

GUIDELINES ON MONITORING IN ANAESTHESIA

**GUIDELINES ON MONITORING IN ANAESTHESIA**

**INTRODUCTION**

The Hong Kong College of Anaesthesiologists recommends the monitoring of certain fundamental physiological variables during anaesthesia. Clinical judgement will determine how long monitoring should be continued following completion of anaesthesia.

Some, or all, of these basic recommendations will need to be exceeded regularly depending on the physical status of the patient, the type and complexity of the surgery to be performed, and the requirements of anaesthesia. Occasionally some of the recommended methods of monitoring may be impractical or inappropriate. Under such circumstances, the anaesthesiologist may waive some of the requirements after so stating (including reasons) in the patient's notes.

The following recommendations refer to patients undergoing general anaesthesia or major regional anaesthesia for diagnostic or therapeutic procedures and should be interpreted in conjunction with other policy documents published by the Hong Kong College of Anaesthesiologists.

The health care facility, in which the procedure is being performed, is responsible for provision of equipment for anaesthesia and monitoring on the advice of one or more designated senior anaesthesiologists<sup>2</sup>, and for effective maintenance of this equipment.

**1. PERSONNEL**

- 1.1 Clinical monitoring by a vigilant and diligent anaesthesiologist is the basis of patient care during anaesthesia. This should be supplemented by appropriate devices to assist the anaesthesiologist.
- 1.2 The anaesthesiologist must be a medical practitioner with appropriate training in anaesthesia whose sole responsibility is the provision of anaesthetic care for that patient. He/she must be constantly present from induction of anaesthesia until safe transfer to the recovery room or intensive care unit has been accomplished. In exceptional circumstances, that person shall delegate, temporarily, observation of the patient to an appropriately qualified person who is judged by the anaesthesiologist to be competent for the task.
- 1.3 The individual anaesthesiologist being responsible for monitoring the patient should ensure that appropriate monitoring equipment is available. Where there is an environmental risk to staff, e.g. radiation, adequate facilities must exist to enable remote patient monitoring.

**2. PATIENT MONITORING**

2.1 *Circulation*

The circulation must be monitored at frequent and clinically appropriate intervals by detection of the arterial pulse and measurement of the arterial blood pressure.

2.2 *Respiration*

**GUIDELINES ON MONITORING IN ANAESTHESIA**

Respiration must be monitored continuously.

2.3 *Oxygenation*

The patient must be observed at frequent intervals for evidence of central cyanosis. The displayed values of an oximeter shall be assessed by frequent observation of the patient.

**3. EQUIPMENT**

The following recommendations for equipment must be implemented as soon as possible.

3.1 *Oxygen Supply Failure Alarm*

An automatically activated device to monitor oxygen supply pressure and to warn of low pressure must be fitted to the anaesthetic machine.

3.2 *Oxygen analyser/monitor*

A device incorporating an audible and visual signal to warn of low oxygen concentrations correctly fitted in the breathing system, must be in continuous operation for every patient when an anaesthetic machine is in use.

3.3 *Pulse Oximeter*

A pulse oximeter must be exclusively available for every anaesthetised patient.

3.4 *Alarms for Breathing System Disconnection or Ventilator Failure*

When an automatic ventilator is in use, a device capable of warning promptly of a breathing system disconnection or ventilator failure must be in continuous operation. It is desirable that this device be automatically activated.

3.5 *Electrocardiograph*

Equipment to monitor and continually display the electrocardiograph must be available for every anaesthetised patient.

3.6 *Temperature Monitor*

Equipment to monitor temperature should be available for every anaesthetised patient.

3.7 *Carbon Dioxide Monitor*

An end tidal carbon dioxide monitor must be exclusively available for every intubated and ventilated patient.

3.8 *Neuromuscular Function Monitor*

Monitoring of neuromuscular function should be available for those patients in whom it is clinically indicated.

3.9 *Gas Monitor*

**GUIDELINES ON MONITORING IN ANAESTHESIA**

Equipment to monitor the concentration of inhaled anaesthetics must be in use for every patient undergoing general anaesthesia from an anaesthetic delivery system where volatile anaesthetic agents are available. Automatic agent identification should be available on newly acquired monitors.

*4.0 Other Equipment*

When clinically indicated, equipment to monitor other physiological variables should be available.

**4. EMERGENCY CIRCUMSTANCES**

Immediate life support measures are the first priority in emergency circumstances. Appropriate monitoring as described in these recommendations should be instituted as soon as practicable.

**5. POSTANAESTHETIC RECOVERY**

The anaesthesiologist should issue clear instructions concerning monitoring of postoperative care when handing over the patient to recovery ward staff. Appropriate monitoring facilities should be available in the recovery ward.

<sup>2</sup> A senior anaesthesiologist is one who holds a higher qualification in anaesthesia recognised by the Hong Kong College of Anaesthesiologists and who has a minimum of six years of postgraduate experience in anaesthesia.