

The Woolcock Institute of Medical Research



Our work makes a difference to people's lives

WOOLCOCK

LEADERS IN BREATHING & SLEEP RESEARCH





RESEARCH MATTERS

OUR VISION

Improved quality of life for individuals and families affected by sleep, breathing and lung disorders.

OUR MISSION

The Woolcock Institute of Medical Research strives to improve breathing and sleep health globally through world-class research, clinical care and education. We are a not-for-profit research institute.

We are determined that our work creates a better life for people living with respiratory conditions and sleep disorders.

Our dedication to wellbeing is at the very heart of what we do.

WHO WE ARE AND WHAT WE DO

The Woolcock Institute of Medical Research is a not-for profit research institute focussed on improving breathing and sleep health globally through world-class research, clinical care and education.

Our team of more than 200 medical researchers is committed to investigating the causes of respiratory disease and sleep disorders, finding better treatments and translating discoveries into new clinical practice. Their expertise ranges from respiratory and environmental epidemiology and epigenetics, through cellular and molecular biology, airways physiology and clinical management to respiratory technology and devices.

Our approach is holistic, from basic scientific research into the mechanisms of disease through to the development of high-tech applications and inhalers for the front line. Our work involves clinical investigation of new therapies, innovative approaches to patient management, implementation research to improve the uptake of our evidence and the study of large patient populations to determine the best public health strategy for respiratory and sleep health.

The Woolcock Institute of Medical Research is ranked as the leading respiratory and sleep research organisation in Australia.

Global rankings released by the influential Times Higher Education ranked the Woolcock as the top specialist sleep and respiratory health research centre in the world.

THE LEGACY OF PROFESSOR ANN WOOLCOCK

The Woolcock Institute of Medical Research was founded by clinician and researcher, Professor Ann Woolcock. Born in the country town of Reynella, South Australia, Ann was passionate about life, learning and making a difference.

Her research has had a fundamental impact on our understanding of the causes and natural history of poor respiratory health. She was the key driving force in the establishment of both national and international treatment management guidelines for respiratory disease.

In 1984, Ann established the world-leading Institute of Respiratory Medicine in Sydney to focus on research with important practical applications to improve diagnosis, treatment, management, and quality of life. It was renamed the Woolcock Institute of Medical Research on 31 August 2002 in her honour.



She was the first woman in clinical medicine to be elected to the Australian Academy of Science in 1992 and received the Order of Australia in the same year.

Ann's legacy and passion live on in the clinicians and researchers who continue her work at the Woolcock today.

Today, the Woolcock is a not-for-profit research facility with a patient clinic specialising in respiratory and sleep health. We have strong campus partnerships throughout Sydney and NSW and a branch office in Vietnam.



OUR CLINICAL SERVICES

At the Woolcock Clinic, we provide patients with the best possible care and treatment. Our specialists are at the forefront of their fields, with access to the latest innovations in diagnosis and cutting-edge, evidence-based medicine.

Our unique, multidisciplinary approach provides patients with access to a wide range of specialties, including respiratory and sleep medicine, neurology, psychiatry, psychology, allergy and immunology, geriatrics, rehabilitation medicine, exercise physiology, endocrinology, ENT and specialised dental services – under the one roof.

THE WOOLCOCK CLINIC IS EQUIPPED TO RUN A RANGE OF COMPREHENSIVE DIAGNOSTIC TESTS INCLUDING:

- Overnight sleep studies – adult and paediatric
- Home (portable) sleep studies
- Daytime sleep tests
- Full lung function tests
- Allergy testing - adult and paediatric

Our clinic, based in Macquarie Park, north west Sydney, has modern testing facilities and comfortable accommodation with 11 sleep study beds (adult and paediatric).

WE ALSO OFFER THE FOLLOWING SPECIALISED SERVICES:

- Sleep Clinic
- Paediatric Sleep Clinic
- Lung Clinic
- Woolcock Therapy Centre - CPAP Clinic
- Insomnia Clinic
- Neurosleep Clinic
- Weight Loss Clinic
- Narcolepsy and Excessive Sleepiness Clinic

“The entire process was extremely easy and streamlined. The set up was explained thoroughly, done quickly, and completed with care and consideration. The care and professionalism provided at the Woolcock is amazing. Truly a seamless, easy, calm experience.” - Ali H



SLEEPING

A good night's sleep is as important for our health as exercise and a balanced diet. Poor sleep can affect everything from mood, memory and cognitive function to weight and metabolism.

Sleep disorders such as insomnia and sleep apnea diminish quality of life, affect the ability to think clearly and place sufferers at greater risk of injury. Poor sleep also has a substantial economic and social cost.

Our research aims to increase our understanding of how sleep disorders develop, progress and present in each individual. We use cutting-edge technology to diagnose sleep disorders, look at how they affect health, mood and function and develop individual-based targeted treatments that adjust for differences between patients. Our unique sleep laboratory facility allows for close control of time awareness, light, temperature, sound and sleep.

CURRENT RESEARCH

- Investigating the links between poor sleep and cognitive decline in older adults
- SleepFix App, smart phone treatment for insomnia symptoms
- Cannabis-based medicine for insomnia
- Testing novel drug treatment for sleep apnea
- Reducing sleep apnea for the prevention of dementia
- Measuring the effect of rapid weight loss through diet and exercise on body composition and obstructive sleep apnea

Sleep problems affect virtually everybody at some point.

Disruption to sleep patterns is a risk factor for dementia, high blood pressure, heart disease, stroke and diabetes.

More than one in five Australian adults and children suffer from sleep disorders, with insomnia and obstructive sleep apnea the most common.



BREATHING

Our research investigates the causes and impact of asthma and chronic obstructive pulmonary disease (COPD) as well as designing better ways to treat these diseases. We are developing diagnostic tools that allow us to evaluate the severity of asthma and use 3-dimensional imaging techniques to understand how the airways in asthmatics and those with COPD close and become obstructed. We work with GPs and pharmacists to improve asthma and COPD care on a day-to-day basis.

Another area of research being studied is particulate matter air pollution, also known as particle pollution. Our scientists are studying these effects on the lung. This has become a major problem as we face new challenges in the environment.

Tuberculosis (TB) is a world-wide problem, including in Australia. What is particularly concerning is that antibiotic-resistant strains of TB now exist and are becoming more common. We are working on new approaches for targeting and managing TB.

CURRENT RESEARCH

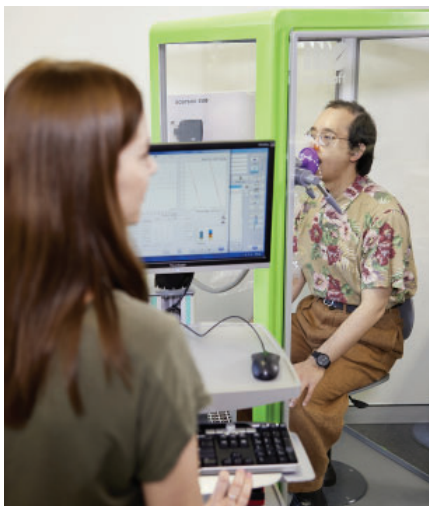
- Mask-wearing protocols for frontline healthcare workers and ventilation guidelines to address aerosol transmission of COVID-19
- Nasal spray delivery of mRNA vaccines to make them more widely available
- Wide mass screening for TB in Vietnam to reduce TB in the population
- Changing the way asthma is treated by leading the world in improving asthma care in the community using the skills of the community pharmacist
- Improving health and well-being for people exposed to bushfires and smoke

Asthma is one of the most common respiratory diseases, affecting 334 million people globally, rising to 400 million by 2025.

Asthma affects over 2.7 million Australians, or 1 in 9 people.

COPD affects more than 464,000 Australians aged 45 or over.

1.7 million people die each year from TB, mostly infants and children.



LUNG CANCER

Despite alarming statistics about the prevalence, detection and mortality rates for people with lung cancer, it carries a stigma that makes it a taboo subject. This is likely to be due to its links to smoking, even though studies show 35 percent of lung cancers in women are not smoking-related.

CENTRE FOR LUNG CANCER RESEARCH

The Centre for Lung Cancer Research at the Woolcock Institute of Medical Research is dedicated to understanding and treating lung cancer, offering high-tech facilities to promote large translational research programs within the field.

The modern, purpose-built research laboratory is changing the way a deadly cancer is diagnosed, treated and studied both in Australia and globally.

The Woolcock is also home to the Lung Cancer Research Network, a team of world-class researchers from over 20 hospitals, research centres, universities and organisations who are united in the goal to better understand, treat and prevent this killer disease. The specialists come together to share data and launch large multidisciplinary projects to rapidly progress avenues of research.

CURRENT RESEARCH

- Understanding how the human microbiome is altered in lung cancer and how it can be exploited in treatment
- Developing microbiome-based tests to identify therapy resistance and interventions to reverse the resistance
- Establishing preclinical evidence for a new type of targeted lung cancer therapy
- Developing stents and surgical aids for patients undergoing lung cancer surgery

Lung cancer is the most common life-threatening cancer in both men and women.

Over 10,000 cases of lung cancer are diagnosed in Australia annually.

Unlike breast or prostate cancer, lung cancer has no diagnostic tests for early detection.



BECOME INVOLVED

Research does not happen in isolation. By becoming involved with us, you are part of a group of people who dedicate their lives to achieving improved health for those in Australia and across the world.

There are many ways you can become involved with the Woolcock Institute of Medical Research. You can:

TAKE PART IN ONE OF OUR RESEARCH STUDIES

We run many research projects which are only possible because of the invaluable help of our volunteers. If you are interested in participating in any of our trials, please visit our website www.researchvolunteer.org.au.

BECOME A STUDENT

Each year researchers at the Woolcock supervise many higher degree research students from different national and international universities. We encourage PhD, Masters and Honours students to seize the opportunity of working alongside world leaders in respiratory and sleep research.

RECEIVE OUR NEWSLETTER

Visit our website, www.woolcock.org.au/subscribe, to sign up to receive our regular newsletter outlining the latest developments in our research.

MAKE A DONATION

The Woolcock Institute of Medical Research is a not-for-profit organisation where medical researchers and healthcare professionals develop and provide better treatments for millions of Australians who suffer from sleep and respiratory disorders. Donations are vital for our ongoing life-changing research.

All donations of \$2 or more are tax deductible. Please visit our website for details.

Some examples of generous donations include:

- A PhD scholarship to investigate the latest technology to support people after lung cancer surgery
- A new, specialised device providing unique and highly detailed information about the brain during sleep and when awake
- Specialised equipment for emphysema patients to detect early warning signs of their disease

FUNDRAISE/SUPPORT A RESEARCHER/

LEAVE A GIFT IN YOUR WILL/LIKE US ON FACEBOOK

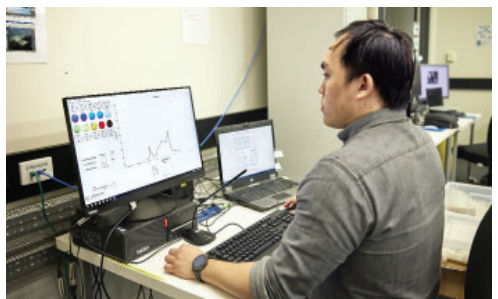
Please visit our website, www.woolcock.org.au, for details.

IMPACT OF THE WOOLCOCK

OUR RESEARCH AT THE WOOLCOCK HAS CHANGED:

- Government policy on flued and unflued gas heaters used in NSW public schools prompting a \$400 million replacement project
- Our understanding of why respiratory infections can lead to the development of lung diseases
- Routine diagnosis of sleep disorders and our consideration of the risk of untreated obstructive sleep apnea (OSA)
- Prediction of asthma epidemics such as during certain thunderstorms
- Guidelines for the treatment of sleep and respiratory disorders internationally
- The development of biomarker testing for predicting patient response to cancer therapy
- World Health Organisation screening guidelines for tuberculosis which have led to dramatically reduced disease prevalence

With so much achieved today, imagine what your involvement can help us achieve tomorrow.







**The Woolcock Institute of Medical Research
is a not-for-profit organisation**

If you are interested in further information about becoming involved in our research studies or making a donation, please visit our website www.woolcock.org.au.

Your contribution will make a difference.

Thank you for your support.

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