Researchers at QIMR are giving smokers a very good reason to quit. Results of a recent study found the longer people had stopped smoking, the better their chances of avoiding oesophageal cancer regardless of how long and how much they smoked.

Based at the Clive Berghofer Cancer Research Centre, QIMR’s Dr David Whiteman said the finding sends a positive message to smokers and hopes it will motivate them to act.

“Our results showed for every 10 years that people had permanently ceased smoking, they could reduce their risk by almost 20 percent for all oesophageal cancer types compared to current smokers,” Dr Whiteman said.

“This means it’s never too late to quit.”

The three-year population study involved over 2,600 Australians (1,102 patients and 1,580 controls) and was led by QIMR researchers, in collaboration with doctors at more than 40 hospitals nationwide.

There are three sub-types of oesophageal cancer: oesophageal adenocarcinoma (OAC), gastro-oesophageal junction adenocarcinoma (GOJAC) and oesophageal squamous cell carcinoma (OSCC).

Dr Whiteman added that his team was particularly interested in understanding why cases of OAC have been on the rise in Western populations during a period when overall smoking prevalence has declined.

The research team found that long-term smoking was associated with all three sub-types, while quantity was only associated with GOJAC and OSCC.
QIMR’s Dr Kathy Andrews was recognised recently for her innovative approach to developing new anti-malarial drugs by winning the Senior Researcher category of the prestigious Queensland Premier’s Awards for Medical Research.

Up to 3 billion people - 48 percent of the world’s population - are living in areas at risk of malaria. Malaria results in between 2 and 3 million deaths around the world each year, mainly in children under the age of five.

The World Health Organization estimates that a child dies of malaria every 30 seconds.

While an effective vaccine is the ‘Holy Grail’ of malaria research, it is still many years away. Furthermore, with the declining effectiveness of many current anti-malarial agents and increasing insecticide resistance in the mosquito vector population, there has never been a more pressing need to discover and develop new drug treatments.

Dr Andrews (pictured below right) and her fellow scientists in the Clinical Tropical Medicine and Malaria Biology Laboratories may hold the key to getting new anti-malarials onto the market sooner, by taking advantage of drugs currently used for diseases such as cancer and HIV/AIDS.

“In Australia and around the world, there is a significant amount of research being conducted into new drugs to treat cancer and HIV/AIDS,” Dr Andrews said.

“This is an important consideration as many of the drugs currently used to prevent and treat malaria are now failing due to parasite resistance,” explained Dr Andrews.

“Time is running out: to save lives we urgently need to identify and develop the next generation of anti-malarial drugs.”

Dr Kathy Andrews completed her PhD in microbiology at Griffith University in 1998 after which she took up a postdoctoral position at QIMR to work on malaria.

Inspired by working on such an important health problem, she continued her research at the Heidelberg University in Germany for four years before returning to QIMR in 2003.

“The aim of my research is to use a piggyback platform to develop new drugs for malaria.”

Using this approach, Dr Andrews and her colleagues have already been able to show that some HIV drugs (known as aspartic protease inhibitors) can kill malaria parasites at clinically relevant concentrations.

They are now investigating malaria parasite aspartic proteases as the possible target of these drugs in the parasite. They are also investigating different classes of anti-cancer drugs for potential anti-malarial use.

The major strength of this piggyback platform is a faster turn-around in the development of drugs for clinical use against malaria because extensive safety and tolerability testing have already been carried out or the drugs are already approved for clinical use for other diseases.

“However, this existing expertise isn’t currently being utilised effectively against the global threat posed by major tropical infectious diseases.”
Researchers close in on new melanoma gene

Melanoma, the deadliest form of skin cancer, has long been known to be caused by sun exposure but some people are more likely to develop it than others.

Despite the efforts of health authorities, the incidence of melanoma continues to rise around the world. By the year 2011, experts predict more than 11,600 new cases will be diagnosed in Australia compared to 8,900 cases in 2001.

However, a project by QIMR and The Translational Genomic Research Institute in the US may yet change these statistics.

The team is close to discovering a new gene that could help explain variation in melanoma risk.

They have identified a region on chromosome 20 (20q11.22) that influences a person’s risk of developing melanoma.

Dr Stuart MacGregor from QIMR’s Genetic Epidemiology Group said their findings had implications for the general population.

“We’re closing in on genetic variants carried by one in six Australians which cause them to be at almost two-fold increased risk of developing the disease,” Dr MacGregor said.

“This finding is much more important than finding very rare genetic variants in a few specific families.

“The aim of our work is to identify and understand the genetic factors influencing melanoma so we can refine risk estimates.

“This in turn, means people will be better informed and can take the right precautions to avoid developing this increasingly common cancer.”

The study began data collection 20 years ago and more than 4,000 Australians have taken part.

QIMR scientists scoop major awards

QIMR staff and supporters celebrated three of their scientists in June after scooping a Premier’s Award for Medical Research, a Queensland Clinical Smart State Fellowship and an Officer of the Order of Australia (AO).

QIMR’s Dr Kathy Andrews (featured on page 2) won the Premier’s Award for Medical Research for her innovative approach to developing new anti-malarial drugs.

Associate Professor Maher Gandhi (pictured below), Head of QIMR’s Clinical Immunohaematology Laboratory, won one of only two Queensland Clinical Smart State Fellowships to further his research into lymphoma. Associate Professor Gandhi aims to develop a way to identify patients most at risk of developing lymphoma - the fifth most common cancer among Australians.

Finally, Institute Director, Professor Michael Good, was awarded an AO during the Queen’s Birthday Honours in recognition of his service to medical research, his leadership roles at QIMR and the NHMRC, as well as his outstanding contribution to science education.

Attention!

The QIMR Human Research Ethics Committee (HREC) has vacancies for lay members who have no affiliation with QIMR and who do not currently engage in medical, scientific, legal, or academic work.

The QIMR HREC is a committee established by the QIMR Council to ensure maintenance of ethical standards in research and compliance with regulatory guidelines.

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**DONATION YIELDS EXCEPTIONAL RETURN**

Ever wondered how your donations impact on our research?

According to QIMR Fundraising Manager Genevieve D’Adam, even a single cheque can change the outcome of medical research irrespective of its amount.

She said the cumulative value of donations drive the momentum of many projects through the purchase of equipment, placing patients on clinical trials and even sustaining research programs that missed out on grants during a very competitive funding round.

“In February this year QIMR purchased Australia’s first DeltaVision Deconvolution microscope thanks to the generous support of the Queensland Freemasons,” said Genevieve. “This microscope puts us on par with our US and European counterparts.”

The superior images generated by the microscope have already benefited one team of QIMR scientists whose research was accepted and published recently by the prestigious journal, *Nature*. They said that without this new equipment, they may not have made their discovery.

In fact, the Freemason’s $300,000 cheque very quickly resulted in a $4 million contract between QIMR and Cancer Therapeutics to develop new anti-cancer drugs based on the findings of this very research. This is more than a 1,000 percent return on investment.

“The Queensland Freemasons consist of many lodges throughout the State and their cumulative support in raising money to purchase this equipment has led to this amazing outcome for QIMR,” Genevieve said. “This shows that when people help medical research, medical research helps people.”

So the next time you wonder how your individual donation impacts on our research, remember that you are part of a wider community all contributing to a healthier future.

For more information on how you can invest in QIMR and our research, contact Genevieve D’Adam on 07 3362 0293.

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**TALKS & TOURS**

What has medical research done for you lately?

Let QIMR share information with you and your community group about current research projects and exciting developments.

We also conduct group tours of our laboratories so you can see first-hand the amazing research that our scientists are conducting.

To book a QIMR guest speaker or to organise a tour, telephone 07 3362 0397.