EXAMPLE RECIPES

QUALITY IMPROVEMENT COMPENDIUM

DR SINDY LEE

SEPTEMBER 2020

6 Anaesthesia and sedation outside theatre

Edited by Dr Arnab Banerjee
QI editor Dr Sanjiv Chohan

6.2 REMOTE SITE ANAESTHESIA

- RCoA defines remote site as away from main theatres and anaesthetic department
- Increasing number of procedures requiring sedation/ anaesthesia
- Aim to provide same standards of monitoring and high quality patient care

REFERENCES

- AAGBI Recommendations for Standards of Monitoring during Anaesthesia and Recovery (2015)
- RCoA Anaesthetic Services in Remote Sites (2014)
- RCoA Guidelines for Provision of Anaesthesia Services in the Non-theatre Environment (2019)

Suggested data to collect

Standard met versus not met

Standards	Measures
A clinical lead for anaesthesia in the non-theatre environment should be appointed.	■ Presence of a clinical lead for remote site anaesthesia. Evidence of involvement in developing the service, training and revalidation of staff, maintaining safety standards and carrying out audit.
All institutions where sedation is practised should have a sedation committee, with a nominated lead for sedation.	■ Presence of a sedation committee and sedation lead.
Full resuscitation facilities should be available in all remote sites providing anaesthetic services including a defibrillator, suction, oxygen, airway devices and a means of providing ventilation.	■ % of remote sites around the Trust with the above equipment immediately available.
All remote sites providing anaesthetic services have standardised equipment. Where standardisation is not possible, all staff should be provided with regular formalised anaesthetic equipment training sessions.	■ % of remote sites with standardised equipment. There is a record of individual staff receiving regular training where equipment is not standardised.
A full range of emergency drugs including drugs to treat rare situations and specific reversal agents, such as dantrolene, intralipid, naloxone, sugammadex and flumazenil, should be available.	■ Immediate availability of above drugs in 100% of remote locations. ■ Dantrolene and Intralipid are located in a designated area and an in-date supply maintained.
All local anaesthetic solutions should be stored separately from intravenous infusions to reduce risk of wrong route administration.	■ 100% of remote sites with local anaesthetics stored separately from intravenous solutions.

Requires measurement on regular basis	
All anaesthetists should be fully familiarised with remote areas prior to undertaking anaesthetic procedures in that location.	■ % of anaesthetists with a record of covering remote sites at Trust Induction.
Wherever possible anaesthesia in remote sites should be provided by appropriately experienced consultants.	■ % of elective and emergent remote site cases performed by Consultants vs Trainees or Specialty Doctors.
Mandatory monitoring as per Association of Anaesthetists guidelines, which includes end-tidal CO2 according to level of sedation/anaesthesia. Peripheral nerve stimulator must be used where muscle relaxants are given. Depth of anaesthesia monitoring is recommended when using total intravenous anaesthesia with neuromuscular blockade.	■ 100% of cases of sedation and anaesthesia have the appropriate level of monitoring.
A dedicated and fully trained anaesthetic assistant should be available at all times.	■ A suitable assistant is present at 100% of cases of remote site sedation/anaesthesia.
A team-based safety briefing should take place prior to commencing any procedures, including WHO checklist and VTE assessment where indicated.	■ Team brief and completion of a safety check list in 100% of cases.
Expert recovery care is required after general anaesthesia or deep sedation.	■ 100% of cases are recovered by appropriately qualified recovery staff in the remote site or theatres recovery after general anaesthesia or deep sedation.
It is essential to have documentation of the anaesthetic procedures and patient monitoring used.	■ An anaesthetic record has been filled out in 100% of cases.

QI SUGGESTION

- Snapshot audit to identify areas where standards have not been achieved
- Engage stakeholders and budget holders to understand problem
- Sequential PDSA cycles to implement changes

6 Anaesthesia and sedation outside theatre

Edited by Dr Arnab Banerjee
QI editor Dr Sanjiv Chohan

6.5 USE OF CAPNOGRAPHY OUTSIDE OPERATING THEATRES

- Procedural sedation and anaesthesia in radiology, endoscopy, ED, ICU – early detection of oesophageal intubation or loss of airway
- Cardiac arrest – indicate quality of CPR and ROSC

REFERENCES

- AAGBI Safety Statement. The Use of Capnography Outside the Operating Theatre (2011)
- AAGBI Recommendations for Standards of Monitoring during Anaesthesia and Recovery (2015)
- NAP4 (2011)
- Resuscitation Council UK. Adult Advanced Life Support Resuscitation Guidelines (2015)

Suggested data to collect

Standards	Measures
Continuous waveform capnography must be available for all patients undergoing general anaesthesia and moderate or deep sedation outside of operating theatres.	■ Percentage of patients that capnography is used for during general anaesthesia and moderate/deep sedation.
Continuous capnography must be used for all patients being transferred within the hospital with a tracheal tube or supraglottic airway in place.	■ Percentage of patients that have capnography during transfer.
Continuous capnography should be readily available in recovery for patients who have undergone anaesthesia, moderate or deep sedation, and used in high-risk cases.	■ Number of capnography modules available in recovery and, if not, reasons why it is not immediately available.
In recovery, if patients remain intubated or have their airways maintained with a supraglottic or other similar airway device, continuous capnography should be used until patient has recovered fully.	■ Percentage of patients that have continuous capnography, if they required continued airway support.
Continuous capnography should be used for all patients undergoing advanced life support.	■ Percentage availability and ease of access to capnography.

QI SUGGESTION

- Audit % use of capnography
- Interview staff, review Datix / M&M/ SI
- Aim to

  -> reduce the incidents of patient harm

  -> improve consistency in capnography use