

Anaesthetic Guidelines for Rural Hospitals

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On behalf of the Rural Health Task Group of the Academy of Family Practice/Primary Care.

This series is also being produced as a booklet for the use of doctors in Rural Hospitals and is obtainable from SA Family Practice.

PRE-OPERATIVE ASSESSMENT AND MANAGEMENT

The series will have the following sections:

1. Introduction to anaesthetics and anaesthetic safety checklist
2. Anaesthesia, intubation and extubation
3. The pre-operative assessment
4. Anaesthetic drugs I
5. Anaesthetic drugs II
6. Spinal anaesthesia
7. Caesarean Sections
8. Paediatric anaesthesia
9. Complications during anaesthesia
10. Local and regional anaesthesia
11. Ventilation and breathing systems
12. Blood transfusion

NO. 3

The purposes of the pre-operative visit

The purposes are to:

- Establish a rapport with the patient.
- Take a relevant medical history.
- Perform a relevant physical examination.
- Ensure that the patient is in optimum condition for theatre.
- Assess intubation difficulties.
- Assess whether surgery is appropriate or advisable.

Establish a rapport with the patient

This includes not only allaying anxiety, but also explaining *in terms that are understandable to the patient* the reason for and the nature of the operation. The patient should also be warned of what to expect or feel after the operation.

Take a relevant medical history

Ask about past and current health, and whether the patient is taking any medication. Heart disease, respiratory dysfunction, hypertension, asthma, and diabetes must be enquired about specifically. These

illnesses will affect the choice of anaesthetic that you give. Remember that a biomedical classification of disease is not understood by many patients – your questions will have to be phrased in terms that make sense to the patient. Remember that certain drugs can interact with anaesthesia. Also remember to manage the insulin requirements for diabetics so that they are not put at risk of hypoglycaemia during the operation. Lastly, a history of previous operations and anaesthetics may reveal important information.

Perform a relevant medical examination

Assess the cardio-respiratory capacity of the patient. In particular, you must ensure that the patient is not hypovolaemic. It is crucial that every patient entering an operating theatre is optimised in terms of his/her intravascular volume. As well as this, pay particular attention to assessing the ease of tracheal intubation. Consider the need to check the patient's haemoglobin, or to perform a CXR. Patients involved in trauma may need a CXR to exclude a pneumothorax, or an X-ray of the cervical spine.

Ensure that the patient is in optimum condition for theatre

Treat and optimise any concurrent

Several studies have shown that the inadequate pre-operative preparation and management of patients is a major contributing factor to anaesthetic causes of perioperative mortality. It is therefore essential that the anaesthetist visits every patient *well before* surgery in order to establish 'fitness for anaesthesia'.

Two broad questions should be addressed:

1. Is the patient in optimum physical condition for anaesthesia?
2. Are the anticipated benefits of surgery greater than the anaesthetic and surgical risks produced by the concurrent medical disease?

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medical conditions such as asthma, hypertension and heart failure. If the patient is hypovolaemic or dehydrated, give the appropriate type and amount of fluid. The caveat of full resuscitation before surgery should only be broken if haemorrhage is extensive and continuous.

Assess whether surgery is appropriate for the given circumstances

In principle, if there is any medical condition which may be improved, surgery should be delayed until improvement is achieved. The surgery should also be appropriate to the given facilities. If for example, the patient might need to be ventilated post-operatively, a referral to a hospital with a fully-equipped ICU must be considered. Similarly, if there is no blood available for transfusion, referral or operative delay may be indicated.

In some instances, you may need to decide whether the surgeon is appropriate to the surgery required. Part of your job is to act as the guarantor of the patient's best interests. Sometimes this may mean requesting for a more experienced or better qualified surgeon.

For major operations and very sick patients, do not hesitate to call in other doctors for help even if they are not on duty.

Specific points of management

It is not possible to go into detail about the pre-operative management of all conditions. Below is a short list of points that have not yet been mentioned, and indicate other areas of importance. Further information on the following should be obtained from a text book.

In many parts of South Africa,

rheumatic heart disease is common. Prophylactic antibiotics may be required to prevent patients from developing infective endocarditis. Dental, genito-urinary and colonic procedures are the most important types of surgical procedure for this.

Patients with a diastolic blood pressure of > 110mmHg should have their surgery postponed. It is reasonable to proceed with a diastolic below 110mmHg, but ideally the diastolic blood pressure should be below 100mmHg.

The management of diabetic patients should be focussed on preventing hypoglycaemia, which may not be detectable in anaesthetised patients. Oral hypoglycaemics and long-acting insulin should be discontinued 24 hours before surgery. Control the blood sugar by using short-acting insulin with a sliding-scale.

In patients at risk of vomiting or regurgitation, it may be desirable to insert a naso-gastric tube and to elevate the PH of gastric contents with sodium citrate.

Premedication

This is a topic with as many opinions as there are anaesthetists. The main objectives of premedication are given below with suggestions.

• To allay anxiety and fear

This is the main indication for premedication, but requires first and foremost, verbal reassurance and explanation to the patient. However, an anxiolytic like a benzodiazepine can be helpful. There is known to be an inverse relationship between anxiety and smoothness of induction of anaesthesia.

• To reduce secretions

Ketamine promotes secretions

and an anticholinergic agent such as atropine may be advisable before using this.

• To reduce post-operative nausea and vomiting

Anti-emetics such as metoclopramide are usually more effective if administered intravenously during anaesthesia.

• To attenuate vagal reflexes

Induction of anaesthesia with halothane, particularly in children, may be associated with bradycardia. Premedication with atropine may be appropriate, but can also be given during induction.

• To alleviate pre-operative pain

Patients who are in pain before an operation should receive an analgesic such as pethidine intramuscularly. It is important that small children who have been given opioids are closely monitored before and after the operation for respiratory depression.