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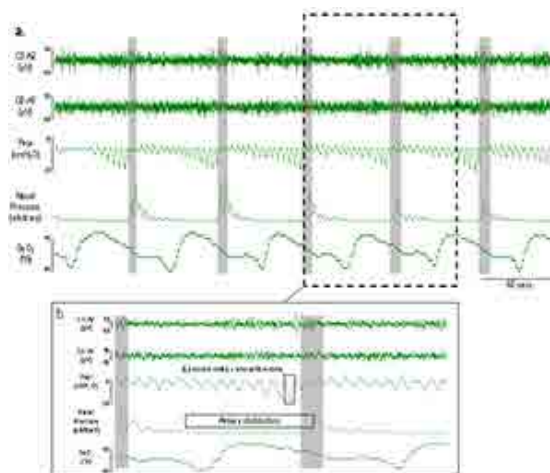
Good sleep is fundamental to general health and performance. Our mission is to understand the physiological processes that control sleep and wakefulness, and the causes of abnormal sleep in order to promote optimal health and well-being. We hope that with this knowledge we will be able to develop novel treatments and preventative measures for several common sleep disorders.

Research Projects

1. Respiratory Phenotyping for Obstructive Sleep Apnoea
2. Understanding the relationship between obesity and sleep problems



Experimental set-up for the overnight physiological monitoring of sleep in patients with sleep disorders.



Representative example taken from an overnight sleep study recording in a male patient with severe obstructive sleep. Note the disorder is characterised with repetitive collapse of the airway throughout the night.

Selected significant publications:

1. **Edwards BA**, Eckert DJ, McSharry DG, Sands SA, Desai A, Kehlmann G, Bakker JP, Genta PR, Owens RL, White DP, Wellman A, Malhotra A. 2014. Clinical Predictors of the Respiratory Arousal Threshold in Patients with Obstructive Sleep Apnea. *American Journal of Respiratory and Critical Care Medicine*. 190 (11):1293-1300.
2. **Edwards BA**, Sands SA, Owens RL, White DP, Genta PR, Butler JP, Malhotra A, Wellman A. 2014. Effects of hyperoxia and hypoxia on the physiological traits responsible for obstructive sleep apnoea. *The Journal of Physiology*. 592(Pt 20):4523-35.
3. **Edwards BA**, Wellman A, Sands SA, Owens RL, Eckert DJ, White DP, Malhotra A. 2014. Obstructive sleep apnea in older adults is a distinctly different physiological phenotype. *Sleep*. 37(7):1227-36.
4. Wellman A, **Edwards BA**, Sands SA, Owens RL, Nemati S, Butler JP, Passaglia C, Jackson A, Malhotra A, White DP. 2013. A simplified method for determining phenotypic traits in patients with obstructive sleep apnea. *Journal of Applied Physiology*. 114(7): 911-922.
5. **Edwards BA**, Sands SA, Eckert DJ, White DP, Butler JP, Owens RL, Malhotra A, Wellman A. 2012. Acetazolamide improves loop gain but not the other physiological traits causing obstructive sleep apnoea. *The Journal of Physiology*. 590(5): 1199-1211.