



JOHANNESBURG OFFICE
EXAMINATIONS & CREDENTIALS

C M S A

The Colleges of Medicine of South Africa NPC

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CMSA DA(SA) – Assessment of Competency

Dear candidates, tutors and faculty

DIPLOMA IN ANAESTHESIA ASSESSMENT OF COMPETENCY. (FROM SECOND SEMESTER 2023)

Regional, in-person, competency assessments will form a part of the examination **application process**, as of the Second Semester of 2023.

- Competency assessments will take place after the CMSA entry closing date, to allow all entry administration to take place prior to the written examination. Applications will be accepted, but marked as “Pending” until the outcome of the competency assessment is received by the CMSA. Once the competency evaluation has been successfully completed, the application will be approved and further processed for the written examination. If a candidate does not successfully complete a competency evaluation, then their application will be declined. Approval of examination applications will NOT take place until proof of competency has been forwarded by the competency assessment panel to the CMSA. (i.e. All applications from SS 2023 will require: Application form, Letter from Supervisor, Competency certification).
- Four core clinical competencies will be assessed: Adult CPR, Paediatric CPR, Airway, Machine check. (See information on each station below).
- The assessments will be held regionally at a hospital in the same centres where you write the papers. You will be informed of the venue and the date of your assessment after applying to write the DA.
- Two examination dates will be provided for each venue. Candidates who successfully complete the assessment on the first date, will not be required to return for the second date. Candidates who are unsuccessful in any of the competency(ies) on the first date, must return to repeat the unsuccessful station(s) on the second date. (It will not be necessary to repeat any stations which were successfully completed on the first date).
- Most venues will use the hospital theatre, so candidates should arrive for the assessment wearing their own scrubs.

CLINICAL COMPETENCY STATION INFORMATION

ADULT CPR STATION: Required knowledge & Skill

1. Know the guidelines and be able to perform CPR

- Recognize arrest
 - ❖ Hazards/ hello/ help
 - ❖ Check for responsiveness, pulse, breathing
- Perform CPR
 - ❖ Depth 1/3 of AP diameter of chest, 30:2 at least 100/min
 - ❖ Correct sequence
 - ❖ Monitors
- Rhythm analysis
 - ❖ Identify shockable (VF/ pulseless ventricular tachycardia) vs non-shockable rhythms
- Defibrillation
 - ❖ Correct energy for defibrillator (120-200J biphasic/ 360J monophasic)
 - ❖ Correct position of paddles
 - ❖ Safe operation of defibrillator
- Drugs
 - ❖ Knowledge of resuscitation drugs and doses
- Airway management
 - ❖ Consider advanced airway
 - ❖ Ventilate at rate of 10 breaths/min if definitive airway (1 breath every 6 sec) ▪
Capnography monitoring
- Look for reversible causes and treat
 - ❖ Hs and Ts
- CPR and resuscitation for pregnant patients
 - ❖ Displace uterus manually
 - ❖ IV access above diaphragm
 - ❖ Hand position
 - ❖ Earlier intubation
 - ❖ Perimortem Cs within 5 minutes

Example of study resources

1. AHA guidelines - <https://cpr.heart.org/en/resuscitation-science/cpr-and-eccguidelines/algorithms#adult>

1. Airway Assessment:

- History
- Examination (be able to demonstrate) • Predicted ease to bag-mask ventilate
 - ❖ 'BONES' mnemonic or similar
- Predicted ease to do laryngoscopy
 - ❖ Measurements
 - Mouth opening/ Inter-incisor gap
 - Submental distance o Thyromental distance o Sternomental distance
 - ❖ Neck flexion/extension
 - ❖ Mallampati score
 - ❖ Assess teeth
- Assessment for surgical airway

2. Demonstrate how to do bag-mask ventilation (BMV) and be successful in achieving chest rise

- Demonstrate airway manoeuvres to improve BMV
 - ❖ Chin lift/ jaw thrust
 - ❖ Appropriate use of oropharyngeal airway

3. Demonstrate how to intubate

- Positioning of patient
- Preoxygenate
 - ❖ 3 min or 5 vital capacity breaths
- Ability to use laryngoscope
- Use of adjuncts to assist
 - ❖ BURP/ handshake/ introducer/ bougie
- Confirm position of endotracheal tube

4. Demonstrate how to insert laryngeal mask airway

- Size
- Lubrication
- Methods to improve seal
 - ❖ Inflate/ deflate cuff
 - ❖ Reposition

5. Knowledge of difficult airway guidelines

- Call for help
- Difficult intubation
 - ❖ Mask ventilate between attempt
 - ❖ Change something between attempts o Position/ bougie/ introducer/ change blade/ BURP/ muscle relaxant
 - ❖ 3 attempts +1 by experienced provider
 - ❖ Pregnant patient: 2 attempts + 1 by experienced provider o Move to supraglottic airway
- Difficult supraglottic airway
 - ❖ Sizing
 - ❖ Bag mask ventilate in-between attempts
 - ❖ Max 3 attempts
- Failed LMA insertion
 - ❖ Revert to bag mask ventilation
 - ❖ Decision to wake up or continue

- Management of failed bag mask ventilation – surgical airway
 - ❖ Demonstrate/ explain how to perform surgical airway

Example of study resources

1. Difficult Airway Society guidelines 2015: https://das.uk.com/guidelines/das_intubation_guidelines
2. Airway assessment YouTube video: <https://www.youtube.com/watch?v=TRKuCBOsp2o>
3. Open Airway: <https://openairway.org>
 - videos on airway devices and technique: facemask/ laryngoscopy and intubation/ supraglottics/ surgical airway
 - algorithms: DAS/ASA/Vortex approach/ Canadian guidelines/ SASA guidelines

1) Know how to perform a basic machine check

Start & power	Check service history
	Power supply plugged in wall, switch on
	Switch on anaesthetic machine
	Check for back up battery, check if adequately charged/charging
Pipelines/gases	Correct Diameter index safety system (DISS)
	Correct colour coding, labels, identify oxygen, nitrous oxide, air, suction
	Perform a tug test
	Check pipeline pressures, 400-500kPA
	Pin index safety system; Colour of cylinders
	Check for a backup oxygen cylinder, check gauge pressure
	Check for a backup air or N2O cylinder, check gauge pressure
	Identify scavenging circuit
Vaporizers	2 vaporizers present
	Attached properly, O-rings intact
	Filled, ready for use
	Test interlock for prevention of administering 2 volatiles at a time
Connect patient circuit	Verify if correctly connected, Y- piece, reservoir bag
	Check soda lime, connected properly, comment on colour
	Turn on rotameters, check rotation, adequate rise
	Check hypoxic guard for N ₂ O
	Check oxygen failure alarm
	Perform leak test – manual/ spontaneous. Connect test lung. Turn on rotameters (Air /Oxygen) Close APL valve, check rise and plateau in circuit pressure, test lung fills
	Test ventilator Connect test lung Turn on rotameters (air/oxygen) Observe expansion/contraction of test lung Test high pressure alarm Test low pressure alarm
	Identify and test Oxygen flush button
Monitors	Check for oxygen saturation probe, BP cuff, ECG leads
	Check gas analyzer – Test for calibration at 21% oxygen in room air, 100% oxygen
	Check capnography – exhaled breath Check anaesthetic agent gas analyzer

Suction	Adequate negative pressure (> - 50kPa) Yankaeur available – Paediatric and adult
Ancillary equipment	6 metals
	6 plastics
	Ambubag
	Infusion pumps
	Defibrillator available

Example of study resources

1. ASA anesthesia machine checklist
2. Checklist for anaesthetic equipment 2012. Anaesthesia 2012; 66: pages 662–63.
<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2044.2012.07163.x/abstract>
3. Video: <https://www.youtube.com/watch?v=5R6LgIANse4>
<https://www.youtube.com/watch?v=DojLuUsoEBg>

PAEDIATRIC RESUSCITATION STATION: Required knowledge & Skill

1) Know the guidelines and be able to perform CPR

- Recognize arrest
 - ❖ Hazards/ hello/ help
 - ❖ Check for responsiveness, pulse, breathing
- Perform CPR
 - ❖ Position of chest compressions
 - ❖ Appropriate depth (1/3 of AP diameter)
 - ❖ Rate – continuous if definitive airway or 15:2 if 2 rescuers
- Ventilation
 - ❖ Consider advanced airway
 - ❖ If definitive airway: ventilate 100% O₂ at 20 breaths/min
 - ❖ Capnography monitoring
- Rhythm analysis
 - ❖ Identify shockable v non-shockable rhythm
- Defibrillation
 - ❖ Correct energy o 4J/kg (or 2J/kg - PALS) o Repeat defibrillation at 4J/kg
 - ❖ Correct paddle size and position
 - ❖ Safe operation of defibrillator
- Drugs
 - ❖ Knowledge and dose of drugs for resuscitation
- Look for reversible causes and treat
 - ❖ Hs and Ts

Example of study resources

1. AHA CPR and ECC guidelines – paediatrics:
<https://cpr.heart.org/en/resuscitationscience/cpr-and-ecc-guidelines/algorithms#pediatrics>