

2. ORGANISATION OF ANAESTHESIA SERVICES

In medicine, including anaesthesia, teamwork is emphasised. A proposed ideal surgical team would include:

- Surgeons
- Surgeon assistants
- Anaesthesiologists
- Anaesthesia assistants
- Nursing personnel (including a scrub nurse and floor nurse)
- Clinical technicians
- Clinical anaesthesia technologists
- Cleaners
- Theatre administration
- Porters

In addition, ward personnel and allied professionals such as dietitians, physiotherapists and occupational therapists may form part of the team. This team may function as different compositions in different situations.

2.1 Duties of an anaesthesia provider

2022 review by E Cloete

The practice of anaesthesia is unique in the provision of healthcare services in that:

- Providers are often not based at one facility and commute between different facilities.
- Providers are service providers and have little control over their daily bookings.
- Providers, as a group, may be faced with more urgent and emergent situations.
- Providers may have less time to establish rapport with the patient preoperatively.
- Anaesthesia is procedure-associated.
- Providers usually do not make the primary diagnosis.

The duties of the anaesthesia provider include:

- Maintaining personal knowledge and skills.
- Providing anaesthesia services or supervising trainees who provide anaesthesia services.
- Anaesthetists may be directly responsible for only one anaesthesia at any specific time unless acting in a supervisory capacity.
- Carrying out a preoperative risk assessment and management for all types of patients and surgery.
- Delegating responsibility for patient supervision to a suitably trained substitute when a local anaesthetic technique is used for pain relief without concomitant surgery, e.g., labour epidural.
- Supervising the recovery room activities.
- Participating in postoperative management where appropriate.
- Managing or supervising the management of patients in the intensive care unit (ICU).

- Providing services related to the management of acute pain.
- Providing services related to resuscitation and advanced airway management in adults and children.
- Taking responsibility for supervising the maintenance of anaesthesia, monitoring, and other life-support equipment relevant to anaesthesiology and critical care. This must occur in conjunction with a suitable technical or biomedical engineering service.
- Taking responsibility for the safe use of anaesthetic drugs.
- Providing anaesthesia services that relate to obstetrics, including pain relief in labour.
- Providing monitored anaesthesia care services in and out of the hospital.
- Keeping complete documentation and records of the anaesthesia administered to patients.
- Obtaining informed consent to all invasive procedures, including those performed under local anaesthesia, spinal- or epidural anaesthesia, monitored anaesthesia care or general anaesthesia, and specific non-anaesthesia interventions such as blood transfusion or HIV testing.
- Maintaining personal and professional wellbeing.

Further duties may include:

- Providing services related to chronic pain management and consulting in pain clinics.
- Providing consultative anaesthesia and ancillary services.
- Carrying out administrative, educational, and managerial duties locally or regionally.
- Providing information and training on methods of handling mass casualties, trauma, and basic life support techniques to:
 - paramedical staff,
 - interested community groups (particularly basic life support), and
 - contributing to the activities of professional associations.
- Auditing and reviewing the quality of care and participating in hospital-based, regional and/or national efforts to improve patient safety.
- Participating in theatre complex management.
- Involvement in the conduct and/or supervision of research on drugs, equipment, clinical management methods, and physiological and pharmacological matters relevant to anaesthesiology and intensive care and keeping up to date with such research.
- Providing and/or taking part in advisory services to hospital committees, health commissions and other organisations to improve health care services.
- Encouraging and supervising research.
- South African adapted CANmeds competencies in training a medical expert include being a medical expert, communicator, collaborator, leader, health advocate, scholar and professional.

Anaesthesia providers

This section attempts to categorise physician anaesthesia providers based on training and experience. Given the risks

involved in providing anaesthesia services and the possibility of simple errors that result in severe adverse outcomes, the scope of practice for the various classes of medical practitioners is defined. The scope of practice should not vary according to the facility level of care. Health Professions Council of South Africa (HPCSA) regulations regarding training and accreditation are only restated to provide context or when alternative recommendations are made. The two main groups of relevance are supervised practice and independent practice.

Supervised practice

Medical practitioners from countries that do not meet local requirements/equivalence for anaesthetic training must practice under supervision. These may be, for example, non-South African doctors who have not completed the South African two-month anaesthesia intern programme. **It is recommended that medical interns receive direct supervision by a diplomate anaesthetist or, if not available, an anaesthetist designated as intern supervisor (see below).**

Interns

- An intern is a doctor in training.
- An intern relies on the undergraduate curriculum for training in anaesthesia at medical school. **It is recommended that undergraduate teaching outcomes in anaesthesia at different training institutions across South Africa be standardised.**
- **Interns must receive a minimum of two months of supervised anaesthesia training (4–6 months is desirable).** We emphasise here the HPCSA training requirements with regards to supervision:

“Adequate supervision: Constant supervision of the intern is of critical importance. The most acceptable form of “adequate” supervision is the presence of a specialist anaesthesiologist or a registrar in anaesthesiology. In the absence of a specialist, the supervisor should preferably possess the Diploma in Anaesthetics (DA) of the College of Medicine of South Africa (CMSA), or at a minimum, have three (3) years full-time experience of administering anaesthesia as a medical officer.” **Irrespective of the qualification, the constant presence of the senior physician on a one-to-one basis is strongly recommended.**

- **It is considered mandatory that interns are trained in the anaesthesia module of the Essential Steps in the Management of Obstetric Emergencies (ESMOE) training programme.**

Community service medical officers

Community service doctors are often required to administer anaesthesia because no other trained medical practitioner is available. A community service doctor relies on both undergraduate and internship training in anaesthesia. **Provision of anaesthesia must be supervised.**

- **It is recommended that supervision of community service doctors in a training institution is done by either an anaesthesiologist or a diplomate anaesthetist.**
- **It is recommended that a diplomate anaesthetist supervises at all other facility levels of care.**
- **It is recommended that the option for 6 months training in anaesthesia be available in institutions accredited for DA training.**

- Even though the community service period is a period of service, and not of training, it is advisable that community service doctors keep a logbook of all supervised completed cases for these to be recognised toward qualifying to write the DA examination.

Independent practitioners/general practitioners

SASA recommends that general practitioners with less than three years experience and less than 75% working time spent in anaesthesia, and who have had no additional training in anaesthesia and rely on undergraduate, internship and community service training when performing anaesthesia services, should not be involved in the independent administration of anaesthesia. The only exception would be in a dire emergency, where a patient of the American Society of Anesthesiologists (ASA) class VE requires urgent anaesthesia, and no other clinician trained in anaesthesia is available. As soon as feasible, every effort should be made to transfer the patient to a centre where more specialised care is available.

To gain experience when there is no recourse to supervised training, a newly qualified general practitioner is advised to join SASA as an associate member to benefit from guidance and contact with diplomate anaesthetists and specialists and CPD activities in the local SASA branch and nationally.

It should be noted that proof of experience in anaesthesia care may be required in peer-review processes or medico-legal investigations. Therefore, **SASA recommends keeping a professional portfolio, including a registered logbook of cases before and after being registered as an independent practitioner with the HPCSA.**

Practitioners should inform patients of their level of experience and qualification during their first encounter with the patient.

Diplomate anaesthetists with less than three years of full-time anaesthesia practice or ‘experienced’ anaesthetists without DA

‘Experience’ for non-diplomate anaesthetists is defined as at least 3 years of anaesthesia practice and at least 75% of working time spent in anaesthesia. This experience may be limited to specific surgical categories or anaesthesia domains, e.g., obstetric anaesthesia, and this practice category is included here. **It is highly recommended that evidence of CPD activities relating to anaesthesia practice be kept up to date.**

The training requirement for a diplomate anaesthetist is a minimum of 6 months of supervised practice in an accredited institution. The DA is awarded by the CMSA after the required training has been completed, and the candidate has successfully passed the DA(SA) examination.

The diplomate anaesthetist is eligible for the independent practice of general and regional anaesthesia in fit and healthy patients (ASA class I) and patients with controlled systemic disease (ASA class II). Patients with poorly controlled systemic disease or functional limitations should only be anaesthetised in consultation with a specialist anaesthesiologist (ASA class III), i.e., with a supervisor. The nature of the surgery must not be major.*

It is reasonable to expect the diplomate to provide safe anaesthesia for fit and healthy (ASA class I & II) paediatric patients over the age of two years, provided the practitioner has

maintained the necessary skills and the nature of the intended surgery is minor and elective. If that is not the case, supervision or referral should be sought.

In an emergency, or where no alternative exists, the diplomate may administer anaesthesia to patients with severe systemic disease (ASA class IV and V) in consultation with a specialist anaesthesiologist. This constitutes supervised practice.

*Surgical severity or grading is done according to the definitions used in large international and national studies on surgical outcomes (i.e., not facility or outcome specific):

Minor surgery includes procedures lasting less than 30 minutes that are performed in a dedicated operating room, which would often involve extremities or body surface, or brief diagnostic and therapeutic procedures, e.g., arthroscopy without intervention, removal of a small cutaneous tumour, diagnostic proctology, biopsy of small lesions, etc.

Intermediate procedures are more prolonged or complex and may pose the risk of significant complications or tissue injury. Examples include laparoscopic cholecystectomy, arthroscopy with intervention, bilateral varicose vein removal, tonsillectomy, inguinal hernia repair, breast lump resection, haemorrhoidectomy, appendectomy, partial thyroidectomy, cataract surgery, uvuloplasty, minimally invasive repair of vaginal prolapse, vaginal hysterectomy, tendon repair of hand, fixation of mandibular fracture, etc.

Major surgical procedures are expected to last more than 90 minutes. They include major gut resection, major joint replacement, mastectomy, extensive head and neck tumour resection, abdominal aortic aneurysm repair, major vascular bypass procedure, procedures involving free flap to repair tissue defects, amputation, total thyroidectomy, cystectomy, transurethral resection of the prostate, resection of liver tumour, carotid endarterectomy, nephrectomy, total abdominal hysterectomy, spinal discectomy, etc.

Experienced diplomate anaesthetists

Experienced diplomate anaesthetists may have extensive experience in specific surgical categories or types but not in others. If experienced and spending at least 75% of their time providing anaesthesia care, the diplomate may be responsible for ASA III patients or patients undergoing major surgery. The provider must realise that peer review for this practice will be assessed at a specialist level.

Family physicians

The family physician practitioner has an invaluable role in the perioperative care of patients, especially at the district level. We recognise that due to the diverse background of training, experience, and competence, they might be in different categories above, e.g., experienced without a diploma or experienced with a diploma. Therefore, we cannot make specific recommendations about family physicians.

Specialist trainees (registrars)

The anaesthetic registrar is permitted to administer anaesthesia under specialist supervision. Although the revised recommended ratio by the HPCSA ratio is set at 4:1, i.e., four registrars to each specialist for elective procedures, SASA recommends that a ratio of 2:1, i.e., two registrars to one specialist, is preferable. In

circumstances where the anaesthesia is classified as "high risk", the ratio may be reduced to 1:1.

Specialist anaesthetists (anaesthesiologists)

The specialist anaesthetist can be expected to provide anaesthesia services independently to all patients, irrespective of the state of health or co-existing disease (ASA classes I, II, III, IV, V and VI). It behoves the individual practitioner to confine their practice to those areas where they have maintained the necessary advanced skills. This applies particularly to cardiac, thoracic, neuro- and paediatric anaesthesia sub-specialities.

- It is recommended that medical practitioners who do not meet local requirements/equivalent for anaesthetic training receive direct supervision by a diplomate anaesthetist or, if not available, an anaesthetist designated as an intern supervisor.
- It is recommended that undergraduate teaching outcomes in anaesthesia at different training institutions be standardised.
- Interns must receive a minimum of two months of supervised anaesthesia training (4–6 months is desirable).
- Irrespective of the qualification, the constant presence of a senior physician supervising interns on a one-to-one basis is strongly recommended.
- It is considered mandatory that interns are trained in the anaesthesia module of the ESMOE training programme.
- Community service doctors must be supervised when providing anaesthesia.
- It is recommended that supervision of community service doctors in a training institution is done by either an anaesthesiologist or a diplomate anaesthetist.
- It is recommended that a diplomate anaesthetist supervises at all other facility levels of care.
- It is recommended that the option for 6 months training in anaesthesia be available in institutions accredited for DA training.
- SASA recommends that general practitioners with less than three years experience and less than 75% working time spent in anaesthesia, and who have had no additional training in anaesthesia and rely on undergraduate, internship and community service training when performing anaesthesia services, should not be involved in the independent administration of anaesthesia.
- It is advised that a newly qualified general practitioner join SASA as an associate member to benefit from guidance, contact with diplomate anaesthetists and specialists, and CPD activities in the local SASA branch and nationally.
- SASA recommends keeping a professional portfolio, including a registered logbook of cases before and after being registered as an independent practitioner with the HPCSA.
- It is highly recommended that evidence of CPD activities relating to anaesthesia practice be kept up to date.
- The anaesthetic registrar is permitted to administer anaesthesia under specialist supervision.
- SASA recommends that a ratio of 2:1, i.e., two registrars to one specialist, is preferable.

2.2 Training and accreditation

2022 review by D Gopalan

Background

Education and training of anaesthesia care providers in South Africa needs to take cognisance of the social setting within which such practice occurs, making them sensitive to both the system and individual needs. Such education and training must be patient-centred, allow for reflective learning and foster lifelong learning by the practitioners. The adequacy of training in respect of preset goals and competencies is seen to be of greater importance than just the training period. Upon completion of appropriate education and training, practitioners need to be certified for an appropriate level of practice. Such practitioners must then register with the HPCSA.

Education and training

Education and training in anaesthesia involves four key role players:

1. HPCSA – regulations and accreditation
2. Universities – academic (teaching and learning, training, research)
3. Departments of Health (DoH) – clinical training platforms and training posts
4. CMSA – assessments/examinations

Education and training in anaesthesia is expected to occur at any healthcare facility (hospital) where anaesthesia is delivered. However, formal, accredited education and anaesthesia training may only occur at HPCSA-accredited hospitals. The HPCSA determines the criteria for such accreditation. Each training institution/site needs to be accredited for training in that discipline and for that competency.

Diploma in Anaesthetics

The purpose of the DA is to encourage postgraduate training and raise the standards of practice of anaesthesia by evaluating candidates at the level of safe, good, practical general practitioner anaesthetists. The objective of the training programme is to produce medical officer anaesthetists who will be able to provide safe and quality care to their patients.

The full DA curriculum is available at https://www.cmsa.co.za/view_exam.aspx?QualificationID=46.

Sites

Anaesthesia training in fulfilment of the DA(SA) examination regulations may be undertaken in:

- Anaesthetic training posts under the supervision of university departments in teaching hospital complexes, as well as in teaching hospital equivalents or in university satellite departments of non-teaching hospitals.
- Post-internship anaesthesia training posts at any of the list of hospitals throughout South Africa.
- Post-internship anaesthesia posts at some hospital sites in Zimbabwe and Namibia.

The list of CMSA-accredited South African hospitals is reviewed periodically and may change from time to time and is available on the CMSA website.

Time

The candidate must hold a post-internship qualification to practice medicine, which is registered or registrable with the HPCSA **and** have six months of training in anaesthesia, either at a recognised site or via a prescribed logbook. Community service doctors are eligible to be trained and write this examination during their year of community service.

Portfolio/logbook

All trainees are encouraged to keep a detailed portfolio of their training and experience. Except in the case of certified supervised training at a teaching or CMSA-approved hospital, a completed logbook is required to substantiate training and/or credit points claimed.

Supervision

A designated supervisor, either a specialist anaesthesiologist or a diplomate, is responsible for training. The level of supervision varies according to the trainee's experience, and the complexity of patients managed. In the early stages, in-theatre or on-site supervision is mandatory. When the trainee is assessed as having achieved a level of competence, the supervision may then be off-site, with the proviso that the supervisor is readily available for complex cases and emergencies.

Assessments

Trainees are expected to be continually evaluated by supervisors during their training, such evaluation focusing on knowledge, skills, attitudes, and behaviours achieved. The final assessment occurs as the DA examination under the auspices of CMSA.

Fellowship training for the specialist anaesthesiologist

Sites

- Training may only take place in an HPCSA-accredited academic department in a teaching hospital under the control of a university with a Faculty of Health Sciences or Medical School.
- The following nine anaesthesiology departments affiliated with universities across the country have been accredited by the HPCSA to train specialist anaesthesiologists:
 1. Sefako Makgatho Health Sciences University
 2. Stellenbosch University
 3. University of Cape Town
 4. University of KwaZulu-Natal
 5. University of Pretoria
 6. University of the Free State
 7. University of Limpopo
 8. University of the Witwatersrand
 9. Walter Sisulu University
- Each university department consists of one or more training sites, such sites being either accredited for full-time training or as a satellite site where only part of the training may be

conducted. The HPCSA accredits all facilities involved in training against a set of predetermined criteria every five years.

- Each trainee trains against a specific training number awarded to the training institution by the HPCSA.

Time

Anesthesiology trainees must spend a minimum duration of education and training equal to 48 months in an HPCSA-accredited registrar post under the control of an academic teaching department in a teaching hospital.

Portfolio/logbook

All trainees must keep a detailed electronic portfolio of their training and experience, including a logbook. The portfolio is inspected periodically by the supervisor and signed off before entry into the examination.

Supervision

Trainees function under the supervision of specialist anaesthesiologists at the training institution. The level of supervision varies according to the trainee's experience, and the complexity of patients managed. When the trainee is assessed as having achieved a level of competence, the supervision may be off-site, with the proviso that the supervisor is readily available for complex cases and emergencies. In more specialised domains (such as anaesthesia for cardiac surgery), constant, on-site supervision is necessary.

Assessments

Trainees are expected to be continually evaluated by supervisors during their training, such evaluation focusing on knowledge, skills, attitudes, and behaviours achieved as per the College of Anaesthetists' curriculum. The FCA Part 1 examination consisting of three subjects (Physiology, Pharmacology, and Physics & Clinical Measurement) must be completed before entry to the exit FCA Part 2 examination.

MMed research

The HPCSA requires the completion of a research component for registration as a specialist. The HPCSA does not prescribe the nature or the types of research to be undertaken, other than making the following statements:

"All specialist trainees will be required to complete a relevant research study, under the supervision of the Head of Department or nominee".

"The assessment criteria of the research study would be that appropriate theoretical knowledge is demonstrated; a research protocol is compiled according to required norms; a progress report on the research project is given regularly".

"Research results should be reported in a dissertation format according to acceptable scientific norms".

"The research study, which will be assessed at university level, may be used as a credit for Part III of the MMed degree".

Universities across the country may vary on how the MMed research requirements are instituted. Please refer to the respective university websites.

Sub-speciality training: critical care

The only sub-speciality domain that is fully accredited for training postanaesthetic specialisation is critical care.

Critical care training may only occur in an accredited intensivists-run ICU under the auspices of a university. It may either be full-time over a two-year period or part-time over a four-year period. The final assessment occurs as the Fellowship (previously Certificate) in Critical Care examination under the auspices of CMSA.

Certification

- Certification in respect of competencies is collectively completed by the training facility and the CMSA.
- The trainee needs to be evaluated and certified as having met the training programme's requirements by the supervisor/director of training.
- The trainee needs to complete the required assessment by CMSA to be certified as a diplomate anaesthetist, specialist anaesthesiologist or a critical care sub-specialist.

Registration

The HPCSA defines criteria and processes for the registration of practitioners.

Upon completing all training requirements and successfully completing the respective CMSA examination, the practitioner may register the qualification against their name on the HPCSA register. It is essential that all practitioners must:

- be registered in the appropriate category before embarking on clinical practice,
- only practice within the scope defined by their registration category, and
- ensure that their registration is current.

General training

- CPD

All anaesthesia practitioners are responsible for continually updating their professional knowledge and skills. In compliance with the HPCSA CPD programme, practitioners must accumulate continuing education units (CEUs) per twelve-month period, including ethics, human rights, and medical law.

- Courses

Anaesthesia practitioners may also complete specific national and international accredited courses (e.g., ultrasound, echocardiography) that may enhance their competency and skill in those areas.

Useful sites for further information

- **CMSA** https://www.cmsa.co.za/view_exam.aspx?QualificationID=46
- **HPCSA** <https://www.hpcsa.co.za>

2.3 Hours of work

2022 review by A Rantloane

Background

The basis for consideration of working hours in anaesthesia care is the need for clinical services to be provided 24 hours a

day, 7 days a week. This necessitates a shift system with regular and after-hours work, as well as work on weekends and public holidays.

For clinical platforms training specialists, the hours of work must also accommodate the teaching and learning responsibilities to ensure sustainable practice.

For all clinical staff, opportunities must also be provided for CPD as this is a requirement by the regulatory authority for maintaining one's licence to practice. Service planning must be mindful of these non-clinical obligations.

Importantly though, the allocation of duties and scheduling of providers must ensure the maintenance of work-life balance for all categories of departmental staff.

In scheduling providers for clinical services, consideration must be given to shift duration and frequency, periods of rest between shifts, whether elective or after-hours scheduling, and the complexity of the tasks being undertaken.

Recommendations

Working hours

Providers should not work for continuous periods exceeding 12 hours or more than 16 hours in a 24-hour period as this has been shown to result in fatigue, and, if unchecked, leads to burnout of clinicians and compromises patient safety.

A minimum 8-hour period should be allowed between shifts for rest and personal needs.

The cumulative hours worked in a one-week cycle should not exceed 60 hours.

Elective procedures should be scheduled for completion within the normal 8-hour working day.

Providers must be allowed to take bio-breaks after every four to five hours of continuous service.

Context

The following recommendations assume that provision has been made for all providers, regardless of rank, to take vacation leave due to them as per the contract with their employer.

The guidelines are also predicated on the assumption that providers would be discouraged from routinely accepting additional clinical shifts for financial gain, as such practice undermines the purpose of the protections being advocated in these guidelines.

For purposes of these guidelines, the same meaning shall be given to the concepts of commuted overtime and after-hours emergency scheduling, and implies work undertaken outside the regular working hours, i.e., nights, weekends and public holidays.

Frequency of scheduling

The frequency of scheduling for after-hours shifts should not exceed once every four days as a higher frequency is associated with burnout risk and carries the potential to compromise patient safety. More specifically, providers should not be scheduled for more than two calls per week as frequent night shifts preclude

effective participation in the training programme and related professional activities.

Categories of staff and level of hospital

These guidelines apply to all categories of staff in the current public sector healthcare delivery model, irrespective of service rank or the hospital level where they are employed, as recent evidence suggests a similar negative impact irrespective of the hospital level. Some of the responsibilities do apply to the private sector with regards to self-management of work hours and wellbeing.

The recommendations hereunder are premised on the current South African healthcare delivery model, in which delivery at the point of care defaults to medical officers and registrars, with specialists providing direct or remote supervision depending on the circumstances.

Department heads

The head of department is primarily responsible for the effective and efficient functioning of the department as it pertains to the provision of clinical services and delivery of its academic and professional mandates. The balance of their responsibilities entails their own contribution to clinical service provision and supervision of junior staff.

For heads of departments, it is recommended that 30–50% of non-clinical time is allowed for this management function.

- In clinical departments with academic programme responsibilities, up to 50% of total time should be dedicated to non-clinical time. Non-clinical time should be allowed for the training programmes' administration, professional development, and academic management.
- In service departments without teaching responsibilities at undergraduate and postgraduate levels, up to 30% of total time should be dedicated to non-clinical time. Non-clinical time should be allowed for administration, training, and professional development.

Specialist staff

Specialist consultant staff share the clinical service, academic and professional responsibilities of the department, but with a lesser administrative load compared to the head of department. They are largely responsible for the clinical supervision of junior staff, the daily scheduling of staff and allocation of duties, delivery of the training programme and assessment of performance, and undertaking related professional activities within and outside the clinical department, e.g., societal work, essential medicines list (EML) participation and work on transversal tenders (RTs).

For specialist staff, it is recommended that:

- 25–30% of non-clinical time be provided for these activities in facilities that have academic responsibilities pertaining to teaching, training, and research.
- Up to 20% of non-clinical time be allowed for specialists at facilities without academic responsibilities for undergraduate and postgraduate students.

Registrars

Unique to specialist trainees is that they must balance the competing goals of clinical service provision, academic

performance, and personal needs whilst in the training programme. In tertiary level hospitals, registrars are the backbone of the anaesthesia service as they constitute most of the clinical staff establishment in any academic department. However, as postgraduate students, registrars also carry a huge responsibility for their studies, which must be completed successfully within the period allowed whilst also achieving the milestones set by the programme during training. If not managed carefully for registrars, clinical workloads can negatively impact clinical training and academic performance.

For registrars, it is recommended that:

- Protected academic time is provided for registrars to ensure success in training.
- 20% non-clinical time be allowed for academic purposes per 60-hour week of contracted service.
- Attendance of elective procedures should not exceed 10 hours at a time. Should elective lists extend beyond 10 pm and up to midnight, the provider must not be scheduled for clinical work the next morning but could be considered for scheduling in the afternoon.
- Should an elective list extend beyond midnight, the provider should not be scheduled for work the next day.
- The duration of after-hours calls should be capped at 16 hours where the main activity is the provision of anaesthesia (as per the employment contract with the State), but this may extend to 24 hours when service is being provided in ICU.
- After-hours emergencies that extend beyond the 16-hour shift should be handed over to the day staff commencing duty after the call.

Medical officers

Similarly to registrars, medical officers provide front-line services under the supervision of specialists, depending on the hospital level or geographical location. In tertiary academic hospitals, they work alongside registrars and function to a large extent like registrars, but in non-teaching hospitals or some academic affiliated hospitals with little or no specialist presence, they undertake most of the anaesthesia services without the benefit of specialist cover. As the only clinician with some anaesthesia expertise in these environments, these providers often do not work to rule but tend to work for as long as there is service demand, with potentially detrimental effects to themselves and the safety of their patients.

For medical officers, it is recommended that:

- Scheduling for medical officers be guided by the principles elucidated above, regardless of local conditions.
- Scheduling for elective clinical work be for 40 hours per week (not more than 10 hours/day).
- After-hours emergency shift duration should not exceed 16 hours at a time. Cases that extend beyond this time should be handed over to the day staff commencing duty after the call.
- Providers should not be scheduled for a longer than 16-hour after-hours shift within 24 hours of completing a previous 16-hour after-hours emergency shift.

Medical interns

Interns represent the entry point into the professional ranks for graduates in medicine. Internship implies training, and the

aim and purpose of internship are to equip these new medical graduates to function as safe and competent practitioners upon completion of their training. They are therefore not equipped to work independently and must be under constant supervision by an appropriate clinician during training. Internship training is regulated, and there are defined outcomes for the successful completion of training. For this to be realised, interns must at the very least be afforded the same protection accorded their senior colleagues in their domain of training.

For medical interns, it is recommended that:

- Medical interns be subject to the same guidelines as medical officers.
- The cumulative hours worked per week be capped at 60 hours. If work circumstances dictate otherwise, the total number of hours worked is not to exceed 80 hours per week in a rolling three-week period.
- Overtime scheduled be capped at a maximum of 80 hours per month.
- 5–10% of time should be allocated to non-clinical time to allow for professional development.

Staff-to-workload ratios

The concerns with overwork and fatigue of anaesthetists in public hospitals are often due to a mismatch between staff and workload. This may be due to staff shortages in absolute terms or sometimes the result of poor planning by staff or managers. The mismatch between anaesthesia providers and workload not infrequently results from the organic growth of the surgical disciplines being serviced, without a commensurate increase in the number of providers from anaesthesia. This is particularly evident in the development of surgical subspecialties or speciality clinics.

For anaesthesia as a support service to keep pace with these developments, it is recommended that staffing models be used to properly align staffing needs with the basket of clinical services being offered on the platform. Such an approach would not only help to correct the current misalignment but can be used to predict what staff ratios would be required in future when new services are being contemplated. Staff planning must anticipate provider absences due to maternity or sick leave, and consideration must be given to the provision of alternative cover through job-sharing or locums.

Useful sites for further information

- **Australian Medical Association.** National code of practice – hours of work, shiftwork and rostering for hospital doctors. Available from: https://ama.com.au/sites/default/files/documents/FINAL_NCP_Hours_of_work_2016.pdf
- **The Association of Anaesthetists of Great Britain and Ireland.** Working arrangements for consultant anaesthetists in the United Kingdom. Available from: <https://anaesthetists.org/Home/Resources-publications/Guidelines/Working-arrangements-for-consultant-anaesthetists-in-the-UK>

- **For heads of departments, it is recommended that 30–50% of non-clinical time is allowed for this management function.**

- In clinical departments with academic programme responsibilities, up to 50% of total time should be dedicated to non-clinical time. Non-clinical time should be allowed for the training programmes' administration, professional development, and academic management.
- In service departments without teaching responsibilities at undergraduate and postgraduate levels, up to 30% of total time should be dedicated to non-clinical time. Non-clinical time should be allowed for administration, training, and professional development.

- **For specialist staff, it is recommended that:**

- 25–30% of non-clinical time be provided for these activities in facilities that have academic responsibilities pertaining to teaching, training, and research.
- Up to 20% of non-clinical time be allowed for specialists at facilities without academic responsibilities for undergraduate and postgraduate students.

- **For registrars, it is recommended that:**

- Protected academic time is provided for registrars to ensure success in training.
- 20% non-clinical time be allowed for academic purposes per 60-hour week of contracted service.
- Attendance of elective procedures should not exceed 10 hours at a time. Should elective lists extend beyond 10 pm and up to midnight, the provider must not be scheduled for clinical work the next morning but could be considered for scheduling in the afternoon.
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- **For medical officers, it is recommended that:**

- Scheduling for medical officers be guided by the principles elucidated above, regardless of local conditions.
- Scheduling for elective clinical work be for 40 hours per week (not more than 10 hours/day).
- After-hours emergency shift duration should not exceed 16 hours at a time. Cases that extend beyond this time should be handed over to the day staff commencing duty after the call.
- Providers should not be scheduled for a longer than 16-hour after-hours shift within 24 hours of completing a previous 16-hour after-hours emergency shift.

- **For medical interns, it is recommended that:**

- Medical interns be subject to the same guidelines as medical officers.
 - The cumulative hours worked per week be capped at 60 hours. If work circumstances dictate otherwise, the total number of hours worked is not to exceed 80 hours per week in a rolling three-week period.
 - Overtime scheduled be capped at a maximum of 80 hours per month.
 - 5–10% of time should be allocated to non-clinical time to allow for professional development.
- For anaesthesia as a support service to keep pace with these developments, it is recommended that staffing models be used to properly align staffing needs with the basket of clinical services being offered on the platform.

2.4 Anaesthesia support personnel

2022 review by I Vorster

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.

2.5 Guidelines on professional health and wellbeing

2022 review by C Lee

Introduction

Many factors can contribute to the provider's inability to function at their highest performance level, which ultimately impacts patient safety. These include work-related factors, organisational- and health system-related factors, as well as personal factors: issues such as uncontrolled working hours resulting in excessive

fatigue; workplace harassment and bullying; discrimination; stress; inadequate rest and nutrition while working; burnout; physical health, personal and mental health issues; substance abuse and addiction challenges.

The HPCSA Guidelines on Good Ethical Practice under "Duties to themselves" focus on the ethical duty of physicians and anaesthesia care providers to maintain sound professional knowledge and skills and good professional practice.

Sound clinical data over recent years have highlighted the need to prioritise physician health and wellness as well as knowledge and skills. The ethical responsibilities to promote and maintain the health of anaesthesia providers can be considered in three main areas: (i) personal responsibilities, (ii) institutional responsibilities, and (iii) individual responsibilities towards other healthcare workers, trainees and colleagues.

All recommendations listed below are not comprehensive and not restricted to what is recommended.

Personal responsibilities of the anaesthesia provider

The ethical requirement to promote and maintain one's own health and wellbeing must address all aspects of physical, mental and emotional health. As noted previously, there are many health and wellness challenges, and anaesthesia provision is particularly prone to stress in the workplace, excessive fatigue and higher risks of isolation, addictions and suicide.

Like everyone else, anaesthesia providers inevitably get older, bringing on a diminution of physical, mental and special sensory faculties. This may be counterbalanced to some degree by the wisdom that comes with experience. There is also much variation between individuals in the ageing process, not only in the degree of functional impairment with age but also in areas of functioning. For example, highly capable in elective surgery or education but highly stressed in after-hours and emergency scenarios.

All anaesthesia providers should monitor themselves and their colleagues for signs and symptoms of functional impairment so that impairments can be detected early and support and professional help can be offered.

Recommendations

1. Be aware of the general and specific health issues that may impact your own professional life.
2. Be aware of your own issues with health and wellbeing. Know yourself.
3. Seek timely and appropriate help if concerned about your own physical, mental, emotional, or special sensory health.
4. Take time to look after your own health and wellbeing:
 - take time off work for recreation and recuperation
 - ensure adequate and appropriate nutrition
 - maintain physical fitness
 - ensure adequate sleep
 - maintain social connections
 - practice mindfulness, meditation, and other forms of relaxation

- develop and enjoy other interests and hobbies
 - look after your emotional wellbeing
 - have timely and regular physical check-ups and ensure medication compliance
5. Be particularly aware of fatigue. Avoid commitment to a quantity of clinical work that may result in excessive fatigue. If fatigue is leading to unsafe practice, this should be addressed with the department and institution, and clinical work should be reduced.
 6. Limit or modify your own practice if patients and/or co-workers are being placed at undue risk, until personal physical, mental, and emotional health issues are resolved or adequately managed.
 7. Maintain adequate investments, disability insurance or contingency plans to ensure your ability to attend to personal health and wellbeing issues without major financial penalty or disarray.
 8. Seek help if feeling hopeless, needing drugs or alcohol, or if life is spiralling out of control.

The following **Helplines** are available:

SASA Wellness in Anaesthesia Support Group: dreamdocs@gmail.com

If you want to speak to anaesthesia colleagues that know what you are going through.

Healthcare Workers Care Network (0800 212 121)

If you wish to talk to registered psychology professionals.

Discovery Healthy Doctors (0800 323 323)

For self-assessment and self-reading. This resource has financial, legal, physical health and mental health support.

Institutional responsibilities

“Institution” in this instance refers to the hospital, faculty and/or departmental administration that has authority over the provision of anaesthesia and the practice of anaesthesia providers. It is recognised that the HPCSA has authority over the anaesthesia physician provider and has a stake in regulating, promoting and supporting physician wellness.

Anaesthesia and/or faculty leadership must support physician health and wellness through administrative structures that promote and support a healthy workplace.

Creating and sustaining a culture of **psychological safety** is essential. Psychological safety is the shared belief held by members of a team or department that the team is safe for interpersonal risk-taking. These risks include the ability to show and be oneself without fear of negative consequences to self-image, status or career advancement. It also includes speaking up when a problem or mistake arises, without fear of being blamed, punished or humiliated, voicing opinions without fear of being judged, and reporting issues without fear of negative repercussions. When team members feel psychologically safe at work, it is easier for them to engage fully, participate in meetings, solve problems, report issues, collaborate on projects and support each other. It helps create a much more trusting and respectful organisational climate, which leads to higher

psychological safety, a self-fulfilling cycle. More information can be found on the [SASA website](#).

Peer support mechanisms are helpful to identify those at risk or in difficulty, activate support systems and encourage maintenance of compliance and safety. It alleviates isolation and alienation and creates a team-based culture of collaboration and support. More information can be found on the [SASA website](#).

Recommendations

Daily work hours

- Regulation of work hours and shift patterns taking into consideration the dangers of chronic and excessive fatigue. The specific number of prescribed working hours is covered in section 2.3.
- Structuring of operating room schedules to permit necessary breaks for everyone for personal physiological needs and nutrition.
- Implementation of staffing flexibility to allow for taking unexpected leave for personal health or family responsibility reasons, for exhausted physicians after a difficult list or call and for unforeseen events such as after critical incidents.
- Encourage departments and facilities to create anaesthesia care teams to improve both patient safety and healthcare provider health.
- Always encourage the availability of appropriately skilled help (at the very least, a phone call away), especially in out-of-operating room (OR) locations and after-hours for emergency cases.

On-call commitments

- Transparent and equitable scheduling policies should be followed.
- Schedule adequate rest and recuperation post-call, and if possible, provide support to get home safely if unfit to drive a vehicle post-call due to fatigue and exhaustion.
- Discourage scheduling of non-urgent procedures during after-hours to minimise the demand for OR resources during periods of minimal staff coverage.

Ensure transparent and equitable policies

- Vacation and leave
- Exam and study leave
- Scheduling of shifts and calls
- Appointments and promotions

Build psychologically safe departments and have appropriate mechanisms to report and deal with issues such as

- Workplace harassment and/or bullying
- Discrimination based on gender, race, culture, sexuality, religion, or disability
- Enforce a clear zero-tolerance policy

Create a formal response and support system to address fall-out in personnel after stressful events (e.g., critical adverse events, unexpected deaths, disasters such as terrorism and fire, patient complaints and violence, etc.)

- Appropriate critical incident debriefing training for appropriate senior consultants
- Access to trained critical incident support personnel
- Peer support mechanisms
- Formal policies on the timing and follow-up of critical incident management to ensure follow-through
- Please see critical incident debriefing section on <https://www.sasaweb.com>.

Substance abuse and other functional impairment rehabilitation

- Formal and transparent structure and policy on supervision and rehabilitation of impaired physicians
- Encourage compassion and support
- Zero tolerance for judgment, bullying, and humiliation

Dignified retirement pathway

- Formal structure and policy on retirement pathway based on transparent functional impairment assessments and reporting
- Access to lower acuity and complex cases where appropriate and available
- On-call duty reduction strategies

Responsibilities toward healthcare workers, trainees and colleagues

Health and wellness

Every anaesthesia provider has a role in helping colleagues with significant health or wellness problems, especially as it impacts the safe, ethical and caring delivery of medical services to patients.

1. Be aware of warning signs of significant illness, addiction, excessive stress, or burnout.
2. Approach colleagues with serious concerns about health or wellness and encourage them to seek help or advice from an appropriate source. Please see the support section on the [SASA website](#).
3. Encourage colleagues whose ability to practice medicine becomes temporarily or permanently impaired to appropriately modify or discontinue practice.
4. Be supportive and compassionate towards those who have sought help with a health or wellness problem and are recovering or undergoing treatment or rehabilitation for that problem.
5. Respect the confidentiality of those who have health or wellness issues.
6. Realise that it is a legal obligation to report such concerns to the HPCSA if there is reason to believe a fellow clinician is in danger.

Trainees

The period of training is fraught with challenges: long working hours, stressful working conditions, difficult shifts, relationship challenges, new parental responsibilities, exams stress coupled with inadequate time for studying. Compassion and support are not only helpful but essential in promoting health and wellness among the trainees.

1. Avoid bullying, shaming, and blaming behaviour. Trainees are still learning, and mistakes are unavoidable. Mistakes are opportunities for learning and adjustment rather than punishment and shaming. Encourage openness and honesty and empower conversations and discussion to achieve learning.
2. Create supportive and flexible work environments for those facing stressful challenges: exams and intense study periods, new parenthood (e.g., baby and breastfeeding challenges) and family responsibilities, added work responsibilities (new consultants), etc. Have transparent structures and policies to allow leave and flexibility for these periods.
3. Have an open-door policy and ensure a psychologically safe culture to allow feedback and suggestions within the department. Every group of trainees is different, and their needs differ. Be prepared for adaptation and flexibility.

Legal responsibilities

The HPCSA Guidelines on Ethical Rules stipulate the following:

Reporting of impairment or unprofessional, illegal or un-ethical conduct.

A student, intern, or practitioner shall –

1. report impairment in another student, intern, or practitioner to the board if they are convinced that such student, intern, or practitioner is impaired,
2. report their own impairment or suspected impairment to the board concerned if they are aware of their own impairment or have been publicly informed, or have been seriously advised by a colleague to act appropriately to obtain help in view of an alleged or established impairment, and
3. report any unprofessional, illegal, or unethical conduct on the part of another student, intern, or practitioner.

This is a legal requirement.

2.6 Peer review

2022 review by N Zimmelman

Clinical governance is defined as a system through which health services are responsible and accountable for:

- continuously improving services,
- safeguarding high standards of care, and
- ensuring the best clinical outcomes for patient care.

The system of governance includes the following aspects of clinical risk management:

- Mortality and morbidity reviews.
- Adverse events and near-misses reporting and reviews.
- Patient record reviews and **peer reviews**.
- Clinical audits on various aspects of anaesthesia processes in various anaesthesia practices, measuring compliance with best practice.

Peer review is a voluntary process and a function of SASA's Regulation Business Unit. SASA has a comprehensive peer review policy and procedures that have been established to manage such requirements. Queries can be sent to sasa@sasaweb.com.

Please refer to the 2020 published peer review policy and procedure (Appendix A(v))

The SA DoH's new policy on patient safety incident reporting for all adverse events is available in Appendix A(iii).

An **adverse event** can be defined as harm, an injury or complication associated with medical treatment. This may or may not be because of error. A **near-miss** is a possible injurious event that is intercepted before it reaches the patient.

Errors can be categorised as *serious* or *minor* and may be because of a mistake by a doctor, another health team member or a systems error.

When documenting events around a medical error, the documentation must be factual and exhaustive. It is essential to avoid speculation regarding cause or blame.

Should a death occur, The Health Professions Amendment Act of 2007 states the following:

“Death of a person undergoing a procedure of therapeutic, diagnostic, or palliative nature or of which any aspect of such a procedure has been a contributory cause, shall not be deemed to be a death from natural causes as contemplated in the Inquests Act, 1959 (Act 58 of 1959), or the Births, Marriages, and Deaths Registration Act, 1963 (Act 81 of 1963).”

This means that all doctors and nurses who work in operating theatres must be made aware of the law, and that all unnatural (perioperative) deaths must be reported, regardless of the sentiments of the medical team and/or the next of kin.

This same group of medical personnel needs to be instructed to the effect that all unnatural deaths must be reported, regardless of the length of time that has elapsed since the administration of the anaesthesia. Documents regarding the report are discussed in the Records section of these guidelines.

It is strongly advised that one's indemnity insurance company should be notified immediately, particularly in cases where the death has been sudden and unanticipated.

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