



It's Bushfire season – Be “air smart” and “lung smart”.

AHW reports a \$1.95 billion smoke-related health costs last season | Respiratory expert urges Aussies to be lung fit for the upcoming bushfire season

This time last year, Australians were bracing themselves for the onslaught of unprecedented bushfire events, with air pollution up to 11 times the base 'hazardous' level.¹ This resulted in smoke-related health costs estimated at \$1.95 billion according to the Australian Institute of Health and Welfare's Australian bushfires 2019–20: Exploring the short-term health impacts released this week.²

As an “air smart” public education campaign is considered by the NSW Parliament, maintaining respiratory health is becoming a priority for many Australians, with many considering what immediate steps can be taken now.^{1,3}

The proposed “air smart” public education campaign, similar to the established “sun smart” campaign, would be designed to manage and interpret the health risks associated with exposure to poor air quality. It is one of the six recommendations of Report 54: Health impacts of exposure to poor levels of air quality resulting from bushfires and drought recently tabled in the NSW Legislative assembly.¹

No one is disputing that these events had direct impacts on the respiratory systems of countless Australians – with adverse health effects such as irritated eyes, nose and throat to worsening symptoms associated with asthma and other lung conditions (such as COPD).^{2,4,5}

At the national level, the CSIRO is currently working on rolling out an AQFx (air quality forecasting system) to benefit all Australians. This system currently only anticipates health hazards across NSW and Victoria, including bushfire and prescribed burn smoke, wind-blown dust and urban sources of pollution.⁶

So what can everyday Aussies do now to be “lung smart”

Australian functional breathing expert, Dr Rosalba Courtney, has seen first-hand how the last year has impacted people's wellness generally. “COVID-19 and the chaos of the bushfire season has made many people more aware of the importance of good breathing and healthy lungs. Luckily, we can do breathing training to improve the resilience of our lungs,” said Dr Courtney, speaking from her Breathe and Body clinic on Sydney's Northern Beaches.

While it will take government efforts to co-ordinate a unified approach to national alerts around air quality and to implement the “air smart” campaign, being “lung smart” is something that everyday Australians can do right now, especially as many regions are again placed on high alert for bushfire activity.

“It's not just the smoke, or the fact we haven't been able to move as much as we'd have liked, the stress and anxiety the changing world has caused has had a big impact upon how we breathe. Using the right tools, techniques and devices, you can train your respiratory muscles to be stronger and more efficient. Even the benefits of warm, moist air should not be overlooked as a way to improve your respiratory health. Research shows that Respiratory Muscle Training, or RMT, can improve fitness and breathlessness in people with chronic lung conditions,” says Dr Courtney.^{7,8}

“Steam has been used to loosen tight phlegm from the airways for years, and while not every Australian has the easy access to saunas as they do in Finland, there are some innovative devices developed in Europe that have been designed to combine the traditional benefits of Nordic steam with home-based RMT,” said Dr Courtney.^{8,9}

Dr Courtney is one of the first Australian health care professionals to investigate the benefits of the WellO2, an at-home Nordic steam breathing device.

“Devices such as the WellO2 offer a novel approach to RMT as it combines the benefits of warm steam with respiratory muscle strengthening to assist the lungs” said Dr Courtney.

With pollution a major trigger for those living with respiratory concerns, and Australians again preparing for potentially adverse air quality issues caused by summer bushfires, now is the perfect time to take better care of your lungs, and discover how to breathe better.

So this summer, remember to Slip, Slop, Slap and Steam.

Dr Courtney's Top 5 “Lung Smart” Health Tips

1. Stay Hydrated – “It might seem simple but drinking enough water each day is as important for the lungs as it is for the rest of the body,” Dr Courtney explains. According to Dr Courtney, keeping well-hydrated helps maintain the health of the mucosal lining in the lungs.
2. Slow relaxed breaths – “The day-to-day stress of life, the looming threat of more bad air quality and the anxiety of the pandemic has meant a lot of us hold tension in the breathing muscles as well as the rest of the body. Stress tends to make people breathe more quickly. Slowing the breath down is one of the best ways to relax while also improving the ability of our lungs to take up oxygen,” says Dr Courtney. “Deep breathing helps you to expand and allow your lungs to reach their full capacity. As you slowly breath in, place your hand on your belly and feel the push of air into your

diaphragm, allowing your ribs to open and your upper chest to expand and lift,” says Dr Courtney.

3. Nasal breathing – Our nose is an important part of the respiratory system. It warms and humidifies the air we breathe and protects the airways from allergens, pollutants and pathogens. Nasal breathing also tends to make our diaphragm work better. “An easy way to improve the health of the whole respiratory system is to breathe through the nose. The more you train yourself to breathe nasally, during exercise and rest, the easier it becomes,” says Dr Courtney.

4. Sit Straight, Stand Tall and Breathe with the Diaphragm – “Our lungs themselves are soft structures, so making room for them to expand and contract as you breathe is incredibly important,” says Dr Courtney. With increasing time at the desk thanks to the home-office realities, slouching and poor ergonomic office design has meant people are not sitting as straight, and as a result not allowing their lungs and rib cage to expand appropriately. Breathing patterns can become abnormal with excessive use of our upper rib cage which leads to insufficient use of the diaphragm during breathing. “An easy way to address this, is to stop every hour or so in your chair, relax your shoulders and while relaxing direct your breath into the lower ribcage and belly,” she says.

5. Invest in a breathing trainer – Lung fitness changes over time. The breathing capacity of adult lungs declines, as does the power of adult respiratory muscles, as we age. But just as we can strengthen other muscles in our bodies, we can also strengthen our lungs with RMT. Steam plus RMT may assist to increase in the strength of respiratory muscles and improve pulmonary gas exchange. Breathing exercise devices come in a range of styles and are beneficial not only for those experiencing ongoing respiratory concerns, but for individuals looking to engage in conscious breathing for everyday general wellness. ENDS

Expert available for comment:

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Ref 1. Health impacts of exposure to poor levels of air quality resulting from bushfires and drought / Portfolio Committee No. 2 – Health [Sydney, N.S.W.] : the Committee, 2020. [xii, 103] pages ; 30 cm. (Report no. 54 / Portfolio Committee No. 2 – Health) <https://www.parliament.nsw.gov.au/lcdocs/inquiries/2580/Report%20no%2054%20-%20PC2%20-%20Health%20impacts%20of%20poor%20air%20quality.pdf>

Ref 2. Australian bushfires 2019–20: Exploring the short-term health impacts Australian Institute of Health and Welfare. November 2020

Ref 3. Lung Health and Attitudes to Wellness – an Australian perspective. November 2020 (A Survey of 55 Australians, prior to embarking on a 6 week trial of WellO2.)

Ref 4. Australian Government’s Health

DirectWebsite <https://www.healthdirect.gov.au/bushfires-and-your-health#health-risks> and <https://www.healthdirect.gov.au/blog/do-face-masks-protect-you-from-bushfire-smoke>

Ref 5. The Breathing problems up due to bushfires published by NSW Health 13 November 2019 https://www.health.nsw.gov.au/news/Pages/20191113_00.aspx

Ref 6. CSIRO Smoke forecasting for bushfires and prescribed burns (case study) May 2020 <https://www.csiro.au/en/Research/OandA/Areas/Assessing-our-climate/Smoke-forecasting>

Ref 7. Severin, Richard et al Respiratory Muscle Performance Screening for Infectious Disease Management Following COVID-19: A Highly Pressurized Situation; Am J Med 2020 [https://www.amjmed.com/article/S0002-9343\(20\)30347-8/fulltext](https://www.amjmed.com/article/S0002-9343(20)30347-8/fulltext)

Ref 8. Chronic obstructive pulmonary disease (COPD) is common in Australia and treatment options for advanced disease are limited. Newer interventions including steam therapy are being evaluated in patients with advanced COPD and are likely to become available in the future. <https://respiratorymedicinetoday.com.au/2017/may/regular-series/bronchoscopic-procedures-copd-breath-fresh-air>

Ref 9. In August 2020, the ethical committee of the University of Tampere approved a six-month clinical study to monitor the use of RMT and steam inhalation (using the WellO2) in 60 patients with COPD and asthma, comparing the results against a baseline of muscle strength measured prior to starting use of the WellO2, again after one month of use and then followed up in a further five months to see how respiratory muscle strength has been

retained. Initial results are due in December 2020. <https://ichgcp.abr.dev.mezhbank.kiev.ua/clinical-trials-registry/NCT04584398>

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