



FROM THE EDITOR

We had a very enthusiastic response to our first issue of Snooze Newz. Thank you to all those who contacted us with feedback and suggestions.

Our feature story this issue deals with the problem of sleep apnea in young, sporting men. Ground-breaking new research shows that sleep disorders are not confined to the 'traditional' middle aged male group but are also widespread amongst burly young footballers in the United States. This has wide-ranging implications across the general population.

Our professional interview this time is with cardiologist Dr Ian Wilcox, who is a Clinical Associate Professor at the University of Sydney. He has some interesting points to make about the association between sleep-disordered breathing, especially a type called Cheyne-Stokes Respiration, and congestive heart failure.

We also introduce you to two very special people, one of whom suffers from sleep apnea and the other from respiratory insufficiency. They are happy to share their experiences for the benefit of other people. Their stories are both moving and instructive.

Feedback from some readers asked us to cover tips on how to deal with mouth leaks, a common problem amongst people with sleep apnea, and how to keep your CPAP equipment clean and functioning well. This edition includes articles on both of these topics.

We hope you continue to find Snooze Newz both useful and interesting. Do keep that feedback coming in and remember that you can access our website on www.resmed.com

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Lisa MacKenzie

SNOOZE NEWZ^{zzzzz}

A newsletter for people with sleep-disordered breathing and their families

YOUNG FOOTBALLERS SCORE SLEEP APNEA

The Chicago Bears, the New York Giants, the Washington Redskins*...the list sounds like something from the American football hall of fame! These professional football teams were among those involved in an exclusive medical study, which has had some amazing results.

The research has shown that even the fittest of football players can suffer from obstructive sleep apnea.

It was found that the presence of sleep apnea among the pro football group was 14% overall, nearly five times higher than noted in previous studies of similarly aged adults. Higher risk players (linemen, whose neck size and body mass index was greater) had an even higher incidence of sleep apnea at 34%.

This research will change the way sleep apnea is viewed.

Although it occurs in all age groups and in both sexes, it has generally been regarded as a disorder that afflicts middle aged men.

The new research indicates that the disorder may be just as prevalent amongst young athletes and members of the general population of similar age and size to the footballers studied.

These findings have serious consequences for young, physically fit men. If left untreated, the condition may lead to life threatening diseases such as heart disease, hypertension and stroke. It may also cause tiredness and affect a person's ability to think clearly.

The study followed on from a 1997 pilot research project that studied sleep apnea in 16 professional football players from the New York Giants. The players with sleep apnea had slower reaction times and lapses in concentration in daytime performance tests. Several players underwent CPAP therapy, which resulted in a marked improvement in their performance.

The research project may now extend to a further phase, which would involve measuring the performance of players with and without sleep apnea to determine the effects of treatment on performance and injuries.

Full details of the study can be found in the January 23, 2003 issue of The New England Journal of Medicine.

* Football teams participating in this study included: The Chicago Bears, Jacksonville Jaguars, New England Patriots, New York Giants, Philadelphia Eagles, St. Louis Rams, Tennessee Titans, and the Washington Redskins.



RESMED



A R O U N D WITH CATHY GALT

E quipped with a zest for life, and a ResMed VPAP®, this gutsy lady shows that it's possible to overcome all kinds of obstacles to lead a full and rewarding life.

Like many people with disabilities, Cathy Galt packs a lot into her life and much of it revolves around helping other people.

When Cathy was just five months old, she contracted polio during the last of the polio epidemics that occurred in Australia. Forty years later, she is a partial paraplegic, relying on calipers and sometimes a wheelchair to get around. She has curvature of the spine and finds it difficult to breathe easily because of a weakened diaphragm.

Cathy hasn't allowed her disabilities to get in the way of a full and rewarding life. She is married, with a 19 year old son, and works as an office manager for a local plumber. Within her Blue Mountains community (Sydney hinter lands), she runs a Christian youth group, is a director and treasurer of an organization for intellectually disabled people, belongs to a patchwork quilting group, and is currently studying to become a chaplain through the Presbyterian Theological College.

However like all polio patients, Cathy suffers the continuing problem of post polio syndrome. Over the years, healthy nerves have taken over the jobs of those destroyed by her illness but, as she gets older, Cathy's healthy nerves are

beginning to 'wear out'. Her paralysis is increasing and, some months ago, she found that she was experiencing major breathing difficulties that left her exhausted and frustrated as her independence ebbed away.

Cathy's specialist referred her to a sleep clinic, where she learned she was suffering from respiratory failure. Cathy has been using a ResMed VPAP machine for the past seven months. Here Cathy talks about her experience.

What were the symptoms that led to your referral to the sleep clinic?

I was feeling breathless, lethargic, with no energy and morning headaches. I couldn't finish most things around the house, which frustrated me. I've worked hard for my independence and the last thing I wanted was for my husband to become a 'carer'—I still wanted to be an equal partner in my marriage.

How did you feel when you heard you were suffering from respiratory failure?

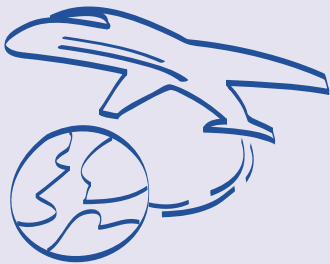
Total disbelief! I was stunned and very angry at first, however the evidence of the sleep study was irrefutable. It seemed that after all I'd been through, life was dealing me yet another blow. My doctor, Professor MacKenzie, told me that all was not lost and that it was possible for me to feel very much better—but I didn't believe him.

What was your initial reaction to using a mask and a bilevel device (the VPAP) for Noninvasive Positive Pressure Ventilation ?

I hated the idea, especially the thought of lying on my back or side with the mask on. You see, in order for me to relieve my back and muscles overnight, I must sleep face down. I struggled for a while before I found the best way to sleep on my stomach, by positioning pillows to allow room for the mask and tubing. It would have been great if someone had been able to help me through that phase. Clinicians need to understand how important positioning is in sleep for people who have these types of physical disabilities—if I hadn't persisted, I might not be on the treatment today.

It sounds as though you felt quite negative about the therapy. What were some of the main hurdles you had to overcome?

Feeling 'freaky' wearing the mask and the impact on my relationship with my husband.



T H E W O R L D

Although he is always supportive, I found it hard to discuss this with him and I felt like I was compromising my 'femininity'. I thought "How could he want a freak for a wife who has to wear a mask to bed?" I really couldn't cope with the thought that my husband would now have to do more for me. And again the need to sleep prone with a mask was a real hurdle. Once these problems were solved though, and I started getting some sleep, I began to feel the benefits.

What happened to help you cope with the therapy?

I met two people at a Post Polio Syndrome Association meeting, who encouraged me to persist with the device. They too had gone through what I was experiencing and inspired me to try harder.

How long did it take for you to adapt to using VPAP?

About a month. The first week, when I tried to sleep on my back, was difficult and I only got a couple of hours sleep each night. After that, I worked out a way of lying on my stomach. Then one night, I went without the machine. The next day I realized just how much I needed the VPAP—my morning headache had returned! I also realized that I had actually been feeling better in the mornings because I was breathing better during the night and it all began to fall into place. I now sleep a good eight hours every night.

How has the therapy changed your quality of life?

No headaches! I'm far more active during the day and complete my tasks such as sewing and cooking. I have much more energy and therefore more independence. I have much more control over my situation and have more choices than I had before.

You recently travelled around the world. How did you prepare for this?

We planned the entire trip so that I could have an extra day everywhere as a 'catch up'. What was fantastic was that I didn't need it; in fact, I often had more energy than the others! The other planning was for my wheelchair, crutches and the VPAP, which is to be expected. We travelled with Qantas all the way and they were excellent—they always knew what to do with the VPAP and other equipment. I used the VPAP in-flight with no hassles.

Were there any surprises in terms of what you accomplished?

I fully expected not to be able to participate in some things, however I actually did everything and saw everything! I had more energy to walk in some places, walk up and down stairs, where wheelchair access was not provided, for example in the New York subway!! This made it so much easier for everyone and I felt much more independent.

What about the future?

Before treatment with VPAP I was 'just managing' most things. But now I see a future full of possibilities. In fact I'm now taking wheelchair tennis lessons, which is great fun, and I'm considering a career change and learning new skills. Our son is grown up now and my husband and I can concentrate on what we want to do. I particularly want to help others like me. Which is why I am happy to do this interview. I want to encourage others to give it a go, and not to give up. Life is too short. I want to help others realize that their potential to fully enjoy life, does not have to be limited by their respiratory problems.

COMING SOON
TO A PC NEAR
YOU:

AutoSet Advantage™

For those of you interested in the 'how and why' technical details of ResMed's AutoSet Spirit™, the company will be launching a new educational section on our website in June this year.

This will help to explain how ResMed's AutoSet achieves automatic CPAP titration, how it works and how the "AutoSet Advantage" is so important with the ever changing pressure requirements of the end user.

www.resmed.com



Watch This Space!

w w w . r e s m e d . c o m

FROM THE EXPERT'S MOUTH...

AN INTERVIEW WITH DR. IAN WILCOX

Ian Wilcox is an expert cardiologist, who contributes to the world of medicine through his practice, and involvement in research and teaching. Not only does he work as a cardiologist at Royal Prince Alfred Hospital in Sydney but he is also Clinical Associate Professor at the University of Sydney, a Senior Research Associate at the Woolcock Institute and Chairman of the Department of Medicine at Strathfield Private Hospital.

Here he discusses the strong relationship between congestive heart failure (CHF) and sleep-disordered breathing (SDB).

What is congestive heart failure?

CHF is a syndrome, not a single disease. It occurs when heart disease leads to weakening of the heart muscle. This reduces the flow of blood to organs and tissues of the body. The body responds to this inadequate blood flow by building up fluid in the tissues, a condition called edema. This fluid build-up, or congestion, causes the symptoms of congestive heart failure.

CHF is a serious, life-shortening condition. It has many symptoms that include tiredness, breathlessness during exertion, muscle fatigue, and edema, particularly in the lower legs and ankles. Patients may also experience breathlessness lying flat in bed, broken sleep and may awake gasping for breath.

What causes CHF?

Heart failure is usually the result of loss of heart muscle due to coronary artery disease, or diseases of the heart's valves. Heart failure occurs when the heart can no longer maintain adequate blood flow to all the tissues and organs.

What is the prognosis for CHF sufferers?

CHF progresses at different rates in different people. Most patients deteriorate fairly relentlessly, in a similar way to the prognosis of diseases like cancer. However, in 10-20% of patients, especially if they are young, the condition can improve spontaneously. Doctors use the New York Heart Association grading criteria (ranging from class I to class IV with IV being the most severe) to describe the severity of the condition: class I describes breathlessness but no limitations during daily life while class IV patients have symptoms even while they are resting.

What are some of the current methods of treatment? How effective are they?

The only known 'cure' for CHF is a heart transplant so the aim of treatment is to improve symptoms, quality of life, and the length of survival.

It is important to diagnose the cause of CHF as this will guide the treatment. For example, coronary heart disease is a well known and potentially correctable cause of CHF.

Treatment begins with simple general measures such as avoiding alcohol, reducing salt intake, and doing regular exercise.

Because hypertension is a common cause of heart failure, lowering blood pressure is one of the key modes of treatment.

Drugs such as beta blockers and the use of pacemakers are also proving beneficial in the treatment of CHF.

The benefits of positive airway pressure in treating CHF have been known since the 1930s. CPAP improves oxygen levels in the blood by improving gas exchange and reducing the work of breathing. It is also known to improve cardiac output.

How common is sleep disordered breathing (SDB) amongst CHF patients?

At least half of all patients with stable CHF have SDB. Many of these have a type of SDB called Cheyne-Stokes respiration (CSR). This is a cyclical breathing pattern, involving waxing and waning of the size of breaths. In its severest form it can occur in awake patients and is an indicator of poor prognosis. There is a case for performing some type of SDB screening study on all patients with CHF.



How might CHF patients develop CSR?

To control breathing accurately, the brain needs to sense and respond to changes in carbon dioxide and oxygen levels.

If a patient has CHF, reduced circulation time causes a delay in the exchange of these gases in the blood and the receptors on the brain. However not all patients with CHF develop CSR and not all patients with CSR have prolonged circulation time, so clearly there are other factors involved.

Is CSR found only in patients with CHF?

No, CSR is also found in patients with stroke.

What physical impact does CSR have on patients?

The work of breathing is increased because of lung congestion. This may worsen heart failure. Patients with CSR are also hyperventilating, even at rest, so the work of breathing is increased even further.

Sleepiness occurs because there are numerous disturbances of sleep called arousals. These arousals are associated with increased adrenaline output, which places stress on the heart. In severe cases there can be hundreds of these arousals each night.

Is SDB being treated in CHF patients?

SDB is often unrecognized because the symptoms of tiredness may overlap with those of CHF. However this situation is changing with increased awareness amongst doctors and patients. Increasingly cardiologists and emergency room physicians are treating acute pulmonary edema with positive airway pressure devices.

How does CPAP benefit the heart?

Positive airway pressure reduces the work the heart has to do to eject blood.

For further information visit the website www.resmed.com.



DEALING WITH AIR LEAKS

Maskerade is a new regular segment to Snooze Newz, where we will be bringing you handy information about mask interfaces and their use.

Do you wake up with a stuffy nose, sore eyes, a dry mouth or throat? Are you still tired after a night using your CPAP machine?

These problems could be caused by unintentional air leaks. In fact more than 40% of all CPAP users experience problems because of air leaks¹.

So what causes leaks?

Sometimes a leak occurs because your mask is not sealing properly or does not fit your face correctly. There is a variety of masks available that can assist with leak and comfort. Your supplier can help you resolve these problems quite easily.

However, the vast majority of leaks are caused because people breathe through their mouths.

Some people breathe through their mouths when they've had alcohol and we all mouth breathe when our noses are blocked because of a cold or flu.

Mouth breathing and nasal congestion go hand in hand, each making the other worse. As you breathe through your mouth, the airflow dries out your mucous (internal nasal passage) membranes. The membranes become inflamed, leading to increased mucous production, resulting in congestion of the nose. This means you breath through your mouth even more. You wake up with symptoms such as a sore throat, a dry mouth and a blocked nose.

Mouth breathing also has a negative effect on the quality of your sleep. It is associated with frequent waking during the light stages of sleep, which prevents

you from progressing to deeper sleep. It also leads to reduced ventilation^{2,3}.

Unfortunately mouth breathing can be intermittent, therefore it is not always obvious, even to an observant partner. You will need to pay close attention to the symptoms to decide whether this is a problem for you. It also pays to keep an eye on the leak indicator on your CPAP flow generator if it has one.

There are ways of breaking the vicious cycle of mouth breathing. The most effective way of managing the problem is by choosing the correct equipment.

One solution is to use a full face mask. These masks have been radically redesigned and improved over recent years to provide maximum comfort and seal. A full face mask can completely eliminate the problem of mouth leaks.

Newer CPAP machines, such as the AutoSet Spirit™ and VPAP III® machine, automatically measure and compensate for unintentional leaks. This ensures the correct pressure is always maintained.

Finally, heated humidification greatly reduces the effects of mouth leak and nasal congestion. ResMed produces a range of humidifiers, some of which can be integrated into the latest flow generators.

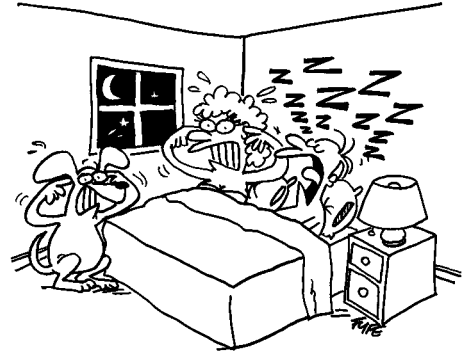
Experience increased comfort and fewer side effects, with the latest masks available from ResMed.

1. Richards et al. *American Journal of Respiratory Critical Care Medicine*, Vol154, 1996.
2. Teschler et al. *European Respiratory Journal*, Vol14,1999.
3. Meyer et al. *Sleep* Vol 20, 1997



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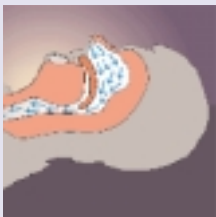
'HE COULD SNORE FOR ENGLAND!'



Mr Smith* describes himself as 65 years young, an ex-Royal Marine, a retired printer and someone whose wife says he could snore for England if they'd just include it in the Olympics!

After a history of ill health Mr Smith recently discovered that he had sleep apnea. He began using ResMed's AutoSet Spirit™, and says it has changed his life.

Over the last twenty years Mr Smith has suffered two heart attacks, followed by a five-way heart bypass. He was diagnosed with, and treated for, prostate cancer, and then lost a kidney following treatment for kidney stones. In 2001 he had a pacemaker installed to correct an irregular heartbeat.



▲ Open airway – Normal breathing



▲ Narrowed airway – Flow limitation



▲ Blocked airway – Obstructive Sleep Apnea (OSA)

"After this, I experienced a horrid fear of getting out of bed unable to breathe," Mr Smith says. "After visits to hospital, changes of pills and so forth, I read a newspaper article that described my own health situation. My GP sent me for tests including a sleep study and—you guessed it—I had sleep apnea."

Mr Smith says the ResMed AutoSet Spirit changed his life in a matter of just two weeks!

"My wife said she'd had her first good night's sleep in forty years!" he exclaims. "In the past I've been known to sleep in the car so that she could get some sleep in our caravan. The AutoSet Spirit is so quiet that my wife can't even hear it in our motor home."

"I can now walk longer when exercising our dogs, without loss of breath or tiredness. I am not

so tired on return from a day out, I do not get up in the night and my blood pressure seems to be stable. I am now as active as I used to be in the distant past. In all, I say the AutoSet Spirit has changed my life, aided by excellent support from ResMed's most knowledgeable and able advisors."

Mr Smith also believes that an earlier diagnosis of sleep apnea would have reduced the effect of many of his other health problems.

He recently spent time in hospital undergoing a partial gastrectomy. His AutoSet Spirit accompanied him every step of the way, attracting keen interest from the medical staff who attended him.

"The consultant anaesthetist was at first a little skeptical," Mr Smith reported. "However he spoke with ResMed and after surgery, was interested in looking at the owner's handbook to learn more about the AutoSet Spirit. It seems he is thinking about other uses for the machine."

"If I could make one request, it would be that ResMed keeps up its excellent work in research and development. Thank you ResMed for giving me a new future."

*not his real name



65 years young, being treated with AutoSet Spirit

A LITTLE CARE GOES A LONG WAY—

CLEANING AND MAINTENANCE TIPS FOR YOUR CPAP EQUIPMENT

You will get more out of your CPAP equipment if you clean and maintain it the right way, and this will improve the effectiveness of your therapy too!

Follow these simple instructions.*

Cleaning the right way before use

Hand wash the headgear before first use, as the dye may run.

Remove the headgear, mask components, and air tubing from their plastic wrap. Wash them in warm water using a gentle detergent such as pure soap. Rinse and dry. Keep all parts out of direct sunlight, which could cause hardening and cracking over time.

Maintenance—make it a part of your routine

EVERY DAY

After each use take a few minutes to:

- ✓ Disconnect the air tubing and hang it in a clean, dry place.
- ✓ Hand wash the mask cushion using warm water with a mild detergent.
- ✓ Dry the mask cushion out of direct sunlight.
- ✓ If you are using a humidifier, rinse the tub thoroughly. Replenish with fresh water (distilled or cooled boiled water).

EVERY WEEK

Set up a regular time each week - it's worth it!

- ✓ Disconnect, wash and dry the mask system, headgear, and air tubing according to the instructions supplied.

- ✓ If you are using a humidifier disconnect the tub, take it apart. Place in a dishwasher for thorough cleaning or use warm water and mild detergent.
- ✓ Dry the humidifier parts completely out of direct sunlight.

EVERY MONTH

Mark this one on your calendar.

- ✓ Inspect the mask and air tubing for wear and tear.
- ✓ Clean the exterior of the flow generator with a damp cloth (using mild detergent and warm water).
- ✓ Inspect the air filter to check if it is blocked by dirt or contains holes.

Cleaning the wrong way

- ✗ Don't use bleach, chlorine, alcohol, or aromatic-based solutions (including all scented oils), moisturising or antibacterial soaps to clean the cushion, mask, air tubing or the machine. These solutions may cause hardening of the plastic and reduce the life of the product.
- ✗ Don't wash or dry the mask frame at a temperature above 80°C (176°F). Exposure to higher temperatures may reduce the life of the product.

How to replace the air filter

Usually the air filter needs to be replaced every six months, although if you are in a very dusty environment you may need to replace it more often.



Get into a routine of checking the filter every month. If the filter is dirty, dusty or contains holes, it must be replaced.

- ✓ Remove the air filter cover at the back of the machine.
- ✓ Remove and discard the old air filter.
- ✓ Insert a new filter using the manufacturers guide.
- ✓ Replace the air filter cover.
- ✓ Don't wash the air filter, it is not reusable.

Does my machine need servicing?

Your flow generator will give you years of trouble-free operation and should not require regular servicing if it is maintained according to the instructions in its manual. If you feel that your unit is not performing properly, contact an authorised service agent.

Under no circumstances should you attempt to service or repair the flow generator yourself. Do not attempt to open any ResMed machine. There are no user serviceable parts inside. Repairs and internal servicing should only be performed by an authorised service agent.

*Always refer to the manufacturers manual if you are uncertain.

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HOW TO BE "SLEEP-SMART"!

Part 2: De-stress—Stay Calm

Everyone needs to be "sleep-smart"—regardless of whether or not you suffer from SDB. This is the second of a series of tips on how to get a good night's sleep. Some of our tips are plain common sense. Many others are tried-and-tested techniques that seem to work for many people. We hope some of these tips are helpful. However, remember to consult a physician before making any major changes to your lifestyle. A peaceful mind is a vital ingredient for a restful sleep. Here are some suggestions:



MANAGE YOUR STRESS

Stress can build up inside you like a time bomb. Take some time to learn and practise relaxation and stress management techniques, which can provide a safe "release" for stress. Going to the gym or performing some physical activity keeps you fit and helps to expel tension.



TAKE A SOOTHING BATH

Soak in a bath with relaxing essential oils.



TURN ON THE MUSIC

...soft.... not rock! If it's soothing to the ears, it could well be relaxing for the mind! Specific relaxation music, such as "ocean sounds" or "rainforest tranquillity", is very effective. You might also try listening to relaxation tapes specifically produced for this purpose.



TURN A FEW PAGES

Reading a book at bedtime can help to take your mind off the day's activities.



WATCH TELEVISION

It helps most people unwind—but be sure to avoid horror movies and other shows that might stimulate your imagination!



RIDE THAT HOBBY HORSE

Work on a hobby for a while each night—it's more productive than counting sheep, and helps take your mind off work activities that might be bothering you! Play cards (with your partner or simply "Solitaire"), do a crossword, build a model plane...



GET A MASSAGE

Massage helps to remove any built-up tension, neck and back pains. This really helps you to relax. Get one from your partner or from a professional masseuse. Your body knows how to pick up the right signals to relax.

AN IMPORTANT NOTE TO YOU, THE READER

Snooze Newz is intended to serve as a forum for topics of interest to SDB sufferers and their families. Contributions by the editor and authors may contain information or opinions that have not been verified for accuracy or completeness by their authors or the editor. You should make your own independent inquiries before relying on **Snooze Newz** contributions and accordingly neither the ResMed Group of companies nor the editor offer to, nor will accept liability for, the consequences of any reliance you may place on **Snooze Newz** contributions. Opinions by authors in **Snooze Newz** contributions are not intended to be the opinions of, nor are they endorsed by the ResMed Group of companies or the editor.

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The triumvirate of health

"Sleep is equally important to our physical well-being as adequate nutrition and physical activity"

Proposed by Dr. William C. Dement



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