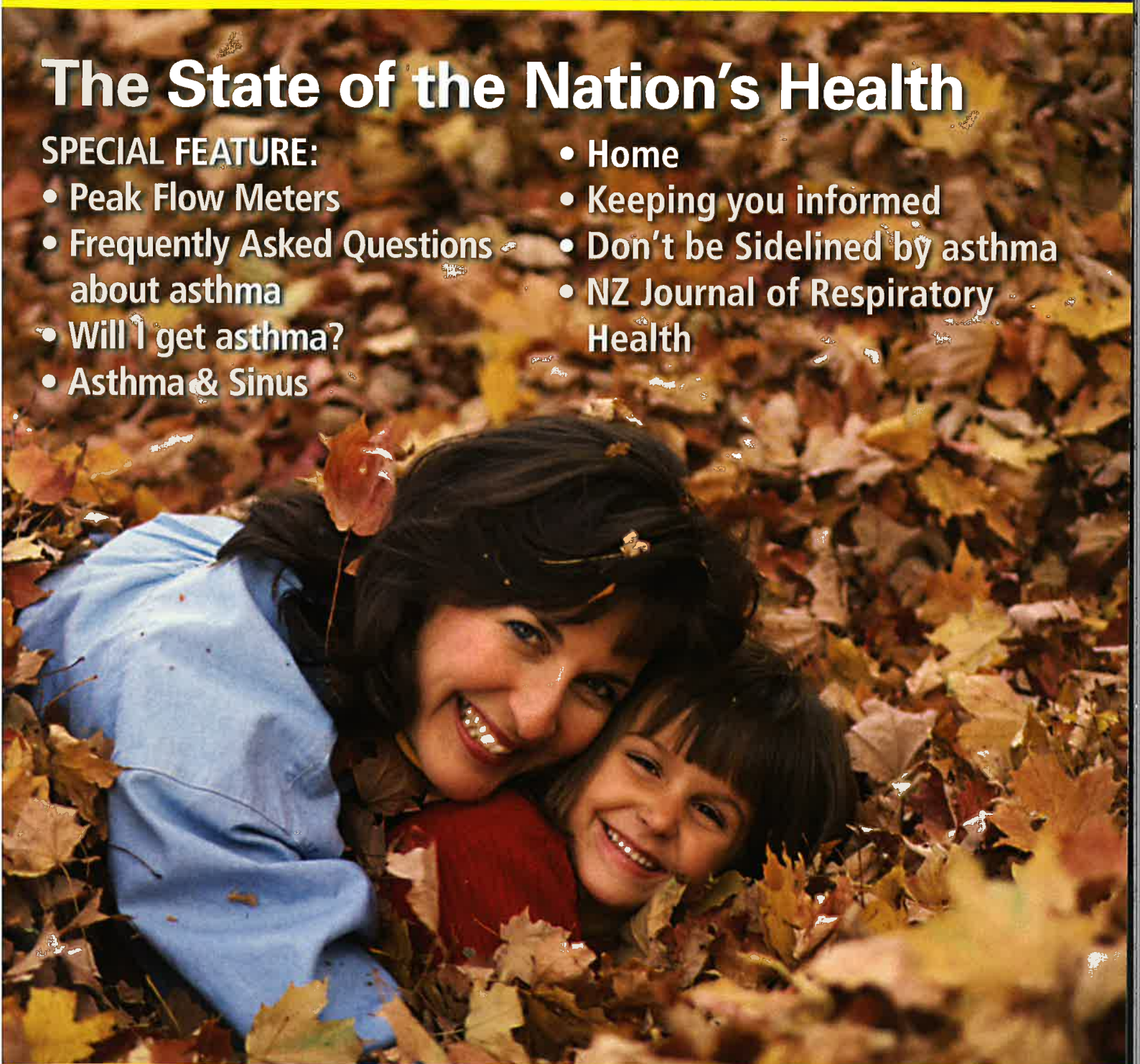


# The State of the Nation's Health

## SPECIAL FEATURE:

- Peak Flow Meters
- Frequently Asked Questions about asthma
- Will I get asthma?
- Asthma & Sinus
- Home
- Keeping you informed
- Don't be Sidelined by asthma
- NZ Journal of Respiratory Health



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April 2006



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# editorial

## The State of the Nation's Health

The New Zealand Herald headline (March 6, 2006) "spending rises but surgery falls at city hospitals" indicates that despite the vast amounts of money flung at the health system, by the current Labour Government, waiting lists and operation delays grow. Perhaps, the massive staff increases due to the current infrastructural approach can explain why the current situation exists.

A recent article in the Sunday Herald (March 5, 2006) "Drug blamed for asthma attacks" once again, highlights the inadequacy of our current health system. New Zealand now has a health system that is accessible to the affluent, and people on limited incomes have to do with what they can afford.

Ventolin, for example, is used by 70% of people with asthma who can afford the "part-charge" that comes with it. The 30% of people who cannot afford the "part-charge" make do with Salamol, the alcohol based reliever. Dr Cass Byrnes, Starship Paediatric Consultant, stated that poorer families simply could not afford the more popular Ventolin. She states that it is hard to encourage children when they don't like the

taste and that readmissions occur because of this. Senior paediatricians state quite clearly "that children should not be unnecessarily exposed to alcohol".

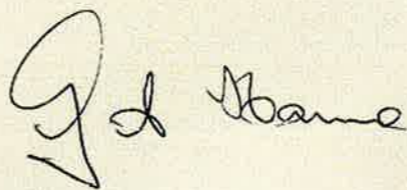
The Asthma and Respiratory Foundation, Wellington, who supplies Salamol through their wholly owned subsidiary, Airflow Limited, do not appear to be concerned about the problem.

Pharmac Medical Director, Dr Peter Moodie, remarks that patients and prescribers could have confidence in the effectiveness of Salamol – tell that to the unfortunates who have to use it!!

In general terms, the health of New Zealand is suffering because of out-moded ideological

approaches to the health system. New Zealand is a small country, with a small population. Quality and equity of health access should be available to all, whether they are affluent or poor. Sadly, it is not.

Keep well.



G.A. Hanna  
Executive Director

# PEAK FLOW METER

Compiled by June Bell R.N. – asthma educator Asthma Auckland

Many with asthma are encouraged to use a peak flow meter, but many of us don't. Why, what is all the fuss about? What is actually gained from a task that is a hassle to remember and takes up our valuable time in this time oriented society of ours. Let's take a look.

### What is a peak flow meter?

A Peak Flow Meter (PFM) is a simple, inexpensive portable, hand held device. It is used to measure air flow, or peak expiratory flow rate (PEFR). That is the maximum amount of air that we can force out of our lungs, in a short sharp puff. This means if our airways are wide open we can blow hard, when narrowed by bronchoconstriction (muscle surrounding the airway contracts) and inflammation (makes airways swollen) it is not so easy. Therefore a peak flow meter can assist with detecting changes in the airways and help you manage your asthma. The measurement enables you to know if there is any inflammation or bronchoconstriction in the airway, hours or even days, before any asthma symptoms are noticed. PEFR is measured in L/min, and the higher the reading, the better the peak flow. The device is available free of charge from your practice nurse or G.P.

It can be used as a tool to help you and your practice nurse or GP:

- Determine the severity of asthma
- Assess what an optimum reading should be
- Check response to treatment during an acute asthma episode
- Monitor progress in treatment of chronic asthma and provide objective information for any adjustments in medication
- Detect worsening lung function and thereby avoid a possible severe acute asthma episode by implementing early intervention
- To assist with an asthma diagnosis

### Establishing a personal best reading

Peak flow is determined by age, gender and height and on the odd occasion weight. A personal best peak flow is the highest peak flow number that can be achieved:

- when the person does not have asthma and her/his airways are wide open
- when the person has asthma and is symptom free and asthma is well controlled.

A personal best peak flow will be given to you by your nurse or GP.

When peak flow monitoring is used in the diagnosis three blows morning and night over a 3 week period is necessary. In the management of asthma ideally the monitoring period should be carried out in the morning and night every day. It is important to note as children get taller and older, their PEFR should get higher therefore continual monitoring is necessary.

### To determine peak flow:

- Always use the same peak flow meter
- Record peak flow twice a day for three weeks

### Who needs use a peak flow meter?

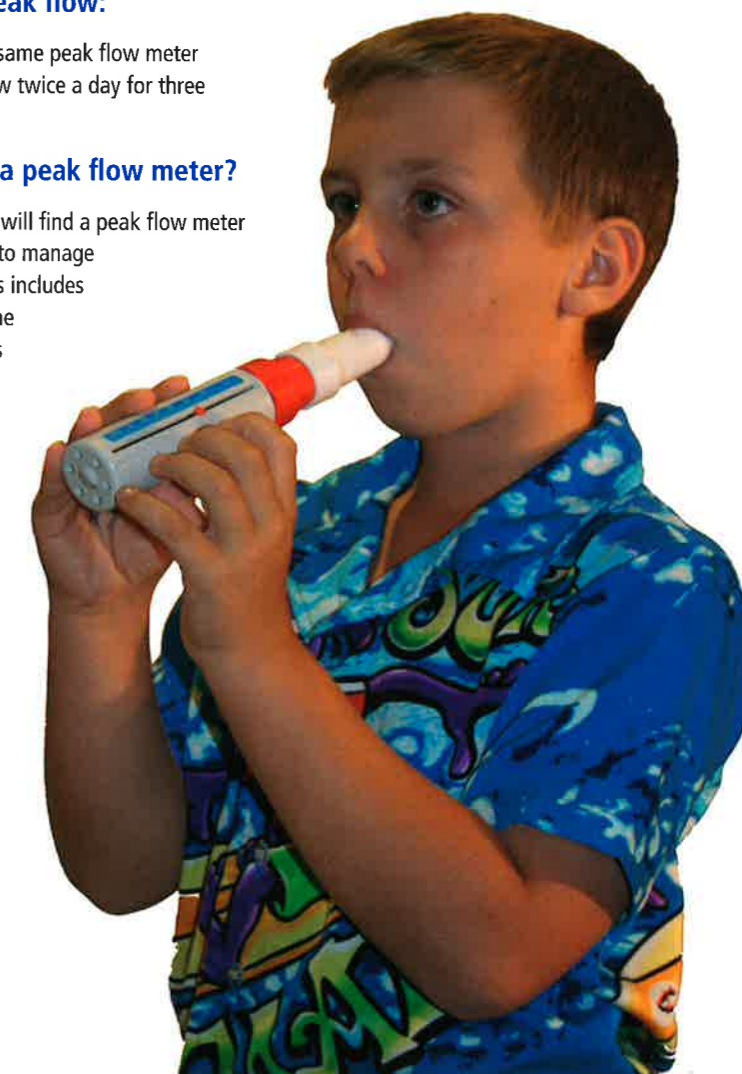
Anyone with asthma will find a peak flow meter of benefit in helping to manage her/his condition. This includes most children from the age of 6 or 7 years as

they may be able to master the technique required. Before this age some children may confuse blowing out into the meter with breathing in from their device so it is not recommended.

### Peak Flow variability

A person without asthma or with well controlled asthma will consistently blow peak flows that

Continued on page 4



## PEAK FLOW METER

...from page 3

vary less than 15%. Any variability of more than 15% in peak flow recordings over a 24 hour period may aid in the diagnosis of asthma and in asthma that is poorly controlled.

Occasionally a person who is thought to have asthma symptoms has their peak flow recorded. Then they are given reliever medication, and their peak flow recorded in 20 minutes. If there is a 15% or more improvement response referred to as a reversibility test it can be used together with the history and other investigations to establish the diagnosis of asthma.

### How to use a peak flow meter

There are several steps needed in the use of a peak flow meter. A short hard blow into the meter to get the best reading possible is desired, and repeated twice. Record the highest of the three recordings. All three measurements should be about the same to show that a good effort was made each time.

Follow these steps when using a peak flow meter:

- Make sure the indicator needle on the device reads zero at base level
- Stand up (unless there is a physical disability)
- The meter is held horizontally, taking care not to cover the indicator needle with the fingers, or the hand over the distant end of the meter
- Take as deep breath as possible
- Place the meter in the mouth, ensuring that there is a good seal around the mouthpiece.
- Blow out as hard and as fast as possible with a short sharp huff into the meter
- Do not cough, spit or let the tongue block the mouthpiece
- Check to see which number the indicator needle is showing and record this.
- Repeat the process two additional times, and record the highest of the three numbers in your chart.
- The reading is checked against the action plan to see if any changes in medication are indicated.

Keep a chart of peak flow recordings, with each day recorded in a column to indicate lung wellness.

Another measure of asthma control is called peak flow variability and refers to a peak flow that is in the personal best range during the day but in the morning may be very low. This is a strong indication of poorly controlled asthma and in

diagnosing asthma.

Peak flow meters need some care, so make sure to follow the cleaning instructions enclosed with each unit. This will help to ensure its accuracy. As different brands of meter may give a different result, it is a good idea that one takes their own peak flow meter with them when visiting their health care worker.

Using peak flow recordings with an action plan

Once the personal best peak flow is established, by working as a team with your practice nurse and GP you will be able to maintain a value within 80% of this number ensuring good control of asthma.

An action plan is likened to a traffic light system.

### Green Zone - Go! Asthma under control

Peak flow rate from 85-100% of personal best

- Breathing is good
- Using reliever less than 3 times a week
- Able to take part in activities

### Yellow Zone - Caution! Asthma is getting worse

Peak flow rate from 60-85%

- At first sign of a cold or flu
- Increasing breathlessness
- Coughing, wheezing or chest tightness during the day
- Waking up at night because of asthma symptoms

### Orange Zone - Medical Alert!

Peak flow rate 40-60%

- Very short of breath
- Difficult to breathe
- Cannot do usual activities
- Need reliever every 2 to 3 hours
- Wheezing sounds louder

### Red Zone - Emergency!!!

Peak flow below 40%

- Severe difficulty with breathing, walking or talking
- Blueness of lips or skin
- Exhausted due to the effort of breathing
- Wheezing stops suddenly

An action plan is an individualized plan as a guideline to recognizing asthma symptoms and what to do. It is to help take control of your asthma and breathe easy.

So at the end of the day it does help you, it is a hassle but the assurance you receive from knowing that your airways are wide open and healthy makes it worth while. Along with the benefit of knowing peak flow readings help health professionals to determine the severity of asthma.

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www.abouthealthandfitness  
www.cheo.on.ca



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References: 1. Zetterstrom O et al. Eur Respir J 2001; 18:262-268. 2. Bateman ED, et al. Am J Respir Med 2003; 2(3):275-281. **Symbicort® Turbuhaler® Abridged Information for Consumers.** Symbicort Turbuhaler is a combination product containing equivalent to budesonide 100µg or 200µg and eformoterol fumarate dihydrate 6 µg/dose. **Uses:** For the regular treatment of asthma (preventer and symptom controller). **Do not use if:** Allergy to Budesonide, eformoterol or inhaled lactose. **Cautions:** Thyroid or heart problems, diabetes, problems with potassium levels, pregnancy, breastfeeding. **Possible side effects:** Mild irritation in the throat, coughing, hoarseness, thrush (fungal infection in the mouth and throat), headache, trembling, fast or irregular heartbeat. Rarely, allergic reactions. **Medicine Classification:** Symbicort is a prescription medicine. Use strictly as directed. If symptoms continue or you have side effects consult your doctor, pharmacist or health professional. Consult your doctor to see if Symbicort is right for you. **Symbicort is fully funded under certain criteria. Your doctor's fee and prescription fee will still apply.** For full consumer information please refer to the manufacturer's Consumer Medicine Sheet available at www.medsafe.govt.nz. 29 October 2003. Trademarks herein are the property of the AstraZeneca Group. AstraZeneca Limited, PO Box 1301, Auckland. Tel (09) 623 6300 or Freephone 0800 363 200 Facsimile (09) 623 6301. TAPS NA9328. GREY AZC25612/O2

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# Continuing our Series on FREQUENTLY ASKED QUESTIONS ABOUT ASTHMA

COMPILED BY CHRISTINA VERCOE

Effective management of asthma should help in the recognition of 'when asthma is poorly controlled, minimize symptoms and restore and maintain normal lung function.' To help you achieve this Asthma New Zealand – the Lung Association continues with its' series on frequently asked questions.

## The questions in the last edition were:

- What is Asthma?
- What causes asthma?
- Will my child grow out of Asthma?
- Can asthma be cured?

## We continue on with:

- What medications are there and how do they function/work?
  1. Preventer medication
  2. Reliever medication
  3. Long Acting Bronchodilators (LABA's)
- Who needs to use a spacer?

## 1. What medications are there and how do they function/work?

Asthma medications may be divided into three groups.

### 1. Preventer medication:

As the name suggests these medications are designed to prevent asthma symptoms. They act by reducing the swelling and inflammation within the airways. (It is this swelling and inflammation which triggers the cough response and makes breathing difficult.

- Preventers (usually corticosteroids) are taken via an inhaler.
- Preventer inhalers are usually brown, orange or dark red.

- To be effective preventers should ALWAYS be used daily – whether or not you have asthma symptoms

### 2. Reliever medication:

Relievers work by relaxing the muscles in the walls of the airways. During exposure to a substance which triggers your asthma symptoms, the airways become tight (constriction) This bronchoconstriction results in chest tightness, wheezing and breathlessness – these symptoms are relieved by the use of the blue inhaler medication.

- Relievers should be used ONLY when you have asthma symptoms
- Recommended guidelines state if you need to use your blue (reliever) inhaler more than three (3) times in any week, (to relieve asthma symptoms)), you should let your doctor or nurse know.

### 3. Long Acting Bronchodilators (LABA's)

LABA's have a similar outcome to relievers in that they reduce constriction. They need to be taken together with preventers in the morning and at night.

- LABA's should never be used as a reliever in an emergency as the outcome could be fatal.
- When LABA medication is introduced into a regime it can often help to reduce the

## Continuing our Series on FREQUENTLY ASKED QUESTIONS ABOUT ASTHMA

amount of corticosteroid required to control asthma symptoms.

### 2. Who needs to use a spacer?

A spacer is a specially designed plastic tube which needs to be attached to a metered dose inhaler (MDI). The use of a spacer with an MDI (puffer) means that the effectiveness of your medication is increased.

- It is especially recommended that spacers are used by everyone who uses preventers (inhaled corticosteroids) via an MDI e.g. Flixotide or Beclozone.
- It is especially recommended children who use medication for asthma that is delivered through a MDI e.g. Flixotide or Beclozone use a spacer at all times.
- In addition children should also use a spacer for their reliever medications, e.g. Ventolin or Salamol.
- Anyone who has difficulty coordinating the timing of pressing down the top of the inhaler device and inhaling, (breathing in) the medication, will find a spacer helpful.



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# Will I get asthma?

Compiled by Debra Leutenegger

## One of the most commonly asked questions at the Parent and Child Show was: Will I get asthma or what is the chance that my child/baby will get asthma?

I wish there was a simple answer of yes or no, however we do know that although the likelihood for having asthma increases with a family history, we also know that anyone, at any age can experience an asthma episode and be diagnosed with asthma. Where there is a strong family history of allergy (atopy) such as, asthma, hay fever, eczema there will be a stronger tendency that a child in the family will develop asthma.

None of us are off the hook on this one. Therefore is there anything that we can do to help reduce our chances?

Evidence suggests that if the substance that

could cause an allergy (the allergen) is avoided in the first nine months of life, then the chance of the infant developing the allergy are reduced or eliminated. At least the onset of the allergic condition may be postponed until the child is better able to cope with it.

There are many risk factors that are not avoidable. These include inheritance and the male sex. Boys have an increased risk of allergy. In addition, children who have a low birth weight or who are born in the spring or early summer have a higher risk of allergy. Breast feeding for the first nine months of life, with no formula supplements has a protective effect against the development of asthma. There

is also evidence that there may be some benefit for breast feeding mothers to restrict cow's milk and eggs in their diet.

### During pregnancy:

- Go Smoke-free
- Smoking increases the risk of the baby developing allergic genes.
- Babies of non-smoking women have a healthier start in life. They are usually bigger than those of smoking women.
- Babies on non-smoking parents are less likely to be wheezy or get chest illnesses.
- Avoid certain food products which may have a high risk in triggering asthma and

## WILL I GET ASTHMA?



allergy related diseases in the infant. Eg. Avoid peanuts.

- Put a dust mite-proof cover on the baby's mattress, unless the mattress is plastic covered.
- Keep cats and other animals with fur out of your home.
- Many aspects of modern lifestyles - such as changes in housing and diet and a more hygienic environment - may have contributed to the rise in asthma over the last few decades, along with antibiotics in the first year of life.

### Asthma Prevalence in New Zealand

Currently 1 in 3 children and 1 in 7 adults have asthma. These numbers are increasing and to date we have more than 600,000 New Zealanders with asthma.

It may also be helpful to be aware that a study carried out by the Wellington Asthma Research Group found the highest prevalence of adult asthma in Auckland, Palmerston North, Wellington, Christchurch and Dunedin.

Researchers found high asthma prevalence rates of 18-23% in Clevedon, Papakura, Manurewa, Papatoetoe, Onehunga and Mangere in the Auckland area as well as Manawatu and Eastern Hutt in the Wellington region.

Considerably lower rates of 5-11% were found in most rural areas, such as the King Country, Matamata, Rotorua, Clutha, Rangiora, and Wallace. Exceptions were Raglan, Horowhenua and the Wairarapa, which had rates similar to the cities.

No matter where you live, anyone at anytime and at any age can develop Asthma. This article provides you with some knowledge on helping your child to avoid developing asthma, there is lots more advice Asthma New Zealand can give if you have any queries why not phone Asthma New Zealand – the Lung Association at 09 623 0236 and ask for Debra.

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www.aafp.org  
www.news-medical.net  
New Zealand Doctor – August 1997

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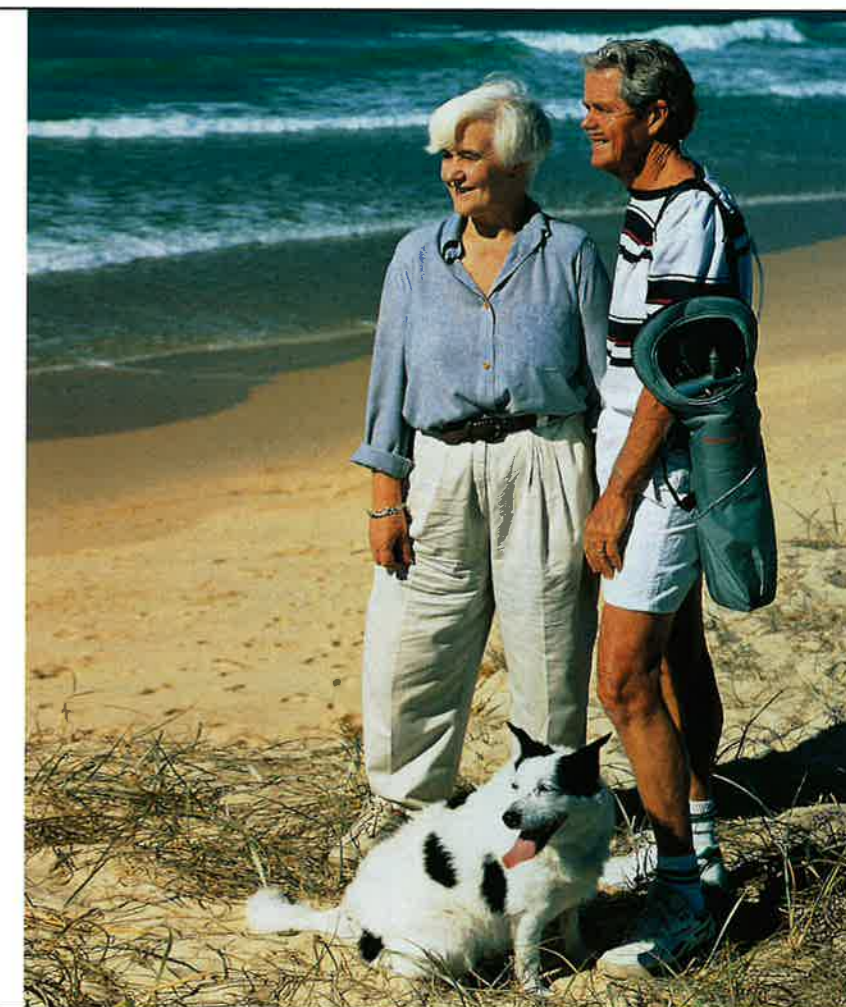
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# Sinusitis and Asthma – can they co-exist – and is there a connection?

Compiled by Ann Wheat

**The answer to the first part of the question is a simple 'yes' sinusitis can and often does co-exist with asthma. Therefore if these two conditions co-exist 'what is the connection?' First let's look at co-existence.**

## Statistics

Auckland Allergy Clinic (n.d.) (AAC) advises that 80% of patients with asthma have rhinitis symptoms, 5 – 15% of patients with perennial rhinitis will have asthma and 40 to 60% of people with asthma will show radiographic evidence of sinusitis. While asthma and sinusitis often co-exist, it is worth mentioning that sinusitis does not appear to increase the severity of asthma (University of Maryland Medical Centre, 2002), although asthma symptoms will often increase during episodes of sinusitis (Scadding, 1999).

## What is Sinusitis?

Sinusitis is where there is inflammation or infection of the paranasal sinuses (HealthLink, 2003). Sinusitis can also involve the mucous membrane of the nose (Braunstaal & Fokkens, 2003). Sinuses are air cavities within the facial bones, lined by mucous membranes similar to those in other parts of the airways. There are four pairs of sinuses within the skull and bones of the head. They are:

- Frontal sinuses over the eyes in the brow area
- Maxillary sinuses inside each cheekbone
- Ethmoid sinuses just behind the bridge of the nose and between the eyes
- Sphenoid sinuses behind the ethmoid sinuses in the upper region of the nose and behind the eyes (HealthLink, 2004).

Sinuses open into the nose which allows for the free flow of mucus into the nose. Any type of airborne trigger such as an infection, an allergic reaction or an immune response can affect the sinuses causing inflammation and swelling. These reactions can trap air in the sinuses resulting in an increase in secretions which may become purulent. All put pressure on the sinus wall and may cause intense pain in the different sinus areas.

## What are the clinical features of Sinusitis?

Some are:

- Facial pain will often show which sinuses are affected.
- Cough
- Headache
- Throat clearing or sore throat due to post nasal drip down back of throat
- Fatigue /malaise
- Bad breath
- Fever
- Stuffy nose, nose tenderness and swelling on the sides of the nose
- Swelling around the eyelids and tissues around the eyes as well as pain between the eyes (AAC, n.d., HealthLink, 2004)

Sinusitis may be acute or chronic. Normally, acute sinusitis will last a maximum of 12 weeks with complete resolution of symptoms. Acute recurrent sinusitis is typified by several episodes of sinus with complete resolution between each

one. Chronic sinusitis symptoms last longer than 12 weeks with occasional acute exacerbations (Muller, 2000).

## So What Causes Sinusitis?

Many of the triggers for sinusitis are also the triggers for asthma. Sinusitis can be caused as a result of nasal infections, bacterial or fungal infections. Chronic sinusitis can be non-infectious being caused by allergens and nasal polyposis (Muller, 2000).

## What is the Importance of the Link between Asthma and Sinusitis?

For some time it has been generally accepted that pathologic conditions of the upper airways, such as allergic rhinitis, chronic sinusitis and nasal polyposis can influence the lower airways although the mechanism has been poorly understood (Braunstaal & Fokkens, 2003). They go on to say that evidence is accumulating which indicates a systemic connection as one of the responsible mechanisms in nasobronchial crosstalk. Nasobronchial crosstalk is where the upper airway in affected when the lower airway becomes inflamed and vice versa. This means that if a person has chronic sinusitis, then the lower airway will be affected and asthma could be reduced. The implication therefore, is that to maintain good asthma control, sinusitis must also be treated adequately. This is supported by Muller (2000) " who goes on to mention that

## SINUSITIS AND ASTHMA – CAN THEY CO-EXIST – AND IS THERE A CONNECTION?

"prompt diagnosis and treatment of sinusitis are essential in the long-term management of chronic asthma".

## How is Sinusitis Diagnosed?

Initially a careful history is taken. This will cover the length of time a client has had symptoms, and what the symptoms are, such as where the facial pain is, fever, headache, fatigue, cough, post nasal drip causing sore throat, loss of smell, bad breath, aching in the upper jaw and teeth and runny nose or nasal congestion.

A skin prick test should be undertaken to see if any allergens are present.

The nose could be examined using either an otoscope or flexible rhinoscope.

CT (computerized tomography) scan of sinuses is now the radiographic choice for diagnosing sinusitis. (AAC, n.d.)

Finally, immunologic assessment can be undertaken for ImmunoglobulinG and ImmunoglobulinA levels if client has recurrent disease or bronchitis (AAC, n.d.). These will check for any underlying immune deficiency.

## Management of Sinusitis

Management will depend on whether the sinusitis is bacterial or allergic and whether it is acute or chronic.

## First line treatments include:

Nasal decongestants are given to reduce nasal swelling. These should be given no more than twice a day for two weeks. (ref ann please) Longer treatment can cause rebound symptoms of increased congestion and nasal swelling.

Antibiotics are given to control bacterial infections. AAC (n.d.) advise that these can be given for 21 days or longer until the client is well plus a further seven days.

Adequate fluid intake of 6 – 8 glasses of water a day is important. why

Pain relief can be given to reduce facial pain or aching in teeth and jaw.

If sinusitis is more difficult to control then the use of inhaled nasal steroids or oral steroids can assist in bringing the condition under control. Allergen desensitization can also help with some clients. Surgery may be an option for those whose sinusitis does not respond to treatment of over six months.

## Is there anything that can be done to help prevent sinusitis?

Yes, according to HealthLink (2004) it is possible to reduce the number and severity of sinus episodes and to possibly prevent acute sinusitis from becoming chronic.

## This can be achieved by:

- Using dehumidifiers)
- Using air conditioners) How do these reduce chronicity?
- Avoiding cigarette smoke and other air pollutants
- Avoiding triggers such as dust, mould, pollen
- Avoid drinking alcohol which can cause the nasal and sinus membranes to swell
- Avoid swimming in pools treated with chlorine.
- Avoid air travel

**In conclusion, sinusitis and asthma are very closely linked. Both are triggered by similar substances and each can have an effect on the other. It is very important to remember that by treating sinusitis effectively, will be beneficial in the management of asthma.**

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# North & South

NEWS FROM AROUND THE REGIONS

## Central & West COPD Groups 2005 Christmas Lunch with Nurse Educators June & Ann



The members of the West Auckland and Central Auckland Breathing Support groups enjoyed a Christmas luncheon held at Asthma Auckland's rooms. For the first time members were provided with a hot meal which was very much appreciated. A good time was had by all, with members leaving well satisfied and each with a small Christmas gift.

## North Shore COPD Group 2005 Christmas Lunch with Nurse Educator Debra



To start off the festive season, the members of the North Shore COPD group came together at the Browns Bay RSA and enjoyed a Christmas meal. There was a variety of meals to choose from, so everyone was able to personally select their favorite. A small gift was presented to each member.

## "A KNIGHT WITH A DAME"

Asthma New Zealand/the Lung Association held its' inaugural Christmas Cabaret Function on the 15th December of last year, the purpose of the event was to raise awareness of asthma and promote the work and successes of Asthma New Zealand.

The venue was the ASB Stand at Eden Park which the Eden Park Trust Board had gifted to us as part of their altruistic commitment to asthma.

The evening consisted of a three-course meal and various entertainment components from some of New Zealand's most notable personalities. Leading this group were Sir Howard Morrison and Dame Malvina Major. These two doyens of music enthralled the audience with their individual and duet performances and Sir Howard also featured with the Howard Morrison Quartet.

The audience was doubly blessed because of the late arrival of the Prime Minister of New Zealand, the Right Honourable Helen Clark. Sir Howard

and Dame Malvina graciously agreed to return to the stage and repeat some of their songs as a special tribute to the Prime Minister.

The hosting of the evening was shared by Television Personalities Kelly Swanson-Roe and Danny Morrison.

Danny conducted a one-on-one interview with boxing great David Tua who had given up his time to attend the evening to raise the awareness of asthma related problems in the South Auckland area.

Television and movie star, Temuera Morrison, was also present and he joined his uncle on stage to show off his singing talents.

As part of the promotional side of the night John Andrew Mazda generously donated a new vehicle at a significantly reduced price to be auctioned. As a result of the car selling on the night Asthma New Zealand received a \$1,000 donation from John Andrew Mazda.



Most of the staff of Asthma New Zealand and Asthma Auckland were present and they with all our guests on the night enjoyed a most pleasant evening.

**SOY FREE!**

**LACTOSE FREE!**

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with Calcium – PLUS Vitamins A, B12 and D.  
Calcium equal to milk.

**RICE DREAM** is

- Dairy Free
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Available from health food shops and supermarkets

Also available: Non-Enriched Rice Dream





# TAKING IT TO THE PUBLIC – THE ASTHMA CANTERBURY FAMILY FUN RUN

**“The 2005 Asthma Canterbury Family Fun Run was promoted by Asthma Canterbury as a means of enhancing the profile of the Society and creating an opportunity to raise funds to further asthma education in schools.**

Buoyed by the initial enthusiasm of the steering group comprised of Northwest Rotary Club members, (Hornby, Riccarton and Lincoln) and Canterbury Asthma Committee Members and supporters, an organizing committee was established in May to organize the event scheduled for November.

The staff of Asthma Auckland and Asthma New Zealand who have been running a similar event for the last 24 years gave invaluable support by allowing the Canterbury Group to piggy back on their ideas, procedures and contacts.

Enthusiasm for the establishment of the event was further enhanced when Riccarton Park Raceway kindly agreed to make their facilities available and the Riccarton Rotary Market and Riccarton and Hornby Rotary Clubs generously lent their support with a contribution of seed funding for the event.

Further support was obtained from the Eureka Trust, The Keith Laugesen Charitable Trust, The Lion Foundation, Metro Trust, BodyO2, Riccarton Rotary Charitable Trust, NZ Community Trust, and



Society members.

In tandem with this generosity many business gave their support by donating their products – we would like to thank Nestle for specialty coffees, Tui Campervans for the weeks holiday prize, Wellmarque Print for 50 caps, Cookie Time for the Square Meals, Anthony Harper Lawyers for a banner, Academy Funeral Services for a banner, as well as the other businesses listed below.

As a result of this support an extensive

advertising campaign was implemented with posters and entry forms mailed to all schools in the region and a five week advertising feature placed in the Christchurch Star.

Schools were offered an incentive to participate by a generous donation of a computer by Insite Computers to be awarded to the school with the most participants.

The event proved to be a wonderful success with some 400 participants entering the run,

# GWENDOLYN GRATY RGN DIPLOMA (ASTHMA AND COPD)

**Asthma Auckland would like to welcome Gwendolyn Graty to Asthma Auckland as an Asthma Educator. This takes education staff at the Auckland asthma society to five and growing.**

Gwendolyn did her nursing training in Rotorua, New Zealand before leaving on the “Big OE” in 1986. After 2 years of traveling she married a Londoner and has been working and living in London since.

Gwendolyn worked as part of The Haringey Primary Care Trust Respiratory Team in London as an Asthma and COPD Nurse Specialist. Gwendolyn was involved in establishing Asthma Clinics in local GP Surgeries and in the community.

Gwendolyn’s role also included visiting patients in their homes with severe Asthma and COPD, working closely with GPs and other members of the primary care team, providing a telephone service for patients, training Nurses and working into schools.

Gwendolyn, her husband and three children recently returned to the land of her birth and are living in West Auckland because she says the variety of cultures reminds her and her husband



of London. Gwendolyn feels passionate about the need for education in Asthma and COPD and because if this, she is looking forward to being part of the Asthma Auckland team and being involved in making a positive impact in Auckland.

Gwendolyn’s primary project will be advising practice nurses on setting up Asthma Clinics throughout the Auckland area.

... from page 14

encouraged by a large crowd of supporters.

Prior to the event Sue Morris from the New Zealand College of Fitness conducted a warm up session for participants and throughout the day entertainment was provided by free face painting, novelty balloon blowing, donkey rides, and a bouncy castle with refreshments provided by the Nestle coffee van, and a sausage sizzle manned by Hornby Rotary Club Members, with musical accompaniment provided by News Talk ZB.

Following the run Newstalk ZB Announcer, Mike Yardley, presented numerous spot prizes to contestants with the major prize of a week hire of a Tui Campervan being won by Nathaniel Wilson and the Insight Computer presented to the McKenzie Residential School for the most entries and the third major prize of a night and breakfast for two at the Clearwater Resort.

The first 300 participants all received generous race packs containing samples of sponsor’s products, so really everyone was a winner.

All this contributed to creating a wonderful atmosphere of family and fun enhanced by the safe and secure venue provided by the racecourse

facility.

However; ....there was a few anxious moments during the day...although we all laugh at them now.

One that comes to mind was at the beginning of the day I took the set of keys I was given two days before to unlock the several padlocks on the gates round the track only to find that the caretaker hadn’t given me all the keys – my heart leaped, what to do; the Caretaker was away from Christchurch on holiday - “No trouble” said a Rotarian, an employee of the Christchurch Fire Brigade, “I will phone the Fire Station and they will send a fire engine out to deal with the emergency”. Done. What a relief! Another incident of interest – we were patting ourselves on the back, saying how well it was all going only to look up and see numerous contestants running both ways around the out of bounds racetrack –maybe some people can’t read maps, especially men!

Thank you to all of you who helped make this event successful – we had 50 volunteers. The financial return is still being assessed as money

is coming in from wrist band sales and Trusts. The main success though is in the awareness and marketing that has been achieved. By the way, if you would like to purchase a wrist band they are available at the Warehouse Riccarton and the Asthma Rooms for \$3.

#### Other Generous Sponsors:

- Push Play NZ
- Primos Pizzas
- Harrington Gemtime Jewellers
- Body O2
- Allergen Services
- Robbies Restaurant
- Rolleston Warrants and Lubes
- Holiday Inn on Avon
- The Christchurch Casino
- Millennium Hotel
- Peter Thompson Motors
- Giftline Marketing Ltd
- Chateau on the Park
- Couplands
- Holiday Inn

Continued on page 15



Source: American Academy of Allergy, Asthma and Immunology.

# Allergic to dust mites?

## Find relief in this ad.

An astounding 1 in 6 adults and 1 in 3 children suffer from asthma. And for many of these people, the asthma is not under control.

Mattresses, pillows and bedding contain millions of dust mites that produce harmful allergens which trigger asthma and other allergic reactions.

The good news is effective **affordable** Allergy Relief Bedding is here.

HealthLoom™ has a range of mattress, duvet and pillow protectors that can help keep your asthma under control by providing effective relief from dust mites and their allergens.



**Asthma New Zealand recommends the use of allergy relief bedding covers for people with asthma and allergies.**

HealthLoom™ Anti Allergy Fabrics have been tested by a leading independent laboratory in New Zealand

for NZ conditions and found to be an effective barrier against the allergens produced by house dust mites.

Air and Moisture Pass Freely



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No Entry for Mites and Allergens

STOP you and your family from sleeping with allergy producing dust mites with HealthLoom.

HealthLoom™ Anti Allergy Bedding products are available from:

Asthma Auckland, 581 Mt Eden Rd, Mt Eden, Ph (09) 630 2293 or phone HealthLoom™ direct on 0800 869 357 or view online at [www.healthloom.co.nz](http://www.healthloom.co.nz) - brochures available.

Premium Cotton



Guardian



Comfort Plus



[www.asthma.org.nz](http://www.asthma.org.nz)

**Asthma New Zealand / The Lung Association has been caught in the WEB!**

The "Breathe Easy" Website was launched on the 17<sup>th</sup> February 2006.

To access the services of Asthma New Zealand/the Lung Association, Asthma Auckland and partner societies go to:

[www.asthma.org.nz](http://www.asthma.org.nz)

This exciting innovation from Asthma New Zealand has been quite some time in the production, but when you view it you will see it has been worthwhile. The web site developers have kept the site colourful, interesting, simple and direct so that up to date information can be accessed by a simple click of the mouse. If you do not have internet access, remember that most libraries have computers with internet access available to the public, so why not have a look and explore our website

The home page displays our "Breathe Easy" logo and has an EMERGENCY Signal so you can quickly access steps on "What to do in an asthma emergency".

There is also an A-Z asthma glossary, providing definitions for the most common words used in association with asthma and Chronic Obstructive Pulmonary Disease (COPD). Some examples of these: spacers, triggers, wheezing etc.

The asthma question section covers frequently asked questions. Many people have similar questions and concerns about their asthma – the answer you want may be here.

The website will promote current news and events. This will be regularly updated to keep you informed. This will include our COPD monthly meeting dates for the year.

From within the website, you will be able to move easily from the Breathe-Easy homepage to the

will endeavor to achieve this.

Of further interest is the ability to download copies of some of our pamphlets and in time we hope to be able to include a download of our quarterly journal "The NZ Journal of Respiratory Health" 02.

So it's now time for everyone to **GO SURFING** and experience the Breathe-Easy Site.



Asthma New Zealand- the Lung Association or to the Asthma Auckland homepages and back again.

We welcome any feedback you have regarding our website, including anything you think we should add. As you can understand, a website is a living document and requires maintenance to keep the information relevant and up to date. We

**ALLERGEN BARRIER BEDDING COVERS**  
PROVEN EFFECTIVE PROTECTION FROM DUST MITE ALLERGEN



**MiteGuard<sup>2</sup>**

**RECOMMENDED FOR MITE-ALLERGIC SUFFERERS OF ASTHMA, ECZEMA AND CHRONIC RHINITIS**

- PROVEN EFFECTIVE - Independently tested by Allergy Specialists
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# Home

## Protective Effect of Fish Oil Supplementation on Exercise-Induced Bronchoconstriction in Asthma\*

Timothy D. Mickleborough, PhD; Martin R. Lindley, PhD; Alina A. Ionescu, MD and Alyce D. Fly, PhD

\* From Human Performance and Exercise Biochemistry Laboratory (Drs. Mickleborough and Lindley), Department of Kinesiology, Indiana University, Bloomington, IN; Section of Respiratory Medicine and Communicable Diseases (Dr. Ionescu), University of Wales College of Medicine, University Hospital of Wales and Llandough Hospital, NHS Trust, Penarth, UK; and Department of Applied Health Science (Dr. Fly), Nutrition and Dietetics, Indiana University, Bloomington, IN.

Correspondence to: Timothy D. Mickleborough, PhD, Department of Kinesiology, Indiana University, 1025 E Seventh St, HPER 112, Bloomington, IN 47401; e-mail: tmickleb@indiana.edu

### Abstract

**Background:** Previous research has demonstrated that fish oil supplementation has a protective effect on exercise-induced bronchoconstriction (EIB) in elite athletes, which may be attributed to its anti-inflammatory properties. Since EIB in asthma involves proinflammatory mediator release, it is feasible that fish oil supplementation may reduce the severity of EIB in asthmatic subjects.

**Study objectives:** To determine the efficacy of fish oil supplementation on severity of EIB in subjects with asthma.

**Design:** Randomized, double-blind, crossover study.

**Setting:** Lung function and exercise testing in a university research laboratory.

**Patients and measurements:** Sixteen asthmatic patients with documented EIB entered the study on their normal diet and then received either fish oil capsules containing 3.2 g of eicosapentaenoic acid and 2.0 g of docosahexaenoic acid (fish oil diet, n = 8) or placebo capsules (placebo diet, n = 8) daily for 3 weeks. At the beginning of the study (normal diet) and at the end of each treatment phase, the following pre-exercise and postexercise measures were assessed: (1) pulmonary function; (2) induced sputum differential cell count percentage and proinflammatory eicosanoid metabolite (leukotriene C<sub>4</sub> [LTC<sub>4</sub>]-leukotriene E<sub>4</sub> [LTE<sub>4</sub>] and prostaglandin D<sub>2</sub> [PGD<sub>2</sub>]) and cytokine (interleukin [IL]-1β and tumor necrosis factor [TNF]-α) concentrations; and (3) eicosanoid metabolites leukotriene B<sub>4</sub> (LTB<sub>4</sub>) and leukotriene B<sub>5</sub> (LTB<sub>5</sub>) generation from activated polymorphonuclear leukocytes (PMNLs).

**Results:** On the normal and placebo diet,

subjects exhibited EIB. However, the fish oil diet improved pulmonary function to below the diagnostic EIB threshold, with a concurrent reduction in bronchodilator use. Induced sputum differential cell count percentage and concentrations of LTC<sub>4</sub>-LTE<sub>4</sub>, PGD<sub>2</sub>, IL-1β, and TNF-α were significantly reduced before and following exercise on the fish oil diet compared to the normal and placebo diets. There was a significant reduction in LTB<sub>4</sub> and a significant increase in LTB<sub>5</sub> generation from activated PMNLs on the fish oil diet compared to the normal and placebo diets.

**Conclusion:** Our data suggest that fish oil

supplementation may represent a potentially beneficial nonpharmacologic intervention for asthmatic subjects with EIB.

**Key Words:** cytokines • diet • eicosanoids • exercise-induced asthma • polyunsaturated fatty acids EIB exercise-induced bronchoconstriction

**New Zealand Comment:** This study shows that it may be worthwhile recommending fish oil supplements, not only for brain function but also for asthma! There is probably enough evidence now to warrant a trial of fish oil supplements to severe asthmatics not controlled with optimal pharmacological therapy.



## KEEPING YOU INFORMED

Enrol now for a free copy of the NZ Respiratory Research Review

By David Cadzow



Richard Beasley

A free copy of an exciting new independent publication is now available in New Zealand. The Respiratory Research Review is a monthly summary of the 10 most significant respiratory research studies from around the world.

Local researcher Dr Shaun Holt has teamed up with respiratory specialist Professor Richard Beasley to produce the monthly publication. It helps continuing education in respiratory medicine by bringing the 'must see' research to those enrolled and saving hours of reviewing international journals to find what really matters.

Respiratory Research Review will interest specialists, GPs and nurses working in the area and people with respiratory illnesses who share the medical community's acute interest in the subject.

Research is summarised from the world's leading and most credible independent journals. Most importantly the Review provides local

commentary from Professor Beasley on the local implications of these studies and why they make a difference to New Zealanders lives.

The first edition covers research affecting asthma, COPD, lung cancer, pneumonia, sleep apnea, and potential health supplements with now proven therapeutic benefits. The Review team is happy to accept submissions from local people who have led research they think stacks up on the world stage – if it makes the grade, you might see it in the next edition.

The Review is delivered each month by email and has been developed in a fresh, easy to read format as a PDF file attachment. Each research review provides email links to the full research trial to help you find more details if you need them.

All you have to do is send an email to [office@researchreview.co.nz](mailto:office@researchreview.co.nz) to enroll for the next edition.

### Attention: All Children In Auckland Who Have Asthma Breathe Easy!!!



Is your child between 7- 13 years?  
Does your child have asthma?  
Do you live in the Auckland area?



If the answer to these questions is "yes" read on .....

#### Why?

Asthma New Zealand needs **volunteers** to participate in a study which is investigating the benefits obtained from taking a natural product made from a marine substance, on children who have asthma. The only known side effect of taking this natural product is (in some participants only) slight itching. Allergic reactions are therefore not anticipated. Children with moderate to severe asthma who are taking inhaled corticosteroids are required. Children must be able to swallow capsules in order to participate, as there is no alternative form of medication. As the child's parent or guardian you will be asked to provide written informed consent before enrolling in the trial.

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

To find out more or to enrol please contact Rochelle at  
Asthma New Zealand/the Lung Association ph 09 623 0236,  
or email [aas@asthma-nz.org.nz](mailto:aas@asthma-nz.org.nz)



## Time trends in obesity among adults with asthma in the United States: findings from three national surveys.

Ford ES, Mannino DM *J Asthma*. 2005 Mar; 42(2):91-5

**Background/Summary:** Obesity may affect the respiratory health of people with asthma. Because the temporal trends in the prevalence of obesity among people with asthma have not been described in the United States, our objective was to describe these trends. Using data from National Health and Nutrition Examination Survey (NHANES) I (1971-1975), II (1976-1980), and III (1988-1994), the authors examined changes in the prevalence of obesity during the period covered by these surveys.

**Conclusion:** The age-adjusted prevalence of current asthma was 3.5% for NHANES I, 3.1% for NHANES II, and 5.2% in NHANES III. Among people with current asthma, age-adjusted mean body mass index increased from 26.1 kg/m<sup>2</sup> in the NHANES I to 28.0 kg/m<sup>2</sup> in NHANES III, and the age-adjusted prevalence of obesity increased from 21.3 to 32.8%. Among people without asthma, age-adjusted mean body mass index increased from 25.4 kg/m<sup>2</sup> in NHANES I to 26.6 kg/m<sup>2</sup> in NHANES III, and the prevalence

of obesity increased from 14.6 to 22.8%. These results show that people with asthma are far more likely to be obese than people who do not have asthma. Because excess weight may adversely affect the respiratory health of people with asthma, weight management for overweight and obese patients with asthma may be an important component in the medical care of these patients.

## Asthma and allergies in children:

Wing A. *Journal of Family Healthcare*, 2005; 15, 4, 121-123.

**Background/Summary:** This paper presents an overview of the relationship between asthma and allergies in children. In the UK, the prevalence of asthma and other allergic conditions in children is one of the highest in the world. Asthma is the commonest chronic disease of childhood.

If health professionals have clear goals for management and treatment, and enlist patients and their families as partners in care, children's health and quality of life can be greatly improved.

**Conclusions:** The authors emphasize that allergic rhinitis, including hay fever, requires specific

diagnosis, identification of the trigger factors and appropriate treatment. They also point out that treating allergic rhinitis in patients with asthma has been shown to help reduce asthma symptoms and acute episodes.

## Changes in indoor allergen and fungal levels predict changes in asthma activity among young adults.

Matheson MC, Abramson MJ, Dharmage SC, Forbes AB, Raven JM, Thien FC, Walters EH

**Background:** Exposures to allergens are thought to be important risk factors for asthma. We conducted a longitudinal study of indoor allergen and fungal levels in Melbourne homes between 1996 and 1998 to examine the effect of changes in allergen exposure upon asthma and associated outcomes.

**Methods:** Participants were visited at home in 1996 (n=485) and 1998 (n=360), when dust and air samples were collected from their bedrooms and assayed for Der p 1, Fel d 1, ergosterol and fungal propagules. Subjects then attended the lung function laboratory to complete

a questionnaire, spirometry, methacholine challenge and skin prick testing. The associations between the change in allergen levels and change in clinical outcomes were examined using multiple logistic and linear regression.

**Results:** Participants whose *Cladosporium* fungal exposure doubled had 52% greater odds of having had an attack of asthma in the last 12 months. A doubling of fungal exposure was also associated with 53% greater odds of developing atopy. A doubling of Fel d 1 floor levels was associated with 73% increased odds of doctor-diagnosed asthma. A doubling of Der p 1 levels in

bed dust was associated with a 64% greater odds of persistent bronchial hyper-reactivity.

**Conclusions:** These findings provide evidence that changes in indoor levels of fungi and house dust mites can affect the risk of development and persistence of asthma and atopy in adults. Further studies are required to establish any benefit of sustained reductions in indoor allergen exposures, and to determine whether these effects are truly 'allergic' or because of immune stimulation in the airway through other less specific mechanisms.

## Fast foods - are they a risk factor for asthma?

Wickens K, Barry D, Friezema A, Rohdius R, Bone N, Purdie G, Crane J, *Allergy*, 2005; Dec; 60(12):1537-41



**Background:** Lifestyle changes over the last 30 years are the most likely explanation for the increase in allergic disease over this period. **AIM:** This study tests the hypothesis that the consumption of fast food is related to the prevalence of asthma and allergy. **METHODS:** As part of the International Study of Asthma and Allergies in Childhood (ISAAC) a cross-sectional prevalence study of 1321 children (mean age = 11.4 years, range: 10.1-12.5) was conducted in Hastings, New Zealand. Using standard questions we collected data on the prevalence of asthma and asthma symptoms, as well as food frequency data. Skin prick tests were performed to common environmental allergens and exercise-induced bronchial hyperresponsiveness (BHR) was assessed according to a standard protocol. Body mass index (BMI) was calculated as weight/height<sup>2</sup> (kg/m<sup>2</sup>) and classified into overweight and obese according to a standard international definition.

**Results:** After adjusting for lifestyle factors, including other diet and BMI variables, compared with children who never ate hamburgers, we found an independent risk of hamburger consumption on having a history of wheeze [consumption less than once a week (OR = 1.44, 95% CI: 1.06-1.96) and 1+ times a week (OR = 1.65, 95% CI: 1.07-2.52)] and on current wheeze [consumption less than once a week (OR = 1.17, 95% CI: 0.80-1.70) and 1+ times a week (OR = 1.81, 95% CI: 1.10-2.98)]. Takeaway consumption 1+ times a week was marginally significantly related to BHR (OR = 2.41, 95% CI: 0.99-5.91). There was no effect on atopy.

**Conclusions:** Frequent consumption of hamburgers showed a dose-dependent association with asthma symptoms, and frequent takeaway consumption showed a similar association with BHR.

## Directly measured second hand smoke exposure and asthma health outcomes

M D Eisner, J Klein, S K Hammond, G Koren, G Lactao and C Iribarren *Thorax* 2005; 60:814-821; doi:10.1136/thx.2004.037283a

**Background:** Because they have chronic airway inflammation, adults with asthma could have symptomatic exacerbation after exposure to second hand smoke (SHS). Surprisingly, data on the effects of SHS exposure in adults with asthma are quite limited. Most previous epidemiological studies used self-reported SHS exposure which could be biased by inaccurate reporting. In a prospective cohort study of adult non-smokers recently admitted to hospital for asthma, the impact of SHS exposure on asthma health outcomes was examined.

**Methods:** Recent SHS exposure during the previous 7 days was directly measured using a personal nicotine badge (n = 189) and exposure during the previous 3 months was estimated using hair nicotine and cotinine levels (n = 138). Asthma severity and health status were ascertained during telephone interviews, and subsequent admission to hospital for asthma was determined from computerised utilisation databases.

**Results:** Most of the adults with asthma were exposed to SHS, with estimates ranging from 60% to 83% depending on the time frame and methodology. The highest level of recent SHS exposure, as measured by the personal nicotine badge, was related to greater asthma severity (mean score increment for highest tertile of nicotine level 1.56 points; 95% CI 0.18 to 2.95), controlling for sociodemographic covariates and previous smoking history. Moreover, the second and third tertiles of hair nicotine exposure during the previous month were associated with a greater baseline prospective risk of hospital admission for asthma (HR 3.73; 95% CI 1.04 to 13.30 and HR 3.61; 95% CI 1.0 to 12.9, respectively).

**Conclusions:** Directly measured SHS exposure appears to be associated with poorer asthma outcomes. In public health terms, these results support efforts to prohibit smoking in public places.



# SCHOOL DAY? OR ASTHMA DAY?

In a recent study of 3,421 people, in centres all around the world, most people showed they could markedly reduce their asthma symptoms. So if you are losing days off work or school to your asthma: **ask your doctor if you can manage asthma better.**

**MAKE  
TOTAL  
CONTROL  
YOUR  
ASTHMA  
GOAL**

**AN ASTHMA HEALTH  
INITIATIVE FROM:**

**Flixotide**   
*fluticasone propionate*

Reference: 1. Bateman ED et al, Am J Resp Crit Care Med. 2004;170:836-844.

**Flixotide** (fluticasone propionate Inhaler; 25, 50, 125 or 250 micrograms per actuation and Accuhaler 50, 100, 250 microgram per actuation). **Prescription Medicine for the prevention of asthma. Do not use:** if you have ever had an allergic reaction to fluticasone or lactose; for sudden attacks of breathlessness. Always carry your reliever inhaler for use during acute attacks. **Tell your doctor if you:** are taking other medicines or herbal remedies; have had to stop taking other asthma medicines; you have tuberculosis (TB) or other long-term lung infection. **Do not discontinue Flixotide suddenly** without consulting with your doctor. **Common side effects:** sore throat or tongue, hoarseness or throat irritation, skin reactions, shortness of breath and wheezing. Tell your doctor or pharmacist immediately if you have any concerns. **Use Strictly as directed. Ask your doctor if Flixotide is right for you. Normal Doctors visit fees apply. Flixotide inhalers are fully funded medicines, normal chemists fees apply. Flixotide Accuhaler is not fully funded. A part charge will apply to Flixotide Accuhaler. If symptoms continue or you have side effects see your doctor or pharmacist.** Flixotide is a trademark of the GlaxoSmithKline group of companies and is marketed in New Zealand by GlaxoSmithKline NZ Ltd, Auckland. **Additional product information is available from GlaxoSmithKline on 0800 808 500; Consumer Medical Information on Flixotide is available at the Medsafe website: [www.medsafe.govt.nz](http://www.medsafe.govt.nz) under Consumer Information.**



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## Don't be sidelined by asthma!



Nexus6 is a New Zealand company that has developed a range of products to help:

- people to manage their or their child's asthma,
- the health care professionals who look after them,
- respiratory researchers who study asthma.

This article discusses these solutions, and how they offer a fresh approach to a long term problem.

There is currently no cure for asthma, so the only practical option is to manage it. Traditionally it is managed through the use of reliever and/or preventer medications. Fortunately, today's medications are effective for the greater majority of people with asthma.

Yet despite the availability of wonderful medications, a number of observations suggest asthma remains a serious burden on New Zealanders lives:

- New Zealanders use in excess of 1 million puffs of reliever medication per day (The Herald, 28/01/2004)
- 90% of New Zealand adults and children with asthma experience sub-optimally controlled asthma (Patient Outcomes Management Survey [POMS], 2001)
- Asthma costs are estimated to be in excess of \$800m per year (The Burden of Asthma in New Zealand, 2001)

Managing asthma is not easy. There are many things that need to be understood - different types of medications to be used at different times for different reasons, peak flow measurements, action plans, steroids, spacers, nebulisers, breathing techniques, seasonal variations and triggers!

In short, there is a need for a solution that simplifies the management of asthma for the person trying to deal with their asthma in the home. People with diabetes have had these solutions for decades, so why not people with asthma?

That's the problem New Zealand high technology company Nexus6 Ltd has solved with the launch of their award winning self management solutions. These solutions are for anyone trying

to manage their own asthma, or their children's asthma.

The flagship solution is called the "Personal Asthma Manager", which is a package that provides everything needed to simplify and improve the management of asthma:

- A smartinhaler for use with a reliever
- A smartinhaler for use with a preventer that contains a reminder beeper
- A digital peak flow meter
- A Personal Asthma Management software application that
  - stores and graphs medication use collected by the smartinhalers
  - stores and graphs peak flow measured by the digital peak flow meter
  - provides an asthma action plan for personalising by the Doctor
  - provides asthma educational content
  - produces a 1 page colour summary report that can be printed to discuss with the Doctor so they can help identify ways to improve and optimise the management of your or your child's asthma.
  - shows the latest daily asthma news live from the internet

The smartinhalers are special inhalers that contain a mini computer. They are used just like a traditional metered dose inhaler (MDI) and use standard medications. The mini computer inside the smartinhaler remembers when medication is used, and when convenient this can be uploaded in to the Personal Asthma Manager software. This software visualises key information, graphing the medication usage versus the peak flow recorded by the digital peak flow meter.

The Personal Asthma Manager package is useful as the key to great asthma management is education, and the Personal Asthma Manager helps people to understand their (or their child's) individual type of asthma.

Poor adherence to prescribed medication (not taking medications as prescribed) is often an underlying cause of sub optimally controlled asthma. Many asthma studies have shown less than half of the prescribed preventer doses are taken on average. Even the best medication won't work if it isn't taken, and studies have shown



that lower preventer adherence is associated with worse outcomes, including an increased risk of mortality.

More often than not, people over estimate their adherence and accordingly experience a return of their asthma symptoms. This is something the smartinhaler can easily help to identify as shown in the reports produced. For example, the smartinhaler can highlight the amount of preventer actually used, and show just how much reliever is being used, which can often be far more than the 2 x 2 rule ( that is: 2 puffs per week or 2 canisters of reliever per year), as proven by the million puffs of reliever used every day in New Zealand. Here the smartinhaler can really make a huge difference as the smartinhaler used with the preventer contains a reminder beeper that can be programmed to remind the person with asthma (or their parent) to administer the preventer should they forget. This feature has been proven in clinical trials to be highly successful. People who use this feature rate it as "extremely useful". It even contains a weekend reminder so as to enable a sleep in!

Smartinhalers have been used extensively in New Zealand and overseas in clinical trials and are advancing the management and understanding of asthma around the world. The self management products retail from between \$99.50 and \$199.50 and are now available in New Zealand at participating asthma societies and pharmacies.

In addition, Nexus6 has developed a solution for respiratory specialists, GPs, and asthma nurse educators called the Asthma Management Analyser. This clinical tool is owned by the surgery and used to quantitatively optimise asthma management on an individual client basis. For a list of asthma societies and pharmacies retailing the product range, or for any other information please **phone +64 (09) 3072771** or **email [contact@nexus6.co.nz](mailto:contact@nexus6.co.nz)**, or visit the **website at [www.nexus6.co.nz](http://www.nexus6.co.nz)**.

# Can Dietary Factors Increase Pulmonary Health?

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Over 15% of adult New Zealanders are affected by asthma and the overall incidence of asthma in Aotearoa is rising (1). The incidence of asthma is slightly higher amongst Maori than non-Maori, and slightly lower in Pacific Island adults, but morbidity, including the rate of hospitalization, is twice as high for Maori as non-Maori. Many lifestyle, socio-economic, educational, cultural, healthcare and genetic factors influence asthma prevalence in any ethnic group (2). Improving the nutritional status of the NZ population is a key Health Strategy objective. It is generally recognised that dietary environmental exposures play a dominant role in the etiology of asthma. Clearly the rapid increase in asthma and atopic diseases cannot be attributed to alterations in genetic susceptibility. In fact, change of diet is one of several casual factors implicated in the incidence trend, and in the past two decades the evidence base for the

relation between diet and asthma has increased substantially. In this article I will present a summary of the literature relating to diet and asthma, and identify dietary strategies that may have some practical application for asthmatics. Defining asthma is difficult, therefore dietary studies have used many different outcome measures. For this discussion I have mainly concentrated on research using self-reported diagnosed asthma, wheeze, or airway hyper-responsiveness, because impairment of FEV and symptoms of cough and breathlessness, particularly in the later years of the lifecycle are also strongly associated with chronic obstructive pulmonary disease (COPD). When we evaluate the literature on diet and asthma we expect to find a spectrum of levels of evidence, from the 'it worked for me/us' (anecdote and ecological analysis) through

cross-sectional and longitudinal observation studies (watching groups of people and observing changes in their health) to randomised controlled trials. As with many nutritionally related illnesses, the amount and diversity of evidence decreases with the increasing level of study design. So what type of foods and/or nutrients found in our food supply are most strongly implicated in asthma? Currently a number of observational and experimental studies have supported the putative mechanisms of some vitamins, minerals, flavonoids (plant chemicals with antioxidant properties) and some types of essential dietary fats. The most extensively investigated vitamins and their effects on asthma are the antioxidant vitamins A/beta Carotene, C, and vitamin E. Some of these vitamins have been shown to have some anti-inflammatory and anti-allergic

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## CAN DIETARY FACTORS INCREASE PULMONARY HEALTH?

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effects, all helpful in the management of asthma. The results of some studies have suggested that antioxidants, particularly the aforementioned vitamins may protect against the development of asthma. The Nurses' Health Study found that a high dietary intake of vitamin E is associated with a significantly reduced risk of late-onset asthma. However, this study only defined asthma through self reporting only and no information was present on atopy (3).

Of the vitamins, vitamin C is the most extensively investigated nutrient, where it has been shown in several case-control and cross-sectional studies to be associated with a reduced risk of asthma (3-5, 7,8,9). Currently, there is inconclusive evidence for vitamin C to be given for protection against ozone-induced bronchoconstriction in asthma (13, 14), however randomised trials have shown some protection when vitamin C is given in combination with other antioxidants (vitamins, minerals)(15). A 100mg increase in vitamin C intake a day (through fruit) is associated with an approximately 10-50 ml increase in FEV(4).

**Foods high in vitamin C include blackcurrants, green peppers, orange juice, cabbage, spinach and cauliflower. If these foods are cooked excessively you can lose 100% of the vitamin C content.**

Vitamin E is effective when given with other antioxidant vitamins (vitamins A/beta carotene and C) in protecting against ozone effects in asthma (10), however on its own there is no evidence of clinical benefit (17). There is some longitudinal evidence that a high dietary vitamin E intake is associated with reduced asthma incidence (16).

**Foods high in vitamin E include olive, almond and other vegetable oils, avocados, seeds and some wholegrains. There is approximately 55% loss of vitamin E through cooking.**

Vitamin A and beta carotene (a plant source of provitamin A) has been shown to have a limited protective effect against asthma incidence(5-7). There is however two randomised clinical trials, both from the same research group. Both trials report evidence of protection against exercise-induced bronchoconstriction after 1 week of supplementation by either a natural source of vitamin A (18), or a food extract (tomatoes) rich in lycopene (19, 20).

**Foods high in vitamin A and beta Carotene include cod liver oil, carrots, egg yolk, kumara and spinach. Maximum loss of vitamin A through cooking – 30-40%.**

Minerals are elements found in foods. There is some literature relating to the individual benefits of particular minerals on pulmonary health. Magnesium has several biological effects of potential relevance to asthma, including bronchodilatation when given intravenously in acute severe asthma (32). There is also strong cross-sectional epidemiologic evidence of protection by dietary magnesium against asthma (5-8), possibly through relaxation of the bronchial smooth muscle. Two observational studies showed a beneficial effect of magnesium on lung function, airway reactivity or wheezing. In terms of supplementation, a substantive clinical trial published only in abstract showed no evidence of benefit (33, 34).

Selenium is involved in antioxidant defences as a coenzyme in glutathione peroxidase. Early case-control studies demonstrated decreased selenium intake and serum levels in patients with asthma in NZ (5-7). This finding has been confirmed in the United Kingdom (29), but was not confirmed in Spain (30). NZ soils are generally considered to be low in selenium, which affects the concentration in food. Selenium status has, however increased in parts of NZ over the past decade. The only available randomised placebo-controlled trial involved 14 weeks of supplementation in 24 patients with asthma, and found no evidence of improvement in clinical assessments of asthma control (31). On review of the literature I would conclude that there is potential beneficial effects from dietary selenium intake, however further investigation is required.

**The principle sources of selenium in the NZ diet are fresh fish, seafoods, wholegrain breads. Meat, poultry and eggs are also good sources. Aim for three servings of fish per week and limited eggs to 4 per week. Use wholegrain breads instead of refined flour (white bread) as selenium is lost through the milling process.**

Sodium is found in many foods, with the majority of sodium (85%) found as added salt to processed or manufactured foods. Early epidemiological evidence suggesting that a high sodium intake may be associated with increased airway responsiveness (5-8) has led to several intervention studies of sodium supplementation and/or restriction. The research suggests that the effects of sodium are limited to individuals with asthma; however, current research has not provided conclusive evidence that sodium improves asthma (34-35). There is some literature that sodium loading exacerbates hyper-responsiveness (36).

Prepare meals with minimal salt added. When purchasing food and drinks that have been prepared away from home, choose those that are low in salt. It is important to use iodised table salt in limited amounts.

Fatty Acids are types of fats naturally found in many foodstuffs. Research into fatty acid effects has focused on two main areas: intake of omega 3 fatty acids from fish oils, which are potentially beneficial, and of omega 6 and the harmful trans fatty acids, which are detrimental to asthma (5-8). The observational evidence on fish oil effects has been relatively consistent in demonstrating protection against asthma and/or allergy in relation to high intake, though the clinical trial evidence is less strongly conclusive (37, 38). The fatty acids in fish act as competitive inflammatory mediators, possibly acting by reducing bronchial smooth muscle inflammation. Similarly, ecological and other cross-sectional data support the hypothesis that omega 6 fats may increase asthma risk (39-41), and other studies indicate that full fat cream and butter (rich in saturated fats) is associated with a reduced risk of asthma in young children (21, 42).

**The principle dietary sources of total fat in the NZ diet are butter and margarine fat; potatoes and kumara cooked in fat or oil, beef and veal, milk, cakes and muffins, pies and pastries, and processed meats. Dietary fat tastes good, so reducing total dietary fat content is difficult to achieve. Good sources of omega 3 fats are fish, mussels, crab and other seafoods, flax seeds, soy milk, canola oil and linseed enriched breads. Omega 6 fats are relatively easy to consume in the diet as these fats are widely distributed. There is some ecological data suggesting we are consuming an abundance of omega 6 fats in relation to limited amounts of omega 3 fats. The majority of the dietary sources of fat in the NZ diet are rich in omega 6 fats.**

The findings across studies are still inconsistent for many dietary factors, which may lead to the conclusion that they result from random variation. There are several possible explanations for the inconsistent findings relating to diet and respiratory disease (43). A review of the original data may produce some consistency of the findings. It may also be possible that any beneficial effect of diet is mediated through the combined effect of several nutrients, rather than any one or small group alone (44-48). An extensive 'polypill' approach to asthma management may provide some benefit, although the lack of any impact of an antioxidant

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vitamin/mineral cocktail on asthma admissions in the Heart Protection Study suggests that the protective effect on acute airway responses does not translate into clinical benefit (49).

The benefit of diet on asthma may be from the combined nutritional value in particular foods or combined effects of foods in a healthy diet. Information on a protective effect of foods, or a dietary pattern, is more useful for the development of dietary guidelines and provides a rationale for 'upstream' approaches to population health.

Community fruit and vegetable interventions aimed to work with schools, may show a beneficial effect on lung function. Fruit and vegetable intake is probably the 'best bet' from available evidence, as data suggests that a high intake of fruits and vegetables enhances ventilatory function and thus provides a protective effect on pulmonary health (21-27). Together with the antioxidant/flavonoids plausible underpinning mechanism, findings have begun to build a new evidence based for encouraging children (28), in particular, to eat more fruits and vegetables, especially those rich in vitamin C and flavonoids. This could help prevent asthma and possibly control many other diseases that occur later in life.

**Eat at least 5 – 6 servings of fruit and vegetables per day; at least 4 servings of vegetables and at least two servings of fruits. A serving is about a handful. Fruits and vegetables can include frozen, canned and dried, but fresh is best. Only one serving of vegetable or fruit juice or dried fruit counts.**

**Food and Lifestyle Prescription for Pulmonary Health**

- Eat plenty of fruits and vegetables – especially the coloured varieties,
- Eat plenty of cereals and wholegrains,
- Include at least 3 servings of fish and other oily seafoods per week,
- Low fat yoghurt is a healthy milk product to consume every day,
- Avoid bakery products such as biscuits, cakes, muffins, pies and other pre-prepared foods and snacks
- Consume foods low in sodium, if using salt choose iodised salt.
- Maintain a healthy body weight by eating healthy foods regularly and by daily physical activity.

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## Chronic obstructive pulmonary disease: a phenomenological study of patients' experiences

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### Chronic obstructive pulmonary disease: a phenomenological study of patients' experiences

**Aim.** The purpose of this study is to explore the experience of living with chronic obstructive pulmonary disease by investigating the subjective phenomenon as described by the patient.

**Background.** Chronic obstructive pulmonary disease is now recognized as one of the most common chronic respiratory diseases in the United Kingdom, with a high prevalence of morbidity and mortality. As the disease progresses, symptoms increase which gradually influence all aspects of the lives of those affected by it.

**Method.** A phenomenological approach was identified as the most appropriate method to gain an understanding of living with chronic obstructive pulmonary disease. The data were obtained from 10 participants using unstructured interviews to capture detailed experiences verbatim. Analysis, based on the framework of Diekmann et al. (The NLN Criteria for Appraisal of Baccalaureate Programs: A Critical Hermeneutic Analysis, NLN Press, New York, 1989), was employed to interpret the data and determine shared themes that evolved during the course of the research.

**Results.** The data revealed valuable insights, from a patient's perspective, into the impact chronic obstructive pulmonary disease had on their daily lives. The accounts obtained from participants, many of who had severe chronic obstructive pulmonary disease, illustrate the detrimental effects of this debilitating disease. Breathlessness was identified as the most troublesome symptom leading to anxiety, panic and fear. Participants

also described feeling frustrated and tired because of their breathlessness, which led to loss of social activity. This also resulted in a loss of their role within the family including loss of intimacy in personal relationships. Despite this, half of the participants felt they had a fairly good quality of life.

**Conclusion.** The use of phenomenology as a research methodology fulfilled the aim of gaining a greater understanding of the experiences of living with chronic obstructive pulmonary disease. It provided valuable insights into how patients view the overall impact and their subsequent degree of coping with chronic obstructive pulmonary disease from day to day.

**Relevance to clinical practice.** Whilst there is no cure for chronic obstructive pulmonary disease and medical interventions have limited effect, health professionals can do much to improve patient's symptoms and experiences of living with chronic obstructive pulmonary disease by listening to how their symptoms affect them and adapting coping strategies. It is hoped that the themes revealed in this study generate additional understanding and insight for future innovative practice.

### Introduction

Chronic obstructive pulmonary disease (COPD) is one of the most common chronic respiratory diseases in the UK and is a major cause of morbidity and mortality (Halpin 2001) caused predominantly by cigarette smoking (Fletcher & Peto 1997). COPD is a disease affecting the airways, which leads to irreversible airflow obstruction due to chronic bronchitis, emphysema or chronic asthma.

To demonstrate the seriousness of this condition The Fourth National Morbidity Study (1992) calculated that 60 000 people in the UK are diagnosed with COPD, providing an overall prevalence of 1% (Bellamy & Booker 2000). Approximately 26 000 people die from this disease each year in England and Wales (British Thoracic Society 1997), which is just over one in 20 of all deaths (Halpin 2001). This results in considerable morbidity, impaired quality of life, time off work, increased hospital admissions, and general practitioner (GP) consultations than asthma alone (Bellamy & Booker 2000). It is predicted that, in <20 years, COPD will be the fifth leading medical burden within society worldwide (Lopez & Murray 1998).

Although COPD is a common respiratory disease, in the past it has not generated the same enthusiasm as heart disease or asthma. COPD has largely been ignored and labelled the 'Cinderella respiratory disorder' (Crockett 2000). COPD patients are often described as 'heart-sink' cases, because little can be done medically for them (Halpin 2001) in terms of a cure or treatment due to the extent of permanent damage to the lungs.

Breathlessness is one of the major symptoms of COPD, which has an insidious onset with compensatory behaviour to reduce symptoms (Barnes 1999) which many patients relate to the ageing process or lack of fitness. Many patients do not consult their GPs until they are severely breathless which, when assessed, often show a loss of usually 50% of their total lung function (Crockett 2000). This gradual onset eventually affects daily activities of living (Bellamy & Booker



2000), which may ultimately lead to increased dependency and social isolation.

The purpose of this study is therefore to explore the experience of living with COPD and to describe the subjective phenomena as presented by the patient. This is to ensure that the data, extracted through each individual's experience (Fareed 1996), is an accurate reflection of that experience described in the participant's own words. To gather this information, 10 unstructured interviews were conducted within the patient's home. Analysis based on the framework of Diekmann et al. (1989) was employed to interpret the data and determine shared themes that evolved during the course of the research.

### Literature review

The literature search conducted was from 1990 to 2003 using the Cumulative Index to Nursing and Allied Health Literature and Royal College of Nursing electronic databases. Much of the research data into COPD appeared to be mainly medical, quantitative studies using either randomized or cross-sectional methods, carried out both overseas and in the UK. This review revealed five main themes relating to quantitative studies of patients with COPD, which were breathlessness, quality of life issues, psychological factors, fatigue and the impact of COPD.

Gift (1990) describes breathlessness as a complex, multidimensional phenomenon with interrelated physiological, psychological and sociological components. It is a frightening and distressing symptom that patient's experience like pain, is rather subjective and therefore can only be interpreted by the person experiencing it despite medical attempts to measure/quantify it.

Research in this area has largely been hindered by the subjectivity of the sensation, which is difficult to quantify with its gradual onset influencing the patient's perception more than the severity as Davis (1993) concluded in her quantitative paper using questionnaires to investigate the prevalence of symptoms among COPD sufferers.

The term 'quality of life' is used widely in the literature and offers various definitions to clarify this concept. Oleson (1990) suggests it is a subjective perception of satisfaction or happiness with life important to individuals. All aspects of patients' lives are affected by COPD, including work, home life, physical and sexual aspects of marriage, internal emotional factors and dependency (Hanson 1982) causing significant disability and having an impact on individual's

quality of life.

It is suggested that anxiety and depression is increased in patients with COPD, which is characterized and experienced by feelings of hopelessness, worthlessness and low self-esteem (Gift & McCrone 1993). A Dutch study by Van Manen et al. (2002) used a control group and selected patients aged 40 or over with a smoking history and set criteria for lung functions. Compared with the control group, the study showed that patients with severe COPD were more at risk of developing depression.

Many patients with severe COPD require long-term oxygen therapy (LTOT) for at least 15 hours per day to improve breathlessness, prevention of complications from hypoxia and to improve survival (Bellamy & Booker 2000). A cross-sectional study conducted by Lacasse et al. (2001) looked at the prevalence of depressive symptoms in patients with severe oxygen-dependent COPD. Depression and quality of life measurement instruments were used to assess these patients. The results showed that 62 patients demonstrated significant depressive symptoms and 20 were severely depressed. Only 6% of these patients who met the criteria for depression were taking an antidepressant drug. The study therefore concluded that significant depressive symptoms and depression are highly prevalent in patients with severe COPD on LTOT.

Small and Lamb (1999) conducted a phenomenological study related to the fatigue in COPD patients. Evidence from this study suggested no influence of age or gender on fatigue. However, laboured breathing affected patients physically and emotionally. A qualitative study by O'Neill (2002) explored how women recognized and responded to symptoms of COPD. Most of the 21 women involved struggled not only with breathlessness and fatigue, but also with depression, loss of social support and stigma.

There are limited qualitative research studies available into the actual experience of living and coping with COPD from a patient's perspective. The only qualitative study using a Grounded Theory approach found, relating to a patient's perspective and the impact of living with COPD, was by Heslop (2001). In her study, patients described multiple problems such as coping with activities of living, social isolation, depression and extreme pressure on relationships. She concluded that the physical, psychological and social consequences of COPD had a profound effect on the lives of patients who suffered from this disease.

### Methodology

Over the last 20 years, phenomenology has become more popular and acceptable in nursing (Oiler 1982, Cohen 1987, Reeder 1987, Anderson 1991). Phenomenology is a branch of philosophy and a research method that offers the opportunity to gain an understanding of the meaning of a phenomenon as it really is. The term is derived from two Greek words: *phainomenon*, meaning 'appearance' and *logos*, meaning 'reason' (Seymour & Clark 1998).

Phenomenology fits well with this study, which allows participants to focus on their individual lived experiences, and to describe how COPD affects their daily lives. This enables the researcher to capture the human experiences to provide a better understanding and present the participants' subjective perceptions with clarity and meaning.

### Design and sample

To capture a full and rich account of each participant's experiences of living with COPD, the use of unstructured interviews was considered the best approach for collecting data for this particular study. Each interview was audiotaped to obtain a true account using the participant's own words and took place within the participant's home. Ethical approval from the Local Research Ethics Committee was obtained prior to the start of the study and the respiratory consultants were also approached to gain their permission. Consent was obtained from each patient prior to interview and was assured





complete anonymity regarding data obtained.

Purposive sampling was conducted for this study to collect in-depth information from participants who were able to give authentic accounts. Unlike quantitative research, participants were not chosen on the basis of their representativeness, but because of their expert knowledge and experience of living with moderate and severe COPD. Following ethical approval, 16 participants were identified from a chest clinic caseload of those with moderate to severe COPD with no other identifiable disabling medical condition to take part. This was to ensure that a true account of the experiences described was purely related to living with COPD. The literature is not explicit regarding sample size in qualitative research (Holloway & Wheeler 1996), although Cohen et al. (2000) suggest that larger samples provide more variety of expressions. From the 16 patients contacted, 10 gave their consent to take part. The remaining six declined because they felt nervous about taking part in the study or were too poorly to participate. Participants with mild COPD and other health complications were excluded from the study, as were those with different ethnic and cultural backgrounds. Those with very large families who were known to have a constant stream of visitors were also excluded because of difficulties of uninterrupted interviews.

### Data collection

All participants were sent a letter providing details of the purpose of the study and an information sheet. Patients were requested to return the attached slip in the envelope provided, indicating whether they were interested in taking part. Those interested were contacted by telephone and arrangements made for the interviews to take place in their own home to minimize disruption to their routine and treatments.

At the start of the interviews each participant was offered the opportunity to ask questions before signing the consent form agreeing to take part in the study. Crotty (1996) states that in true phenomenological research, only one question is asked to elicit data. Cohen et al. (2000) suggest the most effective way to elicit narrative data is to aim for the interview to resemble a conversation. Having reiterated the purpose of the study to the participant, the opening question was broad: 'Tell me what it is like for you living with your breathing problem from day to day'. Participants were encouraged to explore their world and their daily difficulties and experiences telling the narratives as they wanted to.

### Data analysis

Chambers (1998) suggests that data analysis in phenomenological research begin during data collection engaging in active listening, reflection, clarification and intuiting. The purpose of data analysis is 'to preserve the uniqueness of each lived experience of the phenomenon while permitting an understanding of the meaning of the phenomenon itself' (Banonis 1989, p. 37). To analyse and gain a greater understanding and interpretation of the lived experience, Diekmann et al. (1989) describe a seven-stage process of data analysis (Box 1) which was used to help interpret and analyse the data gathered. This particular framework provided a good level of rigour for securing trustworthiness for exploring participants experiences described. To ensure authenticity and credibility as advocated by Diekmann et al. (1989) a colleague familiar with the content of the study was approached to verify the interpretation and consistency of the themes found.

**Box 1** Method of data analysis based on the framework of Diekmann et al. (1989)

- |         |   |
|---------|---|
| Stage 1 | Read all transcriptions for an overall understanding  |
| Stage 2 | Write interpretive summaries and coding for possible themes of all transcripts  |
| Stage 3 | Analysis transcripts as a group in order to identify themes   |
| Stage 4 | Return to the transcripts or to the participants for clarification or disagreements in interpreting and writing a composite analysis of each text |
| Stage 5 | Compare and contrast texts to identify and describe shared practices and common meanings  |
| Stage 6 | Identifying constitutive patterns that link the themes  |
| Stage 7 | Elicit responses and suggestions on a final draft from a colleague familiar with the content and or methods of the study.                         |

### Presentation of findings

The findings provided clear and graphic details that the effects of COPD are substantial, and have a profound effect on the lives of patients with this condition from a physical, psychological and social perspective, which will be discussed in turn.

### Theme 1: perception of severity and symptoms

All but one patient experienced symptoms that had slowly progressed over the last four years. Most accepted that their symptoms were caused by smoking or related to their occupation,

therefore initially they did not consider their symptoms, cough in particular, as serious, and either ignored or dismissed it as a 'smoker's' cough. Patient no. 9, when asked how he felt about his illness stated:

I know it's self-inflicted. I'm not very happy about it, but you have to accept it. My mother and father smoked, it was a way of life, smoking. We were not aware then of the health damage it could do.

Even though all participants were aware that smoking was either a cause or a contributing factor to their COPD causing irreparable damage, six participants admitted to still smoking the occasional cigarette, believing the damage was done. In this study, all but one participant was medically categorized as having severe COPD.

However, in comparison, each participant's response when asked their perception of how bad they thought their COPD was, used the terms 'quite bad' or 'quite severe', indicating that they characterized their COPD differently to the medical classification. In contrast, patient no. 7 (aged 57 with severe COPD) had not appreciated the severity of her condition. Most participants stated that their symptoms would vary from day to day and even hour to hour. Patient no. 3 confirms this:

Well, every day is different. Some days are worse. A bad day to some people is reasonable... A bad day to me is a nightmare.

All participants found the morning the worst and took several hours to feel normal and for their medication to take effect. Patient no. 4 comments:

Any exertion causes breathlessness, which at times can be painful. Bending down in particular can take my breath away. Any sudden movement can do the same. Some days are fine and I can go up and down the stairs fine, other days I have to stop half way to get my breath.

Nighttime also presented problems, as many of them only slept for a couple of hours. Patient no. 8 stated: When it's dark my breathing is worse. The air is so still. I sleep with my window and door open. Sometimes I just toss and turn all night. Sometimes I have to use my blue inhaler, which sorts me out for an hour or so.

As breathlessness was the worst symptom for most participants they were asked to describe what it felt like. Patient no. 5 described it as follows: 'It's like a garden tube... and if you pinch the tube it closes off... and you just can't breath.' Patient no. 2 said: 'Breathing can just suddenly

go. It feels like you're choking, like something's lodged there.' Patient no. 8 said when she was having a severe breathless attack: 'it feels like I'm not going to last very long. I get very frightened.'

The weather was a factor that most participants commented on and stated that the damp and cold triggered their breathlessness, as described by patient no. 2:

The weather seems to affect me. It seems to affect my breathing... The wintertime is bad for me. I always find from September until January my worst months.

### Theme 2: functional disabilities

As the disease progressed, patients described becoming increasingly short of breath affecting daily activities such as washing, getting dressed and minimal exertion becomes difficult. Washing was a particularly difficult task for these participants, some not managing to get into a bath or stand/sit under a shower because of the effects of the steam and the effort it entailed. Many were frightened to have a bath, in particular when on their own, in case they lost their breath or could not get out. Patient no. 1 supports this in the following statement:

I used to bath daily, which I really do miss. I'm on my own now and I'm afraid that I'm not going to get out. On a bad day I just use babywipes to do my vital parts and get dressed... I just do things in stages. At a slow pace this can take me up to half an hour to complete.

Patient no. 3 stated that before his stair lift was installed he was not able to climb the stairs and have enough breath or energy to shower and dry himself. Now, he has a shower three times a week and other days a strip wash, although it is a struggle and takes about three-quarters of an hour in between using his inhalers. He has to ask his wife to help to wash and dry his feet. However if any of his older children are in the house he will avoid a shower rather than let them know he cannot manage on his own.

Patient no. 6 likes to be independent but it takes her one and a half to two hours to strip wash and dress using her inhalers and resting during the procedure. She has a bath two to three times a week, which her husband helps her with. He also washes her hair and helps her to dry. Washing her hair is the worst, bending forward or reaching up, and having water running over her face. This was a common phenomenon for all the female participants. Patient no. 10 also had to rely on her husband to help her with washing her back and feet:

I get very upset when my husband helps me. I realize there is nothing wrong with that, I just find it very hard to accept.

However, patient no. 2 who has moderate COPD manages to bath every day independently, although quite breathless after, and dresses. On a bad day she will not dress and will stay in bed for the day. In comparison, all the other patients who have severe COPD, attempted to dress daily and only took to their bed when they felt poorly with a chest infection. This is possibly an indication to patients with severe symptoms not giving in and trying to live life to the full or total acceptance that this is how they are.

All participants stated that bending down or forward to tie shoelaces or put stockings/tights on was difficult and stretching up made their breathlessness worse. Participants unknowingly reduced their activity involving exertion, which can eventually lead to deconditioning and weakening of skeletal muscles and disability. This eventually leads to general loss of confidence that results in being too frightened to leave the house. Inactivity further compounded the problem and the patient enters a vicious circle that results in increasing dependence, disability and worsening quality of life.

Within this study, six participants considered themselves housebound. If they did go out on their good-days they could walk the short distance to the car, but when out did not get

out of the car except if in a wheelchair, which most found difficult to accept. Difficulty in accepting help from others seems a common theme, as this is mentioned by many of the participants. Most participants commented that their ability to be active was variable from day to day. Patient no. 6 states: 'one day I can walk down the garden and another day I can't even walk to the door.' Patient no. 10 said:

I'd like to go for walks but I can't. I just get too breathless. When I sit in a chair I'm fine. In the last six months I've only been out once.

Even though many of the participants were severely affected by their symptoms, illness and inability to do activities, several considered they had a fairly good quality of life. Patient no. 8 said, 'I feel I have a good quality of life. It's my family which adds to this, without them it would be poor.' Patient no. 10 felt, even though she is housebound, she was 'better off than some people.' Patient no. 6 said, 'I make the most of it and take it as it comes.' Patient no. 1 however stated her quality of life was poor:

It's very depressing. You have to shake yourself sometimes and remind yourself that there are people out there a lot worse off. Patient no. 9 said, 'My quality of life is terrible, bloody awful really. I just manage the best I can. I smoked and that's that.' A number of participants in this study found that breathlessness affected their eating and nutritional intake as they became tired.





Patient no. 9 described eating as 'difficult to eat and breathe. I get very tired. For a while I was on a liquidized diet as chewing was difficult.' Patient no. 5 also said, 'I can't eat and breathe at the same time.' Many participants found that the fear of not being able to breathe when eating or during daily activities, a very frightening experience.

### Theme 3: emotional trauma of coping with COPD

Many participants in this study used the term 'frustration' more than 'depression' as quoted in much of the literature. This was reported to be caused by their symptoms of breathlessness and inability to do simple tasks and be active. Most participants in this study experienced periods of irritability and frustration. Patient no. 6 stated:

Some days I can't do anything and I get very frustrated. I cry a lot, this happens a few times a week.

Patient no. 3 said:

Daily life can be hard and frustrating. You want to do so many things but your body is just not able to.

A couple of participants even stated that when they are feeling low and had several 'bad days' in a row they have had thoughts of wanting to end their lives and 'to end the struggle to breathe'. The participants in this study identified breathlessness the worst symptom of their condition and identified this experience with feelings of panic and anxiety, which they found hard to control. Several participants described that during a panic attack, they were going 'to collapse'. Patient no. 2 describes a panic attack

while out in town with her daughter:

I had to stop and sit down, I thought I was going to collapse. I used my inhaler which helped, but that was really frightening... I really thought I was going to die.

Patient no. 8 stated she experienced a lot of panic attacks:

You feel as if you are on your last breath. It's very frightening. When this happens I need someone to hold my hand and talk to me, that gives me comfort. Gives me some control.

Patient no. 3 stated 'at night sometimes when you are struggling to breathe I panic in case I don't wake up.'

### Theme 4: implications surrounding social loss

The effects of inactivity affected the patient, their partner, family and carers, which reduced their ability to socialize, take holidays and enjoy a normal life. Accounts were given regarding the inability to plan outings or activities in advance depending on the patient's physical condition on the day. Other considerations were, the distance of walking involved, the weather and need for medication, such as nebuliser or oxygen therapy. Patient no. 7 stated:

We don't go out much now. I find I can't plan; before I used to just jump in the car and go off anywhere I wanted. I go to friends sometimes and take my nebuliser with me. She understands and does not mind. I usually have to 'psych' myself up and keep my fingers crossed that I'm ok on the day. Otherwise you could be tied in forever.

Patient no. 8:

I can't plan anything. It depends on what sort of night I've had. I avoid anything-early mornings because I can't do it. That can be frustrating sometimes. I wish I could put my coat on and go. I'd like to go on holiday with my family and go shopping.

All participants seemed to echo similar thoughts when describing the effects of their illness. Most of the discussions revolved around losses: loss of occupation due to early medical retirement, family and social relationships and, for patient no. 3, loss of intimacy. Individuals attempted to develop various coping strategies to deal with their disabilities to enable them to lead as normal lives as possible. Nevertheless, most participants felt that their family and friends understood their condition and were sympathetic and that their quality of life was fairly good.

### Discussion

The aim of this phenomenological study was to gain an insight into individual participants' experiences of living with COPD. Many examples have been presented to illustrate how participants with COPD coped with the effects of this disease. The severe functional impairments reported in this study were clear in the participant's narratives and confirm findings by other researchers. As supported by other evidence, breathlessness was reported to be the worst symptom for all participants. Many of the participants restricted physical activity to avoid breathlessness. Some authors have described the effects of breathlessness as not being able to get enough air into the lungs (Bellamy & Booker 2000). However, the graphic explanation used



in this study is much clearer than that 'it's like a garden tube, and if you pinch the tube it closes off'. Many participants described them as frightening experiences, which were associated with fear of choking, suffocation and death.

Participants had adopted strategies that they had tested by trial and error. This involved pacing activities and learning to conserve energy and adapt daily tasks such as sitting down to complete tasks in the kitchen, washing and dressing. Paterson and Thorne (2000) describe this as the 'evolution of expertise' that develops over time as patients with chronic illness manage their symptoms. Other participants adapted and learned tricks to hide problems they were experiencing from others. It was evident that the level of functioning ability tended to fluctuate from day to day depending on the weather and degree of symptoms. Therefore, it was difficult to plan either household or social activities in advance. All participants experienced loss of social roles in one form or another. Despite this, participants in this study did not feel they were socially isolated as expressed in other studies (Williams 1989, Gift & McCrone 1993).

Chronic illness places considerable burden on patients, spouses and other family members. Because of the illness, roles within the family alter, which may cause difficulties and affect the harmony of relationships within the family. Role reversal was raised by one of the participants who took on the role of house husband while his wife went to work fulltime. A couple of participants had to take early retirement because of their condition becoming worse and now have to rely on their husbands and family members

to assist with household chores and shopping. Loss of income may cause financial hardship and impose further worry and burden on the family. These changing roles and change of circumstances may result in miscommunication within the family or even conflict (Rabinowitz & Florian 1992). Further stress and strain may be inflicted on the family as the disease advances and the patient's dependency increases. Misunderstandings may occur as when 'sitting', all participants stated they were 'fine' and were seen as healthy individuals, but any movement in particular involving bending and stretching caused various degrees of breathlessness. In this study most participants felt that their family and friends understood their condition and limitations and were sympathetic towards them.

It was suggested in the literature that depression was a common problem in patients with COPD especially those taking LTOT. Within this study six of the participants were prescribed LTOT all of which had severe COPD, but only two stated they got depressed at times. The other patients used the terms 'frustration' and 'low at times' and tended to vent their feelings by having a cry or taking it out on a family member, usually the husband or wife.

This study has several limitations in that the sample used in this study was purposive and specific to those patients known to the chest clinic. Inclusion of patients from other settings such as the respiratory wards may have strengthened the findings by providing a broader picture. However, many of the findings in this study may be transferable and can be applied to other settings relating to patients with the same

degree and severity of COPD. All participants interviewed were known to the author, which may have had some influence regarding data collection. However this could have influenced the depth and topics disclosed during the interview process.

The time taken to transcribe the interviews may be seen as a disadvantage to this research method. Nevertheless it does allow the researcher to become fully immersed in the data to identify emergent themes. This is one of the advantages of conducting a small and individual project. However conducting an individual study has the potential for personal bias or misinterpretations to arise. Therefore to enhance credibility to this study, which refers to the confidence in the truth of the data (Polit et al. 2001), a colleague familiar with the content and method of study confirmed the interpretation of the themes identified.

During the interpretation process of the transcripts a couple of tapes were difficult to interpret due to a strong accent and background noises. Nevertheless despite this, transcribing the interview fairly soon after the event, it was felt that the content of the interviews was fully captured.

### Implications for professional practice

This study raises awareness of exactly how frightening it must be living with such a debilitating condition and the difficulties it presents in daily living to individual patients. It offers the opportunities to gain a greater understanding of living with COPD, and as health professional to provide appropriate and innovative patient care. In particular, to develop





strategies for individual patients to manage episodes of breathlessness and to avoid panic attacks. By demonstrating such understanding and empathy patients will feel reassured that as a professional you have a complete insight and understanding into their condition and individual difficulties.

**Conclusion**

The use of phenomenology as a research methodology fulfilled the aim of gaining a greater understanding of the experiences of living with COPD. It provided valuable insights into how patients view the overall impact and their subsequent degree of coping with COPD in daily living.

Undoubtedly this condition has detrimental effects on participants' daily lives and causing disability. Actively listening to patient's individual accounts is a very important process in developing the services for patients with COPD. Further consideration of the themes discussed in this study may help healthcare professionals to increase their field of knowledge about their patients and add breadth and depth to their body of knowledge on this subject. This increased understanding will enable professionals to select strategies that will enhance patient care and their management and promote the best quality of life possible within the limits set by individual capabilities.

**Contributions**

Study design: MB; data analysis: MB; manuscript preparation: MB.

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# Asthma Nursing Course and Chronic Pulmonary Disease Nursing Course (COPD) Information

The primary aim of Asthma and Chronic Obstructive Pulmonary Disease (COPD) Nursing Courses are to provide nursing health professionals with a high level of Asthma and/or COPD knowledge that promotes best practice, based on available evidence, and is consistent with national policy. The programmes are offered by distance learning with support from Frances Dower Unitec lecturer and Janette Reid Asthma New Zealand's National Educator. The Asthma Nursing Course is accredited with 24 credits; COPD Nursing Course is accredited with 12 credits, which can be used towards gaining your Bachelor of Nursing degree. The value of a level 7, 24-credit course, which is done through a tertiary education establishment, is \$800.00. At present Asthma New Zealand/The Lung Association is providing grants of \$550.00 for each student towards the cost of the course, as a result students will be asked to contribute \$250.00. Cost of the COPD Nursing course is \$400.00 but a grant of \$200.00 is available to practice nurses/community nurses from

Asthma New Zealand/The Lung Association. In the four years since commencement of the Asthma Nursing Course 525 nurses have enrolled over 13 intakes. In the second year of commencement of the COPD Nursing Course 90 nurses enrolled over six intakes.

The society has decided to make the course available at such a low cost to benefit nurses with a special interest in asthma, and increase the knowledge of nurses throughout New Zealand. Applications are now invited from nurses wanting to enrol on the Asthma & COPD Nursing Courses in July 2006.

The closing date is 30<sup>th</sup> May 2006.

For information regarding Asthma & COPD Nursing Courses please

Email: janetter@asthma-nz.org.nz  
 swarnah@asthma-nz.org.nz

Phone: 09 623 0236 ex 809 - Janette or Swarna

Asthma New Zealand/The lung Association & Unitec School of Health & Community studies congratulate the following registered nurses who successfully complete the certificates in COPD Nursing course in February & July 2005.

- |                             |              |
|-----------------------------|--------------|
| 1. Karen Davison            | Gore         |
| 2. Elizabeth Fellerhoff     | Masterton    |
| 3. Jacqueline Hill          | Picton       |
| 4. Mark John Wade           | Auckland     |
| 5. Stephanie Blennerhassett | Stanmore Bay |
| 6. Lynda Gardner            | New Lynn     |
| 7. Wendy McBride            | Mt Maunganui |
| 8. Lynett Tissingh          | Papamoa      |

Asthma New Zealand/The lung Association & Unitec School of Health & Community studies congratulate the following registered nurses who successfully complete the certificates in Asthma Nursing course in February & July 2005.

- |                           |                  |
|---------------------------|------------------|
| 1. Hillary Alexander      | Hamilton         |
| 2. Barbara Bowring        | Auckland         |
| 3. Kaye Buckthought       | Rotorua          |
| 4. Rosemary Gilbert       | Christchurch     |
| 5. David Halewood         | Helensville      |
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| 9. Queenie Komene         | Hamilton         |
| 10. Karoline Nodder       | New Plymouth     |
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| 15. Marjorie Wood         | Nelson           |
| 16. Maureen Wood          | Auckland         |
| 17. Andrea Barratt        | Auckland         |
| 18. Janine Colpman - King | Palmerston North |
| 19. Susan Corney          | Te Puke          |
| 20. Mary Cunningham       | Auckland         |
| 21. Rachel Drummond       | Nelson           |
| 22. Lynn Gardner - Brown  | Auckland         |
| 23. Maureen McGregor      | Waiuku           |
| 25. Wendy McNeish         | Greymouth        |
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- GISBORNE/EAST COAST**  
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- KAPITI**  
19 Rifleman Lane, Paraparaumu.  
Ph. (04) 902 6855
- ROTORUA**  
Haupapa St, Rotorua. Ph. (07) 347 1012
- SOUTH CANTERBURY**  
PO Box 267 Timaru. Ph. (03) 688 0106
- SOUTHLAND**  
184 Est St, Invercargill.  
Ph. (03) 214 2356
- TARANAKI**  
28 Young St, New Plymouth.  
Ph. (06) 757 9080
- TU KOTAHI**  
22 Barnes St, Seaview, Lower Hutt.  
Ph. (04) 568 4629
- WANGANUI**  
PO Box 790, Wanganui.  
Ph. (06) 344 2023
- WHAKATANE**  
105 Woodland Rd, Opotiki.  
Ph. (07) 315 6151
- WAIRARAPA**  
36 Harley St, Masterton.  
Ph. (06) 377 1175
- WELLINGTON**  
16 Hagley St, Porirua, Wellington.  
Ph. (04) 237 4520

### Questions, Letters, Articles, Advertisements

Asthma Update welcomes dialogue with readers. Whether you are a person with asthma, a company involved in the sector, or a potential advertiser, we welcome your enquiries and communication.

**Contact:**  
Asthma New Zealand  
581 Mt Eden Road, Auckland  
Phone (09) 623 0236  
Email [anz@asthma-nz.org.nz](mailto:anz@asthma-nz.org.nz)



## LEAVE ASTHMA SYMPTOMS BEHIND

If you're using an asthma preventer but are still experiencing wheezy days or wakeful nights, ask your doctor about additional asthma symptom control, **and see if adding Serevent MDI to your asthma preventer is right for you.**



Serevent™ (salmeterol) is available in 25mcg per actuation inhaler and 50mcg per actuation Accuhaler. Prescription Medicine for the treatment of asthma, COPD (chronic obstructive pulmonary disease) and chronic bronchitis. Use strictly as directed. The medicine in Serevent does not start working as quickly as a 'reliever puffer' such as Ventolin. Always carry a 'reliever puffer' with you. If you have an asthma attack, use your 'reliever puffer'. If you have asthma, your doctor will tell you to use a 'preventer' medicine regularly everyday as well as Serevent. Do not use Serevent if you are allergic to Serevent or any ingredients in the inhaler. Tell your doctor if you have: an allergy to any medicine, if you are having treatment for a thyroid problem, blood pressure, if you have a heart problem, or if your asthma is unstable or getting worse. Side Effects: "shaky" feeling, headache, fast heart rate, muscle cramps, pain in the joints, irritation in the nose and throat. If symptoms continue or you have side effects, see your doctor, pharmacist or health professional. Serevent inhaler is a fully funded medicine; Special Authority criteria apply to Serevent Accuhaler. Normal doctor's office visit fees apply. Ask your doctor if Serevent is right for you. Additional Consumer Medicine Information for Serevent is available at [www.medsafe.govt.nz](http://www.medsafe.govt.nz). Serevent and Accuhaler are trademarks of the GlaxoSmithKline group of companies. Marketed by GlaxoSmithKline NZ Limited, Auckland. TAPs NO NA9967-05NO 04018ANZ

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Once Daily



# SPIRIVA<sup>®</sup>

(tiotropium 18 mcg)

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Special Authority Criteria Apply

[Ask your doctor if you meet the criteria  
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*SPIRIVA<sup>®</sup> (tiotropium 18mcg) is a PRESCRIPTION MEDICINE. It is used for making breathing easier in chronic obstructive pulmonary disease (COPD) including chronic bronchitis and emphysema. SPIRIVA<sup>®</sup> should not be used for acute episodes or rescue treatment of bronchospasm. Cautions are high pressure in the eye (glaucoma), kidney problems, problems with your prostate gland or passing urine. Do not allow the powder into your eyes. SPIRIVA<sup>®</sup> like all medicines can cause unwanted side effects in some people. These may include dry mouth, dry throat, cough, fast heart beat, blurred vision and high pressure in the eye (glaucoma). If symptoms persist or you have side effects talk to your doctor. Always read the label and use strictly as directed. DO NOT SWALLOW THE CAPSULES but administer with the HandiHaler<sup>®</sup> device. Boehringer Ingelheim PO Box 76 216 Manukau City, freephone 0800 802 461, Pfizer PO Box 3998 Auckland, freephone 0800 736 363 EP/05/24. TAPS PP2517*



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