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GUIDELINES ON SEDATION FOR GASTROINTESTINAL ENDOSCOPIC PROCEDURES

1. INTRODUCTION

Sedation for gastrointestinal endoscopic procedures includes the administration by any route or technique of all forms of drugs which result in depression of the central nervous system. The objective of these techniques is to produce a degree of sedation of the patient so that the procedure may be facilitated.

These techniques are not without risk because of the:

1.1 depression of protective reflexes.

1.2 depression of respiration.

1.3 depression of the cardiovascular system.

1.4 wide variety and combinations of drugs which may be used, with the potential for drug interactions or for adverse reactions, including anaphylaxis.

1.5 individual variations in response to the drugs used, particularly in children, the elderly, and those with pre-existing medical disease.

1.6 wide variety of procedures performed.

1.7 differing standards of equipment and staffing at the locations where these procedures are performed.

It is important to understand the variability of effects which may occur with sedative drugs, however administered, and that over-sedation, airway obstruction or cardiovascular complications may occur at any time. To ensure standards of patient care, the following guidelines are recommended.

2. PATIENT PREPARATION

2.1 The patient should be provided with written information which includes the nature and risks of the procedure, preparation instructions (including the importance of fasting), and what to expect during the immediate and longer term recovery period, including following discharge.

2.2 Informed consent for sedation and the procedure should be obtained.

3. PATIENT ASSESSMENT

3.1 All patients should be assessed before sedation for gastrointestinal endoscopic procedures. Assessment should include:

3.1.1 Details of the current problem, co-existing and past-medical and surgical history, history of previous sedation and anaesthesia, current medications (including non-prescribed medications), allergies, fasting status, and particularly in the case of patients having upper gastrointestinal endoscopic procedures, the presence of false, damaged or loose teeth.

3.1.2 Examination, including that relevant to the current problem, airway, respiratory and cardiovascular status, and other systems identified from the history.

3.1.3 Results of relevant investigations.

3.2

This assessment should identify those patients with special risks, such as patients in ASA Grades P-3 to P-5 (see Appendix I), including the elderly and those with severely limiting heart disease, cerebrovascular disease, significant lung disease, liver failure, acute gastrointestinal bleeding and cardiovascular compromise, severe anaemia, morbid obesity and shock. In emergency situations, the potential for aspiration of gastric contents must be considered and prevented, if necessary by endotracheal intubation. The above patients require special consideration (see 4.6).

4. STAFFING

4.1 When sedation is used for gastrointestinal endoscopic procedures, there must be a minimum of three appropriate staff present for endoscopy – the proceduralist, the assistant to the proceduralist, and the person providing sedation and monitoring of the patient.

4.2 For all sedation for gastrointestinal endoscopic procedures, a medical practitioner with specific training and experience in airway management and resuscitation must be involved in the sedation or the procedure.

4.3 From the time of initiation of sedation, a person with appropriate training must be present whose sole responsibility will be to monitor the patient's level of consciousness and cardiorespiratory status during the procedure, and to assist in resuscitation if required.

4.4 The person responsible for administering sedative drugs requires sufficient training to be able to:

4.4.1 Understand the action of the drug or drugs being administered.

4.4.2 Detect and manage appropriately any complications arising from these actions.

4.4.3 Anticipate and manage appropriately the modification of these actions by any concurrent therapeutic regimen or disease process which may be present.

4.5 If anaesthetic agents such as propofol are used, a medical practitioner trained in the use of these agents must be present to care exclusively for the patient.

4.6 If major risk factors are identified, or difficulties can be anticipated, involvement of an anaesthetist in administering sedation and monitoring the patient is recommended.

5. FACILITIES, INCLUDING EQUIPMENT

The procedures must be performed in a location which is adequate in size and staffed and equipped to deal with a cardiopulmonary emergency. This should include:

5.1 Adequate uncluttered floor space to perform resuscitation should this prove necessary.

5.2 Appropriate lighting.

5.3 An operating table or trolley which can be readily tilted.

5.4 A supply of oxygen and suitable devices for the administration of oxygen to a spontaneously breathing patient.

5.5 A means of inflating the lungs with oxygen (e.g. a range of face masks, pharyngeal airways and self-inflating bag suitable for artificial ventilation).

5.6 Laryngoscope, blades, endotracheal tubes and laryngeal mask airways.

5.7 Adequate suction source, catheters and Yankauer-type handpiece.

5.8 Appropriate drugs for cardiopulmonary resuscitation (see Appendix II).

5.9 Drugs for reversal of benzodiazepines and opioids.

5.10 Intravenous fluids and equipment.

5.11 A pulse oximeter which must be used whenever sedation is employed.

5.12 Equipment suitable for measurement of blood pressure.

5.13 Ready access to an ECG monitor and defibrillator.

5.14 A means of summoning assistance in the event of an emergency.

6. TECHNIQUE AND MONITORING

6.1 Reliable venous access should be in place for all gastrointestinal endoscopic procedures when sedation is used.

6.2 As most complications of sedation and endoscopy are cardiopulmonary, doses of sedative drugs should be kept to the minimum required for patient comfort, particularly for those patients at increased risk.

6.3 All patients receiving sedation for gastrointestinal endoscopic procedures should have supplemental oxygen.

6.4 Monitoring of patient response to verbal commands should be routine. Loss of such response indicates that loss of protective airway reflexes may have occurred, and that respiratory and/or cardiovascular depression must be considered likely.

6.5 All patients undergoing intravenous sedation must be monitored continuously with pulse oximetry. There must be regular recording of pulse rate, oxygen saturation and blood pressure throughout the procedure. Other monitoring such as ECG or capnometry may be required.

7. RECOVERY AND DISCHARGE

7.1 Recovery should take place under appropriate supervision in the procedure room or an adjacent area designated for this purpose and adequately equipped and staffed. Oxygen, suction, resuscitation drugs and equipment should be immediately available until the patient returns to their pre-sedation state.

7.2 The patient should be discharged only after an appropriate period of recovery and observation. Discharge of patients should be authorised by the practitioner who administered the drugs, or another qualified person. The patient should be discharged into the care of a responsible adult to whom written instructions should be given. Written instructions should include advice regarding eating and drinking, as well as the prohibition of driving, operating machinery and making legally binding decisions.

7.3 For those endoscopy centres that do not have a full range of support services, prior arrangements should be in place to allow the efficient transfer of any patient to an appropriate facility when necessary.

8. DOCUMENTATION

The clinical record should include the names of staff performing sedation and the procedure, with documentation of the history, examination, investigation, details of the medication and fluids administered (including time, dose, route), any resulting complications, as well as monitoring used and data measured. Progress in the recovery phase should be similarly documented.

9. TRAINING IN SEDATION FOR GASTROINTESTINAL ENDOSCOPIC PROCEDURES

It is recommended that medical practitioners and nurses involved in caring for patients undergoing gastrointestinal endoscopic procedures should have received training in the sedation and monitoring of patients undergoing such procedures, as well as training in cardiopulmonary resuscitation. This training should be reviewed and updated on a regular basis.

REFERENCES

1. Australian and New Zealand College of Anaesthetists' Professional Document T2 *Recommendations on Minimum Facilities for Safe Anaesthesia Practice outside Operating Suites* 2000 (as updated on ANZCA website).

2. American Society of Anesthesiologists Practice Guidelines for Sedation and Analgesia by Non-Anesthesiologists. Anesthesiology 2002; 96: 1004-1017

3. Intercollegiate Working Party, UK Academy of Medical Royal Colleges and their Faculties. *Implementing and Ensuring Safe Sedation Practice for Healthcare Procedures in Adults* 2001

4. American Society for Gastrointestinal Endoscopy. *Guidelines for the use of deep sedation and anaesthesia for GI endoscopy.* Gastrointestinal Endoscopy 2002; 56: 613-617

5. Clarke A C, Chiragakis L, Hillman L C, Kaye G L *Sedation for endoscopy: the safe use of propofol by general practitioner sedationists.* Medical Journal of Australia 2002; 176: 158-161

APPENDIX I

The American Society of Anesthesiologists' classification of physical status:

P-1 A normal healthy patient.

P-2 A patient with mild systemic disease.

P-3 A patient with severe systemic disease.

P-4 A patient with severe systemic disease that is a constant threat to life.

P-5 A moribund patient who is not expected to survive without the operation.

Excerpted from American Society of Anesthesiologists *Manual for Anesthesia Department Organization and Management* 2001. A copy of the full text can be obtained from ASA, 520 N Northwest Highway, Park Ridge, Illinois 60068-2573

APPENDIX II

Emergency drugs should include at least the following:

adrenaline
atropine
dextrose 50%
lignocaine
flumazenil
naloxone

COLLEGE PROFESSIONAL DOCUMENTS

College Professional Documents are progressively being coded as follows:

TE Training and Educational
EX Examinations
PS Professional Standards
T Technical

***POLICY** – defined as 'a course of action adopted and pursued by the College'. These are matters coming within the authority and control of the College.*

RECOMMENDATIONS *– defined as 'advisable courses of action'.*

GUIDELINES *– defined as 'a document offering advice'. These may be clinical (in which case they will eventually be evidence-based), or non-clinical.*

STATEMENTS *– defined as 'a communication setting out information'.*

This document is intended to apply wherever anaesthesia is administered.

This document has been prepared having regard to general circumstances, and it is the responsibility of the practitioner to have express regard to the particular circumstances of each case, and the application of this document in each case.

Professional documents are reviewed from time to time, and it is the responsibility of the practitioner to ensure that the practitioner has obtained the current version. Professional documents have been prepared having regard to the information available at the time of their preparation, and the practitioner should therefore have regard to any information, research or material which may have been published or become available subsequently.

Whilst the College endeavours to ensure that professional documents are as current as possible at the time of their preparation, it takes no responsibility for matters arising from changed circumstances or information or material which may have become available subsequently.

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