

Embargoed until midday Thursday 4th June, 2009

Media Background - Dr Jane Butler - Winner of the AMGEN Medical Researcher Award 2009

Dr Jane Butler, the 2009 AMGEN Medical Researcher Award recipient, is an NHMRC Senior Research Fellow at the Prince of Wales Medical Research Institute, NSW. Her work has focused on how human movement is controlled, more specifically the neural control of respiratory muscles. Dr Butler has also directed a great deal of her attention towards the understanding of how motoneurons behave and function following spinal cord injury.

Dr Butler is at the forefront of her field with a strong national and international reputation. She currently jointly holds an impressive 5 National Health and Medical Research Council (NHMRC) grants that fund her research work.

Her studies have documented conclusively, for the first time, that signals to the diaphragm and other specialized respiratory muscles is markedly increased in patients with various respiratory diseases, such as chronic obstructive pulmonary disease (COPD) and emphysema. In these conditions, Dr Butler has shown that the increase drive from motoneurons to the different muscles is not equal.

In another novel study, Dr Butler explored the behaviour of motoneurons in the human tongue (the genioglossus muscle) and then demonstrated how they become altered in obstructive sleep apnoea, a condition where patients' breathing is interrupted during sleep. These findings will hopefully lead Dr Butler's research in the future towards possible unique and effective treatments for this disease.

Demonstrating her eagerness to translate her research findings into real differences for patients, Dr Butler has developed a new method to activate the abdominal muscles and thereby restore a functional cough in spinal cord injury patients. This is a significant advancement as patients with such injuries often can only produce a weak cough, which leads to them retaining secretions and succumbing to lung diseases such a pneumonia. Another important facet of her discovery is that the patients are able to induce these coughs themselves, without assistance by another person.

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