

SASA Practice Guidelines 2022: Anaesthesia support personnel

2022 review by I Vorster

Republished from: *South Afr J Anaesth Analg* 2022; 28(4)10-12; Supplement

Prof Nurs Today 2023;27(1):5-10

Anaesthesia support personnel

The availability of competent assistance to the anaesthesiologist/anaesthetist/anaesthesia provider (hereafter called anaesthesiologist) by an anaesthetic/anaesthesia assistant, i.e., a dedicated anaesthetic nurse or theatre technician, is considered fundamental to the safe conduct of anaesthesia. Research by Künzle et al. has shown that shared leadership, teamwork, anaesthesia-specific training and skilled assistance can minimise harm from adverse incidents. Conversely, inadequate or incompetent anaesthesia assistance has been shown to contribute to and/or fail to mitigate harm during peri-anaesthesia periods.

SASA strongly recommends that competent assistance by an anaesthetic nurse and/or theatre technician (hereafter called anaesthetic assistant) should always be available on site where an anaesthesiologist is expected to provide anaesthesia. Anaesthesia includes the perioperative (pre-, intra- and post-operative included) period of any anaesthetic procedure, also known as the peri-anaesthesia period. The anaesthetic procedure can be of a general, regional, local, sedative or observational nature done in a theatre unit or complex, but also includes anaesthesia in remote locations, e.g., cardiac catheterisation labs, radiology suites, etc. The anaesthetic assistant is an essential team member of the theatre staff in all locations where anaesthesia is administered.

Hospital and theatre managers should be aware of the critical importance of anaesthetic assistance and the potential safety hazards due to the lack of trained and competent anaesthetic nurses and/or theatre technicians. Until accredited courses for anaesthetic assistants are available in South Africa, it remains the combined responsibility of hospital institutions, anaesthesiologists and the nursing fraternity to provide and ensure adequate training and mentorship in acquiring knowledge and skills to ensure a safe environment for all anaesthesia patients. Anaesthetic assistants should also take responsibility and ensure that their knowledge and skills are at a competent level. This can be achieved by using current available resources in their institutions, the Association for Peri-Operative Practitioners in South Africa (APPSA)

guidelines, SASA guidelines, conferences, and informal work-based training by anaesthesiologists and peers.

The staff allocation practices of hospitals and health institutions should include the provision of a trained and skilled anaesthetic assistant for every case where anaesthesia is administered. Anaesthetic assistants should work under supervision until they are adequately trained and their actions competent and safe in the anaesthesia environment. The anaesthetic assistant must be available and present before the procedure, during the procedure (induction, anaesthesia maintenance and emergence), and assist with the transfer of the patient to the recovery area, with no other obligations or duties during these mentioned periods.

Nursing staff

Anaesthesiologists, in both the private and public sectors of South Africa, rely heavily on the assistance of nursing staff for optimal patient care during the peri-anaesthesia period. SASA remains committed to collaborating with all nursing stakeholders, especially APPSA, SA nursing colleges and universities, public and private hospital institutions and the South African Nursing Council (SANC), to define and uphold the principles of safe perioperative care, to ensure optimal quality of peri-anaesthesia assistance and postanaesthesia care.

The nature of anaesthesia practice has advanced and become increasingly more complex due to the expanded knowledge in anaesthesia, significant innovations in equipment and surgical procedures, technology and new pharmacotherapeutics. Though not limited to these examples, anaesthesia is provided during surgical, obstetric, diagnostic and therapeutic procedures and occurs in various inpatient and outpatient settings. Surgical procedures have become more complex, and more patients with critical and complex diseases are being operated on and thus anaesthetised. The practice of anaesthesia has evolved into a specialised field of medicine, and therefore, anaesthetic assistants should be adequately trained in the necessary skills and knowledge to be able to assist in the administration

of safe and advanced anaesthesia. Patient safety is prioritised by all stakeholders in the health system.

There is no formal or accredited training available in South Africa for anaesthetic nurses. However, appropriate training is needed to provide effective and safe support to the patient and the anaesthesiologist. Until accredited training is established, the responsibility of training (formal or informal) lies with the hospital, nursing management, theatre managers, operating theatre nurse specialists (scrub sister) and the anaesthesiologist in each respective theatre.

The responsibility of training and acquiring the necessary knowledge and skills lies with the relevant institutions and bodies and the individual anaesthetic assistant. All anaesthesia assistants should have a basic knowledge of applicable anatomy, physiology and pharmacology, and be familiar with the nursing guidelines of APPSA, SASA, WHO and the institution where they are employed. These guidelines should be readily available in all theatre complexes or units where anaesthesia is administered.

SASA guidelines for anaesthetic nursing staff are discussed under the following:

- Management, supervision and organisation of anaesthesia services
- Anaesthetic nurses/assistants
- Recovery room nurses

Management, supervision and organisation of anaesthesia services

Preferably, the supervisor/head of anaesthetic nursing services in larger hospitals with multiple multidisciplinary theatres should be a competent and experienced registered nurse with anaesthesia experience, as well as management and leadership qualities/qualifications. As many of these hospitals offer remote location anaesthesia where several anaesthetic assistants are employed, optimal leadership and management are needed. *SASA recommends that such a supervisor of anaesthetic services has at least been trained in anaesthesia and gained experience, knowledge and competencies in the field as an anaesthetic assistant and recovery room (RR) nurse.* The head of anaesthesia nursing services usually has an administrative role which involves planning, preparing, prioritising and providing anaesthesia nursing services while simultaneously maintaining safety and health standards; identifying, maintaining and utilising resources; collaborating and communicating with multidisciplinary team members to ensure the efficient running of the anaesthesia environment. The anaesthesia nursing manager might also have other managerial and clinical roles in smaller hospitals or clinics.

Organisation of anaesthesia services

To ensure the smooth and safe running of the anaesthesia environment in the facility, the anaesthesia nursing manager plays a pivotal role in theatre, and should routinely:

- Monitor quality and safety standards of anaesthetic care throughout the facility.
- Organise and coordinate the servicing and repair of anaesthesia-related equipment in collaboration with biomedical engineering and/or health technological department.
- Assist with the capital equipment budget by conducting an equipment needs assessment and a procurement plan. This should be done in collaboration with the department of anaesthesia and/or anaesthesiologists practising at the facility.
- Oversee a stock or supply inventory and ensure adequate supplies of sundries and pharmaceuticals in collaboration with stock controllers.
- Ensure and encourage the teaching, training and assessment of anaesthetic nurses.
- Ensure that all relevant guidelines for anaesthesia assistance and patient safety are readily available as sources of reference.
- Ensure safe anaesthesia care through the allocation of personnel with experience and competency to handle specific patient needs, as well as the complexity of the anaesthetic and procedure involved.
- Ensure that written policies on the practice of anaesthesia are available and applied in practice.
- Apply a systematic roster for anaesthetic assistance.
- Communicate regularly with all anaesthesiologists practising at the hospital facility regarding their anaesthetic needs and suggestions for improvement.

Anaesthetic nurses/assistants

Role

The anaesthetic assistant works in collaboration with the anaesthesiologist and assists with the preparation, management and safe delivery of general, regional, local or sedation anaesthesia for surgical procedures. Effective communication between the anaesthesiologist and the anaesthetic assistant is therefore of the essence. This anaesthesia assistance role covers and embraces the total period of peri-anaesthesia, i.e., preoperative, intraoperative and postoperative anaesthesia care. It includes, but is not limited to, preoperative assessment (according to the scope of practice); consent verification; preparation of the theatre; checking and preparation of the anaesthesia machines, monitors, drugs, and all anaesthesia-related equipment needed for the different procedures. It is also the responsibility of the anaesthetic nurse to protect and respect the privacy, diversity, vulnerability and culture of the patient, as well as provide emotional and psychological support during the peri-anaesthesia period. At the end of a procedure, the anaesthetic nurse should assist the anaesthesiologist with transferring the patient from the theatre to the RR and form part of the patient care handover to the RR nurse.

Core responsibilities

SASA views the following as some of the core responsibilities of the anaesthetic assistant. It is by no means a comprehensive list and should be read to enhance knowledge in conjunction with the guidelines of APPSA on *Anaesthetics and Recovery Room Nursing Procedures*.

These core responsibilities are to:

1. Provide a safe perioperative environment by
 - Ensuring clean anaesthesia equipment and environment
 - Adequately replenishing and organising stock in theatres
 - Preparing and checking the theatre, anaesthesia machine, monitors and all anaesthesia-related equipment
 - Preparing equipment, drugs and intravenous fluids
 - Observing all medicolegal requirements
 - Ensuring accurate record-keeping and adherence to schedule 5 and 6 drug policies and regulations
2. Assist with the administration of a safe and optimal anaesthetic by
 - Applying acquired knowledge and skills in anatomy, pharmacology, anaesthetic techniques and/or procedures, and surgical procedures
 - Understanding the physiological responses to anaesthesia and surgery
 - Understanding the potential implications of surgery and anaesthesia for individual patients
 - Developing and maintaining professional competence, knowledge and skills
 - Competently supporting and assisting the anaesthesiologist
 - Monitoring the patient in the perioperative period
 - Recognising a problem and assisting in an emergency
 - Acquiring knowledge about and taking care of anaesthesia-related equipment
3. Be an advocate for the patient by
 - Ensuring the patient's privacy, dignity and rights are respected at all times
 - Applying a patient-centred approach
4. Uphold the reputation of nursing and the work environment/institution at all times through
 - Professionalism
 - Diligence and efficiency
 - Administrative organisation
 - Leadership
 - Effective and respectful communication
 - Confidentiality
 - Responsibility and reliability
 - Personal accountability
 - Punctuality
 - High level of commitment
 - Attitude

- Enthusiasm
- Teamwork

5. Identify healthcare needs in anaesthesia and assist in the development of more efficient systems through
 - Situational awareness
 - Pro-activeness
 - Participation in audits and research

Qualifications, training requirements and core competencies

The anaesthetic nurse is a member of the theatre team and must be registered with the SANC. Although qualified theatre technicians can act as anaesthesia assistants, they do not currently need to register with a regulatory body.

As there are currently no existing registered training courses for anaesthesia nurses or assistants in South Africa, there are also no defined compulsory core competencies needed to be considered a trained and competent anaesthetic nurse or assistant. The registered operating theatre nurse specialist (scrub sister) is expected to be the most knowledgeable and experienced member of personnel amongst the nursing team with regard to theatre management, including aspects of the anaesthesia service. They are regarded as competent in the application of critical thinking, planning, clinical judgment and implementation as underpinned by scientific, biomedical and technological knowledge obtained from their theatre training and/or qualification.

SASA is aware that there are various in-hospital and other training programmes to specifically train anaesthetic nurse assistants. However, the training of these assistants varies widely throughout SA, and it is the view of SASA that the lack of a national standard could contribute to adverse perioperative events.

Recommendations for anaesthetic assistant training

In the interim, and until a registered anaesthetic assistant training course is established, all hospital managers, nursing managers and operating theatre nurse specialists should accept responsibility to ensure that staff delegated to the position of anaesthetic assistants are competent and have undergone in-service training.

SASA highly recommends that hospital facilities, in collaboration with hospital and operating theatre managers, should have an established training programme for the teaching and subsequent assessment of anaesthetic assistant trainees. It is advised that the assistance of APPSA, anaesthesiologists and/or anaesthesia departments at tertiary institutions are sought in the design of a course curriculum and course content. The specific anaesthetic department or anaesthesiologist concerned should be available for support and guidance to determine the required knowledge and technical and non-technical skills of a competent anaesthetic nurse. Trainee assistants must be supervised until they are assessed and competent enough to work independently.

The scope of clinical anaesthetic assistant practice

SASA regards the following as part of the scope of practice of the anaesthetic nurse/assistant. It is not a comprehensive list and must be read in conjunction with the SANC regulations and APPSA guidelines.

- Pre-assessment of a patient within the scope of practice (if applicable, with parent/caregiver) before surgery
- Validation of preoperative assessment information on the day of surgery
- Validation of consent
- Preparing and checking the theatre, anaesthetic machine and anaesthesia-related equipment according to the theatre list and preferences of the anaesthesiologist
- Ensuring availability of anaesthetic agents, resuscitation drugs and all other applicable drugs in theatre
- Assistance to the anaesthesiologist in the delivery of anaesthesia/sedation/analgesia
- Continuous patient assessment, monitoring and intervention in collaboration with the anaesthesiologist
- Professional handover to RR personnel

Core competencies

To perform the role of the anaesthetic nurse or assistant, they should be able to demonstrate a level of competence based on applied knowledge and continuous development of skills. Core competencies include both technical and non-technical (soft) skills. These suggested core competencies should be read in conjunction with the APPSA guidelines on *Anaesthetics and Recovery Room Nursing Procedures*.

The expected knowledge base for an anaesthetic assistant includes, but is not limited to, the following:

- Comprehensive knowledge of the different types of anaesthesia techniques and their principles
- Applied clinical pharmacology relating to anaesthesia, emergency intervention or surgical procedures
- Applied anatomy and physiology, relating to anaesthesia and surgical intervention, especially of the following systems – airway; respiratory; cardiovascular; central and peripheral nervous; thermoregulation; pain; nausea and vomiting
- Knowledge of surgical and anaesthetic procedures and their effect on the patient
- Analysis and meaning of invasive and non-invasive monitoring data
- Cardiopulmonary resuscitation, respiratory care, and other acute emergency care
- Age-related anaesthesia considerations, e.g., for paediatric and geriatric patients
- Surgical procedure considerations, e.g., ENT, cardiothoracic, neurosurgery, burns

- Effects of comorbidities on anaesthesia and surgical procedures
- Equipment required for specific anaesthetic procedures
- Function, care, cleaning and maintenance of anaesthetic equipment
- Principles of infection control and waste management
- Resource management
- Medicolegal requirements
- Good communication and professionalism

Recovery room nurses

The purpose of a RR or postanesthetic unit (PACU) in a theatre suite is to provide a safe environment for an anaesthetised patient emerging from anaesthesia, whether it be general, regional or sedational. For these guidelines, the term RR, and not PACU, will be used as this is more prevalent in South Africa. The patient, transferred from theatre to the RR by the anaesthesiologist and assistant, is handed over for safe monitoring, observation and care by efficient, competent and trained RR nursing staff. An adequate, effective and safe handover prevents and/or diminishes the occurrence of adverse events postoperatively. Please note that the discharge of a patient from RR remains the responsibility of the anaesthesiologist, and the length of stay in the RR is determined by such. Therefore, the duration of stay in the RR is not predetermined but individualised for each and every patient.

The institution must ensure that staff members appointed to the RR are trained and competent. Unfortunately, there is no current standardised curriculum for RR nursing available in South Africa. SASA supports the development of such a curriculum in collaboration with the nursing fraternity and APPSA.

SASA guidelines for RR nursing must be read in conjunction with the APPSA *Anaesthetics and Recovery Room Nursing Procedures Guidelines*.

Role

The RR must be prepared and checked daily by RR staff according to policy, equipment and safety rules. A written policy regarding the checking of equipment and drugs must be available. The RR nurse must ensure that all the necessary equipment is available, checked and in working order. Specific roles of RR nurses must be identified daily or more often if necessary.

A specific area must be allocated, prepared and functional for paediatric cases.

The patient is handed over to the RR nurse by the anaesthesiologist, assisted by the anaesthetic nurse, and the scrub sister.

- The patient should be identified during the handover.
- The RR nurse should take note of the procedure, patient condition, anaesthetic given, pain control needed and any other specific orders (written/verbal) given by the anaesthesiologist or scrub sister.
- The RR nurse should not accept full responsibility for the patient if they are not satisfied with the patient's condition or before the patient is extubated, unless otherwise expressly agreed with the anaesthesiologist. Extubation remains the responsibility of the anaesthesiologist.
- All essential monitors, e.g., SaO₂, BP, pulse, capnograph (if applicable), should be connected, and observations should be documented. The RR nurse must be vigilant in monitoring physical changes and assessing their significance.
- Life-threatening situations and anaesthetic-related problems should be recognised, acted on and reported to the anaesthesiologist, e.g., return of protective reflexes, circulation/haemodynamic shifts, varying levels of consciousness, nausea and vomiting, pain level and airway dysfunction.
- The effect of all interventions must be evaluated.
- Pain control as prescribed by the anaesthesiologist should be administered.

The RR nurse provides continuity of a safe anaesthesia during the postanaesthesia period through responsible discharge from the RR and professional handover of the patient to the ward staff. The patient is only transferred to the ward after verbal confirmation and written consent from the anaesthesiologist.

The RR nurse should also:

- Safeguard the patient against injury
- Prevent medicolegal incidents
- Communicate with the patient about any complaints, fears or anxiety and provide psychological support
- Protect the dignity and privacy of the patient at all times
- Keep accurate records
- Practice correct waste management

All RR personnel must develop, update and maintain their professional knowledge and skills.

Core competencies

SASA views the following as core competencies for a RR nurse. It is not a comprehensive list and must be read in conjunction with the APPSA guidelines.

The RR nurse should:

- Be adequately trained in RR procedures and the prevention of adverse events
- Be able to assess and identify anaesthetic-related problems regarding the airway and haemodynamic system

- Be able to identify the loss of protective reflexes during the different stages of postanaesthesia emergence
- Have a compulsory knowledge of anatomy and physiology of the airway, which is very relevant to airway management in the RR
- Have acquired skills and knowledge of direct laryngoscopy, intubation and placement of a Guedel airway
- Be able to maintain an airway with bag-mask ventilation
- Be able to assess breathing and identify upper airway obstruction, laryngospasm, hypoventilation, apnoea, bronchospasm and aspiration
- Possess basic knowledge of pharmacology regarding anaesthetic agents, analgesics, cardiovascular and emergency drugs and their effects
- Be aware of the existence and position of the emergency alarm, which should be checked daily
- Have received training and possess knowledge regarding emergency procedures, protocols and CPR

Management in the recovery room

- A registered nurse proficient in anaesthesia and RR nursing should be in charge and manage the RR
- Special situations or patients, e.g., critically ill, paediatric, geriatric patients, should be recovered by a competently trained senior RR nurse
- All inexperienced staff should work under direct supervision of qualified staff

Recovery room staffing requirements

- The RR must be adequately staffed during operational periods of the theatre unit
- A registered or enrolled nurse, who is trained and competent in RR care, must be present in the RR during all operational periods
- **An appropriately trained and registered nurse, who is experienced and competent in RR procedures, should be in charge of the RR**
- **The ratio of nursing staff who are trained in RR care to patients needs to be flexible to provide:**
 - **no less than one nurse to two (1:2) patients**
 - **one nurse to each (1:1) patient who has not recovered protective reflexes**
- **Ideally, a ratio of 2:1 (nurse:patient) in compromised or critically ill patients in the RR should be sought – one appropriately qualified nurse must take care of the patient, while the second should document and monitor observations. The anaesthetist must be available immediately to extubate the patient that still has an airway device in situ and should not start another case until such time.**
- If there is no RR nurse available at handover, the scrub sister should remain with the patient and perform the RR duties until the patient has been handed over to the ward staff

- Special adjustments should be made for paediatric and geriatric patients as well – two nurses per patient until the patient is calm with full return of protective reflexes
- A specifically allocated nurse with the necessary competency should take responsibility for daily checks of the resuscitation trolley, drugs and equipment. A recheck should be done after any use of drugs and/or equipment. All checks should be recorded.

Please note that the RR nurse should always act in the patient's best interest. The patient must never be left unattended and always treated with respect. Confidentiality remains of the utmost importance. Noise and traffic in the RR should also be kept to a minimum.

Conclusion and recommendations regarding anaesthesia support personnel

It is of the utmost importance that continuous education and evaluation of knowledge and skills of anaesthesia and RR personnel are developed and maintained to support safe anaesthesia and minimise medicolegal/adverse incidents.

Therefore, SASA highly recommends that all stakeholders in the community of anaesthesia practice collaborate and address the empowerment and education of anaesthesia nursing by establishing a registered course curriculum for anaesthesia assistants and RR personnel in the near future.

- SASA strongly recommends that competent assistance by an anaesthetic nurse and/or theatre technician (hereafter called anaesthetic assistant) should always be available on site where an anaesthesiologist is expected to provide anaesthesia.
- SASA recommends that such a supervisor of anaesthetic services has at least been trained in anaesthesia and gained experience, knowledge and competencies in the field as an anaesthetic assistant and recovery room (RR) nurse.
- SASA highly recommends that hospital facilities, in collaboration with hospital and operating theatre managers, should have an established training programme for the teaching and subsequent assessment of anaesthetic assistant trainees.
- SASA highly recommends that all stakeholders in the community of anaesthesia practice collaborate and address the empowerment and education of anaesthesia nursing by establishing a registered course curriculum for anaesthesia assistants and RR personnel in the near future.

Strength of recommendations

The reviewers used three categories to indicate the strength of recommendations. For ease of viewing, colour coding was used to emphasise the strength of recommendation as follows:

- Essential/mandatory (RED)
- Highly recommended (ORANGE)
- Recommended/desirable (GREEN)

Where applicable, a summary of the key points was added at the end of each section.