



Breath of L I F E

Lung Information & Friendship for Everyone

People with long term lung conditions, their family & carers

Autumn 2017

Mar-May

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AUTUMN – THE FALLING LEAVES DRIFT BY...



You'll have to travel a bit to get a traditional feel for autumn – the Swan Valley, Victoria or Tasmania. It's often winter in Perth before trees lose their leaves. So here's an autumnal image to get you in the mood.

Two very important things to do in autumn - if you have a chronic lung condition

The hot weather in Western Australia is far from over. So keep on drinking plenty of water. The mean maximum temperature for February might be 31.7C, but in March it's 29.6 and in April, 25.9.

Make an appointment in April with your GP to get your flu vaccination, and ask about the status of your pneumococcal immunisation. The vaccines are free for anyone over 65 or even younger for people medically at risk. Ask your family to do this too. (Flu vaccine cannot and does not cause the flu). While you are there, ask whether there are any other immunisations you should get boosted, particularly if you are around young children.



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life@resphealth.uwa.edu.au

Breath of L I F E Archives

A copy of every issue of Breath of L I F E is lodged with the State Library of WA and the National Library of Australia. Our digital record number (ISSN) now appears in the top right corner of the cover.

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L I F E EVENTS

Recent



L I F E had a short break between our Christmas party on Wednesday 7 December and the first meeting for the 2017, on Wednesday 1 February. Here's a picture from our Christmas party.

L>R **Ina Mitchell**, new to L I F E in December, Coordinator **Jenni Ibrahim**

and Deputy Coordinator **Sal Hyder**.

Raema Fitzgerald, one of our marvellous L I F E volunteers at the Lung Condition Awareness Expo at Woodvale Shopping Centre on 12 November 2016. Thank you also to **June Keane** and **Sarah Knapp** - especially as your confused Coordinator Jenni, directed the volunteers to Whitfords Shopping Centre, at first! We ended up in the right place. Thank you all for your patience!

Together we waved the flag for World COPD Day in a busy suburban shopping centre.



Not so recent

On 31 January each year we remember with fondness one very strong woman, **Edna Brown**, our founder, who passed away in January 2014. She had a wicked sense of humour and a powerful wish to help others, like her,



living with chronic lung conditions. In 1992 she started L I F E (as LISA), the first respiratory support group in Australia, and we can never forget all she gave to us individually and together. Now there are over 100 self help support groups for people with lung conditions - all over Australia.

Here she was in 2011 having a laugh with L I F E members.

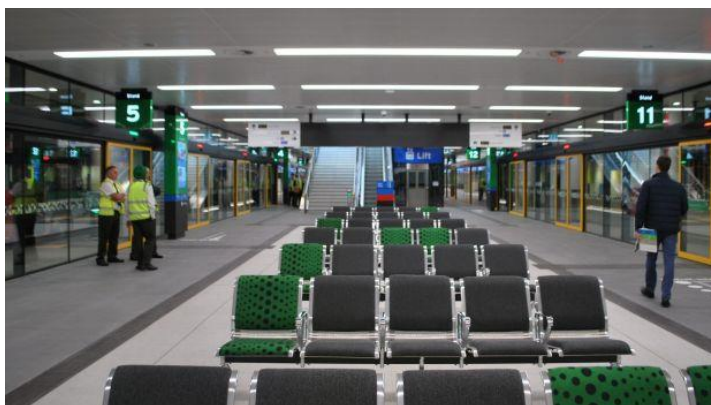
Coming Events

Mystery Autumn lunch at a secret destination

Monday 10 April

11.15 for 11.30am departure for our mystery lunch destination!

Meet underground at the new **Perth Busport** in **Wellington Street**. Enter at King Street, Queen Street or Yagan Square. If you come by train the Yagan Square entrance is closest. We'll be in the departure lounge, near the Moo Bar coffee kiosk and the Transperth information booth.



First we'll take a look around the Busport, then board a bus for a short ride to an inner suburban nosherie. If you've never been to the brand new Perth Busport come on, give it a go with us! Bring your Smart Rider or buy a ticket. Little walking once we are on the bus.

Make sure you RSVP so we know you are coming - otherwise we may leave

without you! If you cannot manage the bus trip contact Jenni who will whisper the secret destination in your ear. (If you run late ring Jenni on 0413 499 701 and she'll tell you which bus to board.)

Please RSVP by **Sun 9 April** to Mary E mvfedele@bigpond.com T 9337 1286

RESPIRATORY NEWS

Welcome Ina Mitchell and other new members of L I F E and the Institute for Respiratory Health. If you are looking for information about any aspect of your lung health or services that can help, contact Jenni on E life@resphealth.uwa.edu.au T 9382 4678 or Sal on T 9331 3651 E salhyder1@gmail.com

L I F E Birthday Club If you'd like to be in our birthday club contact **Jan Maiorana** either at a meeting, E janjohn1968@bigpond.com or T 9339 3617.

Donation L I F E has been the recipient of a wonderful gift, courtesy of Sandy Willsher, who has donated a portable oxygen concentrator to us, after her husband Les passed away last year. We will be discuss how we will make use of this gift at our next meeting. Thank you so much Sandy.

LUNG LAUGHS

A word lover's list. Most are even clean enough to share with the young people in your lives.



How does Moses make tea? Hebrews it.

Venison for dinner again? Oh deer!

A cartoonist was found dead in his home. Details are sketchy.

I used to be a banker, but then I lost interest.

England has no kidney bank, but it does have a Liverpool.

I tried to catch some fog, but I mist.

They told me I had type-A blood, but it was a Typo.

I changed my iPod's name to Titanic. It's syncing now.

Jokes about German sausage are the wurst.

I know a guy who's addicted to brake fluid, but he says he can stop any time.

I stayed up all night to see where the sun went, and then it dawned on me.
This girl said she recognised me from the vegetarian club, but I'd never met
herbivore.

When chemists die, they barium.

I'm reading a book about anti-gravity. I just can't put it down.

I did a theatrical performance about puns. It was a play on words.

I didn't like my beard at first. Then it grew on me.

When you get a bladder infection, urine trouble.

Broken pencils are pointless.

What do you call a dinosaur with an extensive vocabulary? A thesaurus.

All the toilets in Sydney's police stations have been stolen. The police have
nothing to go on.

I got a job at a bakery because I kneaded dough.

Velcro - what a rip off!

Don't worry about old age - it doesn't last.

RESPIRATORY RECIPES

Here are some healthy liquid meals to suit people who need to gain some weight with something light and easy between meals, or people who are unwell and cannot face chewing a meal. All you need is a blender or a food processor. Any that's left over can be stored in the fridge for later. Spinach and silver beet feature here because they are so good for you. If you don't usually like eating them, try them this way, blended with fruit, and you'll feel them doing you good.

Abbreviations

T = Tablespoon

t = teaspoon

c = cup 250ml

L = litre 1,000ml/ 4 c

Banana Spice (1 serve)

1 c spinach

1 c unsweetened coconut milk (or other
milk if you prefer)

1 banana

1 small piece (0.5 cm slice) fresh ginger,
peeled

¼ t ground cinnamon

A pinch of ground cardamom, if you have it



Blend the spinach and coconut milk until smooth. Add in the banana, ginger, cinnamon, and cardamom and blend again.

Tip: A little ginger goes a long way, so if you're not used to using fresh ginger, start off small and add more as your taste buds adjust. If you're feeling the sniffles or a cold coming on, ginger will help clear your head.

Watermelon Mojito (1 serve)

Watermelon and mint are a super healing combo, and when blended together in a smoothie, they taste indulgent. Watermelon contains lycopene, which is a powerful antioxidant that can protect against degenerative diseases and help cells function better.

Mint contains menthol, which is a natural decongestant that helps break up phlegm and mucus. Blend up this treat when you are feeling under the weather or need to clear your sinuses.

1 c silver beet, stems removed	1 c chopped mango
¼ c fresh mint, stems removed	Juice of ½ lime or lemon
1 c watermelon seeded, chopped	

Blend the silver beet, mint, and watermelon until smooth. Add the mango and lime juice and blend again. There's no need to add liquid. Once you blend the watermelon, it will liquefy and make melon "juice."

Source www.prevention.com/food/smoothie-recipes-to-boost-your-immune-system

Pineapple Green Smoothie (1 serve)

½ cup unsweetened almond milk (or other milk)
⅓ cup plain Greek yogurt (low fat if you are watching your cholesterol)
1 c baby spinach
1 c frozen ripe banana slices (about 1 medium banana)
¼ c frozen pineapple chunks
1 T chia seeds
1-2 t pure maple syrup or honey (optional)

Chia seeds add healthy omega-3 fats, fibre and a little protein for an extra nutritional boost. Available at health food supermarket aisle or store.



Source www.eatingwell.com/recipe/251038/pineapple-green-smoothie/

SHORTS

CHRONIC RESPIRATORY TELEHEALTH

In the last issue we reported on the new Chronic Respiratory Telehealth Service that provides one-on-one support and education to help country people better manage their chronic respiratory condition. It's available through the WA Asthma Foundation - though your long term lung condition doesn't need to be asthma.

Sharifa Dina, a very enthusiastic and experienced respiratory nurse, formerly at Fremantle Hospital, has joined the Asthma Foundation's health services team running this project. She's conducting a series of professional development tele-seminars for country health professionals to improve the knowledge and skills of GPs, nurses and physios who are helping country people manage their chronic lung conditions.

L I F E's Jenni Ibrahim has been invited to present a tele-seminar on the topic "Flying with Oxygen – a consumer's perspective" in April. A tele-seminar is presented over the internet. Jenni will be in West Perth, sitting at an Asthma Foundation computer with a camera and microphone and the health professionals in the audience will be sitting in front of their computers in the country. They'll be able to listen and to speak – to learn and join in without having to come to Perth.

More

Asthma Foundation WA T 1800 278 462 (ask for the Telehealth team)

E teleheath@asthmawa.org.au

W www.asthmaaustralia.org.au/news/wa/asthma-and-copd-telehealth-service

ASTHMA NOT FOUND IN A THIRD OF PREVIOUSLY DIAGNOSED ADULTS

Have you ever been diagnosed with asthma? A very recent Canadian study of adults with a previous physician diagnosis of asthma, found something quite surprising. A current diagnosis could not be established in about one-third who were not using daily asthma medications or had medications weaned. The researchers speculate that the failure to confirm the diagnosis could be because of spontaneous remission or misdiagnosis.

Although asthma is a chronic disease, the expected rate of spontaneous remissions of adult asthma and the stability of diagnosis are unknown.

Shawn D. Aaron, MD, Ottawa Hospital Research Institute, University of Ottawa, Ottawa, Ontario, and colleagues conducted a study that included 701

adults who reported a history of physician-diagnosed asthma established within the past 5 years.

All participants were assessed with home peak flow and symptom



monitoring, spirometry, and bronchial challenge tests, and those participants using daily asthma medications had their medications gradually tapered off over four study visits. Participants in whom a diagnosis of current asthma was ultimately ruled out were followed-up clinically with repeated bronchial challenge tests over 1 year.

Of 701 participants, 613 completed the study and could be conclusively evaluated for a diagnosis of current asthma, which was ruled out in 203 of 613 study participants (33%). Twelve participants (2%) were found to have serious cardiorespiratory conditions that had been previously misdiagnosed as asthma in the community.⁴

After an additional 12 months of follow-up, 181 participants (30%) continued to exhibit no clinical or laboratory evidence of asthma. Participants in whom current asthma was ruled out were less likely to have undergone testing for airflow limitation in the community at the time of initial diagnosis (44% vs 56%).

More than 90% of participants in whom asthma was ruled out had asthma medications safely stopped for an additional 1-year period.

“Two phenomena may account for failure to ultimately confirm current asthma in 33.1% of the study cohort: (1) spontaneous remission of previously active asthma; and (2) misdiagnosis of asthma in the community,” the authors wrote. “At least 24 of 203 participants (11.8%) in whom current asthma was ruled out had undergone pulmonary function tests in the community that had been previously diagnostic of asthma. These participants presumably experienced spontaneous remission of their asthma at some time between their initial community diagnosis and entry into the study.”

“This study also suggests that misdiagnosis of asthma may occasionally occur in the community,” the authors added. “In 2% of study participants, a serious

⁴ “in the community” would imply by a GP, not at a hospital by a specialist

untreated cardiorespiratory condition was identified that may have been previously misdiagnosed as asthma. In addition, the study demonstrated that failure to consistently use objective testing at the time of initial diagnosis of asthma was associated with failure to confirm current asthma.

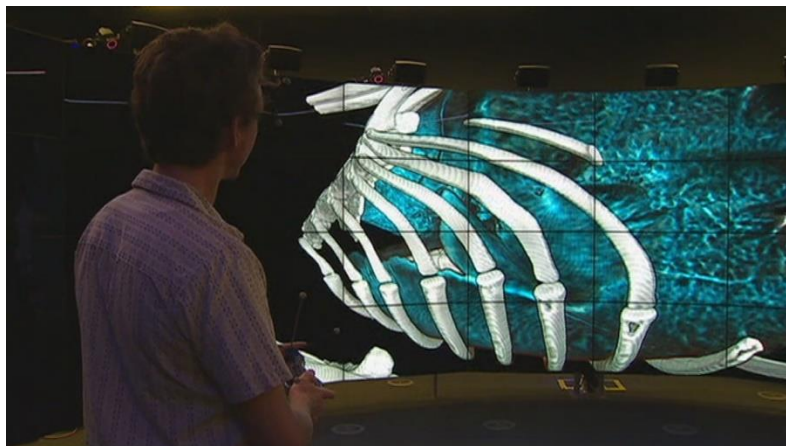
"These results suggest that whenever possible, physicians should order objective tests, such as pre-bronchodilator and post-bronchodilator spirometry, serial peak flow measurements, or bronchial challenge tests, to confirm asthma at the time of initial diagnosis."

JAMA is the Journal of the American Medical Association

Source [*Aaron S D, Vandemheen KL et al. Reevaluation of Diagnosis in Adults With Physician-Diagnosed Asthma, JAMA. 2017;317\(3\):269-279. doi:10.1001/jama.2016.19627*](#)

NEW SCANNING TOOL FOR BREATHING LUNGS

Advancing beyond an x-ray image, new Australian software captures a 4D animation of the lung in motion. What's the fourth dimension? Time. This means that lung can be imaged while they are moving, not just when you keep them still by holding your breath.



Engineer Andreas Fouras, has created a way to identify areas of disease using an interactive map of the lung, which shows the way in which air flows through.

"This has the capacity to provide information that's just

simply not available at the moment," Mr Fouras told SBS.

"You can see if there's a trouble spot, if there's something happening and you can see that earlier and with much finer detail."

Currently, this level of information can only be gathered through a static CT scan image, which exposes a patient to high levels of radiation.

Mr Fouras said his full-body size 4Dx device, similar in appearance to an airport security scanner, has at around 10 times less radiation than conventional CT scans.

Director of Respiratory and Sleep Medicine at the Royal Melbourne Hospital, Associate Professor Louis Irving, is excited about what the software could mean for patients.

This is because respiratory conditions - ranging from asthma and flu to pneumonia and lung cancer - are among the most common presentations to GPs, and can be hard to diagnose.

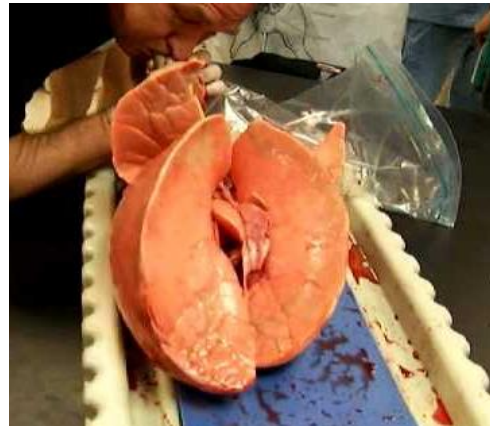
"At the moment we can measure global - the total lung function. But we can't measure, accurately, regional changes," said Associate Professor Irving.

"It can be used to assess the effect of localised changes, the response to treatment, it can give prognostic information."

Source [SBS](#)

WHAT DO YOUR LUNGS LOOK LIKE WHILE YOU ARE BREATHING?

This [YouTube video](#) shows what a pig's lungs look like when they are breathing - outside the pig's body in a laboratory. Watching this you can imagine more clearly what your own lung look like when you breathe.



Many medical experiments are carried out on pigs because the organs work similarly in pigs and humans.

YOU ARE NOT ALONE!

News about the health of Australians is in the 2016 Australian Institute of Health and Welfare report on our health.

As we who live with chronic respiratory conditions know well, chronic diseases are the leading cause of ill health, disability and death, and have a significant impact on the community's health. The term 'chronic disease' refers to a wide group of conditions, illnesses and diseases which have long-lasting and persistent effects.

87% of Australians 65 and over had one of these 8 chronic conditions: arthritis, **asthma**, back pain and problems, cancer (such as **lung** and colorectal cancer), cardiovascular disease (such as coronary heart disease and stroke), **COPD**, diabetes, or mental health conditions. This compares with only 35% people aged 0–44.

One in 4 (23%) Australians—5.3 million people—had two or more of these eight chronic diseases in 2014–15.

Over 3 in 10 Australians (31% or 7 million people) had one or more chronic respiratory conditions, Hay fever and asthma were the two most common conditions, affecting 4.5 million Australians (19%) and 2.5 million Australians (11%), respectively.

COPD was comparatively rarer, affecting an estimated 600,000 Australians (2.6%).

Asthma was one of the most common chronic health conditions among children, affecting 479,000 children aged 0–14 (11%). Almost two-thirds (65%) of the 600,000 Australians with COPD were aged 55 and over.

Both asthma and COPD were more common in people living in low socioeconomic areas than in people living in high socioeconomic areas (13% compared with 10% for asthma, and 4.1% compared with 1.5% for COPD).

But there was good news, between 2001 and 2014–15 there was a fall in the age-standardised prevalence of **self-reported** asthma (from 12% to 11%) and of COPD (from 3.6% to 2.4%).

Read the whole [chapter on leading causes of ill health](#)



INSOMNIA COMMON IN PEOPLE WITH ASTHMA

New research shows insomnia is highly prevalent in adults with asthma, and is associated with adverse outcomes. A team of researchers from the University of Pittsburgh, USA, has found that insomnia is highly prevalent in adults with asthma and is also associated with worse asthma control, depression and anxiety symptoms and other quality of life and health issues.

People with asthma commonly report difficulty with sleep. However, the prevalence of insomnia and its relationship with asthma burden and quality of life is unknown.

Asthma is a chronic respiratory condition in the lungs in which the airways become swollen or inflamed, causing difficulty in breathing from spasms in the muscles surrounding the airways, as they try to keep the passageways open. The impact of insomnia on asthma control and asthma-related use of healthcare services has not previously been examined.

The research reports that:

Clinically significant insomnia was present in 37% of those with asthma. Those with insomnia had a higher BMI², worse lung function and lower annual household income, than those without insomnia.



Despite reporting no night time asthma symptoms that disturbed their sleep, almost 25 percent of participants met criteria for clinically significant insomnia. Compared with those without insomnia, the study found participants with insomnia reported more frequent asthma-related healthcare use in the past 12 months.

Participants with insomnia had worse asthma control and asthma-specific quality of life and higher levels of depression and anxiety symptoms.

These results suggest that adults with asthma and insomnia may be at increased risk for adverse outcomes. The research shows that there is a significant impact of insomnia on asthma disease burden and wellbeing and states that evaluation and treatment of insomnia should be considered among patients with asthma.

“Our results show that poor sleep may not be solely due to night time awakenings due to asthma symptoms but may represent comorbid insomnia,” said lead author Faith Luyster, PhD, “and that comorbid insomnia can significantly impact asthma outcomes including quality of life and healthcare service use.” While it was determined that insomnia is highly prevalent in those with asthma and is associated with adverse outcomes, further studies are needed to better understand the relationship between insomnia and asthma control.

Prospective and interventional studies, such as implementing cognitive behavioural therapy for insomnia (CBT), are recommended moving forward.

Source [Chest press release December 2016](#) [Original article](#)

² BMI = Body Mass Index, an indicator of whether or not you are in a healthy weight range. It is found by multiplying your height (m) X your height and dividing the result into your weight (kg). The resulting number is compared with a table or graph. Get it the easy way at this BMI calculator www.12wbt.com/weight-loss/bmi

AUSTRALIA'S MEDICATION LABELS GETTING CLEARER

When you buy prescription and over-the-counter medicines, sunscreens or vitamin supplements, you need important information to help you make an informed choice. Medicine labels tell you what you are buying, what the medicine can do for you and how to use it.

Australia's Therapeutic Goods Administration (TGA) is changing requirements for medicine labels to make important information about your medicine easier to find. These changes are the result of many years of consultation - they bring Australian medicine labels up to date with international best practice.

- Active ingredients will be easier to find
- Medicine information will be clearer
- More information on the label
- More room for important information



Source [TGA](#)

EVEN IF YOU DON'T SMOKE MUCH

Yes, even low-intensity smokers are at increased risk of earlier death. Tell your children and your grandchildren.

People who consistently smoked an average of **less than 1 cigarette per day over their lifetime** had a 64% higher risk of earlier death than never smokers, and those who smoked between 1 and 10 cigarettes a day had an 87% higher risk of earlier death than never smokers.

Risks were lower among former low-intensity smokers compared with those who were still smokers, and risk fell with earlier age at quitting.

When researchers looked at specific causes of death among study participants, a particularly strong association was observed for lung cancer mortality. Those who consistently averaged less than 1 cigarette per day over their lifetime had 9 times the risk of dying from lung cancer than never smokers. Among people who smoked between 1 and 10 cigarettes per day, the risk of dying from lung cancer was nearly 12 times higher than that of never smokers.

The researchers looked at risk of death from respiratory disease and cardiovascular disease. People who smoked between 1 and 10 cigarettes a

day had over 6 times the risk of dying from respiratory diseases than never smokers and about 1.5 times the risk of dying of cardiovascular disease than never smokers.

Smoking has many harmful effects on health, which have been detailed in numerous studies; however, health effects of consistent low-intensity smoking have not been well studied and many smokers believe that low-intensity smoking does not affect their health.



To better understand the effects of low-intensity smoking on mortality from all causes and for specific causes of death, researchers analysed data on over 290,000 adults in the NIH³-AARP⁴ Diet and Health Study. Low-intensity smoking was defined as 10 or fewer cigarettes per day. All participants were aged 59 to age 82 years at the start of the study.

Participants were asked about their smoking behaviours during 9 periods across their lives, beginning with before they reached their 15th birthday until after they reached the age of 70 (for older participants). Among current smokers, 159 reported smoking less than 1 cigarette per day consistently throughout the years that they smoked; nearly 1,500 reported smoking between 1 and 10 cigarettes per day.

The study relied on people recalling their smoking history over many decades, which introduced a degree of uncertainty into the findings. Also, despite the large number of people surveyed, the number of consistent low-intensity smokers was relatively small.

Another limitation of the study is that the participants were mostly white and in their 60s and 70s, so the smoking patterns collected in the study reflect only a particular set of age groups in the United States. Future studies among younger populations and other racial and ethnic groups are needed, particularly as low-intensity smoking has historically been more common among racial and ethnic minorities in the United States. The study also lacked detailed information about usage patterns among participants who reported

³ US National Institutes of Health

⁴ American Association for Retired Persons

smoking less than 1 cigarette per day. So the researchers could not compare the effects of smoking, say, every other day, every few days, or weekly.

“The results of this study support health warnings that there is no safe level of exposure to tobacco smoke,” said lead author Maki Inoue-Choi, PhD, National Cancer Institute, part of the National Institutes of Health (NIH), Bethesda, Maryland. “Together, these findings indicate that smoking even a small number of cigarettes per day has substantial negative health effects and provide further evidence that smoking cessation benefits all smokers, regardless of how few cigarettes they smoke.”

Source [DG News](#)

Original article: Inoue-Choi M, Liao L, et al. Association of long-term low-intensity smoking with all-cause and cause-specific mortality in the NIH-AARP Diet and Health Study. JAMA Internal Medicine, December 5, 2016. DOI: 10.1001/jamainternmed.2016.7511

LUNG-SPARING SURGERY HELPS PEOPLE WITH ADVANCED MESOTHELIOMA

People with advanced malignant pleural mesothelioma⁵ (MPM) treated with a combination of surgery to remove the cancer - but save their lung - plus photodynamic therapy and chemotherapy, had a median survival of nearly 3 years, with a group living longer than 7 years, according to a study published recently.

“These are among the best results ever published for patients with an epithelial subtype of pleural mesothelioma, which accounts for about two thirds of all cases,” said lead author Joseph S. Friedberg, MD, University of Maryland School of Medicine, Baltimore, Maryland.

“This is among the most virulent cancers known to man, and we have a long way to go, but it’s encouraging to have achieved results we can report in years not months even for these patients with such advanced disease,” he said. “Although, from a technical perspective, it is more challenging to save the lung than to sacrifice it, it does appear that this technique helps to not only extend life but to also preserve quality of life.”

The study followed 73 patients with MPM who had surgery to remove the cancer, followed by a therapy using a photosensitising agent and light to kill microscopic cancer cells. Of the patients, 92% also received chemotherapy. Overall median⁶ survival for all the patients in the study was nearly 3 years

⁵ Usually caused by asbestos exposure

⁶ At the median, 50% of people survived for longer than 35 months, while 50% lived for less than that.

(35 months), but that figure more than doubled, to 7.3 years, for 19 of these patients whose cancer had not spread to their lymph nodes.

The researchers also found that overall survival was 3 times higher than disease-free survival.

For the 73 patients in the study, median disease-free survival was 1.2 years, a third of the overall survival of 3 years. In the group of 19 patients with overall survival of 7.3 years, disease-free survival was 2.3 years. The majority of the patients had Stage III or Stage IV disease.

“It’s unusual to find such a difference in between overall and disease-free survival rates,” said Dr. Friedberg. “When this cancer recurs, which it almost always does, patients usually live only a few months.”

While the researchers caution against drawing definitive conclusions based on this non-randomised study, they are intrigued by the findings. The researchers are now looking for mechanisms behind the difference, in order to work on improving survival even more.

Dr. Friedberg performed the lung-sparing surgery on the patients in the study while he was at the University of Pennsylvania, Philadelphia, Pennsylvania, USA, where the research was conducted. The 6 to 14-hour operation removes detectable cancer from the lining of the chest and spares the lung and as many other normal structures as possible. Dr. Friedberg developed his lung-sparing technique as an alternative to removing the entire lung, diaphragm, and sac around the heart.

“The role for lung-sparing surgery for mesothelioma has not been completely defined, but this series demonstrates that it is an option, even in advanced stage cases,” the authors wrote.

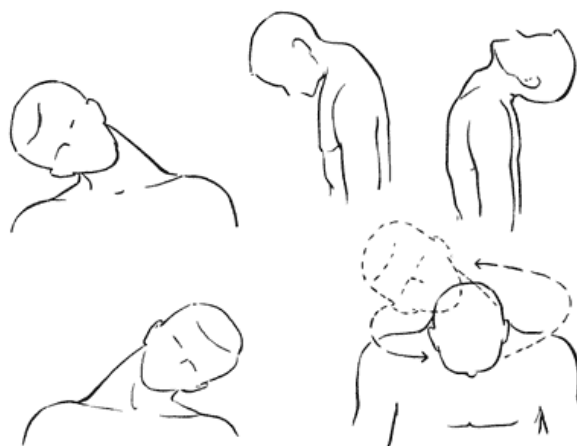
Source http://dgnews.docguide.com/lung-sparing-surgery-improves-survival-patients-advanced-mesothelioma?overlay=2&nl_ref=newsletter&pk_campaign=newsletter
Original article at [http://www.annalsthoracicsurgery.org/article/S0003-4975\(16\)31139-0/abstract](http://www.annalsthoracicsurgery.org/article/S0003-4975(16)31139-0/abstract)

NECK EXERCISES

With lung disease, we often have to overuse the muscles around our necks and shoulders for breathing, because the rib cage muscles do not work as well as they should. The neck and shoulder muscles can become tight and sore.

Here are four simple exercises you can do at home to prevent and relieve that. Hold each position for slow count of 10. Always do these gently. Don’t force them and don’t push through pain.

1. Gently tip your head to the right so that your right ear moves towards your right shoulder below. Make sure you are still looking straight ahead and that your other shoulder does not rise up. Back to the centre. Tip to the left.
2. Up and down: tip head back to look up at the ceiling, tip head forward to look towards the floor.
3. Side to side. Turn your head to look towards the right, as far as you can without pain. Back to the centre. Turn your head to look towards the left.
4. Shrug. As you breathe out drop your shoulders, keep on relaxing them each time you breathe out.



MYTH BUSTED

Have you ever heard the line that there are more bacteria than cells in your body? Bacteria are said to outnumber cells by about ten to one. That's a myth that should be forgotten, say researchers in Israel and Canada. The ratio between resident microbes and human cells is more like one-to-one, they say of their revised estimate.

A 'reference man' (70 kilograms, 20–30 years old and 1.7 metres tall) contains on average about 30 trillion⁷ human cells and 39 trillion bacteria, say Ron Milo and Ron Sender at the Weizmann Institute of Science in Rehovot, Israel, and Shai Fuchs at the Hospital for Sick Children in Toronto, Canada.

Those numbers are approximate — another person might have half as many or twice as many bacteria, for example — but far from the 10:1 ratio commonly assumed.

“The numbers are similar enough that each defecation event may flip the ratio to favour human cells over bacteria,” they delicately conclude in a posted manuscript. The 10:1 myth persisted from a 1972 estimate by microbiologist Thomas Luckey, which was “elegantly performed, yet was

⁷ A trillion is a million million, or a thousand billion i.e. 1,000,000,000,000

probably never meant to be widely quoted decades later”, say the paper’s authors.



In 2014, molecular biologist Judah Rosner at the US National Institutes of Health at Bethesda, expressed his doubts about the 10:1 claim, noting that there were very few good estimates for the numbers of human and microbial cells in the body.

Milo, Sender and Fuchs decided to re-estimate the number by

reviewing a wide range of recent experimental data in the literature, including DNA analyses to calculate cell number and magnetic-resonance imaging to calculate organ volume. The vast majority of human cells are red blood cells, they note.

Source: [Nature](#)

HOW DOES CULTURE SHAPE THE LANGUAGE OF BREATHLESSNESS?

Though this article was written and published in Great Britain, it contains insights that resonate with us in Australia.

This is the second of a series of responses to the British Lung Foundation’s Battle for Breath report. Researcher Rebecca Oxley considers what insights anthropology⁸ can offer.

The British Lung Foundation (BLF) recently published a three year study into the prevalence and impact of respiratory disease in the United Kingdom. They framed this report under the title ‘The Battle for Breath’. This phrase not only echoes the daily challenges of those who live with a lung condition, but delves deeper to evoke the collective effort required to improve how lung disease is understood and addressed in the United Kingdom. This is less the conventional war of two opposing forces (health versus disease), but more a push to raise awareness and implement change.

Yet a movement *for* lung health is also a movement *against* something, and the BLF wants to encourage future action to improve the alarming

⁸ Anthropology is the study of various aspects of humans both in past and present societies.

inequalities that contribute to the origins of lung disease or its prognosis. *The Battle for Breath* exposes how social deprivation can be strongly associated with the development of common lung diseases such as COPD, asthma and lung cancer.



And while smoking is an important causative factor, 20% of COPD cases are *not* tobacco-related, and people living in the most deprived communities are, for example, more likely to have been exposed to workplace dusts and air pollution. Inequalities are also evident within the (UK) national health mandate.

Why, for instance, is so much more invested in cardiovascular disease and non-respiratory cancer than lung disease despite its similar impact? The 'battle' is thus structural -a lack of awareness is not simply an outcome but can be a continually perpetuating force. The same could be said for the stigma associated with

lung disease and breathlessness. Does the fact that lung disease is widely correlated with smoking, and thus perceived as the culpable result of an individual lifestyle 'choice' influence this cycle of invisibility?

The Battle for Breath report offers recommendations to achieve equal prioritisation. A key emphasis is on the accumulation and sharing of knowledge, improving communication, and raising awareness of lung disease and its contributory factors. A picture of the cultural forces that shape how lung disease is understood and lived, will be of crucial value.

For example, the Life of Breath project is currently undertaking anthropological research into 'structural stigma' and how this is embodied within policies and populations. This will provide a significant insight into the factors that contribute to lung disease remaining invisible within those communities where breathlessness is considered a 'normal' part of ageing, and those where knowledge and/or understanding of COPD remains low.

Research into how culture shapes communication, including the 'language of breathlessness', will also be a key basis for devising strategies for transforming the respiratory landscape. Currently, disconnects between clinical and lay perspectives of how breathlessness is understood, assessed and defined, extends to the very words used to express this so-called 'first vital symptom' of lung disease [1].

Recent studies have shown that different cultural, ethnic, and socio-economic backgrounds can influence how sensations of breathlessness are described, that these descriptions are often highly emotive, metaphorical, interchangeable, and rarely fit neatly into clinical categories [2-4].

Furthermore, the meanings of particular terms (such as 'wheeze') are highly subjective, informed by how sensations of breathlessness are experienced in different contexts [5, 6]. A rich, socially appropriate understanding of the language of breathlessness is thus necessary to improve early diagnosis of lung disease, the reporting of symptoms, the development of effective self-management methods, and most crucially – allowing the voices of those who live with a lung condition to be heard and further incorporated into policy and strategic engagement.

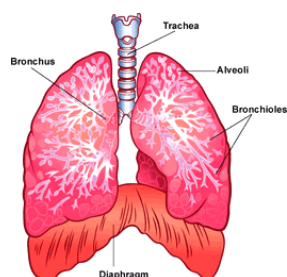
The Life of Breath project will continue to work with stakeholders to bring further understanding of what breathlessness and lung disease means in the United Kingdom.

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Source [Life of Breath](#) 17 November 2016

RESPIRATORY A TO Z

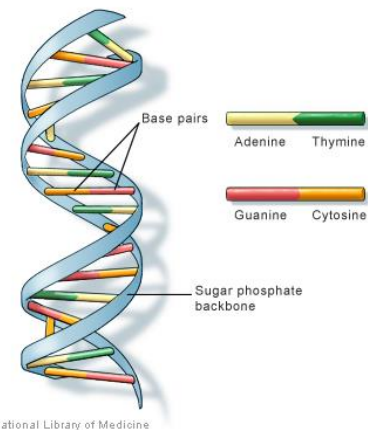


In the last issue we began our respiratory journey from A to Z providing the meaning of common respiratory health terms. Terms you might come across in a brochure or website or maybe out of a doctor's mouth. (Don't be afraid of asking what they mean by it.)

Meanwhile our A to Z will provide you with all the technical terms you wanted to know explained in layperson's terms. Next up, D to L.

If there's a particular medical term you'd like to have clearly explained, let us know! Contact Jenni at E life@resphealth.uwa.edu.au or T 9382 4678 or M 0413 499 701.

D **DNA** – deoxyribonucleic acid, is the hereditary material in humans and almost all other organisms. Nearly every cell in a person's body has the same DNA. Most DNA is located in the cell nucleus (where it is called nuclear DNA), but a small amount can also be found in the mitochondria (where it is called mitochondrial DNA or mtDNA).



Diaphragm - dome-shaped sheet of muscle and tendon that serves as the main muscle of respiration and plays a vital role in the breathing process. In people with COPD it is a flatter dome than it should be, making breathing more difficult. It separates the chest cavity from the abdominal cavity.

Diaphragmatic breathing – (also called abdominal breathing, belly breathing or deep breathing) is when you contract your diaphragm, a muscle located horizontally between the chest cavity and abdominal cavity. Air enters your lungs and your belly expands during this type of breathing. Your shoulders do not rise to any degree. Best done seated or lying on your back. Place one hand on your belly just below your ribs, the other on your upper chest. Only the hand on your belly should move.

E **Echocardiogram** (or “echo”) an ultrasound study that can evaluate the impact of lung disease on the mechanics of your heart. This test also can provide information concerning the pressure in the pulmonary arteries. It uses high-pitched sound waves that are sent through a transducer which picks up echoes of the sound waves as they bounce off the different parts of your heart. These echoes are turned into moving pictures of your heart that can be seen on a video screen. The different types of echocardiograms are: transthoracic echocardiogram, stress echocardiogram, Doppler echocardiogram transesophageal echocardiogram. It examines the chambers, valves, aorta and the wall motion of your heart. This test is painless and takes 30 minutes.

Electrocardiogram (ECG or EKG) checks for problems with the electrical activity of your heart. An EKG shows the heart's electrical activity as line tracings on paper. The spikes and dips in the tracings are called waves.

Exacerbation - a flare-up or temporary worsening of a chronic condition.

Exhale – the process of breathing out. The air you breathe out comprises 78% nitrogen, 14-16% oxygen, 4-5 % carbon dioxide, 1% argon and other gases and 5% water vapour. This contrasts with what you breathe in (at sea level): 79% nitrogen, 21% oxygen, 0.04% carbon dioxide, 1% argon, 0.5% water vapour.

Fibrosis, as in pulmonary fibrosis, is the formation of excess fibrous connective tissue in an organ or tissue, either as a process of repair or reaction. This can be a reactive, benign, or pathological state. In response to injury, this is called scarring, and if fibrosis arises from a single cell line, this is called a fibroma. It's basically an exaggerated wound healing response which interferes with normal organ function. Not to be confused with cystic fibrosis, a common genetic disorder in which affects the lungs and digestive system because of a malfunction in the system responsible for producing saliva, sweat, tears and mucus. (See previous issue Breath of L I F E Summer2016-17).

FEV - Forced Expiratory Volume – total amount of air you can forcefully breathe out after as big a breath in as you can manage. One of the Lung Function Tests (see below) in the group known as spirometry.

FEV1 Forced Expiratory Volume in the first 1 second of forcefully breathing out after a maximal in-breath. One of the Lung Function Tests (see below) in the group known as spirometry.

Fibrosing alveolitis is a disease of unknown cause mainly involving the gas-exchanging portions of the lungs, in the alveoli, the tiny air sacs. It may occur in isolation from other conditions and be called cryptogenic or idiopathic (of unknown cause), when the clinical signs are mainly respiratory, or it may be associated with other disorders, such as rheumatoid arthritis.

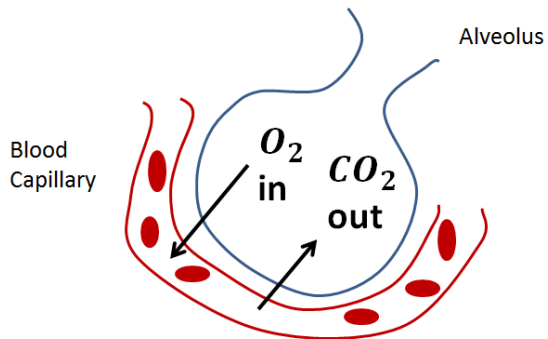
Gas exchange - the delivery of oxygen from the lungs to the bloodstream, and the elimination of carbon dioxide from the bloodstream to the lungs, where it can be breathed out. Gas exchange takes place in the lungs between the alveoli and a network of tiny blood vessels called capillaries, located in the walls of the alveoli (*singular* alveolus).

The walls of the alveoli actually share an extremely thin membrane with the capillaries in which oxygen and carbon dioxide move freely between the

respiratory system and the bloodstream. Oxygen molecules attach to red blood cells, which travel back to the heart. At the same time, the carbon dioxide molecules in the alveoli are blown out of the body with the next exhalation.

As you know, air enters the body through the mouth or nose, quickly moves to the throat, passes through the voice box, enters the trachea, which branches into a left and right bronchus in the lungs, then further divides into smaller and smaller branches called

bronchioles. The smallest bronchioles end in tiny air sacs, called alveoli, which inflate during inhalation, and deflate during exhalation. It's there that gas exchange takes place.



Gene - the basic physical and functional unit of heredity. Genes are made up of DNA, and act as instructions to make molecules called proteins. The Human Genome Project has estimated that humans have between 20,000 and 25,000 genes. Every person has two copies of each gene, one inherited from each parent. Most genes are the same in all people, but a small number of genes (less than 1%) are slightly different between people. Alleles are forms of the same gene with small differences in their sequence of DNA bases. These small differences contribute to each person's unique physical features.

General Respiratory Function – (GRF) – you might see these initials on the form your doctor gives you for lung function testing. It refers to a standard range of lung function tests including measuring lung volumes, maximum expiratory flow, gas distribution within the lungs, and **gas exchange or transfer**.

Gram negative and **gram positive bacteria** are different types of bacteria based on their structure and the colour stain they take up under the laboratory microscope. Knowing the bacterial type in your lung infection helps doctors choose the most suitable antibiotic(s) to treat it. Gram negative bacteria will stain red because the thin peptidoglycan layer is surrounded by the plasma membrane and thus will not stain with crystal violet. Gram positive bacteria stain purple because of their thick peptidoglycan cell wall. Examples of gram negative bacteria are *E. coli* and *Pseudomonas aeruginosa*. Gram positive bacteria include *Listeria*, *Clostridium*, *Streptococcus* and *Staphylococcus*.

Hay Fever - the common name for allergic rhinitis, an allergy affecting the nose. Most people associate hay fever with spring, when airborne pollens from grasses are at their peak. However, hay fever can occur at any time of the year. This is known as perennial allergic rhinitis, which is usually caused by a reaction to allergens around the home, such as dust mites, moulds or animal hair or fur or occupational allergens. There was an extended article about hay fever in the [spring 2016 issue of Breath of L I F E](#).

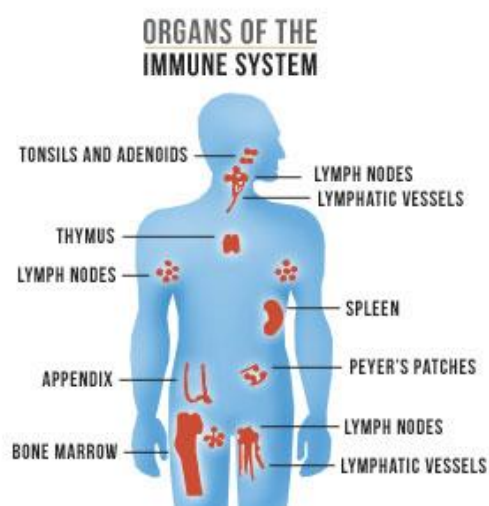
Idiopathic (of a disease) – a condition of unknown, uncertain or obscure origin. Similar meaning to cryptogenic. For example, idiopathic pulmonary fibrosis, cryptogenic fibrosing alveolitis.

Idiopathic pulmonary fibrosis (IPF) causes persistent and progressive scarring of the tiny air sacs (alveoli) in the lungs. The alveoli perform the vital functions of transferring oxygen to your blood stream from the air you breathe in, and transferring the waste product, carbon dioxide from your blood, to the air you breathe out. The amount of scar tissue irreversibly increases over time. The rate at which the disease progresses is highly variable, with some patients remaining stable for many years while others may deteriorate rapidly

The reasons why people develop IPF are currently not known although many researchers are investigating it, including some at the Institute for Respiratory Health. The term 'idiopathic' literally means 'of no known cause' although it is known that the disease is more common in smokers. 70% of those diagnosed have a history of significant nicotine consumption. As a general rule, IPF is not passed on to siblings or children, but on occasions, several members of one family may be affected. This suggests that one's genetic profile may be a factor in the cause of the illness.

More at [Lung Foundation Australia](#)

Immune system - is made up of a network of cells, tissues, chemical and organs that work together to protect the body and fight infection. One of the important cells involved are white blood cells, also called leukocytes, which come in two basic types that combine to seek out and destroy disease-causing organisms or substances. White blood cells are made in the bone marrow. They move through blood and tissue. Every time a microbe (germ) is overcome, the immune system 'remembers'



that microbe. If the body comes in contact with that microbe again, it will be defeated quickly. The immune system also produces proteins called antibodies that can help neutralise infection or the toxins that some germs produce.

Influenza, commonly called "the flu", an infectious disease caused by an influenza virus. Symptoms can be mild to severe. The most common symptoms include a high fever, runny nose, sore throat, muscle pains, headache, coughing, and feeling tired. They typically begin two days after exposure to the virus and most last less than a week. The cough, however, may last for more than two weeks. Usually, the virus is spread through the air from coughs or sneezes. This is believed to occur mostly over relatively short distances. It can also be spread by touching surfaces contaminated by the virus and then touching the mouth or eyes. A person may be infectious to others both before and during the time they are showing symptoms.

Frequent hand washing reduces the risk of infection because the virus is inactivated by soap. Influenza spreads around the world in a yearly outbreak, resulting in about three to five million cases of severe illness and about 250,000 to 500,000 deaths. In the northern and southern parts of the world outbreaks occur mainly in winter while in areas around the equator outbreaks occur at any time of the year.

The elderly, those with pre-existing medical conditions and pregnant women are at greatest risk of severe complications from influenza, but even healthy people can get severe influenza. Aboriginal and Torres Strait Islander people are at higher risk of influenza and its complications than other Australians. In Australia, dozens of deaths and thousands of hospitalisations due to influenza are recorded each year.

Influenza vaccine - recommended by the World Health Organization, the Australian Department of Health and the United States Centers for Disease Control and Prevention for high-risk groups, such as children, older people, health care workers, and people with chronic illnesses such as asthma, diabetes, heart disease, or are immuno-compromised, and others.

Annual influenza vaccination is recommended for any person aged 6 months and over who wants to protect themselves from influenza. Annual influenza vaccination funded under the Australian National Immunisation Program is provided for people aged 6 months and over who are at increased risk of severe influenza including: adults aged 65 years and over; Aboriginal and Torres Strait Islander people aged 6 months to 5 years, and over 15 years, pregnant women and people with specified medical conditions, **including chronic lung diseases**.

There are two types of inactivated influenza vaccines in Australia – trivalent (TIV; contains two influenza A strains and one influenza B strain) and quadrivalent (QIV; contains the same strains as TIV plus a second B strain). The strains used in seasonal influenza vaccines can change from year to year depending on which viruses are expected to predominate in each season. In 2016, certain QIVs are funded under the NIP. Both TIVs and QIVs are available for purchase in the private market. TIV typically provides protection against laboratory-confirmed influenza in approximately 60% of healthy adults.

Intercostal muscles are several groups of muscles that run between the ribs, and help form and move the chest wall. (They are what you eat when you have “ribs” at a restaurant.) The intercostal muscles and the diaphragm are involved in the mechanical aspect of breathing - because the lungs have no muscles of their own. These muscles help expand and shrink the size of the chest cavity to facilitate breathing.

The intercostal muscles of people with COPD do not usually function normally for a number of reasons. Consequently breathing may need to be assisted by other muscles, known as secondary or accessory muscles of respiration. Accessory muscles are located in the neck and shoulders. People without respiratory disorders do not usually use these muscles in breathing. That’s why it’s harder for people with chronic lung disease to carry parcels while walking.



Inhale - breathe in. It is the opposite of "exhale," which is to breathe out. When we inhale, we draw air into our lungs through our noses and mouths. Then we exhale, or breathe the air out again.

Interstitial lung disease - a general category that includes many different lung conditions. It involves scarring, inflammation or a fluid surplus in the interstitium, a lace-like network of tissue throughout the lungs - more or less everything in the lungs except the airways and the microscopic air sacs (alveoli) which the interstitium supports. Tiny blood vessels travel through the interstitium, allowing gas exchange between blood and the air in the lungs. Normally, the interstitium is so thin it can't be seen on chest X-rays or CT scans. Some examples of interstitial lung diseases are: interstitial pneumonia, idiopathic pulmonary fibrosis, cryptogenic organising pneumonia, asbestosis, sarcoidosis.

There seem to be no J or K respiratory related terms that start with J or K.

HOW CAN I GIVE BACK?

A New Year Resolution? Doing something that helps make the world a better place, feels good too. Here are five things you can do, no matter how advanced your condition.

1. **Volunteer** for L I F E - help our L I F E group. Or another community organisation near you.
2. **Join the L I F E working bee** which helps the Institute for Respiratory Health's Clinical Trials Unit. Just speak to Sal at the next L I F E meeting or call her T 9331 3651.
3. **Register with the Clinical Trials Unit** of the Institute for Respiratory Health to take part in the trial of a new respiratory medication. Call Leisa T 6457 4482 E leisa.wilson@resphealth.uwa.edu.au.
4. **Become a simulated patient** at the University of Western Australia's School of Medicine and help train doctors of the future. Call the Doctor of Medicine Team T 6488 7528 E mdpatients-fmdhs@uwa.edu.au
5. **Volunteer to be a research subject** in a project advertised here or in your local paper.
6. **Donate** to the work of the Institute for Respiratory Health. Call 6457 3198.
7. **Mention the Institute's important research** into lung disease to friends and relatives who also might be interested to make a donation.



INSTITUTE FOR RESPIRATORY HEALTH

The [Institute for Respiratory Health](#) (formerly LIWA) is a collaborative research organisation. It aims to improve the life of Australians living with respiratory conditions by bringing together world class researchers and dedicated clinicians to investigate, diagnose, treat and prevent respiratory conditions.

The Institute conducts and fosters innovative basic and clinical research and translates their work into improved treatments for people with respiratory conditions in Australia.

The Institute includes a Clinical Trials Unit and the community support group – L I F E for people living with chronic respiratory conditions.

[Membership](#) is open to community members, researchers, health professionals and research students.

[Your tax deductible donation to the Institute](#) or bequest supports respiratory research.



About Lung Information & Friendship for Everyone (L I F E)

L I F E - a group for anyone with a chronic lung condition, their family and carers. It's run by, and for, people with chronic lung conditions. Started in 1992 as LISA, our name changed to L I F E in 2009. L I F E is the community support group of [the Institute for Respiratory Health](#). More about the Institute on page 27.

L I F E is also a member of [Lung Foundation Australia](#)'s network of respiratory self help groups T 1800 654 301. L I F E is thankful for the support of the Department of Respiratory Medicine at Sir Charles Gairdner Hospital.

Breath of L I F E magazine

Our magazine is published 4 times a year - March, June, September & December. It is distributed to all community members of the Institute, including L I F E members. Send your contributions to the editor, Jenni Ibrahim E life@resphealth.uwa.edu.au 7 Ruislip St, W. Leederville, WA 6007. [Read it online](#). ISSN 2207-0028 (Digital version)

L I F E Membership

Join L I F E by becoming a community member of the Institute. Come to a meeting or contact the Institute T **6457 3198** or E life@resphealth.uwa.edu.au. Membership fee of \$20 a year (incl. GST) is due each 1 July. Members' help and ideas are always welcome - magazine, speakers, social events. Please tell us if you change address.

Contacts

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Hospital Ave, Nedlands WA 6009

Email life@resphealth.uwa.edu.au **Web** [L I F E on the Institute website](#) [L I F E also on Facebook](#)

Meetings

1st Wednesday of every month, February to November from 12 - 2.30pm. Speaker starts at 1.00pm.

Level 6 Meeting Room 612A, Perkins Institute Building, Queen Elizabeth II Medical Campus, Nedlands. Wheelchair and gopher accessible. Light refreshments. If you can, please bring a plate to share. (We no longer meet at the Respiratory Library, Department of Respiratory Medicine, 1st floor, B Block.)

COMING UP

Wed 1 Feb	Meeting (no speaker)	Catch up over a cuppa after the Christmas break
Wed 1 Mar	Art of letter writing - Letter to my Lungs	Workshop with Melissa and Jenni
Wed 5 Apr	Your wellbeing: your plan	COTA speaker
Mon 10 Apr	Secret Autumn pub lunch	11.15am at Perth Busport. More inside. RSVP a must
Wed 3 May	Our home in space	Perth Observatory volunteer speaker
Wed 7 Jun	Medication reviews	Stephani Johnston, Pharmaceutical Society



institute for
RESPIRATORY HEALTH

**Seeking information
about your lung
condition and how to
cope with it?**

**Like to meet others in
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