



*"When you can't breathe...  
nothing else matters"*<sup>TM</sup>

## **Woodsmoke and your Health: The Burning Issues**

### **THIS RESOURCE IS CURRENTLY UNDER REVISION**

Wood-burning heaters are often admired for the ambience they add. However, smoke from woodheaters can be a major source of air pollution in many parts of Australia, and is a real and significant health hazard. There are a number of different pollutants in woodsmoke including particles of differing sizes, and chemicals such as dioxins and volatile organic compounds - many of which are potentially toxic and have unknown long-term effects. Many of these compounds are common with those seen in tobacco smoke or car exhausts.

Studies from many regions around the globe have identified short-term increases in death rates and hospital admissions related to increased concentrations of woodsmoke in the air. The particles in woodsmoke can penetrate deeply into the lungs and irritate the airways, thus causing existing problems such as COPD (emphysema/chronic bronchitis) or asthma to worsen.

Dr James Markos, Respiratory Physician and Chairman of the Tasmanian Branch of The Lung Foundation Australia (Lung Foundation), feels strongly about the particles that are released into the atmosphere with woodsmoke. "There is no safe level of exposure to particle pollution. Over many years, exposure has similar long-term consequences to environmental tobacco smoke, including the risk of lung cancer and heart disease," he said.

There are growing numbers of people concerned about the health effects of woodsmoke, and about deficiencies in the design of woodheaters. Most woodheaters tested do not meet Australian standards in investigations performed by the (Federal) Department of Environment and Heritage, leading to concerns even about new woodheaters.

The Lung Foundation Australia recommends:

#### ***Using alternative methods for climate control:***

- Insulation and other measures to improve the energy efficiency of the home;
- Heaters fired by natural gas (with flue to exterior) or electricity;
- Energy efficient house design (e.g. windows that allow the winter sun in).

#### ***Where consumers continue to use woodheaters, to:***

- Use correctly stored dry, seasoned wood;

- Properly maintain the heater and chimneys such as cleaning the creosote from the flue yearly;
- Replace the “chinaman’s cap” with a parallel rain excluder;
- Apply techniques to minimize smoke such as loading the wood with adequate space around the logs, and putting on a quick burn after lighting or reloading (according to Prof John Todd of Tasmania, poor use of woodheaters can increase the amount of smoke from a woodheater by 100 times);
- Seek woodheaters that meet AS/NZS (Australian/New Zealand Standard) 4013 for particle emissions or consider up-grading existing woodheater to a less polluting model.

#### Publications and Activities

-  [AAQ\\_NEPM\\_submission.pdf](#) by Dr James Markos on behalf of The Lung Foundation - 27 August 2010
- National Environment Protection Council, Review of the National Environment Protection (Ambient Air Quality) Measure Air Quality Standards Discussion Paper - July 2010
- *The 7.30 Report: Audit finds woodburning heaters failing to meet pollution standards* - on 9 June 2004, the 7.30 Report broadcast on the ABC a story on woodheaters, including an interview with Dr James Markos.
- *Health impacts of woodsmoke* - a summary written by Dr James Markos for a presentation at the Clearing the Air conference in May 2004.
-  *Media Release "Recall faulty wood heaters now"* 15.85 Kb
-  *Woodsmoke, air pollution and your health* 612.50 Kb - a brochure written by Dr James Markos for The Lung Foundation on this problem.
- *Outdoor Air Pollution & Lung Disease* – a brochure produced by The Lung Foundation detailing some of the issues relating to air pollution.
- *Indoor Environment and Lung Health* – a brochure produced by The Lung Foundation explaining some of the issues of allergens and household chemicals.

This brochure is one in a series produced by Lung Foundation Australia to provide information on lung disease, its treatment and related issues. The information published by Lung Foundation Australia is designed to be used as a guide only, is not intended or implied to be a substitute for professional medical treatment and is presented for the sole purpose of disseminating information to reduce lung disease.

Any information relating to medication brand names is correct at the time of printing. Lung Foundation Australia has no control or responsibility for the availability of medications, which may occasionally be discontinued or withdrawn.

Please consult your family doctor or specialist respiratory physician if you have further questions relating to the information contained in this leaflet. For details of patient support groups in Australia please call 1800 654 301.

## Reference pages

- [!\[\]\(6302aad5aed157b291fddf37b4870784\_img.jpg\) Department of Environment and Heritage National Woodheater Audit 551.67 Kb – The Australian Department of Environment and Heritage has commissioned an audit of woodheaters which reveals that most tested \(new\) heaters fail to meet national standards, and has linked certain organic pollutants to woodheater use.](#)
- [Department of the Environment, Water, Heritage and the Arts air quality page](#) – a collection of pages from the Department of the Environment, Water, Heritage and the Arts on various issues relating to Air Quality, such as a report on the state of the air. Connected to this page is published a plan of action to seek certification of newly manufactured heaters to deal with the problem of woodheaters that fail to properly meet the national standards.
- [Department of the Environment, Water, Heritage and the Arts woodsmoke pages](#) – an extensive collection of pages from the Department of the Environment, Water, Heritage and the Arts with tips on how best to use a woodheater, analysis of the problem in the Tamar Valley in Tasmania, notes on the woodheater exchange programme in Launceston, and wide-ranging notes on the woodsmoke problem in general.
- [Aurora Air Quality index page](#) – An energy company in Tasmania has a helpful page relating to the various aspects of the woodsmoke issue. It has been recorded that Hobart's air quality is as bad as Sydney's despite a much smaller population, and this has been directly attributed to woodsmoke.
- [Clean Air Revival](#) – An American based website, loaded with information on many aspects of the woodsmoke issue.
- ["Air Quality and Human Health"](#) – A pdf file of a discussion paper written for the Department of the Environment in 1997 by Professor Peach on the relationship between the quality of air and its impact on health. A little dated, but solid review of some of the literature.
- [Testimony Regarding the Significance of Airborne Pollution to Health](#) – Testimony by Dr Joel Schwartz of Harvard Medical School to the House Committee on Science in the USA about the significance of airborne pollution as a threat to health. A well-referenced but technical discussion.
- [Clean Air Society of Australia and New Zealand](#) – An organization with an interest in many different issues relating to the state of the atmosphere and the effects of pollutants, with interesting links to the National Pollutant Inventory and to issues relating to industrial pollution.

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### Links to some groups responding the woodsmoke problem as a local issue

- Armidale Air Quality Group – Armidale, in the New England region of northern NSW suffers from exceptionally poor air quality in winter causing an estimated 4 - 19 premature deaths per year in that community. The University of New England has been active in monitoring the effects of woodsmoke on the local population.
- Launceston Air Quality – Woodsmoke is a very significant problem in Launceston , Tasmania to the extent that there is a funded woodheater replacement programme.
- CABRA – This group (raising Community Awareness about the health effects of Burning wood in Residential Areas) is based in South-East Queensland and relates some of the direct personal experiences of people who have had problems with woodsmoke.
- Clean Air Now – a small chat group based out of New York state in the USA.
- Environment Canterbury – Air quality in the Christchurch , New Zealand has also been a huge issue, with financial assistance being offered to replace older, less efficient woodheaters. There is a ban on purchasing new woodheaters if the home does not already have one.
- (Health and air pollution in New Zealand) (<http://www.hapinz.org.nz/>) - The Health and air pollution in New Zealand: Christchurch pilot study is available from this website.

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