



**VMMC & Safdarjung Hospital,
Ministry of Health & Family Welfare,
Government of India, New Delhi.**



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Document No.	TITLE		
E/ NABH/ SJH/ SOP/ 01	SOP on care of Patients requiring Anaesthesia		
Effective Date: 20/07/2020			
Function	Name	Designation	Signature
Prepared By	Dr. Sapna Bathla	Member Quality Cell	
Reviewed By	Dr. K. C. Tamaria	Nodal Officer NABH	
Approved By	Dr. Balvinder Singh Arora	Medical Superintendent	

Distribution: Quality Cell, Medical Superintendent, All Operation theatres, All Minor OTs

REVISION SUMMARY		
Version No.	Effective Date	Revision History
1.0	20/07/2020	00

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1.0 INTRODUCTION

Monitored anaesthesia care (MAC) is provided for various diagnostic and therapeutic procedures and has undergone welcome changes in the recent years. Anaesthesiologists are expected to provide sedation, analgesia and other pharmacological interventions and monitor the patient.

2.0 PURPOSE:

To provide guidelines on administration of anesthesia.

3.0 SCOPE:

All patients undergoing administration of anaesthesia at this hospital.

4.0 RESPONSIBILITY:

Anesthesiologist, Medical Staff Nursing staff and Para medical staff

5.0 ABBREVIATION:

NABH : National Accreditation Board For Hospitals and Healthcare providers

COP : Care of Patients

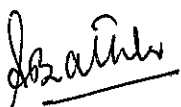
MAC: Monitored Anaesthesia care

6.0 REFERENCE:

NABH: Pre Accreditation Entry Level Standards for Hospitals, First Edition, April 2014.

COP 7: Documented policies and procedures guide the administration of anaesthesia.

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7.0 POLICY:

Administration of Anesthesia:

In order to achieve patient safety, the Anesthesia Care Team is responsible for the following:

a) Pre-anesthetic evaluation of the patient:

A pre-anesthesia evaluation allows for the development of an anesthesia plan that considers all conditions and diseases of the patient that may influence the safe outcome of the anesthesia. Although non-physicians may contribute to the preoperative collection and documentation of patient data, the anesthesiologist is responsible for the overall evaluation of each patient, and needs to document it in written.

b) Prescribing of anesthesia plan:

The anesthesiologist is responsible for prescribing an anesthesia plan aimed at safety of each patient. The anesthesiologist discusses with the patient (when appropriate), the anesthesia risks, benefits and alternatives, and obtains informed consent.

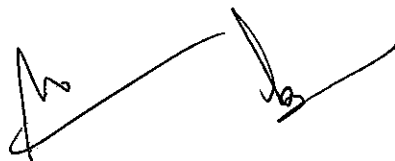
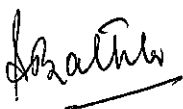
c) Management of the anesthesia:

The management of an anesthesia is dependent on many factors including the unique medical conditions of individual patients and the procedures being performed. The anesthesiologist will delegate specific tasks to qualified anesthesiologist to provide quality of care and patient safety. In critical parts of the anesthesia the Head of the Department anesthesia immediately informed for management of emergencies regardless of the type of anesthesia.

d) Post-anesthesia care:

Routine post-anesthesia care is delegated to nurses. The evaluation and treatment of post-anesthesia complications are the responsibility of the anesthesiologist. Whether the need is preoperative medical clearance or intra-operative resuscitation from an unexpected

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complication, the surgeon, both ethically and according to training and ability, should be expected to provide medical oversight or supervision of all peri-operative health care provided.

Check list for Administration of Anesthesia:

All patients for anesthesia have a pre-anesthesia assessment by a qualified anesthesiologist. There is a pre anesthesia assessment which results in formulation of an anesthesia plan which is documented. There is an immediate pre-operative reevaluation and it is documented. Informed consent for administration of anesthesia is obtained by the Anesthetist. During anesthesia there is regular and periodic monitoring and recording (documentation) of heart rate, cardiac rhythm, respiratory rate, blood pressure, oxygen saturation, airway security and patency and level of anesthesia. Each patient's post anesthesia status is monitored and documented. The anesthesiologist applies defined criteria to transfer the patient from the recovery area. All adverse anesthesia events are recorded and monitored.

Pre Anesthesia evaluation:

An Anesthesiologist shall be responsible for determining the medical status of the patient and developing a plan of anesthesia care. The Anesthesiologist is responsible for: Reviewing the available medical record; Interviewing and performing a focused examination of the patient to: Discuss the medical history, including previous anesthetic experiences and medical therapy; Assess those aspects of the patient's physical condition that might affect decisions regarding pre-operative risk and management; Prescribing and reviewing of available tests and consultations as necessary for administration of anesthesia care; Prescribing appropriate preoperative medications; Ensuring that consent has been obtained for the anesthesia care; Documenting in the patient case sheet that the above has been performed.

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Routine Pre-operative Laboratory and Diagnostic Screening:

Discovery or identification of a disease or disorder which may affect pre-operative anesthetic care; Verification or assessment of an already known disease, disorder, medical or alternative therapy which may affect pre-operative anesthetic care, and; Formulation of specific plans and alternatives for pre-operative anesthetic care; Routinely Hb%, TLC, DLC, ESR, Blood Sugar, Blood Urea, Urine analysis, CXR, ECG before any anesthesia exposure. Appropriate indications for ordering tests include the identification of specific clinical indicators or risk factors (e.g., age, pre-existing disease, magnitude of the surgical procedure).

Intra Procedural Monitoring:

Immediate review prior to initiation of anesthetic procedures: Patient re-evaluation; Check of equipment, drugs and gas supply; Monitoring of the patient (e.g., recording of vital signs); Amounts of drugs and agents used, and times of administration; The type and amounts of intravenous fluids used, including blood and blood products, and times of administration; The technique(s) used; Unusual events during the administration of anesthesia; The status of the patient at the conclusion of anesthesia.

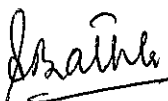
Post Anesthesia Care:

Patient evaluation on admission and discharge from the recovery area. A time-based record of vital signs and level of consciousness. A time-based record of drugs administered their dosage and route of administration. Type and amounts of intravenous fluids administered, including blood and blood products. Any unusual events including post-anesthesia or post-procedural complications. Post-anesthesia visits.

Regional Anesthesia:

- a) **Phase I Recovery to Phase II Recovery Discharge Criteria following Regional/Neuraxial Anesthesia:**

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The patient is suitable for transfer from Phase I Recovery when your institution's discharge criteria following General Anesthesia are met (see Tables one and two below) and the Motor and Sensory Assessments as outlined below in Table Three have been met.

b) Modified Aldrete Scoring System:

Category	Description of Status	Aldrete Score
Respirations	Breathes,	2
	coughs freely	1
	Dyspnea	0
	Apnea	0
O2 Saturation	O2 Saturation > 92% on Room Air	2
	Supplemental oxygen	1
	O2 Saturation < 92% on O2	0
Circulation	BP +/- 20 mmHg pre-op value	2
	BP +/- 20 - 50 mmHg pre-op value	1
	BP +/- 50 mmHg pre-op value	0
LOC	Awake & oriented	2
	Wakens with stimulation	1
		0
	Not responding	0
Movement	Moves 4 limbs on own	2
	Moves 2 limbs on own	1
	Moves 0 limbs on own	0

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Infection Control Protocols:

- a) A specified consultant in each department of anaesthesia should liaise with the Hospital Infection Control Teams to ensure that relevant specialist standards are established and monitored in all areas of anaesthetic practice.
- b) Precautions against the transmission of infection between patient and anaesthetist or between patients should be a routine part of anaesthetic practice.
- c) In particular, anaesthetists must ensure that hand hygiene becomes an indispensable part of their clinical culture.
- d) Anaesthetists must comply with local theatre infection control policies including the safe use and disposal of sharps.
- e) Anaesthetic equipment is a potential vector for transmission of disease.
- f) Policies should be documented to ensure that nationally recommended decontamination practices are followed and audited for all reusable anaesthetic equipment.
- g) Single use equipment should be utilised where appropriate but a central sterile supplies department (CSSD) should process reusable items.
- h) It is recommended that anaesthetic departments should consider changing anaesthetic circuits on a daily basis in line with daily cleaning protocols.
- i) Appropriate infection control precautions should be established for each anaesthetic procedure, to include maximal barrier precautions for the insertion of central venous catheters, spinal and epidural procedures and any invasive procedures in high risk patients.

Adverse Anaesthesia Events:

- a) All post-operative patients shall be monitored for any adverse anaesthesia event.
- b) The patients shall be shifted from the recovery area as per the Scoring by the Anaesthesiologist.

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8.0 PROCEDURE:

Preliminary preparation should be made before conscious sedation. Services are provided in a particular clinic :

- a) **Administrative:** If the provision of conscious sedation services is being considered in a clinic, the department Chair should review the policy for Conscious Sedation and make a decision regarding the clinic's ability to meet staffing, educational and equipment requirements.
- b) **Medical Staff:** The physician supervising the administration of conscious sedation should be qualified to rescue patients from deep sedation and must obtain specific privileges from the Core Committee through the Medical Staff Office credentialing procedure. As per Department of Anesthesiarecommendations, the following general anesthetic agents are not considered appropriate for IV conscious sedation. These agents include, but are not limited to : Thiopental (Pentothal); Methohexital (Brevital); Ketamine; Propofol (Diprivan); and anesthetic gases (Isoflurane, Halothane, Nitrous Oxide). The physician will direct the administration of conscious sedation to achieve the desired level of sedation and have available the necessary equipment and trained staff required in the event of an adverse reaction to the medication or procedure.
- c) **Assisting Staff:** Health care providers assisting and monitoring the patient before, during, and after a procedure should have specific training in conscious sedation and have no other duties assigned until the patient is ready for discharge (usually a minimum of one hour post- procedure monitoring).

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Planning for Care:

- a)Pre –anaesthesia assessment: All the anaesthesia has a pre –anaesthesia assessment by the qualified individual. The pre anaesthesia assessment results in formulation of an anaesthesia plan which is documented.
- b)Pre-operative re-evaluation: An immediate pre-operative re-evaluation is documented. The physician will determine the appropriateness of performing the procedure(s) requiring conscious sedation based upon:

The patient’s medical, anaesthetic, and medication history.

The patient’s current medical condition.

Available diagnostic data.

Risks, benefits and alternatives of the procedure

Consent:


The physician will discuss the purpose, options, and risks for conscious sedation with the patient and family prior to the procedure; and will obtain and document informed consent. The informed consent for the administration of anaesthesia is obtained by the anaesthetist.

Pre-anesthesia assessment: All patients posted for elective surgery should be admitted one day prior to surgery so that the anesthesiologist can do pre-anesthesia assessment and plan anesthesia procedures accordingly. During the anesthesia monitoring includes regular and periodic recording of the heart rate, cardiac rhythm, respiratory rate, blood pressure ,oxygen saturation, airway security and the patency and the level of anesthesia.

1. History:

History of previous illness (Diabetes, HT, renal or liver disease, bronchial asthma, epilepsy etc) and history of drug intake for the same should be taken. History of allergy to any drug should be elicited. History must be taken of any previous surgery and any adverse effect after anesthesia such as delayed recovery from anesthesia or severe bronchospasm after

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anaesthesia. A family history of somebody having problems with anaesthesia should be taken. History of blood disorders, prolonged bleeding and clotting time should be taken. History should be taken of cardiac disease, chest infection, jaundice, alcoholism, smoking and urinary problem. History of having any pacemakers implanted inside the body should be elicited.

History should be taken on the hours of starvation

2. Examinations:

Detailed examinations of all systems are necessary to assess the pre-operative physical status of the patient. Pulse, BP, RR and temperature must be taken. Cardiovascular and respiratory system must be extensively examined. Airway examination includes mouth, protruding tooth, and shaky tooth, uvula and opening of mouth. History of the use of artificial dentures should be elicited and it has to be removed before the anaesthesia procedure. Along with the assessment of the physical status of the patient, the anesthesiologist has to assess the mental status of the patient. The anesthesiologist has to explain in a reassuring manner how the anaesthesia procedure is planned, the approximate duration of surgery, how long the patient will be inside the post op ICU, when he can take food or water. When a patient is thus educated he can be mentally and psychologically prepared to tolerate better the stress and strain of an anaesthesia and surgery.

3. Investigations:

Routine blood investigations such as Hb, TC, DC, ESR, Blood sugar, blood urea, S. Creatinine, CT, BT, PCV, HIV, HBS Ag, Urine routine are done. In indicated patients, LFT, PT, PTT, and S. electrolytes are also done. Pulmonary function tests are done preoperatively in COPD patients to assess respiratory status and improve functional vital capacity before being taken up for surgery. ABG analysis in indicated patients, chest X-ray and ECG are also

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done. If ECG changes are seen, detailed cardiac evaluation by a cardiologist including echocardiography, TMT etc. Patients are routinely examined by physicians to assess all systems. The concerned super-specialists such neurologists, nephrologists, cardiologists etc. are consulted as the case may arise. All the relevant details of the patient are documented in the case sheet during this pre anesthesia visit.

Premedication:

Reasons for premedication: Patient's comfort for analgesia, sedation. Drugs used are Diazepam, Alprazolam, Midazolam, etc. Decrease in gastric volume and increase in PH. Drugs used are antacids, Ranitidine, Omeprazole, Pantoprazole, Rabeprazole etc. Decrease in airway secretion, e.g. Glycopyrolate, Atropine. Decrease in autonomic response e.g. Atropine. Prophylaxis against allergic reactions e.g. Dexona, Betnesol etc. Continue therapy for concurrent disease. Decrease in incidence of nausea and vomiting e.g. Ondansetron, metocloperamide, Phenergan etc.

Restriction of Oral Intake before Surgery:

Vomiting and aspiration of gastric contents during induction of anaesthesia can cause pulmonary damage, if volume of aspirate reaches 25ml/Kg and smaller volume can also produce damage. Patients who are pregnant, obese, smokers and Patients who have hiatus hernia are at a greater risk of aspiration. Usually the patients are instructed to take nothing orally for 6 to 8 hours before surgery to reduce the risk of aspiration of gastric contents. Children and new born are advised only 4 hours of starvation.

Documentation:

All the relevant history, investigation reports and examination findings are documented by the anesthesiologist which including an immediate pre operative re-evaluation, In addition to

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this, the pre anesthesia assessment results in formulation of an anesthesia plan , Pre-medication and pre-op. orders should also be documented.

Informed Consent:

Written informed consent should be obtained from the patient before any surgery and anaesthesia. In the case of a child aged less than 16 years or unconscious/ mentally retarded patient, the parent's guardian signs the form. Explanation of the hazards of surgery and anaesthesia should be given to the patients and bystanders.

Anaesthesia Procedure:

During anaesthesia induction and maintenance, regular and periodic recordings of heart rate, temperature, Respiratory rate, and Oxygen saturation should be done. Urine output and CVP should be recorded for prolonged cases.

Post Anaesthesia Care:

Patient is shifted to the recovery room and the patient's vitals should be monitored. ECG monitor, Pulse oxymeter, central oxygen supply, intubation equipment, airway maintenance equipments, and emergency drugs should be always kept ready in the recovery room. After the patient has sufficiently recovered from anaesthesia, the patient is shown to the bystanders and shifted to the post OP / ICU, where the patient is usually kept for 24 hours. In the post OP/ICU the patient's vitals are regularly monitored and recorded. The patient is shifted to the ward according to the surgeon's discretion. All the drug anesthesia events are recorded and monitored.

Post-Operative Pain Management :

Post-operative pain is mainly managed by epidural analgesia, NSAIDS. Epidural analgesia for labour pain is also done. Opioids commonly used are Fortwin, Pethidine, Morphine. and

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fentanyl. For epidural analgesia drugs used are Sensorcaine (0.25%), Fentanyl, and Tramadol. All adverse anaesthesia events are recorded and analysed by the Pharmacy and therapeutic committee for taking preventive actions in the future.

9.0 VALIDITY STATEMENT

This document is valid for one year from the date of issue.

10.0 APPENDICES AND FORMS

- * Annexure A: Pre Anaesthetic check up form
- * Annexure B: Amendment sheet
- * Annexure C: Training log

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Annexure B

AMENDMENT SHEET

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Sr No.	Page No.	Clause No.	Date of Amendment	Amendment Made	Reasons	Signature of Officer In-charge	Signature of Medical Superintendent
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Annexure C

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TRAINING LOG (Contents, Deviation and Amendment)



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Officer In-charge

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