



Australian-led global study unlocks the secret of IV fluid treatment for millions of patients

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A mainstay of hospital treatment after major surgery – the intravenous (IV) saline drip – could be revolutionised for millions of patients worldwide following the findings of new international research led by Australian anaesthetists.

The six year RELIEF (restrictive versus liberal fluid therapy) study found that patients had fewer complications and recovered more quickly after their operation if they were given more IV fluids rather than less. The study involved 3000 abdominal surgery patients in 47 hospitals in seven countries including Australia, the US, Canada, New Zealand and the UK.

Half the patients studied were given a limited amount of IV fluid while the other half were given larger amounts. All study participants were followed up to a year after their operation.

Professor Paul Myles, lead author and principal investigator of the RELIEF study which was run out of The Alfred hospital in Melbourne, said there had been an intense debate amongst anaesthetists, surgeons and other doctors about the right amount of IV fluids to give patients during and in the days after surgery.

“Over the past 15 years many small studies have suggested positive benefits with a more restrictive fluid regimen in abdominal surgery, with faster return of bowel function, fewer complications, and shorter hospital stay. But other experts have disagreed, worried this may lead to dehydration, kidney damage and delayed recovery after surgery,” he explained.

“The results of this international trial were clear-cut and very reassuring: a more liberal amount of IV fluids protects against kidney damage and reduces the risk of wound infection after surgery.”

More than 300 million people worldwide undergo major surgery each year. All receive IV fluids to counteract extended periods of not being able to drink or eat before and after surgery, and also to restore the circulation if there is excessive bleeding.

Major abdominal surgery for conditions such as bowel, pancreatic and stomach cancer is associated with many risks, and the personal, social and economic consequences of postoperative complications are substantial with a third of patients requiring intensive care. For older people and those with pre-existing medical conditions, complications can be life-threatening or otherwise lead to permanent disability.

Professor Myles, Director of Anaesthesia and Perioperative Medicine at The Alfred hospital and Monash University, presented the study's findings at the Australian and New Zealand College of Anaesthetists' (ANZCA) annual scientific meeting in Sydney on Thursday May 10. The findings were published simultaneously in the New England Journal of Medicine.

“We've now got compelling evidence to impact practice around the world,” Professor Myles said.

“This is a very definitive result but there will of course continue to be cases where some patients will require a bit more or a bit less IV fluid depending on their individual needs.”

The study was funded by the National Health and Medical Research Council (NHMRC), and coordinated through ANZCA's Clinical Trials Network.

More than 2500 local and international anaesthetists, pain specialists and other medical practitioners have gathered for the ANZCA meeting at the International Convention Centre in Sydney from May 7-11. The meeting features dozens of significant research papers, workshops and presentations on clinical and scientific advances.