

**GUIDELINES ON
SAFE SEDATION PRACTICE
FOR INVESTIGATION AND
INTERVENTION PROCEDURES**



ACADEMY OF MEDICINE, SINGAPORE

December 2002

ACADEMY OF MEDICINE, SINGAPORE
142, Neil Road, Runme Shaw Building, Singapore 088871

CONTENTS

	Page
Guidelines: Safe Sedation Practice for Investigation and Intervention Procedures	2
Appendix 1	5
Appendix 2	6
Acknowledgement	7

PREAMBLE

These guidelines apply to all sedation for investigation or intervention procedures performed in locations outside the operating room. These are minimal guidelines that may be exceeded at any time based on the judgement of the medical practitioner. These guidelines encourage quality patient care but observing them cannot guarantee any specific patient outcome. These guidelines are subjected to revision from time to time, as warranted by the evolution of technology and practice.

1. Introduction

The technique of SEDATION involves the administration of narcotic analgesics and/or other drugs that depress the central nervous system. The objective of this technique is to produce a degree of sedation of the patient, without loss of consciousness so that uncomfortable procedures may be facilitated. The technique is not without risk because of: -

- 1.1 The depression of protective reflexes.
- 1.2 The wide variety of drugs and combinations that may be used.
- 1.3 The possibility of excessive amounts of these drugs being used to compensate for inadequate local analgesia.
- 1.4 The varied individual responses to the drugs used.
- 1.5 The wide variety of procedures performed.
- 1.6 The differing standards of equipment and staffing at the locations where these procedures are performed.
- 1.7 Loss of normal respiratory drive with risk of hypoxia.

2. General Principles

Whenever this technique is employed, these principles should be satisfied.

- 2.1 The patient should be assessed before the procedure and this assessment should include:
 - 2.1.1 A concise medical history and examination.
 - 2.1.2 A brief explanation of the procedure.
 - 2.1.3 Any instructions with regards to preparation for the procedure, the recovery period and discharge of the patient.
- 2.2 The practitioner administering these drugs is required to possess

certain basic knowledge skills to be able to:

- 2.2.1 Understand and deal with the action of the drug(s) being administered.
 - 2.2.2 Detect and manage appropriately any complications arising from these actions.
 - 2.2.3 Anticipate and manage appropriately the modification of these actions by any concurrent therapeutic regime or disease process which may be present.
- 2.3 A written record of the drugs, the doses administered, and their timing, must be kept as part of the patient's records.
 - 2.4 There must be an assistant to monitor the patient during the procedure.
 - 2.4.1 Staff employed for these purposes should be adequately trained for their role.
 - 2.4.2 Whilst assisting the practitioner, the assistant is wholly or exclusively responsible to that practitioner.
 - 2.4.3 Monitoring should be appropriate to that patient and procedure (Appendix 1).
 - 2.4.4 A written record of the patient's parameters should be made and kept as part of the patient's records.
- ### 3. Facilities

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

- 3.1 An operating table, trolley or chair which can be readily tilted.
- 3.2 Adequate access to patient's airway.
- 3.3 Adequate lighting.
- 3.4 There should be in each location, an adequate and reliable source of suction. Suction apparatus that meets operating room standards is strongly recommended.
- 3.5 There should be reliable source of oxygen adequate for the length of the procedure, with a back-up supply. Prior to administration of any sedation, the practitioner should ensure that oxygen supply and equipment is in working order.

- 3.6 There should be suitable devices for administering oxygen to the spontaneously breathing patient.
- 3.7 There should be self-inflating manual resuscitator bag capable of administering at least 90% oxygen as a means to deliver positive pressure ventilation.
- 3.8 There should be adequate resuscitative drugs and equipment for cardiopulmonary resuscitation (Appendix 2).
- 3.9 There should be in each location, sufficient electrical outlets to satisfy procedural and monitoring equipment needs.
- 3.10 For each location, all applicable building and safety codes and facility standards, where they exist, should be observed.

4. Discharge

The patient should be discharged only after an appropriate period of recovery and observation. This should take place in the procedure room in an adjacent area that is adequately equipped and staffed. Discharge of the patient should be authorised by the practitioner who administered the drugs, into the care of a responsible adult to whom written instructions should be given.

APPENDIX 1

MONITORING

- 1. Patient monitoring
 - 1.1 Circulation
The circulation must be monitored at frequent and clinically appropriate intervals
 - 1.2 Respiration
Respiration must be monitored continuously
 - 1.3 Oxygenation
The patient must be observed at frequent for evidence of central cyanosis. An oximeter must be used and its display values should be assessed by frequent observation of the patient. Oxygen enriched air should be administered to all sedated patients
- 2. Equipment
 - 2.1 Pulse oximeter provides evidence of the level of oxygen saturation of the haemoglobin of arterial blood and identifies arterial pulsation at the site of application. A pulse oximeter should be available and used for patient monitoring throughout the period of sedation and if necessary continued into the post procedural until the return of normal protective reflexes
 - 2.2 Sphygmomanometer/ Non - invasive Blood Pressure Device must be available and used

APPENDIX 2

1. Resuscitative Drugs
 - 1.1 Atropine 0.6mg/ml x 5
 - 1.2 Adrenaline 1mg/ml x 5
 - 1.3 Normal Saline 0.9% 20ml x 5
 - 1.4 Sodium Bicarbonate (NaHCO₃) 8.4% 20ml x 5
 - 1.5 Ca Gluconate 10% 10ml x 2
 - 1.6 Lignocaine 1% (10mg/ ml) 5ml x 3
 - 1.7 Naloxone 0.4mg x 2
 - 1.8 Flumazenil 0.5mg (5ml) x 2
2. Venous Access
 - 2.1 Intravenous catheter x 2
 - 2.2 Intravenous infusion set - minimum 1 set
 - 2.3 Heparinised saline (50iu/ml) 5ml x 2
 - 2.4 Normal Saline for injection 500ml x 1
 - 2.5 Antiseptic wipes
3. Airway Equipment
 - 3.1 Self-inflating manual resuscitator bag with face mask # 1, 2, and 3, one each
 - 3.2 Oral airways; #1, 2, 3, one each
 - 3.3 Laryngoscope handle
 - 3.4 Laryngoscope blade, curved, Mackintosh, large and medium, one each
 - 3.5 Spare batteries x 2 and spare laryngoscope bulbs x 1
 - 3.6 Endotracheal tubes; polyvinyl, cuffed sizes 6.0mm, 7.0mm and 8.0mm, one each
 - 3.7 Means of securing endotracheal tube, e.g. adhesive tape or cotton tape
4. Miscellaneous
 - 4.1 3ml syringe x 2
 - 4.2 5ml syringe x 2
 - 4.3 10ml syringe x 2
 - 4.4 #19G Nonbevelled drawing needle x 5
 - 4.5 #21G hypodermic needle x 5
 - 4.6 #23G hypodermic needle x 5

ACKNOWLEDGEMENT

The Academy would like to thank the following academicians who have contributed much time and efforts to produce this guidelines:

Illancheran A

Alexius E N Chee

Eugene Y R Chin

Shani S W Tan