Safe Anaesthesia Liaison Group

PATIENT SAFETY UPDATE
Including the summary of reported incidents relating to anaesthesia

01 JANUARY TO 31 MARCH 2013

THIS DOCUMENT AIMS TO ACHIEVE THE FOLLOWING:

➤ Outline the data received, the severity of reported patient harm and the timing and source of reports
➤ Provide feedback to reporters and encourage further reports
➤ Provide vignettes for clinicians to use to support learning in their own Trusts and Boards
➤ Provide expert comments on reported issues
➤ Encourage staff to contact SALG in order to share their own learning on any of the incidents mentioned below.

MORBIDITY AND MORTALITY MEETINGS

The SALG Patient Safety Updates contain important learning from incidents reported to the National Reporting and Learning System (NRLS). The Royal College of Anaesthetists (RCoA) and the Association of Anaesthetists of Great Britain and Ireland (AAGBI) would like to bring these Safety Updates to the attention of as many anaesthetists and their teams as possible. We would like to encourage you to add this Update to the agenda of your next morbidity and mortality meeting and we would also like to hear your feedback on learning points.

Feedback from M&M meetings on how the Patient Safety Update has informed action can be sent to the SALG administrator at SALG@rcoa.ac.uk.

ON THE SALG AGENDA

The following topics are currently under discussion by SALG and more information on some of these issues is being prepared for publication.

Fire in ICU

A fire in the ICU at Royal United Hospital Bath NHS Trust in 2011 started as the result of an oxygen cylinder igniting when it was turned on. This incident has important learning points for us all (see article in Anaesthesia). SALG are grateful to Dr Fiona Kelly and Dr Rowan Hardy who were the consultants on-call at the time of the incident as they will be preparing guidance on how to best to prepare for and to respond to such a catastrophic incident.

Remifentanil incidents

SALG will be collating information about incidents reported to the NRLS database concerning the use of remifentanil outside the operating theatre. Please contact us if there are any other patient safety themes that you would like us to investigate.

Arterial infusion

In July 2008 the National Patient Safety Agency published a Rapid Response Report following a number of serious incidents triggered by the use of 5% glucose as the flush solution for arterial lines. Samples taken from the arterial line showed very high glucose levels, leading to inappropriate treatment with insulin, and resulted in a number of patient deaths. Incidents continue to be reported to the NRRLS and will be highlighted in a future SALG publication.
Kinking of ET tubes
A problem relating to kinking of ET tubes when they become warm has been brought to the Group’s attention. If you have any similar experiences we would like to hear from you by email at SALG@rcoa.ac.uk. Please remember to report all equipment incidents to the MHRA.

Paracetamol
SALG have recently published a safety notification regarding intravenous paracetamol. The notification has been prompted by incidents reported to the NRLS. Please read the guidance and share with your colleagues.

LEARNING POINTS FROM REPORTED INCIDENTS
The following extracts are from the eForm and from incidents reported to the LRMS graded as death or severe harm.

More on awareness
➤ An elderly woman for total knee replacement ASA II...general anaesthetic performed by the consultant anaesthetist...LMA sited. Atracurium given to facilitate ventilation and transferred into theatre. The patient was ventilated with oxygen and air. In theatre the WHO checklist was performed, the consultant anaesthetist stated that antibiotics were given and the patient’s leg was exsanguinated and tourniquet inflated. There was a change of ODA during this time. Surgery commenced with bleeding from the wound, blood pressure 190/90 and heart rate 90. The consultant anaesthetist noticed movement...noted that no volatile turned on...

➤ Patient was put to sleep in the anaesthetic room. Patient entered theatre and surgery began. The surgeon had two students alongside him. Halfway through the surgery the anaesthetist brought to our attention that the sevofluorane was switched off on her machine...When the patient came round he stated that he was aware of everything going on during his surgery...said he could feel what was happening to him and he could hear the surgeon and his students...

The 5th National Audit Project (NAP5) is a prospective audit in the United Kingdom and Ireland to find out how many patients suffer accidental awareness during general anaesthesia (AAGA), to identify common causes and contributory factors and help formulate strategies to prevent this from occurring.

A joint publication in Anaesthesia and British Journal of Anaesthesia in April 2013 indicated a general lack of policies within departments to prevent AAGA. An accompanying editorial suggested guidance such as setting alarm limits for low end-tidal anaesthetic concentrations, particularly where neuromuscular blocking agents have been used. Recent NICE guidelines endorse the use of an EEG-based monitor for patients in certain situations.

NAP5 completed data collection in June 2013 and publication of results is expected later in the year.

Thromboembolic prophylaxis and neurosurgery
➤ Prescription and administration of clexane to a patient only 2 hours after neurosurgery.

The use of pharmacological venous thromboembolism (VTE) prophylaxis in neurosurgical patients is controversial, and requires a balance between the risk of VTE and the risk of intracranial haemorrhage.

NICE guidance published in 2010 suggests mechanical VTE prophylaxis (anti-embolism stockings, foot impulse devices, intermittent pneumatic compression devices) should be offered to all patients at increased risk of VTE until the patient no longer has reduced mobility.

Pharmacological VTE prophylaxis (low molecular weight heparin or low dose unfractionated heparin for patients with renal failure) should be offered to patients who have a low risk of bleeding, taking into account individual factors and according to clinical judgement.

Pharmacological VTE prophylaxis should not be offered to patients with ruptured cranial or spinal vascular malformations, or acute traumatic or non-traumatic haemorrhage until the lesion has been secured or the condition is stable.
A recent systemic review suggested the number needed to treat for preventing VTE in patients undergoing cranial neurosurgery of 11, number needed to harm of 143 for intracranial bleed and 36 for minor bleed. If pharmacological VTE prophylaxis is to be used, it should be started 24 hours after neurosurgery.

**NG tube placement – are you 100% sure?**

- Patient was being cared for on ITU and had a nasogastric feed in progress at 25mls/hr when we took over his care for the night shift. The nasogastric tube had been aspirated to check position and tolerance of feed, there was no aspirate at 22.00 and 5mls at 02.00hrs. During the night we performed a chest X-ray to check the position of a new line. On reviewing the CXR the nasogastric tube looks as if it is in the right lung...

The NPSA first issued guidance on misplaced nasogastric (NG) tubes in 2005, and reissued this guidance in 2011 after a further 21 deaths and 79 cases of harm associated with feeding into the lungs. The NPSA outlined the following methods to test for correct placement of NG tubes:

- First line method: test pH of NG aspirate. pH should be between 1 and 5
- Second line method: X-ray screening
- Additional method: observation and recording of the external length of NG tube (should not be used as sole testing method).

It is possible for NG tubes to migrate after correct placement if the patient coughs, vomits or retches. The use of continuous feeds or antacid medication in ICU may mean that pH tests are no longer useful. Daily X-rays to check NG tube placement are not practical or safe. The NPSA emphasised that the position of the NG tube should be tested after insertion, before feeds or medication (test once daily if continuous feeds are used), or if displacement is suspected (following coughing, retching, vomiting or if tapes are loose, or external position changed).

An excellent training resource has been developed to help clinicians interpret check X-rays. Harm due to misplaced NG tubes has been defined as a ‘Never Event’ in the NHS, and we would be interested to hear of any local initiatives you have taken to reduce the risk of this occurring.

**High quality care in the NHS; making sure we do the right thing**

- Patient (elderly) was returned to the ward post-operatively from recovery....The patient had a temperature of 35 and was hypoxic and hypotensive. Only one temperature had been done on arrival to recovery of 35.2 and this had not been repeated... patient subsequently became more unwell and is unlikely to survive.
- Polytrauma patient was admitted originally to A&E, then transferred to the specialist centre for spinal fixation, then transferred to (another hospital) ICU due to lack of beds at specialist centre. During the course of the day, two days later, her clinical condition deteriorated with increasing oxygen and vasopressor requirements. On log rolling in the afternoon, the staff nurse noticed a large and deep offensive smelling scalp laceration, which had not been documented or treated...

The 2011 NCEPOD report Knowing the Risk emphasised the need to improve the post-operative care of high-risk surgical patients, including the use of appropriate pathways of care. NICE produced guidance in 2008 to highlight the importance of maintaining patient temperature during the theatre journey – Inadvertent Perioperative Hypothermia CG65 2008 – and included a suggested care pathway.

There have been a number of recent publications concerning high quality care in the NHS. NHS England published ‘Quality in the new health system’ in April 2013, defining quality as care that is safe, effective and provides as positive experience as possible. Conversely, the Francis Report into care provided by the mid-Staffordshire NHS Foundation Trust highlights what happens when a hospital focuses on cost cutting, targets and processes and loses sight of the need to provide safe patient care.
Efficiency savings are placing significant pressures on hospitals to deliver more with fewer resources. It is important that as frontline clinicians we continue to champion the delivery of high quality care to our patients. See the AAGBI and RCoA responses to the Francis Report. The Health Foundation has published a report to describe the measurement and monitoring of safety by Charles Vincent and colleagues from Imperial College London. Your feedback on this report is requested.

APPENDIX: INCIDENT DATA SUMMARY

A total of 3,807 anaesthesia-related incidents were reported during the specified time period. Only 31 incidents were reported using the anaesthetic eForm; 19 (61%) of these incidents were reported to the National Reporting and Learning System (NRLS) within one day of occurrence. 12 (38%) of the incidents reported to eForm were reported as 'near miss' (harm was prevented from reaching the patient). Three thousand, seven hundred and seventy six incidents were reported using Local Risk Management Systems (LRMS); 128 (3%) of these incidents were reported within one day and 1,863 (49%) were reported more than 30 days after they had occurred. Of the incidents reported via LRMS, 505 (13%) were reported as near miss.

All incidents reported via the eForm, and all those reported to the LRMS graded as ‘death’ or ‘severe harm’, were reviewed by the Patient Safety Team, now part of the Patient Safety Function within NHS England (formerly the NHS Commissioning Board). Consultant anaesthetists from the RCoA or AAGBI reviewed incidents identified as having potential cause for concern. No information about the Trust was disclosed in this review; only information about the incident. Most incidents reported via the eForm were completed by consultant anaesthetists, although the eForm is available to all members of the peri-operative team.

As with any voluntary reporting system, interpretation of data should be undertaken with caution as the data are subject to bias. Many incidents are not reported, and those that are reported may be incomplete having been reported immediately and before the patient outcome is known. Clarity of ‘degree of harm’ to patients who experience a patient safety incident is an important aspect of data quality.

ANAESTHETIC EFORM

The anaesthetic eForm was designed to allow specific clinical information relating to anaesthetic incidents to be reported by anaesthetists and other members of the anaesthetic team and can be found at: www.eforms.nrls.nhs.uk/asbreport.

The NPSA has now closed. Responsibility for the NRLS has moved to NHS England and operational management of the NRLS has moved to Imperial College Healthcare Trust. The RCoA and AAGBI continue to work with the NRLS team at Imperial and the patient safety function of the NHS England. SALG would like to reinforce that processes for sharing and learning incidents remain firmly in place. Staff are urged to continue to use the eForm (or your local reporting systems) to report patient safety incidents so that trends and incidents can be acted upon and learning maximised. The eForm is particularly useful as it provides a mechanism by which high quality information can be reported rapidly by members of the anaesthesia team and disseminated nationally.
DEGREE OF HARM (ACTUAL INCIDENTS)

Figure 1 shows the degree of harm incurred by patients within the anaesthetic specialty during the period 1 January 2013 and 31 March 2013. All ten deaths were reported through LRMS.

INCIDENT TYPE

Figure 2 shows the type of incidents that occurred within the anaesthetic specialty that were reported using LRMS or the anaesthetic eForm for the period 1 January 2013 and 31 March 2013. The categories were determined at local level.