

# Help us understand the consequences of sleep apnea



Obstructive Sleep Apnea (OSA) remains largely undiagnosed and does not receive sufficient attention as a significant contributing factor for increased deficits in memory, learning and attention. The mechanisms underpinning the association between untreated OSA and increased cognitive impairment are not clearly understood. We propose that hypoxia (reduced breath intake and lowered oxygen levels) may be responsible for causing neuronal loss within particular brain regions, resulting in cognitive deficits. The ability to understand the relationship between hypoxia and impaired cognition may provide an opportunity to improve our understanding of the risk factors involved and help to develop an intervention that can potentially alleviate further cognitive decline.

## What will the study involve?

The aim of this study is to define the core neurological characteristics of patients diagnosed with sleep apnea. In this study we will look at cognitive ability and risk factors for dementia. We will compare test scores on cognitive tests with measures of very early signs of dementia risk between patients with hypoxia to those without hypoxia.

We will ask you to complete a brief background questionnaire and partake in a brief test of cognition. This session will take approximately 30 minutes out of your time. Participation also involves having an MRI and PET scan, which will be administered in the following month at the Royal Brisbane and Women's Hospital (RBWH). It is expected scanning will take up to 2 hours of your time. If you agree to participate, the cognitive test session and background questionnaire will be administered in one meeting during your CPAP

## What are the benefits of participating in this research?

You will not get any direct medical benefit from this study; however you may feel good about helping in medical research. This study might help others in the future by giving us a better understanding of the underpinning mechanisms causing cognitive deficits in sleep apnea.

## What are the possible discomforts?

Our researchers will do their best to ensure you are comfortable at all times. The 25 minute cognitive testing may be tiring and we will give you breaks if needed. A team of professionals at the RBWH will be facilitating the PET/MRI scan, applying great vigilance to ensure minimal risk. In order to visualise particular features of your brain a medicinal tracer will be used, requiring injection via a needle into your arm vein. If at any time you feel it is too uncomfortable, please tell us and you can choose to cease participation in the study.

## Who is eligible to participate?

You are eligible to participate if you are aged over 55 years and have a diagnosis of sleep apnea. You will not have any history of learning disability or brain injury and/or any significant psychiatric problems for which you are taking antipsychotics or have been previously hospitalised for. You must not have any metal implants in your body.

## Who to contact to participate?

If you would like to discuss this project further or if you wish to participate, please contact Alana Crookes on **0447 698 639, (07) 3365 9022 or [coulsontrials@uq.edu.au](mailto:coulsontrials@uq.edu.au)**



Metro North Hospital and Health Service  
Putting people first