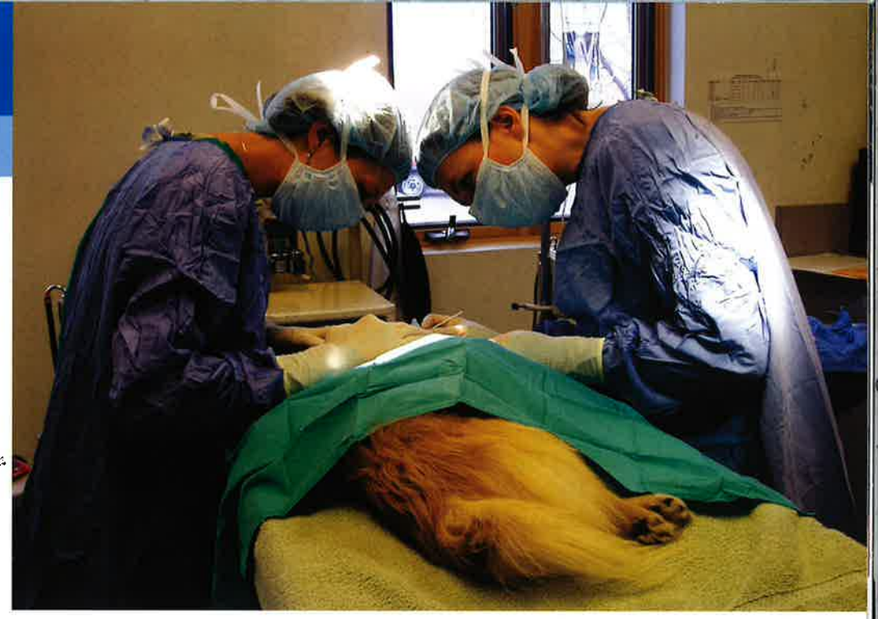
Allergy symptoms that occur at work but get better away from work also may be a sign of irritants in the air that could provoke asthma symptoms.

The following symptoms could occur:

- Eyes - Itchy, burning, or watery
- Nose - Itchy or stuffy, sneezing
- Skin - Itchy, red, or irritated

Start with your doctor for treatment

See your doctor if you think you may be suffering from occupational asthma. They will take your history and discuss your work environment with you.



You should begin taking your peak flow reading approximately four times a day. That way you and your doctor can monitor any changes between getting up in the morning, arriving at work, after some hours at work and when home again. You should also keep a symptom diary. This combination of information can confirm the presence of occupational asthma.

If you can't avoid the exposure...

You are entitled to a safe workplace. That's why the department of Occupational Safety and Health (OSH) becomes involved once occupational asthma has been diagnosed. OSH can provide advice and support to assist in creating a safe work environment. OSH may introduce the use of mask or respirators as well as fans or extractors to help remove the causative agent. OSH even had the power to close down a company if changes cannot or are not satisfactorily undertaken. Workers whose occupational asthma is recognised early and who are removed from the offending environment can recover completely. However, workers who have had symptoms of the disease for a year or more are less likely to recover fully. Occupational asthma is a serious condition that can get worse depending on the length and intensity of exposure. If you think you are being wrongfully exposed to a substance, speak up and see your doctor immediately.

Attention!
All Children in Auckland Who Have Asthma

⇒ **Is your child between 6- 13 years?**
⇒ **Does your child have asthma?**
⇒ **Do you live in the Auckland area?**

If you answer **yes** to these three questions please contact Asthma New Zealand-the Lung Association.

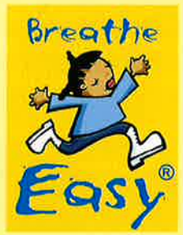
Why?
Because Asthma New Zealand needs volunteers to participate in a study which is looking at the benefits to children who have asthma from taking a natural product, made from a marine substance. As the product contains no protein it is safe for those who have a shell fish and/or fish allergy.

Taking part in this study may help reduce the participant's use of asthma medication and the knowledge gained may help other asthma children with asthma gain better control of their asthma.

The study is - A double blind, randomised controlled trial in children with chronic obstructive asthma and will be conducted in compliance with the protocol, Interim Good Clinical Research Practice Guidelines (Medsafe, 1998) and the regulatory requirements of New Zealand. We require children who are between 6 and13 years of age, with proven chronic obstructive asthma.

The diagnosis of asthma will be according to standard guidelines accepted by National Asthma Council of Australia. The children must be able to swallow capsules in order to participate, as there is no alternative form of study medication. The child's parent or guardian will provide written Informed Consent before enrolling the child in the trial. Where possible (given the child's age) the child's consent will also be obtained.

The trial lasts for six months and involves a total of eight visits.
A generous incentive of vouchers will be provided at each visit.



If you are interested in enrolling in the study or want to know more please contact: Asthma New Zealand-the Lung Association on either phone: 09 623 0236, Debra, Ann or Heather or email debral@asthma-nz.org.nz

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Toby - Lets Get Inventin'

Asthma New Zealand was pleased to assist Toby in the idea's lounge of the television show "Let's Get Inventin'". Regularly the Asthma Nurse Educators assist families who have young children with asthma. They are often faced with young children who resist using their spacers with the mask. They can be frightened and thus making it very difficult for parents/caregivers to administer their asthma inhaler medications. Toby's innovative idea, by way of a "Choo Choob" encourages young children to use their spacer by removing the fear and making it fun to use. So far we have received positive feedback from parents wanting to rush out and purchase a Choo Choob.

We wish Toby success with this venture and offer our support and encouragement. We will keep you updated with any progress. Watch this space!

Success! Toby and Geoff complete the Goober Challenge.

Words from the Inventor:

Why did you choose this invention, Toby?
"I suffered from asthma when I was little and my mum had a lot of trouble making me use my inhaler and spacer. I hated it. I thought it was scary. So we used to play a game that it was "Puff the Magic Dragon" or Thomas the Tank Engine. One day I was talking with my dad and we decided it would be cool to see if we could make the spacer into a toy."

Do you still have asthma?
"Yes, but not very much. I use Ventolin when I get a cold or when I'm exercising. I still hate using it."

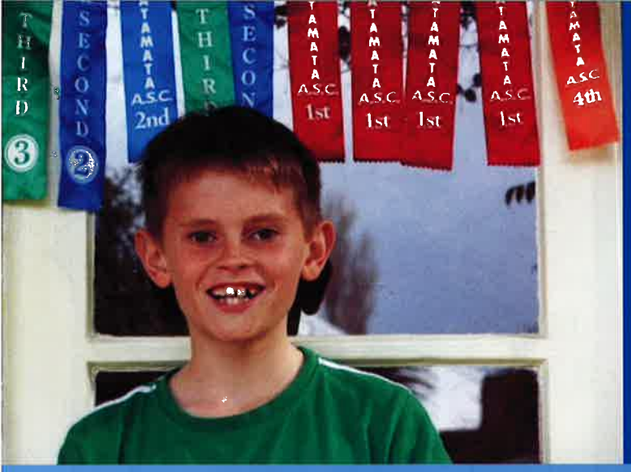
Why did you enter Let's Get Inventin'?
"I always have lots of ideas and I loved LGI. I thought that it would be cool to get the Choo Choob on TV. I also want to make the Rocket Board, a jet-powered boogie board"

What was your favourite part?
"I enjoyed it all – but especially the filming and making jokes with [LGI host] Geoff. It was also really cool being in the Fisher & Paykel factory too. They had to give me special permission because I wasn't old enough."

Toby and Geoff try out the Choo Choob on a paying customer.

What can you say to other asthma sufferers?
"Well I hope that one day I can actually make and sell the Choo Choob. I suppose the only thing I can say is use your medication. It makes a difference! And for all the young scientists out there: let's get inventin'!

Toby Heeringa in the ideas lounge with mentor Luke.



Oscar is a Winner!

Kid's Page

Written by Oscar Sims and Heather McMillan

"My name is Oscar Sims, I am 9 years old. I didn't have to stop doing the things I wanted just because I'm asthmatic. "

Before I was diagnosed with asthma I had trouble breathing after our cross country race and was sick all winter. Once I was diagnosed with asthma and got medication I could breathe easier and I wasn't sick any more. I also gained weight by using periactin. The medication has helped and I have learnt how to use the inhalers. I am using serevent and flixotide. Sometimes I use ventolin and I always make sure I have this in my desk at school and other important places.

At the end of last year I joined Parnell Swimming Club and am now swimming competitively. At first, every time I got in the water I would cough and sneeze afterwards because of the chlorine and I was sometimes short of breath because of my asthma. But I was determined to keep swimming and I have recently qualified for The Auckland Junior Swimming Champs. My inhalers have helped me to reach my goals in swimming and my swimming has helped my lung function get closer to normal.

Mum has bought a basket and put it in the kitchen for all my inhalers and spacers. I am responsible for my medication and for keeping my room tidy and dusted with a damp cloth. This means Mum can vacuum and I have less dustmites in my room. Sophie, our cat is not allowed in my room.

All of these things have contributed to me being mostly well since my diagnosis and I am really looking forward to competing in the Junior Champs.

Prior to taking medications for his asthma, Oscar experienced symptoms of shortness of breath, wheeze, cough and tiredness and he also had a lot of colds. Following diagnosis and commencement on flixotide and ventolin, Oscar's symptoms reduced and he was able to participate in his swimming activities without any problems with his breathing.

Nose breathing as opposed to mouth breathing has helped Oscar to avoid symptoms associated with the inhalation of cold air.

Oscar's swimming coach knows that Oscar has asthma, and he always carries his ventolin in his sport's bag.

It is now 9 months since a diagnosis of asthma was finally made, hasn't Oscar done well. Hopefully he will continue to improve as his lungs develop and eventually he may outgrow the need for medication.

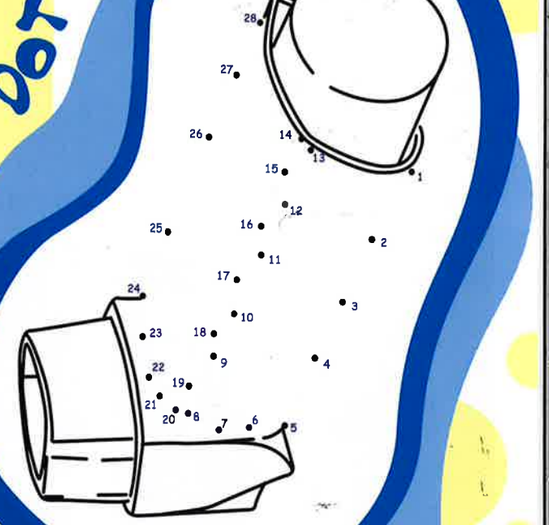
WordFind

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

Find these words

1. EXERCISE
2. NEBULISERS
3. SMOKE
4. COLD
5. DUST MITE
6. SPRING
7. TRIGGERS
8. ALLERGY
9. POLLEN
10. COUGH
11. DOG
12. GAS HEATING
13. INHALER
14. NEW YEAR

Dot-to-Dot



North & South

NEWS FROM AROUND THE REGIONS

FROM THE NORTH...

World COPD Day 2007

On Wednesday 14th November 2007 the world celebrated COPD Day. Here at Asthma Auckland we held an open day for people who were interested in learning more about this chronic condition. The event commenced at 10.00am and concluded at 2.00pm.
In spite of the terrible weather conditions many people braved the wet, cold, wind and hail to participate in the day.
Morning tea was enjoyed in the relaxed environment where there was the opportunity to share experiences.

The session included advice and literature on many topics including nutrition, exercise and use and care of devices such as inhalers. Most people who attended had spirometry testing to indicate the status of their lung function. The results were printed out so they could be discussed with their General Practitioner's.

Asthma Auckland would like to thank the Auckland City Council for their support by advertising this event.

Introducing Mona Ogle

Mona Ogle is the new West Auckland Asthma Educator for the Auckland Asthma Society Inc. She is based at the Asthma Centre in Mt Eden.

Mona trained as a Comprehensive Nurse at Lunghile Nursing College in South Africa.

She started out as Enrolled Nurse many years ago and soon thereafter completed her studies to become a Registered Nurse. Mona has worked in the fields of surgical, medical, neurological and medical aid/ insurances in South Africa.

Mona's interests include fitness, reading, education, making costume jewellery and fashion.

Introducing Linda Thompson

Linda joined the team at Asthma Auckland in November as the new PR/Fundraising Manager.

With 20 years admin and management experience and originally from a background in nursing, a family history of asthma, allergies and an increasing social conscience - felt it was time to give something back; a change in career inevitable.

Linda lives in Auckland with her grown daughter, Tash, and enjoys photography, sport and life outdoors. She is looking forward to new challenges with focus on raising money for continued education and awareness for the Asthma Society.

FROM THE SOUTH...

Introducing Jill Sinclair

My name is Jill Sinclair and I am the new Asthma Nurse Educator for the Southland Asthma Society. I am very excited about this newly established community based position, as prior to my appointment there has been no fulltime Asthma Nurse Educators in primary health care in the Southland region.

The findings of a study conducted earlier this year on the prevalence and management of asthma in the Southland and Queenstown regions suggested that further community based asthma education was essential. I am aware as a health professional and a mother, of the need to increase awareness and education regarding Asthma and respiratory disease and I am looking forward to having a positive impact and helping Southland families.

I did my nursing training in Invercargill before heading to Australia where I worked in high dependency surgical wards, medical wards, day theatre, endoscopy and administration. I returned home with my Australian husband (go the All Blacks!) to start our family. We have one very busy young man who has just turned four. I have worked as a practice nurse for the past three years which I thoroughly enjoyed, however I am looking forward to the challenges involved in establishing the role with the Southland Asthma Society and continuing my study in post-graduate health sciences and the Asthma Nursing Course.

Chronic Obstructive Pulmonary Disease and the role of SPIRIVA

Compiled by Debra Leutenegger

SPIRIVA (tiotropium bromide) is a long-acting anticholinergic bronchodilator, which is effective in the treatment of Chronic Obstructive Pulmonary Disease (COPD). The dry powder is inhaled once per day (via a HandiHaler) to help open the airways and keep them open for 24 hours. Spiriva begins to act within 30 minutes after use and the effect should last a full day.

Spiriva is available in New Zealand on prescription only and is funded by PHARMAC for patients who meet the set criteria. The main restriction is the requirement for patients to have an FEV1 <60% predicted. The use of a spirometer is able to give an accurate and reliable lung function result. The provision of spirometry by general practice and asthma societies/clinics result in better assessment and management of COPD patients.

According to the New Zealand medicines and medical devices safety authority (Medsafe) the clinical development programme included four one-year and two six-month randomised, double-blind studies in 2663 patients of which 1308 were receiving Spiriva. These studies included evaluation of lung function and health outcome measures such as dyspnoea (difficulty in breathing), exacerbations of COPD and the patients own assessment of their health related quality of life.

Spiriva administered once daily showed significant improvement in lung function. Forced expiratory volume in one second (FEV1) and forced vital capacity (FVC) improved within 30 minutes following the first dose and was maintained for 24 hours. Spiriva also improved morning and evening peak expiratory flow rate as measured by patient's daily recordings.

The improvement in lung function with Spiriva was demonstrated throughout the period of administration in the six long-term trials and these improvements were maintained.

Spiriva also significantly improved dyspnoea and the improvement was maintained throughout the trial, as well as a significant reduction in the number of exacerbations plus delaying the time to first exacerbation in comparison to placebo. Improved health-related quality of life was demonstrated by the disease-specific St George's Respiratory Questionnaire.

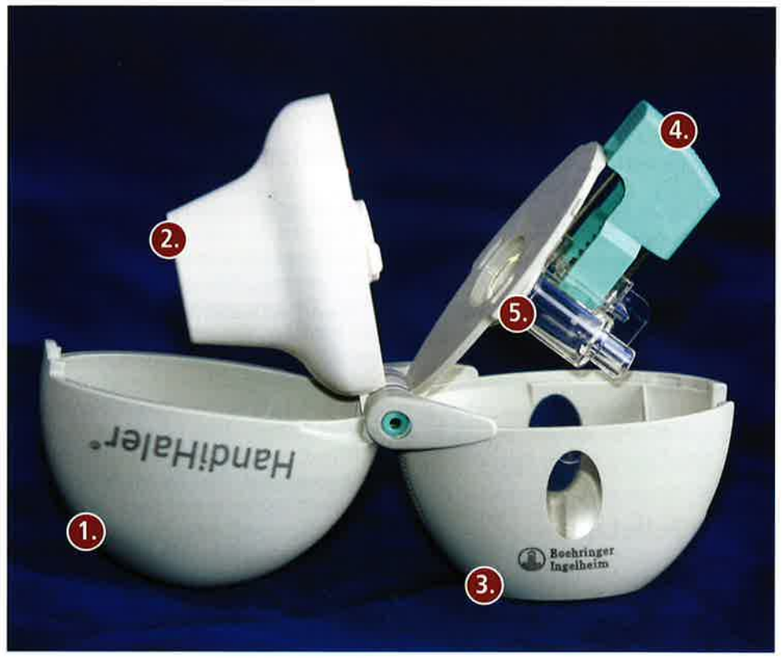
Before taking Spiriva you must tell your doctor if you are taking other medicines, in particular if you are taking other anticholinergic medicines such as ipratropium (Atrovent).

Atrovent is also in the Combivent inhaler which is commonly used by people with COPD. Spiriva contains 5.5mg of Lactose monohydrate per capsule.

Some of the more frequently reported side effects of Spiriva are:

- Dry mouth
- Dry throat
- Cough

Should you experience any side effects during or after using Spiriva, tell your doctor as soon as possible so that these can be properly assessed.



How to use the HandiHaler effectively

Remember the HandiHaler is specifically designed for the use with SPIRIVA capsules only and other medications should not be used in this device.

The HandiHaler consists of:

1. **Dustcap**
2. **Mouthpiece**
3. **Base**
4. **Piercing button**
5. **Centre chamber** **(to hold capsule)**

Directions:

1. Open the dust cap by pulling it upwards then open the mouthpiece by also pulling it upwards.
2. Carefully remove the spiriva capsule from the foil blister (this should be done immediately prior to use). Ensure you have dry hands.
3. Place the capsule into the centre chamber (it doesn't matter which way up the capsule is).
4. Close the mouthpiece firmly until you hear a click (leave the dust cover open).
5. Hold the HandiHaler upright and press the GREEN button in firmly ONCE and release (this makes holes in the capsule which will allow the medication to be released when you breathe in).
6. Breathe out completely first (away from the mouthpiece as you don't want to add moisture to the dry powder).
7. Raise the HandiHaler to your mouth and form a tight seal around the mouthpiece with your lips.
8. Breathe in slowly and deeply. You should be able to hear the capsule vibrate. Breathe in until your lungs are full and then hold your breath for as long as comfortable and at the same time remove the HandiHaler from your mouth.
9. Resume normal breathing.
10. You can repeat steps 6-9 to empty the capsule completely if necessary.
11. Open the mouthpiece and discard the empty capsule, then close the mouthpiece and dust cap until the device is required again.

If you forget to inhale a dose, take it as soon as you remember, **however** if it is close to the time when your next dose was due, only take the one dose. **Do not double up to make up for the lost dose.**

Cleaning the HandiHaler

You can clean the HandiHaler once per month (more often if required) by simply opening the dust-cap, mouthpiece and also the base by lifting up firmly the green piercing button. Rinse the device completely with warm water and leave to air dry.

Note: It takes 24 hours for the device to dry completely so clean it straight after you used it so it will be ready for your next dose.

Reference: *Boehringer Ingelheim*
www.medsafe.govt.nz
www.spiriva.com
www.researchreview.co.nz

The Air We Breathe

Compiled by Ann Wheat

New Zealand is clean and green. We all know that. But is the air in our clean, green country all that it should be?

For many people living in this country, the air in New Zealand can be a trigger for worsening symptoms in asthma and chronic obstructive pulmonary disease, plus has an effect on other serious illnesses such as heart disease and cancer. As the Hon. Marion Hobbs quoted in the Ministry of Environment's article Ambient Air Quality Guidelines (2002) 'air pollution is harming our health and that of our children and parents'. She went on to say that 'around 970 premature deaths are caused every year by inhaling air pollution from sources such as vehicles, home-heating fires and industries' (Hobbs, 2002, Clemons, 1999).

Why is air important?

Every living creature including men, animals and plants breathe in air. The main ingredients of air are nitrogen 78%, oxygen 21%, argon 0.9%, carbon dioxide 0.03% plus varying amounts of water vapour and trace amounts of hydrogen, ozone (O3 or smog) (Lotz, 2007), methane, carbon monoxide, helium, neon, krypton and xenon (Microsoft® Encarta® Encyclopedia, 2007). For all living creatures oxygen is required for us to live normal live as every cell in our bodies relies on this gas to exist.

But air also contains many other gases (pollutants) and many of these are harmful and can be found both inside and outside our homes.

Outdoor Pollutants

Outside pollutants include carbon monoxide (CO), sulphur dioxide (SO2), nitrogen dioxide (NO2) and particulate matter (PM10) (Northland Regional Council (NRC), 2007).

PM10 is very fine dust particles, that are so small they cannot be seen by the naked eye and are suspended in air, and are formed from windblown dust particles, industry, diesel engines, domestic fires, backyard burning and power plants (NRC, 2007). Other pollutants include ozone which is formed when nitrogen oxides and volatile organic compounds (VOC's) react with sunlight under certain conditions (NRC, 2007) and carbon dioxide from increased fuel consumption by vehicles (Metcalfe, Fisher, Sherman & Kuschel, 2006). There are also several natural sources of pollution and these include such things as volcanoes, sea salt, pollens, fungal spores and wind blown dust.

Indoor Pollutants

Indoor pollutants can be just as dangerous as outdoor pollutants. Many of New Zealand's newer homes emit chemicals from building material, carpets and other finishings and furnishings (Smarter Homes, n.d.) VOC's are chemical substances that become airborn at room temperature and are emitted from materials and household products including paint, cleaning products, personal care, hobbies, central heating or cooling systems, humidification devices and many furnishings (Smarter Homes, n.d., Lotz, 2007). Smarter Homes go on to say that another VOC found in our homes is formaldehyde emitted from composite wood products such as plywood, fibreboard (MDF), furniture and glues. But one good point is that you may only be exposed to VOC's when the materials are new and when conditions are hot and humid (Smarter Homes, n.d.). Another source of pollutants are combustion sources such as oil, gas, kerosene, coal, wood and tobacco products (Lotz, 2007).

Who is most at risk from pollution?

The people most at risk from the effects of pollution are the elderly and those with pre-existing medical conditions such as asthma, COPD and heart disease (Clemons, 1999, Lotz, 2007). For some people the effects of pollution will depend on their sensitivity to the various possible pollutants. In some people the effects can be almost immediate but in others it can take many years for the effects to become evident (Clemons, 1999, Lotz, 2007). Often it is difficult to differentiate between viral type illnesses and pollution (Lotz, 2007), but if the symptoms improve when a person is removed from the place that makes them worse, then the most likely cause will be pollution.

Is pollution worse at certain times?

Throughout New Zealand as well as most countries around the world, pollution is worse at certain times of the year and certain times of the day. Winter is often one of the worst times for pollution, due to people using domestic fires for warmth, especially on still days when there is little wind and it is often possible to see the pollution lying across most cities and towns. Windy days will therefore often reduce the levels of pollution but can increase such pollutants as sea salt and wind blown dust. Vehicle emissions will also be worse at peak travel times when people are travelling to and from work and on some of the countries busiest roads. Vehicle emissions not only come from exhaust fumes, but from tyre wear, brake wear, clutch wear, road surface wear, resuspended PM10 and corrosion of vehicle components street furniture and crash barriers (Metcalf et al, 2004).

So what can we do?

There is much we can do to protect ourselves both outside and inside our homes, but the list would be too long to write in this article, so here are some tips to consider that could help to reduce the effects of pollution on individuals:

Outside:

- Do not undertake strenuous activity on high pollution days or at peak traffic times.
- Car pool to reduce the number of cars on the road or use public transport whenever possible.
- Use a mask when out walking or running.
- Have car air system on recycling air and keep windows closed.
- Consider filling your gas tank after dark (American Lung Association, 2006).
- Do not light garden fires.
- Limit the amount of time children spend outside on high pollution days.
- Consider using an electric or hand mower.

Indoors:

- Have some house plants as this can help reduce the amount of VOC's in the house.
- Use electric heaters or reverse cycle air conditioners whenever possible (Ministry of Health, 2005).
- Close curtains on dusk to retain the heat in the home.
- Keep house free of mould and humidity.
- Open windows and doors for ventilation especially when using chemicals and vacuuming.
- Make your home and/or workplace smoke free.

Conclusion

There are many different pollutants both outdoors and indoors. Pollution is a problem for all of us, so we can all help to reduce the amount that is in the atmosphere and therefore help those that it affects the most.

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Feedback from August's magazine

ASTHMA AND HOUSE DUST MITES

It is always excellent to receive feedback from articles written in our magazine and we would like to thank Senior Research Fellow Rob Siebers of Wellington's Asthma Research Group for the feedback given about the above article.

We would like to acknowledge that the use of feather pillows for people with asthma is not necessarily a problem and it may not be necessary to replace these pillows. Feather pillows have a smaller weave of about 18microns which help to prevent the dust mite from penetrating these pillows, thus reducing the tendency of triggering asthma in dust mite allergic individuals.

It is worthwhile noting, that people who are allergic to feathers are better with newer synthetic pillows which also have a small weave thus helping to prevent the dust mite problem.

newstream

Inhalers Misused by 1/3 of Pulmonary Patients: Presented at CHEST

By Em Brown CHICAGO, IL -- October 26, 2007

A significant percentage of patients use their inhalers incorrectly, with the percentage that makes errors increasing with patients' age and severity of disease, researchers reported here at CHEST 2007, the 73rd international scientific assembly of the American College of Chest Physicians (ACCP). To compound the problem further, one third of patients never receive direct instruction on how to use the devices, but are simply sent home with their prescriptions and told to read the product inserts, said study presenter Siegfried Wieshammer, MD, Medical Director, Department of Internal Medicine, Klinikum Offenburg, Offenburg, Germany.

Dr. Wieshammer presented findings on the error rate with inhaler use in 224 patients mean age was 55 years who were diagnosed with asthma or chronic obstructive pulmonary disease (COPD) who were newly prescribed dry-powder inhalers. The overall error rate in this study sample was 32%, Dr. Wieshammer reported, but there was a wide variation in that rate, depending on the patient's age and disease severity. The error rate was 20.0% for patients younger than age 60 years, 41.6% for those older than 60 years, and greater than 80% for those older than 80 years. The error rate also varied with severity of disease. It was 25.0% for patients with normal lung function and 63.6% for patients with severe airway obstruction, Dr. Wieshammer said. When trained by healthcare providers on the proper use of the inhaler, the error rate was 23%, whereas an error rate of 53% was found in patients who had not received training in inhaler use.

"Healthcare providers must adopt modern teaching techniques to meet the educational requirements of their patients," Dr. Wieshammer commented in an interview. "High-quality training devices are available." "In older patients, the risk of ineffective inhalation remains high despite prior instruction," Dr. Wieshammer said. "I do not advise against the use of dry powder inhalers in the elderly, but I do recommend checking older patients` inhalational technique regularly to ensure the efficacy of treatment." "If crucial handling errors cannot be eliminated by follow-up training, a metered-dose inhaler in combination with a large-volume spacer might be a valuable treatment alternative, in my experience," he advised. "This device allows the patient to inhale the aerosol at a low inspiratory flow without worrying about the need to coordinate actuation and inhalation. Even older patients with advanced COPD can properly use this device after training, if necessary with the help of a partner or caregiver."

Effect of race on asthma management and outcomes in a large, integrated managed care organization

Erickson SE, Iribarren C, Tolstykh IV, Blanc PD, Eisner MD.

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BACKGROUND: Morbidity from asthma disproportionately affects black people. Whether this excess morbidity is fully explained by differences in asthma severity, access to care, or socioeconomic status (SES) is unknown.

METHODS: We assessed whether there were racial disparities in asthma management and outcomes in a managed care organisation that provides uniform access to health care and then determined to what degree these disparities were explained by differences in SES, asthma severity, and asthma management. We prospectively studied 678 patients from a large, integrated health care delivery system. Patients who had been hospitalised for asthma were interviewed after discharge to ascertain information about asthma history, health status, and SES. Small-area socioeconomic data were ascertained by means of geocoding and linkage to the US Census 2000. Patients were followed up for subsequent emergency department (ED) visits or hospitalisations (median follow-up, 1.9 years).

RESULTS: Black race was associated with a higher risk of ED visits (hazard ratio [HR], 1.93; 95% confidence interval [CI], 1.39-2.66) and hospitalisations (HR, 1.89; 95% CI, 1.30-2.76). This finding persisted after adjusting for SES and differences in asthma therapy (adjusted HR for ED visits, 1.73; 95% CI, 1.07-2.81; and adjusted HR for hospitalisations, 2.01; 95% CI, 1.33-3.02).

CONCLUSIONS: Even in a health care setting that provides uniform access to care, black race was associated with worse asthma outcomes, including a greater risk of ED visits and hospitalisations. This association was not explained by differences in SES, asthma severity, or asthma therapy. These findings suggest that genetic differences may underlie these racial disparities.

COPD exacerbations: defining their cause and prevention

Wedzicha JA, Seemungal TA.

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Exacerbations of chronic obstructive pulmonary disease (COPD) are episodes of worsening of symptoms, leading to substantial morbidity and mortality. COPD exacerbations are associated with increased airway and systemic inflammation and physiological changes, especially the development of hyperinflation. They are triggered mainly by respiratory viruses and bacteria, which infect the lower airway and increase airway inflammation. Some patients are particularly susceptible to exacerbations, and show worse health status and faster disease progression than those who have infrequent exacerbations.

Several pharmacological interventions are effective for the reduction of exacerbation frequency and severity in COPD such as inhaled steroids, long-acting bronchodilators, and their combinations. Non-pharmacological therapies such as pulmonary rehabilitation, self-management, and home ventilatory support are becoming increasingly important, but still need to be studied in controlled trials.

The future of exacerbation prevention is in assessment of optimum combinations of pharmacological and non-pharmacological therapies that will result in improvement of health status, and reduction of hospital admission and mortality associated with COPD.

Exposure of infants to budesonide through breast milk of asthmatic mothers

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BACKGROUND: Maintenance treatment with inhaled corticosteroids is often required for asthmatic nursing women. Data on the transfer of inhaled corticosteroids from plasma to breast milk and the subsequent exposure of the breast-feeding infant has been unavailable.

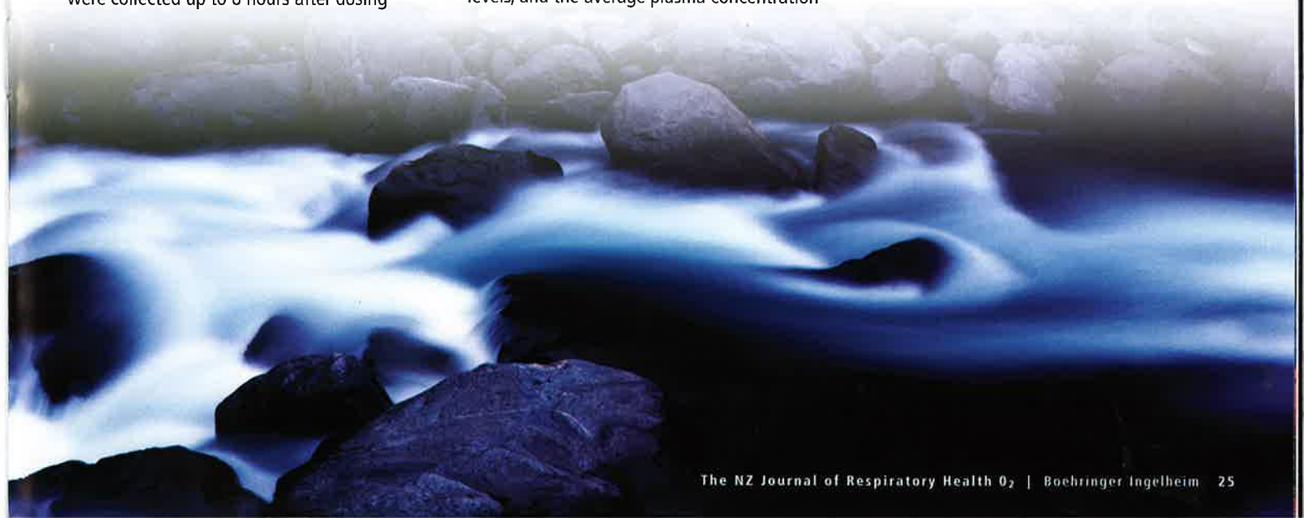
OBJECTIVE: We sought to assess budesonide concentrations in milk and plasma of asthmatic nursing women receiving maintenance treatment with the Pulmicort Turbuhaler and estimate the exposure of their breast-fed infants.

METHODS: Milk and plasma samples were collected up to 8 hours after dosing from 8 mothers receiving budesonide maintenance treatment (200 or 400 microg twice daily). Pharmacokinetic parameters were calculated from budesonide milk and plasma concentrations. Infant exposure was estimated based on average milk budesonide concentrations. A single blood sample was obtained from 5 infants close to expected infant maximum concentration.

RESULTS: Budesonide concentrations in milk reflected those in maternal plasma, supporting passive diffusion of budesonide between plasma and milk, and was always lower than that in plasma. The mean milk/plasma ratio was 0.46. The estimated daily infant dose was 0.3% of the daily maternal dose for both dose levels, and the average plasma concentration in infants was estimated to be 1/600th of the concentrations observed in maternal plasma, assuming complete infant oral bioavailability. Budesonide concentrations in infant plasma samples were all less than the limit of quantification.

CONCLUSION: Maintenance treatment with inhaled budesonide (200 or 400 microg twice daily) in asthmatic nursing women results in negligible systemic exposure to budesonide in breast-fed infants.

CLINICAL IMPLICATIONS: These data support continued use of inhaled budesonide during breast-feeding.



Effects of tiotropium or combined therapy with salmeterol on hyperinflation in COPD

Eguchi Y, Tateishi Y, Umeda N, Yoshikawa T, Kamoi H, Kanazawa H, Kudoh S, Hirata K, Fujimoto S.

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BACKGROUND: Hyperinflation is widely accepted as an abnormal state affecting clinical symptoms, activities of daily living and exercise tolerance in chronic obstructive pulmonary disease (COPD). Reducing hyperinflation is an essential theme in COPD treatment. In this study, we let patients with COPD hyperventilate to evoke hyperinflation, and evaluated the effects of tiotropium alone or in combination with salmeterol on hyperventilation-evoked hyperinflation.

METHODS: Thirty-eight patients with COPD received pulmonary function tests including hyperventilation-evoked hyperinflation testing and the St. George's Respiratory Questionnaire (SGRQ) before treatment, after tiotropium administration for 8 weeks, and after combined therapy with salmeterol for 8 weeks.

RESULTS: Before treatment, inspiratory capacity (IC) after hyperventilation decreased significantly in a breathing frequency-dependent manner. After tiotropium administration, forced expiratory volume in one second (FEV1) increased significantly. IC after hyperventilation decreased significantly in a breathing frequency-dependent manner; however, IC was significantly greater than that before treatment (at rest, p=0.001; after hyperventilation at twice the resting respiratory rate, p=0.0009; and after hyperventilation at three times the resting respiratory rate, p<0.0001). The SGRQ score also improved significantly. After combined therapy with salmeterol, FEV1 increased significantly compared with after tiotropium alone. However, there was no significant difference between the IC after tiotropium alone and that after combined therapy, at each stage. However, after combined therapy the SGRQ score significantly improved compared with that after tiotropium alone.

CONCLUSIONS: Tiotropium improved airflow obstruction and hyperventilation-evoked hyperinflation. In combination with salmeterol, the improvement in airflow obstruction was greater, but hyperventilation-evoked hyperinflation was not further improved.

Childhood allergic rhinitis predicts asthma incidence and persistence to middle age: a longitudinal study

Burgess JA, Walters EH, Byrnes GB, Matheson MC, Jenkins MA, Wharton CL, Johns DP, Abramson MJ, Hopper JL, Dharmage SC.

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BACKGROUND: The association between allergic rhinitis and asthma is well documented, but the temporal sequence of this association has not been closely examined.

OBJECTIVE: We sought to assess the associations between childhood allergic rhinitis and (1) asthma incidence from preadolescence to middle age and (2) asthma persistence to middle age.

METHODS: Data were gathered from the 1968, 1974, and 2004 surveys of the Tasmanian Asthma Study. Cox regression was used to examine the association between childhood allergic rhinitis and asthma incidence in preadolescence, adolescence, and adult life. Binomial regression was used to examine the association between childhood allergic rhinitis and asthma beginning before the age of 7 years and persisting at age 44 years.

RESULTS: Childhood allergic rhinitis was associated with a significant 2- to 7-fold increased risk of incident asthma in preadolescence, adolescence, or adult life. Childhood allergic rhinitis was associated with a 3-fold increased risk of childhood asthma persisting compared with remitting by middle age.

CONCLUSIONS: Childhood allergic rhinitis increased the likelihood of new-onset asthma after childhood and the likelihood of having persisting asthma from childhood into middle age.

CLINICAL IMPLICATIONS: Asthma burden in later life might be reduced by more aggressive treatment of allergic rhinitis in early life.

Poor airway function in early infancy and lung function by age 22 years: a non-selective longitudinal cohort study

Stern DA, Morgan WJ, Wright AL, Guerra S, Martinez FD.

Arizona Respiratory Center, University of Arizona, Tucson, Arizona, USA.

BACKGROUND: Together with smoking, the lung function attained in early adulthood is one of the strongest predictors of chronic obstructive pulmonary disease. We aimed to investigate whether lung function in early adulthood is, in turn, affected by airway function measured shortly after birth.

METHODS: Non-selected infants were enrolled at birth in the Tucson Children's Respiratory Study between 1980 and 1984. We measured maximal expiratory flows at functional residual capacity (Vmax(FRC)) in 169 of these infants by the chest compression technique at a mean of 2.3 months (SD 1.9). We also obtained measurements of lung function for 123 of these participants at least once at ages 11, 16, and 22 years. Indices were forced expiratory volume in 1 s (FEV1), forced vital capacity (FVC), and forced expiratory flow between 25% and 75% of FVC (FEF25-75), both before and after treatment with a bronchodilator (180 microg of albuterol).

FINDINGS: Participants who had infant Vmax(FRC) in the lowest quartile also had lower values for the FEV1/FVC ratio (-5.2%, p<0.0001), FEF25-75 (-663 mL/s, p<0.0001), and FEV1 (-233 mL, p=0.001) up to age 22, after adjustment for height, weight, age, and sex, than those in the upper three quartiles combined. The magnitude and significance of this effect did not change after additional adjustment for wheeze, smoking, atopy, or parental asthma.

INTERPRETATION: Poor airway function shortly after birth should be recognised as a risk factor for airflow obstruction in young adults. Prevention of chronic obstructive pulmonary disease might need to start in fetal life.

Symptom perception in pediatric asthma: resistive loading and in vivo assessment compared

Fritz GK, Adams SK, McQuaid EL, Klein R, Kopel S, Nassau J, Mansell A.

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BACKGROUND: Inaccurate symptom perception contributes to asthma morbidity and mortality in children and adults. Various methods have been used to quantify perceptual accuracy, including psychophysical (resistive loading) approaches, ratings of dyspnea during induced bronchoconstriction, and in vivo monitoring, but it is unclear whether the different methods identify the same individuals as good or poor perceivers. The objectives of the study were as follows: (1) to compare in the same asthmatic children two methods of quantifying perceptual ability: threshold detection of added resistive loads and in vivo symptom perception; and (2) to determine which method best predicts asthma morbidity.

METHODS: Seventy-eight asthmatic children 7 to 16 years of age completed two threshold detection protocols in the laboratory and recorded their subjective estimates of lung function prior to spirometry at home twice daily for 5 to 6 weeks. Summary measures from both methods were compared to each other and to asthma morbidity (as measured with the Rosier asthma functional severity scale).

RESULTS: Symptom perception ability, as summarised by either method, varied greatly from child to child. Neither of the resistive load detection thresholds were significantly related to any of the three in vivo perception scores, nor were they related to asthma morbidity. The three in vivo scores did show a significant or marginal relationship with morbidity ($p < 0.01$, $p < 0.06$, and $p < 0.07$, respectively).

CONCLUSIONS: Resistive loading techniques may not be useful in assessing symptom perception ability in children. Measuring estimates of symptoms in relation to naturally occurring asthma can identify children at risk for greater asthma morbidity.

PMID: 17573500 [PubMed - indexed for MEDLINE]

"Snippets" of information

Should I use a Spacer?

Yes, we recommend that both adults and children use a spacer. You will get more of your medication through a spacer enabling better management. The use of a spacer also reduces the risk of possible side effects of inhaled corticosteroids.

How do I look after my spacer?

Because of the static the spacer attracts it needs to be "primed" once a week. This is done by washing the spacer in warm, soapy water, not rinsing it and allowing it to air dry. Another way of quickly priming a spacer if it hasn't been used in awhile is to place ten puffs of "blue" reliever inhaler into the spacer prior to use and then wash it weekly as above.

Where do I get a spacer and what will it cost?

Most spacers are free and available from your Doctor's practice or at a pharmacy.

When do I replace my Spacer?

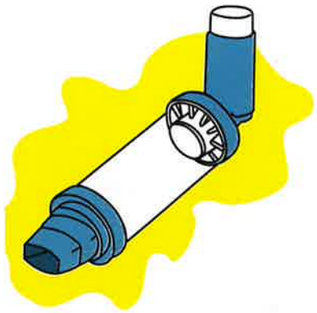
If the spacer is broken, cracked or is scratched on the inside it needs replacing, also if the valve is not working/moving when you breathe in and out. Spacers should be replaced every twelve months, or more often if required.

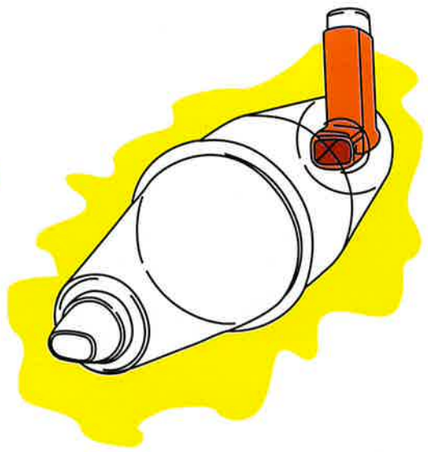
How old do I have to be to stop using the mask on my spacer?

Generally from the age of three to four years children are able to make a good seal around the mouthpiece and can move the valve effectively when breathing in and out. Keep using a mask until the child can master this technique.

What are the most common side effects of inhaled corticosteroids?

Sore throat, hoarse voice and oral thrush.





What can I do to prevent these?

We encourage you to rinse, gargle and spit after using a brown or orange inhaler. You also need to do this if you are using a "combination" inhaler such as Seretide (purple) or Symbicort (red) as these also contain inhaled corticosteroids.

For young children encourage them to clean their teeth and have a drink of water as well as wash around their face if they use a mask with their spacer.

How often should I need to use my "blue" reliever inhaler?

If your asthma is well managed you shouldn't need to use it more than three times a week when you are well. The only exception is if you have Exercise Induced Asthma and only have a "blue" reliever inhaler.

If you are using it more frequently than three times a week speak with your Doctor or Asthma Nurse Educator for assistance in achieving better control.

When should I use my "blue" inhaler if I have exercise induced asthma?

It is best to use two puffs of your "blue" inhaler, 10-15 minutes prior to commencing exercise. This is while you are warming-up. You can use it again during sport and/or after if necessary.

If you are finding that you are still having difficulties with sporting activities, speak with your Doctor as you may be best on a preventer inhaler as well.

What is a peak flow meter?

A peak flow meter is a hand-held device used to measure the maximum amount of air that we push out of our lungs, in a short, sharp huff. Generally your peak flow recording will be lower when you are experiencing asthma symptoms.

Who should use a peak flow meter?

Adults and children from the age of six are generally able to blow into a peak flow meter to get an accurate result.

When do I use my peak flow meter?

When you first get your peak flow meter and if your asthma is under control do three blows in the morning (before any inhalers) and write down the highest result, then again three blows in the evening (before any inhalers) and write down the highest result. Do this for a period of two-three weeks to find out your personal best peak flow recording. Your highest result goes onto your asthma management plan that your doctor will complete.

If you have any questions for future "Snippets" please email them to: debral@asthma-nz.org.nz

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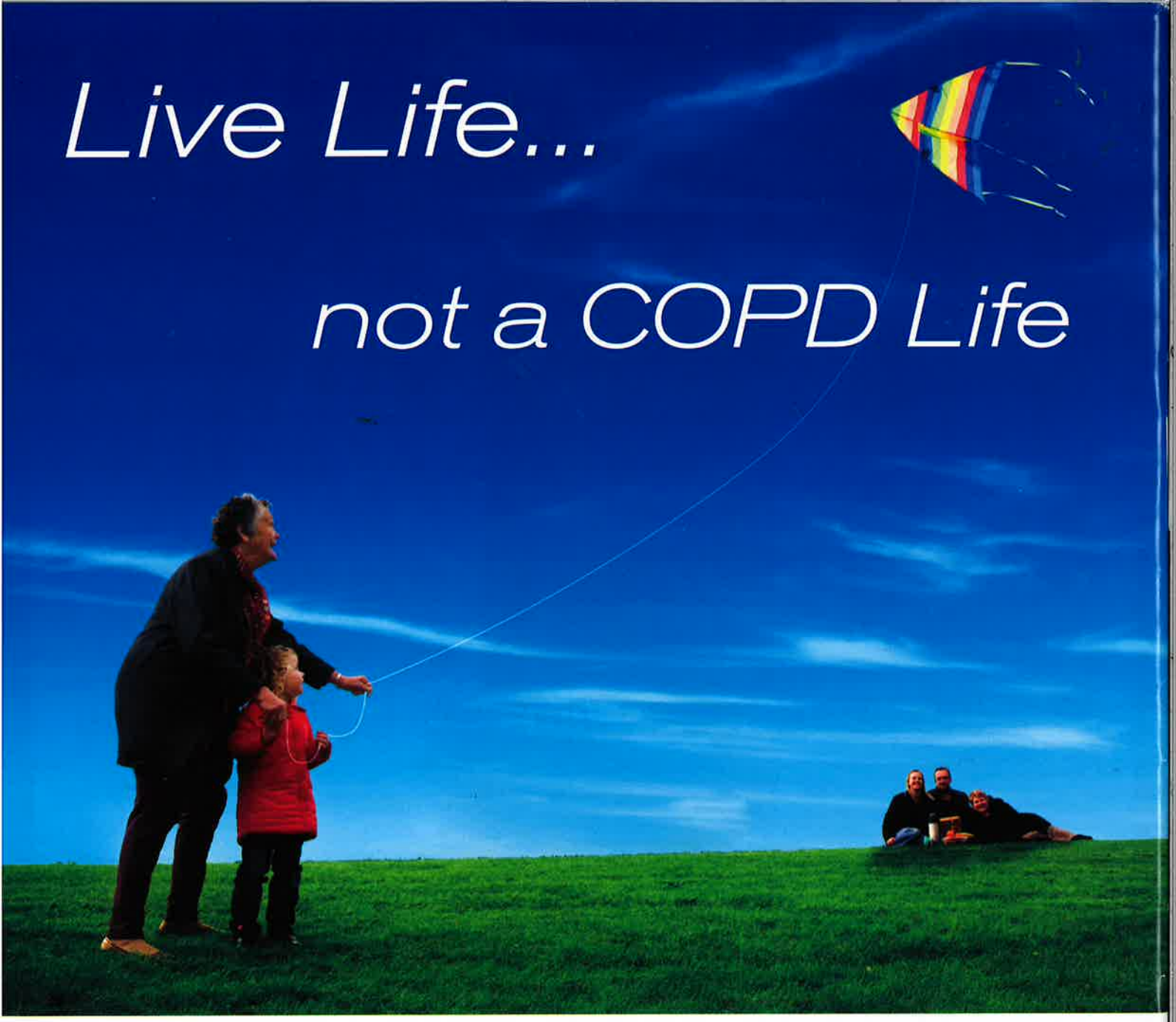

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