

1. Introduction

In order to ensure that the practice of anaesthesia is as safe as possible for patients, anaesthesiologists and other health care workers it is imperative that infection risks to all parties be minimised. It is impossible to issue a policy, which if observed would ensure that infection was never transmitted via anaesthetic apparatus. What follows is a policy based on current understanding of the risks of such transmission. In certain clinical situations there may be a need to adopt more stringent practices. This Policy should be considered with documents issued by other Authorities.

2. Definitions

Decontamination: The process of removing infective and unwanted matter from the surface of an object, i.e. thorough cleaning.

Disinfection: A process, which eliminates many or all micro-organisms except those spores.

Sterilisation: A process, which leads to the complete elimination of all micro-organisms.

Asepsis: The prevention of contact with micro-organisms.

For disinfection or sterilisation to occur there must have been previous thorough decontamination.

3. Minimisation of infection risk to patients

Measures to protect patients against acquiring infections through anaesthesia procedures need to address (i) risks related to invasive procedures; (ii) risks or potential risks related to airway management. In both situations appropriate levels of sterility, disinfection and decontamination are to be applied to all equipment used. A microbiologist should be consulted about any matters requiring clarification with local application of this policy. Frequent handwashing by the anaesthesiologist and the anaesthetic assistant is a most important infection control measure. Hands should be washed before handling a new patient or equipment to be used on a new patient, after leaving a patient, whenever they become contaminated and before any invasive procedure. For the anaesthesiologist's protection protective gloves are to be worn whenever the hands may contact blood, saliva or any other body fluid and are to be removed after such a procedure to minimise contamination of the work place.

3.1 Invasive Procedures

Invasive procedures are to be performed with aseptic technique.

3.1.1. Vascular Cannulation

The Cannulation site is a potential portal of entry of micro-organisms into the subcutaneous tissues and circulation. The anaesthesiologist's hands must be washed and protective gloves should be worn. The skin should be disinfected with an appropriate preparation prior to Cannulation being performed in a manner, which ensures that the tip and shaft of the cannula remain sterile.

3.1.2. Central Vascular Cannulation

Cannulation of central veins is to be performed using aseptic technique.

3.1.3. Drip set

Every drip set should be dedicated to one patient. The tip should be kept clean all the time.

3.1.4. Regional Anaesthesia

When regional blocks are being performed, the hands should be washed and gloves worn, the skin should be disinfected with a suitable preparation and the procedure done in such a way that the needle remains sterile. When a spinal or epidural block is being performed or a catheter is to be left indwelling, full aseptic technique including the wearing of sterile gown and gloves and the use of a field bordered by sterile drapes is recommended.

3.2 Anaesthetic Apparatus

The following measures are intended to minimise the risk of transmission of infection in the respiratory tract via anaesthetic equipment. This policy does not address the processing of equipment during long term ventilation.

3.2.1. Devices to be sited in the upper airway

Devices passing through the mouth or nose will become contaminated in the upper airway. Endotracheal tubes, nasal and pharyngeal airways should be kept sterile until used.

Reusable face masks must be thoroughly decontaminated and then undergo disinfection prior to each use. Items to be placed in the upper airway which may cause bleeding e.g. laryngoscope blades and temperature probes, must be disinfected before reuse. It is not ordinarily necessary to package these items separately while they await their next use. Where the manufacturer advises that a particular piece of equipment is to be sterilised before use, e.g. the laryngeal mask, that advice is to be followed. Laryngoscope handles should be decontaminated between uses.

There should be separation of unused items and soiled items during use.

3.2.2. The Breathing Circuit

For each patient the Breathing Circuit should have been sterilised, or decontaminated and disinfected or protected by the use of appropriately positioned new filters. When a filter is used, it is recommended that disposable items between the patient and the filter be disposed of and non-disposable items, including in-line measurement devices, be decontaminated and disinfected prior to reuse. Any condensate that collects in the tubing of a breathing circuit should be periodically drained and discarded, taking precautions not to allow condensate to drain towards the patient. Hands should be washed after handling the fluid.

3.2.3. Sampling Lines for Side Stream Gas Analysis

These need not ordinarily be sterilised before reuse because of the one way flow of gas through them. Sampled gas from a capnograph or other such

measurement device should not be returned to the anaesthetic circuit unless it is first passed through a viral filter.

3.2.4. Carbon Dioxide Absorbers

When a filter is used in the circuit as describes in 3.2.2. above, sterilisation of the carbon dioxide absorber prior to every case is not necessary nor with most models is it practicable although disposable versions and models capable of being sterilised are available. The device including the unidirectional valves should be disinfected regularly.

3.2.5. Ventilator Circuits and Bellows

These items should be cleaned and disinfected regularly.

3.2.6. Anaesthetic Machine

Routine sterilisation or high-level disinfection of the internal machinery of anaesthetic machines is considered unnecessary.

3.2.7. Flexible Laryngoscopes and bronchoscopes

These instruments and accessory equipment must be sterilised between uses.

3.2.8. Humidifier

Sterile water is used to fill humidifiers. Hot water bath type humidifiers should be disinfected between uses.

3.3 Presentation of drugs for injection

Because of the potential for cross infection, the use of the contents of multiple doses vials and ampoules for more than one patient is not recommended except in a dispensing situation where different doses are drawn up before administration of first dose to a patient. Likewise it is recommended that any infusion should be prepared and used for one patient only.

3.4 Patient Factors

In immunosuppressed or immune deficient patients to whom infection poses a particular threat, there may be reason to apply more stringent practices than those outline.

4. Prevention of infection of health care workers

Health care workers are recommended to follow universal precautions.