

## Anaesthesia and Pain Relief

### Research overview

The Department of Anaesthesia and Pain Medicine has a long-standing international reputation for high quality clinical research in areas such as: the efficacy and safety of anaesthesia for women having caesarean birth, the optimisation of pain relief after surgery, the safety of medications when women commence lactation and breastfeed, and the post-surgical health outcomes of patients.

### Research highlights

The past year has seen continued research comparing drugs to control the fall in blood pressure that occurs with spinal anaesthesia for caesarean birth; drugs that reverse the paralysis induced during anaesthesia to permit safe surgery and outcomes; on different ways of delivering oxygen at the beginning and end of general anaesthesia; on the safety of giving intravenous iron during anaesthesia; on the effect of how we speak to people about insertion of 'needles'; and on a new preparation of an anti-inflammatory drug for pain relief.

We are collaborating in important, large, multicentre clinical trials investigating the outcomes of patients who receive deep versus light general anaesthesia and who receive larger versus smaller volumes of intravenous fluid during and after major surgery. We completed studies of drug potency and about women's knowledge of the impact of obesity on epidurals in labour and anaesthesia for caesarean birth.

In planning we have studies to investigate the transfer of a new analgesic drug into breast milk; the effectiveness of a novel drug against headache after epidural pain relief; techniques used during general anaesthesia for caesarean birth; the use of a new technology to predict obstetric bleeding; and a new form of blood product, to manage major obstetric haemorrhage.



## Research achievements

In the past year we have published the results of several earlier studies, the most important being:

1. Miu M, Paech MJ, Nathan E. The relationship between body mass index and postdural puncture headache after obstetric accidental dural puncture. *Int J Obstet Anesth* 2014;23:371-5
2. Myles PS, Leslie K, Chan MTV, Andrew Forbes A, Peyton PJ, Paech MJ, Beattie WS, Sessler DI, Devereaux PJ, Silbert B, Schricker T, Wallace S, and the ANZCA Trials Group for the ENIGMA-II investigators\*. The safety of addition of nitrous (ENIGMA-II): a randomised, single-blind trial. *The Lancet* 2014;384:1446–54
3. Russell T, Ng L, Nathan E, Debenham E. Supplementation of standard pre-oxygenation with nasal prong oxygen or machine oxygen flush during a simulated leak scenario. *Anaesthesia* 2014;69:1133-7
4. Paech M, Ng L, Nathan E, Sng L, Sia A, Carvalho B. Methylnaltrexone to prevent intrathecal morphine-induced pruritus after caesarean delivery: A multicentre, randomised clinical trial. *Br J Anaesth* 2015;114:469-76

## THE TEAM

### Chief Investigators

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