



*****Media release*****

Austin Health researchers honoured in 2010 Premier's Awards

Two Austin Health researchers have been commended by the Victorian Premier for their work at the 2010 Premier's Award for Health and Medical Research.

Dr Radwa Badawy and Dr Benjamin Howden have both achieved breakthroughs in their fields of specialisation. Dr Badawy proved a theory about changes in the brain of epilepsy patients. Dr Howden's research showed how the superbug Golden Staph has become resistant to even powerful antibiotics.

"Their results are outstanding examples of the quality of research underway across Austin Health," said Dr Brendan Murphy, Chief Executive Officer at Austin Health. "Questions that arise in our clinics and on our wards can become research projects. These can be translated into improved treatments."

Dr Badawy moved from Egypt to Melbourne to carry out her PhD research and Clinical Epilepsy Fellowship in the Department of Neurology at Heidelberg Repatriation Hospital. She used a relatively new technique called transcranial magnetic stimulation (TMS) to measure the brain activity in patients with epilepsy. She developed a new testing method to study her patients, who were newly-diagnosed and not yet taking medication.

Epilepsy is thought to be caused by a disruption to the normal electrochemical balance of the brain resulting in increased activity. This increased activity is called brain 'excitability'. The excitability theory was unproven in humans because before now as there was no way to measure it without opening the skull.

Using TMS equipment, Dr Badawy proved that there is an increase in patients' brain excitability. Patients who start taking medication and stop having seizures then recorded normal brain activity.

"My results are exciting because TMS is safe and painless," said Dr Badawy. "Epilepsy seizures can totally disrupt the lives of patients as well as their family. If I can help to explain what causes epilepsy and we can stop even one person from having seizures, I will feel as though I have achieved something."

In his work as an infectious diseases physician at Austin Hospital, Dr Howden researches the dangerous superbug MRSA, also known as Golden Staph, which is resistant to many antibiotics. Golden Staph is present in most large Australian hospitals, infecting patients through their wounds following surgery as well as their intravenous lines and catheters.

“As a doctor I saw patients with Golden Staph infections on the wards that were becoming even more resistant to antibiotics. We didn’t understand why this was happening, so I took these questions into the research labs to find the answers,” said Dr Howden.

Using a combination of techniques, including genetic sequencing, Dr Howden showed that patients being treated for serious Golden Staph infections can become more resistant to antibiotics when the bacteria develops minor genetic changes. He also found that Golden Staph is developing ways to evade the human immune system. Ultimately, Dr Howden’s work is expected to improve treatment of Golden Staph infections.

“The great thing about this award is that it recognises the collaboration between the clinicians at Austin Hospital and the basic researchers at Monash University and The University of Melbourne,” said Dr Howden.

At a ceremony at Government House on Monday 7 June, Dr Badawy and Dr Howden each received a commemorative certificate and prize money of \$8,000 from Premier John Brumby and Governor David de Kretser, AC.