



# SASA

SOUTH AFRICAN SOCIETY OF ANAESTHESIOLOGISTS

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## SAJAA CPD ANSWER FORM – March/April 2021

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Please answer the following questions:

### Anaesthesia facility evaluation: a WhatsApp survey of hospitals in Burundi

1. Out of the 55 hospitals that responded to our facility survey in Burundi, what percentage were using a Lifebox pulse oximeter?

- a. 11%
- b. 33%
- c. 52%
- d. 89%

2. Facility audit was recently listed as one of the top ten research priorities in Africa by which group?

- a. American Society of Anesthesiologists (ASA)
- b. College of Anaesthesiologists of East, Central and Southern Africa (CANESCA)
- c. The African Peri-Operative Research Group (APORG)
- d. The World Health Organization (WHO)

3. According to the results of this study, which of the following pieces of equipment were reported to be available in LESS than 25% of hospitals in Burundi?

- a. Capnography
- b. ECG
- c. Defibrillator
- d. All of the above

4. Which of the following countries has the lowest surgeon density in east, central and southern Africa?

- a. Rwanda
- b. Burundi
- c. Tanzania
- d. Zambia

### Assessment of the clinical validity of an adjusted Marsh pharmacokinetic model using an effect-site rate constant ( $k_{e0}$ ) of 1.21 $\text{min}^{-1}$

5. In a classic multicompartment mammillary pharmacokinetic-pharmacokinetic model, the rate of drug transfer between compartments is indicated by rate constants designated "k". Which is the rate constant that describes the rate of drug transfer between blood and the effect site?

- a.  $k_{12}$
- b.  $k_{e0}$
- c.  $k_{13}$
- d.  $k_{1e}$

6. With regard to the three-compartment mammillary pharmacokinetic models that are programmed into target-controlled infusion pumps for propofol, a weakness is the assumption that:

- a. drug distribution to all three compartments is instantaneous
- b. drug is instantaneously distributed within the central compartment
- c. drug is redistributed from peripheral compartments back into the central compartment
- d. drug is excreted via the central compartment

7. In a study investigating whether two drugs have equivalent effects on the processed electroencephalogram, the null hypothesis is that:

- a. There would be a mean difference in BIS values that is greater than 10 units
- b. There would be a mean difference in BIS values that is less than 10 units
- c. The mean difference in BIS values would not differ statistically significantly

### Smartphone and app usage amongst South African anaesthetic service providers

8. Amongst specialists in the two health sectors there was no statistical significance shown EXCEPT for the use of the app:

- a. Wikipedia
- b. Pedistat
- c. MedCalc
- d. UpToDate

9. The most popular apps amongst medical professionals are consistently those used for:

- a. Logbooks
- b. Calculations
- c. Journals
- d. Drug referencing

10. The primary criteria for choice of app download by anaesthetic users in this survey, regardless of the reason for downloading the app (that is social versus professional use) appears to be:

- a. Price
- b. Word of mouth
- c. Graphics
- d. Data availability

11. As is consistent with international literature on smartphone use in the operating theatre, our survey respondents echoed that barriers to entry for smartphone usage included:

- a. Poor internet connectivity
- b. Expensive mobile data costs
- c. WiFi availability
- d. All of the above

### Career choice of anaesthetists in a department of anaesthesiology at a tertiary institution in South Africa

12. Anaesthesia was ultimately chosen as a career by the majority of participants as:

- a. A general practitioner
- b. A medical officer
- c. An intern

13. Which of the following factors were found to be part of the top 10 influential factors in selecting anaesthesiology as a career?

- a. Portability
- b. Chronic and acute pain management
- c. Dealing with one patient at a time

14. What percentage of female participants were satisfied with their career choice?

- a. 88.1%
- b. 94.0%
- c. 94.6%

15. Which of the following factors are NOT related to the intrinsic nature of anaesthesiology?

- a. Undergraduate exposure to anaesthesia
- b. Applicability of physiology and pharmacology
- c. Immediate gratification with the work

### Comparison of point-of-care device DiaSpect against the HemoCue and laboratory analyser in an ICU population

16. The DiaSpect Hemoglobin:

- a. Has a broad-spectrum, multichromatic sensor that measures the reflectance of unaltered whole blood
- b. Utilises reagent-free cuvettes
- c. Works over a wide spectral range (wavelengths between 350 and 900 nm)

17. Patients were excluded from the study if:

- a. They were mechanically ventilated
- b. They did not require a central venous catheter
- c. They were actively bleeding or required multiple blood transfusions

18. In this study:

- a. A Hb variation of 0.5 g/d was defined as significant
- b. The HemoCue graph had wider limits of agreement when compared to the DiaSpect graph
- c. Only two of the three methods (HemoCue and the laboratory analyser) measured, fell within the clinically accepted limits

19. The key feature limiting the recommendation of using the DiaSpect haemoglobinometer over the HemoCue is:

- a. Its inferiority with regards to accuracy and reliability
- b. The time delay to display results
- c. The large number of wasted cuvettes negating its cost benefit

20. The limitations of this study included all, EXCEPT the following:

- a. Samples were measured by two makes of laboratory automated haemoglobin analysers
- b. Only a narrow spectrum of haemoglobin values was assessed, due to ICU patients having lower haemoglobins on average
- c. No distinction was made regarding patients with bleeding disorders, e.g. Haemophilia

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