

Topics listed in NIAA Research Priority Setting Exercise

Low Level of Support or Already the Subject of Research

Conduct of Anaesthesia

- Is total intravenous anaesthesia (TIVA) superior to inhalational anaesthesia?
- Does propofol offer any advantage over thiopentone in patients who are to be intubated?
- What are the best regimens for the prevention and management of postoperative nausea and vomiting?
- Is it better to extubate deep or light?
- Should the cardiovascular response to ECT be obtunded?
- Is depth of anaesthesia monitoring to prevent awareness effective and cost effective?
- Do NSAIDs carry a risk of perioperative bleeding?
- Is it possible to define an optimum duration for preoperative fasting?
- Is perioperative steroid replacement really necessary in patients on long-term steroid therapy?
- What is the best intraoperative ventilation strategy?

Airway

- Can preoperative testing identify 'difficult' airways amenable to specific interventions?
- Does rapid sequence induction improve outcome in patients at risk of aspiration?
- Can supraglottic airway devices replace intubation in the majority of patients?
- What are the best predictors of a difficult airway?
- What is the best management of the airway in patients with cervical spine injury?
- Does the use of short acting opioids in rapid sequence induction decrease morbidity by improving airway control?
- Is there a reliable way of determining if the stomach is empty?

Regional Anaesthesia

- Does the use of ultrasound affect safety and efficiency in regional anaesthesia?
- What is the best combination of drugs to achieve sensory block without motor block in regional anaesthesia?
- Is urinary catheterisation essential in patients receiving postoperative epidural anaesthesia?
- Can regional anaesthesia be performed safely in patients on clopidogrel and other antiplatelet agents?
- Do nerve blocks offer any advantage over simple local anaesthetic infiltration for superficial procedures?

Obstetric Anaesthesia

- What is the appropriate transfusion threshold in the obstetric patient?
- Do epidurals increase the incidence of vaginal tears?
- Is remifentanyl PCA a safe alternative to epidural analgesia in the obstetric patient?

Paediatric Anaesthesia

- Does the use of cuffed ET tubes in paediatric patients improve safety?

Cardiac Anaesthesia

- Would the routine use of cerebral oximetry improve outcome in cardiac surgery?
- Does maintaining high normal concentrations of serum potassium and magnesium improve outcome after cardiac surgery?
- Does the use of epi-aortic scanning prevent embolic stroke in cardiac surgery?
- Is TOE required for all cardiac surgery cases?
- Does perioperative steroid attenuate activation of the coagulation cascade in patients undergoing repair of aortic dissection?

Neuroanaesthesia

- Does multimodal monitoring improve outcome in head injury?
- Do neuroprotective (e.g. bolus thiopentone) strategies improve outcome in intracranial surgery?
- What is the best monitor for directing cerebral perfusion pressure in head injury?

Postoperative Care

- What is the impact on primary care of same day surgery?
- Does early involvement of care of the elderly and primary care in the management of elderly surgical patients improve outcome?
- What is the best management of sleep apnoea in surgical patients?
- Does managing all thoracic epidurals in an HDU improve outcome?
- Development of a highly predictive validated early warning score.
- What resources are required to support the safe early discharge of ASA 1-3 patients?
- Would the replacement of surgical teams with the anaesthetic perioperative physicians improve outcomes?
- What is the best treatment for new onset postoperative atrial fibrillation?
- What is the mechanism of postoperative shivering and how is it best managed?

Pain

- Are nerve root blocks helpful in terms of diagnostic specificity?
- Are nerve blocks effective in palliative care?
- Are patients who lack the cytochrome p450 2D6 system more likely to develop chronic pain?
- Is codeine an effective analgesic?
- What interventions improve radicular pain apart from long-term surgery?
- What is the role of denervation in zygapophysial joint pain?
- Is there a role of previous sexual or physical abuse in the development of chronic pain syndromes?
- Does RFA facet joint ablation confer long-term benefits compared to non-interventional treatment?

- Does a lidocaine infusion help manage the pain of fibromyalgia?
- What is the prevalence of hypomagnesaemia in the chronic pain population as compared with the general population?

Safety

- Does perioperative paperwork compromise patient safety? Would electronic anaesthetic record systems prevent adverse events?
- Is the use of anaesthetic rooms (and the transfer to theatre) an unacceptable hazard?
- What is the safest and most ergonomic layout for an anaesthetic room and can it be applied consistently across all hospitals?
- Does the grade of the anaesthetist affect outcome in emergency surgery patients?
- What is the best cannula design to avoid line infections?
- Do single use laryngoscope blades improve patient safety?

Education and Training

- Are simulators effective tools for the assessment of clinical competence?
- Does training on simulators improve clinical performance?

Other

- How do we determine fitness to drive after surgery?
- What perioperative outcomes are most relevant to patients?
- Are NSAIDs contraindicated in orthopaedic surgery?
- Does xenon anaesthesia improve neurological outcomes after cardiac arrest and in other settings?
- Do antacids reduce postoperative pneumonitis?
- Are the emissions produced by diathermy a health hazard to patients and staff?
- What constitutes informed consent for anaesthesia?
- How can we benchmark the performance of anaesthetic departments and anaesthetists?

Incorporated into Priority Setting Exercise

- Is there a combination of preoperative tests that will allow reliable individual preoperative risk prediction?
 - Is there a preoperative scoring system that usefully predicts individual risk of perioperative complications?
 - Does preoperative echocardiography offer useful information?

- What is the best perioperative management of fractured neck of femur?
- Would active management to maintain blood pressure in patients with thoracic epidurals improve outcome from surgery?
- What interventions prevent the development of chronic pain after surgery?
 - Do drugs with potential antihyperalgesic properties (clonidine, ketamine, lidocaine) reduce the incidence of postoperative pain and persistent postsurgical pain?

- Does epidural anaesthesia improve long-term outcomes after major elective surgery?
- Does regional anaesthesia improve long-term outcomes after surgery?
- Can perioperative interventions prevent postoperative cognitive impairment?
 - What is the impact of anaesthesia on cognitive function?

- What preoperative tests can be used to modify patient care and improve outcome?
 - Can preoperative CPX testing be cost effective in selecting patients who do not require protected high level care after surgery?

- What interventions can prevent perioperative cardiac complications?
 - Do statins improve perioperative outcome?

- Does tight glycaemic control improve perioperative outcome?
- What is the best arrangement for a preoperative assessment clinic?
- Does an enhanced perioperative care package improve outcomes?

- Does goal directed therapy improve outcomes in major abdominal surgery?

- Does a brief period of preoperative exercise training improve outcomes after major surgery?
- Does regional anaesthesia reduce the risk of cancer recurrence?
- Does maintaining perioperative blood pressure at preoperative levels improve outcome in hypertensive patients?
- Does hypotensive resuscitation improve outcome in active haemorrhage?
- What perioperative management strategies improve outcome in head injury e.g. hyperoxia?