



SE08

SURGERY & ANESTHESIA SERVICES

The healthcare facility actively minimizes risk for patients undergoing surgery through comprehensive coordination of activities prior, during and after surgery. The WHO checklist or equivalent is completed for each patient prior to sedation for verification purposes. E.g. correct patient, planned procedure, informed consent, allergies. Surgery and anesthetic staff further strictly adhere to protocols regarding prevention of infection measures such as appropriate scrubbing and correct use of operation clothing and PPE, flow of activities and correct cleaning and sterilization of linen and instruments in order to minimize any hospital acquired infections for patients. The use of anesthetic mixtures, and the use and maintenance of anesthetic and breathing equipment is also guided by protocols or checklists. Each patient is closely monitored by OT staff during surgery, and by recovery staff until discharged to the ward. Follow-up activities or specific monitoring requirements for each patient is clearly noted in patient files and communicated to the assigned nursing staff in the ward to ensure continuity of care.

The SafeCare standards cover the full range of clinical services and management functions for healthcare facilities in 13 Service Elements. These Service Elements contain a number of standards that relate to specific services or functions. The rationale of each standard is explained by the standard intent and gives you an idea what the standard really entails.

Each standard contains measurable elements, also called criteria. Measurable elements are related to specific processes, assets or documents (e.g. process for triage, resuscitation equipment or a job description for the lab manager). Compliance to each measurable element is assessed, and scores awarded are either Fully Compliant (FC), Partially Compliant (PC), Non-Compliant (NC) or Not Applicable (NA). The combined scores of the underlying measurable elements reflect the level of compliance to the whole standard.

**8.1
MANAGEMENT
AND STAFFING**

8.1.1 The surgery and anesthetic services are managed and performed by qualified care providers.

STANDARD INTENT:

Country-specific regulations determine who is allowed to administer sedation and anesthetics (e.g. anesthesiologist, nurse anesthetists or clinical officer anesthetists) and who is allowed to conduct surgery.

The operating theatre is managed by a designated, qualified individual who defines staffing requirements, and ensures that all staff has job descriptions which clearly define scope and limitations to their responsibilities and activities within the clinical unit.

MEASURABLE ELEMENTS:

- 8.1.1.1** Anesthesia is administered by a qualified anesthesiologist, who operates within their in-country accepted scope of practice.
- 8.1.1.2** The theatre and recovery area is managed by a designated professional, who is suitably qualified and/or experienced.
- 8.1.1.3** Surgery is performed and assisted by qualified staff who operate within their in-country accepted scope of practice.
- 8.1.1.4** Recovery room care is provided by authorized qualified staff who operate within their in-country accepted scope of practice.

8.1.2 Surgical services are planned and coordinated.

STANDARD INTENT:

Staff rosters need to be in place and match the needs of the elective and emergency surgeries scheduled. Registered nurses need to be present during all shifts, for theatre duties, anesthetic assistance, and for recovery room duties. The schedule for elective surgery should be available in time (e.g. 12 hours prior to surgery) to allow theatre staff for adequate planning of the operation. For emergency surgery there must be an on-call schedule. The healthcare facility needs to set a response time frame for the staff (the time between the call to the time the emergency surgery can start).

MEASURABLE ELEMENTS:

- 8.1.2.1** Operating theatre rosters ensure that qualified staff is present for theatre duties and anesthetic assistance.
- 8.1.2.2** Surgery is planned and communicated with the relevant caregivers.
- 8.1.2.3** The recovery room nurses are allocated for the entire recovery period.
- 8.1.2.4** There is an on-call roster for emergency surgery with set response time frame.

**8.2
PREOPERATIVE
CARE**

8.2.1 Prior to surgery, all relevant information is recorded to ensure safe practices.

STANDARD INTENT:

Because surgery and anesthesia carry a high level of risk, they need to be carefully planned. A medical assessment needs to be done by the surgeon in order to select the appropriate surgical procedure and identify which findings during monitoring may be significant. The surgical care planned for the patient must be documented in the patient's record, including a preoperative diagnosis. The surgeon also need to ensure that the informed consent is collected, which includes that patient and family are educated on the risks, benefits, potential complications, and alternatives related to the planned surgical procedure. An anesthesiologist or another qualified individual needs to conduct the pre-anesthesia assessment to identify any airway problems, to select the anesthesia and to plan anesthesia care based on the assessment and type of procedure. A standardized nursing assessment is also conducted to facilitate nursing care and recovery room activities.

MEASURABLE ELEMENTS:

- 8.2.1.1** A medical assessment is done by the responsible surgeon prior to surgery.
- 8.2.1.2** Informed consent is obtained prior to surgery and anesthesia.
- 8.2.1.3** A standardized anesthetic assessment by the anesthesiologist is done prior to surgery.
- 8.2.1.4** A standardized nursing assessment is done prior to surgery.

8.2.2 Appropriate care is made for patients awaiting surgery.

STANDARD INTENT:

Whether patients await surgery just outside theatre (ideal situation) or in the ward, adequate monitoring equipment needs to be in place in order to provide safe care (e.g. stethoscope, clock with second hand, pulse oximeter, BP machine, thermometer), and staff needs to be guided in appropriate preoperative monitoring of vital signs.

MEASURABLE ELEMENTS:

- 8.2.2.1 There is a preoperative area (surgery preparation room) for patients awaiting surgery.
- 8.2.2.2 The preoperative area is suitably equipped.
- 8.2.2.3 There's a document guiding staff in preoperative monitoring of vital signs.
- 8.2.2.4 The preoperative monitoring of vital signs is recorded.

8.2.3 Staff is guided through an appropriate verification process for all patients prior to sedation and/or anesthesia.

STANDARD INTENT:

The provision of safe anesthesia depends on careful preparation, which is facilitated by a systematic approach to reviewing the patient, equipment and medications. Verification prior to sedation focuses on the physiological stability and readiness of the patient for anesthesia and occurs immediately prior to the induction of anesthesia. This is a crucial step prior to surgery as it has been proved that it minimizes adverse outcomes. In addition to the personnel involved in delivering anesthetic, the anesthesia system includes:

- *any machine or apparatus that supplies gases, vapors, local anesthesia or intravenous anesthetic agents to induce and maintain anesthesia;*
- *any equipment necessary for securing the airway;*
- *any monitoring devices necessary for maintaining continuous evaluation of the patient; and*
- *the patient himself or herself, correctly identified, consensual and evaluated preoperatively (e.g. verification of allergies, last oral intake, any required preoperative medication, management of hypertension, availability of blood products, etc.)*

MEASURABLE ELEMENTS:

- 8.2.3.1 There is a document guiding staff in identifying patients, checking informed consent, and verifying nature and site of operation prior to sedation.
- 8.2.3.2 Any allergies and administered preoperative medication (e.g. prophylactic antibiotics 60 min prior to surgery) is verified.

8.2.3.3 The last oral intake is verified prior to sedation.

8.2.3.4 A designated nurse/nurse in charge completes a checklist to ensure all staff and equipment is ready for surgery.

8.3
PREOPERATIVE
CARE

8.3.1 There are adequate assets in the operating theatre for providing safe care.

STANDARD INTENT:

The operating room should be of an appropriate size, well ventilated, well lit and conform to relevant electrical safety codes. Electricity should always be supplied, and a back-up electrical generator should be immediately available. Temperature control is ideally done by a system that balances humidity and ensures that temperatures stay within appropriate range. When this is not available a fan should be in place, as well as equipment to cool patients and minimize heat loss.

MEASURABLE ELEMENTS:

8.3.1.1 There is a functional operating theatre table.

8.3.1.2 There is a good theatre lamp with a system that ensures continuous power supply.

8.3.1.3 There is adequate ventilation and temperature control in the operating theatre.

8.3.1.4 Equipment to cool patients or minimize heat loss is available.

8.3.2 There is adequate access to medication and supplies in each theatre.

STANDARD INTENT:

The healthcare facility needs to define which medication and supplies should be stored in the operating theatre. Medication and supplies listed should be readily available, stored properly and safely, and checked in terms of expiry dates in order to ensure safe and effective service provision.

Expiry dates need to be checked. When there is a digital system in place these checks can be performed by the IT system because all the dates of expiry are entered in the system. When there is a manual bin card system this should preferably be performed daily or weekly. Administration records of this process should be kept accordingly.

MEASURABLE ELEMENTS:

- 8.3.2.1** The healthcare facility has emergency trolley supplies for the exclusive use of the anesthesiologist in each theatre.
- 8.3.2.2** There is safe and adequate storage space for pharmaceutical and surgical supplies in the operating theatre.
- 8.3.2.3** Medication in the operating theatre is kept at the temperature as described by manufacturer.
- 8.3.2.4** Expiry dates of medication and supplies are checked regularly.

8.3.3 Staff is guided in the provision of anesthetic drugs and mixtures.

STANDARD INTENT:

Guidelines need to be present describing the preparation of preoperative medication for patients for anesthesia, and the drugs used during the operation. Various combinations of drugs are possible, depending on the patient, type of operation or the skills of the anesthetic professional. Anesthesia can be given intravenously, using agents such as ketamine, or as inhaled mixtures of volatile gases. Provision and use of anesthetic mixture components and other perioperative medication must comply with the guidelines of a professional society or similar reputable professional body.

MEASURABLE ELEMENTS:

- 8.3.3.1** There is a document which guides staff in the preparation and use of anesthetic mixtures and in procedural sedation (previously referred to as conscious sedation).
- 8.3.3.2** The procedures used comply with the current guidelines of a professional society or similar reputable professional body.
- 8.3.3.3** Staff is orientated/can explain the guidelines.
- 8.3.3.4** All anesthetic agents and mixtures are documented in the patient's record.

8.3.4 Staff is guided in the use of anesthesia delivery systems and breathing circuits.

STANDARD INTENT:

There must be an anesthesia delivery system that is capable of delivering oxygen and medical air (where this is clinically indicated) as well as other anesthetic agents commonly used. Whichever system is used, it has to be

approved by a relevant national authority, and staff needs to be orientated and guided by clear instructions on how to operate the system correctly.

MEASURABLE ELEMENTS:

- 8.3.4.1** A breathing system (oxygen) is available to meet the patient needs, and is clean and in good condition.
- 8.3.4.2** There is a document/instructions which guides staff in appropriate usage of the equipment, including cleaning procedure.
- 8.3.4.3** The breathing system is included in the general maintenance activities or program.
- 8.3.4.4** Records of maintenance activities are available.

8.3.5 Staff is guided in the use of ancillary equipment.

STANDARD INTENT:

In addition to the anesthesia apparatus, ancillary equipment is required to manage emergencies such as trauma, eclampsia and cardiac arrest. Units for the care of children should have special pediatric equipment. Ancillary equipment includes devices such as face masks, laryngoscopes etc. that must be available to ensure adequate breathing. Whichever equipment and devices are used, they are approved by a relevant national authority, and staff needs to be guided how to operate the equipment and devices.

MEASURABLE ELEMENTS:

- 8.3.5.1** Sufficient ancillary equipment is available to meet the patient needs, and is clean and in good condition.
- 8.3.5.2** The ancillary equipment is in compliance with current national or international guidelines of a professional society.
- 8.3.5.3** There are instructions which guides the staff in the appropriate usage of the equipment, including cleaning procedure.
- 8.3.5.4** Staff is properly trained and can explain the guideline.

8.3.6 Staff is guided in the process of monitoring patients during surgery.

STANDARD INTENT:

Physiological monitoring provides reliable information about the patient's status during anesthesia/sedation and the recovery period. Results

of monitoring trigger key intraoperative decisions as well as postoperative decisions, such as return to surgery, transfer to another level of care, or discharge. Equipment for monitoring may be integrated within the anesthesia machine or be provided as separate modules. One monitor can display a number of parameters or have a single function. The most important component of monitoring is the continuous presence of a trained anesthesiologist, whose expertise is augmented by the physiological information displayed on the monitoring devices. In addition to monitoring, careful continuous clinical observation is required, because the equipment may not detect clinical deterioration as rapidly as a skilled professional. The overall monitoring during anesthesia and surgery should be consistent with professional practice and usage of equipment defined in guidelines/instructions. The results of monitoring and which anesthesia/sedation is used needs to be documented in the patient's record.

MEASURABLE ELEMENTS:

- 8.3.6.1** The anesthesia/sedation used and the results of monitoring are entered in the patient's anesthetic record and signed.
- 8.3.6.2** A qualified individual monitors the patient during the entire period of sedation and/or anesthesia.
- 8.3.6.3** Adequate monitoring equipment is available to meet the patient needs, and is clean and in good condition.
- 8.3.6.4** There is a document/instructions which guides the staff in appropriate usage of the monitoring equipment, including cleaning procedure.

8.3.7 Routine procedures during and post-surgery are implemented and documented.

STANDARD INTENT:

To support a continuum of post-surgical supportive care, the information about the surgery is recorded in the patient's record immediately after surgery, prior to the patient being transferred from the surgical or the post-anesthesia recovery area. A summary of the operation includes a surgical swab, needle and sharps count, the amount of blood administered and an estimate of the amount of blood lost, type and amount of specimens sent to the lab, any adverse events and a post-surgical diagnosis.

In addition, some patients may require care from other services, such as physical therapy or rehabilitation. Therefore, it is necessary to plan for that care, including the level of care, follow-up monitoring or treatment.

MEASURABLE ELEMENTS:

- 8.3.7.1** A surgical count of swabs, needles and sharps is performed before incision and prior to cavity closure.
- 8.3.7.2** There is a system for obtaining blood from and sending specimens to the laboratory and timely receiving results.
- 8.3.7.3** A summary of the operation is recorded in the patient file immediately after surgery.
- 8.3.7.4** A summary of the postsurgical plan is recorded in the patient file.

8.3.8 Staff is guided in emergency situations and resuscitation.

STANDARD INTENT:

Whether patients await surgery just outside theatre (ideal situation) or in the ward, adequate monitoring equipment needs to be in place in order to provide safe care (e.g. stethoscope, clock with second hand, pulse oximeter, BP machine, thermometer), and staff needs to be guided in appropriate preoperative monitoring of vital signs. Staff needs to be properly trained in emergency situations and resuscitation.

MEASURABLE ELEMENTS:

- 8.3.8.1** Emergency resuscitation equipment and supplies are available.
- 8.3.8.2** Emergency and resuscitation equipment and supplies have clearly defined instructions for use and staff is trained.
- 8.3.8.3** Emergency resuscitation equipment is in working order and regularly checked.
- 8.3.8.4** There is a telephone/intercom to communicate with persons outside the anesthetizing location.

8.3.9 When radiation is used, sufficient safety measures are implemented.

STANDARD INTENT:

Staff and patients need to be protected from any hazards in the operating theatre. Protective gear should be available and a document needs to guide

staff in adequate usage to protect themselves for radiation. There must be appropriate warning notices on display in every area in the operating theatre complex, where X-ray is used.

Specific points of attention:

- *Radiation specific personal protective equipment (PPE);*
- *Guidance documentation on how to use radiation specific PPEs;*
- *Proper training of the surgery staff;*
- *Clear signage on the surgery department.*

MEASURABLE ELEMENTS:

- 8.3.9.1** Sufficient PPE is available to protect staff from radiation.
- 8.3.9.2** There is a document guiding staff when and how to use PPE in the presence of radiographic equipment.
- 8.3.9.3** Staff can explain the proper use of radiation related PPE.
- 8.3.9.4** Hazard or warning notices are displayed.

**8.4
POSTOPERATIVE
CARE**

8.4.1 There are adequate equipment/resources in the recovery area for providing safe care.

STANDARD INTENT:

Recovery from anesthesia should take place close to the operating theatre. In case of an emergency (threatened airway, unstable vital signs, bleeding etc.), it should be possible to wheel the patient back into the operating theatre immediately. The number of recovery beds has to match the caseload and capacity of the operating theatres. Recovery room equipment must be available in the recovery area and instructions for use, including cleaning procedures should be in place to guide staff in order to ensure safe service provision.

MEASURABLE ELEMENTS:

- 8.4.1.1** Sufficient recovery room equipment is available to meet the patient needs, and appears clean and in good condition.
- 8.4.1.2** There is an adequate number of recovery beds and sufficient bedlinen for the patients coming from the operating theatre.

- 8.4.1.3 There is a document/instructions which guides staff in appropriate usage of the equipment, including cleaning procedure.
- 8.4.1.4 Staff is oriented/can explain guideline.

8.4.2 Patients are monitored during recovery and discharged when appropriate.

STANDARD INTENT:

Ongoing, systematic collection and analysis of data on the patient's status during recovery support decisions about moving the patient to other settings and less-intensive services. This decision must be authorized by the anesthesiologist and should be based on established criteria. When the patient is transferred directly from the operating theatre to a receiving unit, (can also be the ward), monitoring and documentation requirements are the same as would be required in a recovery room.

MEASURABLE ELEMENTS:

- 8.4.2.1 Monitoring findings during recovery period are recorded and signed.
- 8.4.2.2 There is a document/standardized form which guides staff in monitoring patients during the recovery period.
- 8.4.2.3 Established criteria are used to make decisions regarding the patient's discharge from the recovery room.
- 8.4.2.4 The anesthesiologist signs the discharge forms for approval.

**8.5
INFECTION
PREVENTION
AND CONTROL
(IPC)**

8.5.1 The design and access control of the surgery units are adequate for preventing infections.

STANDARD INTENT:

The design of the department and the flow of patients, staff and supplies is important in terms of prevention of infections, as well as patient safety. The recovery area should be adjacent to the operating rooms in case of complications during recovery. Access to the theatre facility should be controlled by clear signs demarcating the line between 'dirty' and 'clean' and signs that ensure access to authorized staff only. Changing rooms for personnel should allow for storage of personal and "dirty" clothes before

entering the semi-sterile area. The lay out of the operating facility should allow for an adequate flow of patients, staff and equipment from “dirty” to “clean”. An area to disinfect equipment that was used during operations and to dispose of waste needs to be located as close as possible to the operating theatre to minimize the need for transportation of infectious materials.

MEASURABLE ELEMENTS:

- 8.5.1.1** The design of the operating theatre and surrounding/assisting spaces provides space for the reception, anesthesia, surgery and the recovery of patients.
- 8.5.1.2** Access to the theatre facility is controlled.
- 8.5.1.3** Changing rooms are provided with wash and shower facilities and personal belongings can be stored safely.
- 8.5.1.4** There is a disinfection area, with stainless steel sinks, running water, and a sewage system.

8.5.2 Staff is guided in adequate prevention of inter-personal transmission of infections.

STANDARD INTENT:

It is essential to have clear guidelines on attire and hand hygiene; guiding documents must be available in changing rooms and scrubbing area to guide and remind staff on appropriate handwashing practices and correct usage of PPE. Staff should be orientated to them to ensure safe and consistent practices.

Active monitoring about the correct implementation of the infection prevention measures should be performed regularly. Regular is dependent on the number of surgeries performed. In a surgery department that is used daily the implementation can be assessed daily. Records of the check for implementation have to be kept in order to show compliance.

MEASURABLE ELEMENTS:

- 8.5.2.1** Theatre staff is guided in the use of theatre clothing and PPE.
- 8.5.2.2** Clean theatre clothes and PPE are available, are in good condition and are used correctly by theatre staff.
- 8.5.2.3** Hand hygiene and handwashing guidelines (including scrub) are available.

8.5.2.4 Staff is orientated/can explain the handwashing processes and there is monitoring of correct handwashing.

8.5.3 Staff is guided in adequate cleaning and disinfection measures.

STANDARD INTENT:

Between cases, the operating room should be cleaned and disinfected, instruments are re-sterilized and fresh linen should be provided. At the end of each day, the operating room has to be cleaned starting at the top and continuing to the floor (“top to down”) and “out to in”. A clean mop must be used in each theatre every day. Infectious and non-infectious waste should be managed properly. There should be appropriate facilities to disinfect equipment that was used during operations, and the waste water that is produced during disinfection needs to be safely disposed of. (Cleaning) staff needs to be orientated to the guidelines for safe service provision.

MEASURABLE ELEMENTS:

8.5.3.1 There is a procedure that describes cleaning and disinfection practices for all equipment and surfaces in the operation theatre and related areas and staff is aware.

8.5.3.2 A cleaning schedule is available and kept current.

8.5.3.3 Sufficient cleaning materials (e.g. various colors of mops) are available and stored appropriately.

8.5.3.4 Staff (including cleaning staff) is orientated and trained on the cleaning and disinfection procedures.

8.5.4 The design and facilities of the sterilization area are adequate.

STANDARD INTENT:

The operation theatre needs to have access to sterilization equipment which is in line with the size of the healthcare facility and the services provided. Achieving sterility, particularly for reusable surgical instruments, requires a sequence of cleaning and mechanical removal of gross contamination, inspection and assembly, packaging, sterilization, storage, transport and delivery to the operating room, and certification of the sterilization process. The design of the sterilizing and disinfecting unit, must ensure flow of work from the soiled to the clean side of the unit. The status of a piece

of equipment/linen must always be clear, and dirty, clean and sterile must never be mixed. After sterilization, the sterile packs need to be stored in a way that reduces any risks of contamination.

Moisture in the paper/linen that covers the packs, results in a very easy point of entry for bacteria, so this should always be avoided (by ensuring adequate circulation of air/ventilation).

MEASURABLE ELEMENTS:

- 8.5.4.1** The sterilization area(s) enable a workflow from soiled to clean and areas for dirty, clean and sterile equipment/materials are clearly demarcated.
- 8.5.4.2** There is access to sterilization equipment (autoclave or equivalent) which is functional and sufficient for the workload.
- 8.5.4.3** There is sufficient storage capacity for sterilized materials.
- 8.5.4.4** The area where sterilized materials are stored is well ventilated.

8.5.5 Staff is guided in sterilization procedures to prevent infections.

STANDARD INTENT:

Despite the brief amount of time patients generally spend in an operating theatre, this is an environment that plays a great role in the onset and spread of infections. Materials such as surgical equipment, gowns, gauzes etc. need to be cleaned before packaged for autoclaving, and these clean, but not yet sterilized materials, need to be kept in a dedicated clean place, so there is no mix-up with dirty materials. Protocols should be provided by the healthcare facility to guide the staff in appropriate wrapping and handling of sterile packs and instructions should be in place on how to operate the autoclave. This includes how to use autoclave tape for each individual pack, and how frequently autoclave sterility should be checked.

MEASURABLE ELEMENTS:

- 8.5.5.1** Staff is aware of correct wrapping, handling and checking sterility of packs.
- 8.5.5.2** The date of sterilization is recorded on the sterile pack.
- 8.5.5.3** Autoclave sterility is tested daily and the results are recorded.
- 8.5.5.4** All relevant staff is orientated and trained in disinfection and sterilization procedures.