Continuous education in sedation: Pre-sedation assessment, the medical history questionnaire

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JA Roelofse,[1] C Lapere,[2] A du Plessis[3]

INTRODUCTION

There are four crucial safety criteria for the practice of procedural sedation:

- pre-sedation health status assessment or evaluation,
- the specifics of sedation drugs administered,
- monitoring of the patients, and the
- post-sedation recovery phase, which includes discharge criteria.

No patient should receive procedural sedation if a health status assessment has not been completed.[1]

DISCUSSION

All international guidelines stipulate, and all professional societies involved in safe sedation practice accept, that sedation can be done safely in the office/surgery, so-called out-of-theatre-facilities, and in conventional in-hospital theatres.[2] The question remains, which patients qualify for sedation outside the traditional theatre?

In the USA today, neglecting to follow safety procedures, including adequate pre-operative assessment, is one of the top five causes of litigation against anaesthesiologists.[4] If a claim were to be made, the legal perspectives would require that the operator and other attending staff would be assessed on all elements of the procedure including the following: patient assessment, choice of technique, consent, documentation and discharge.[5]

Any patient must be evaluated as to fitness for sedation, a process involving a medical history questionnaire, a physical examination, and appropriate special investigations where necessary. This article will focus on evaluation of patients with heart and lung disease for possible sedation fitness.

It is internationally accepted that the classification of the American Society of Anesthesiologists (ASA) be applied in the determination of whether a patient qualifies for sedation outside the traditional theatre (Table 1).

1. **James A Roelofse:** *MB.ChB, MMed, PhD, Dip NDBA (USA).* Professor University of the Western Cape, Visiting Professor, University College London.
2. **Cherese Lapere:** *MB.ChB, DipPEC, DA(SA), PDD.* Sedation Practitioner.
3. **Andre du Plessis:** *BSc, MB.ChB, DA(SA), Dip Sed.* Sedation Practitioner, Sedation Solutions, London.

Corresponding author
James A Roelofse:
Private Bag X1, Tygerberg 7505. Tel: 021 937 3085,
Cell: 083 458 2427. E-mail: jar@sun.ac.za

ACRONYMS

ASA:	American Society of Anesthesiologists
DM:	Diabetes Mellitus
HTN:	Hypertension
MHQ:	Medical History Questionnaire

Patients with an ASA classification of 1 or 11 are eligible to qualify for sedation in facilities other than hospital or day care theatre.

The ASA classification is limited to the extent that it acts only as a clinical status classification, not as a risk stratification tool. The patient still needs a completed medical history and comprehensive examination of the airway, as well as of the relevant systems (in the case of cardiovascular and respiratory patients, these systems need extra attention).

The medical history questionnaire (MHQ) is a very important adjunct that the sedation practitioner should use in conjunction with a thorough clinical examination. It is not only important for medico-legal purposes, but also for good practice and optimal patient care. This can be filed alongside the sedation notes and kept for future reference. It gives the practitioner an indication of the health status of the patient at the time when the patient completes the form before the operation.

For every sedation case, a new MHQ should be filled out. This will guide patients to accurately report on any recently diagnosed disease eg. heart disease, hypertension, diabetes mellitus, etc. The MHQ should also conclude with an open-ended question, asking for any additional confidential information about which the patient wishes to inform the practitioner. This creates an opportunity for the patient to mention any other drugs or substances used that are not included on the regular form, especially recreational drugs not previously disclosed. These have a high possibility of precipitating drug interactions during and after procedural sedation.

The authors Green and Krauss emphasize the importance of titrating drugs according to clinical effect, thereby achieving the so-called “minimum sedation state”.[6] This can only be done if the practitioner knows the specific detail of the patient’s demographics in terms of height, age, weight and gender. It is important to ask for these specifics – the weight gives an indication of the maximum dose of the drug that can be administered. The MHQ should also allow for questions about previous sedations or general anaesthesia, as well as any side effects or complications the patient was made aware of by the then attending anaesthetist.

Medical MHQ's often exclude specific information about the patient's treating physicians. Names and contact numbers, as well as conditions for which treatment had been prescribed, currently or previously, and a record of hospitalizations in the last five years are often excluded. These are important data enabling adequate assessment of the patient.

Table 1: The ASA classification

ASA class	Definition	Examples, including, but not limited to:
I	A normal healthy patient	Healthy, non-smoking, no or minimal alcohol use.
II	A patient with mild systemic disease	Mild diseases only without substantive functional limitations. Examples: current smoker, social alcohol drinker, well-controlled Diabetes Mellitus (DM, Hypertension (HTN), or mild lung disease.
III	A patient with severe systemic disease	Substantive functional limitations; One or more moderate to severe diseases. Examples: poorly controlled DM or HTN, Chronic Obstructive Pulmonary Disease.
IV	A patient with severe systemic disease that is a constant threat to life	Examples: recent (<3 months) Myocardial Infarct, stents, ongoing cardiac ischemia or severe valve dysfunction, severe reduction of ejection fraction, sepsis.
V	A moribund patient who is not expected to survive without the operation	Examples: ruptured abdominal/thoracic aneurysm, massive trauma.

The next of kin, the responsible adult nominated to take the patient home and the name and telephone numbers of a person to be contacted in the case of an emergency, should also be recorded in the MHQ.

More specific questions about the physiological systems can guide the practitioner as to whether a patient qualifies for sedation in the rooms/facilities: Information on cardiovascular disease is crucial for the sedation practitioner i.e. hypertension, stroke, coronary occlusion, myocardial ischemia, stents, angina. These data will inform the sedation practitioner about possible cardiovascular problems and the possibility of risk of cardiovascular events during the sedation.

Information on rheumatic heart disease/congenital heart disease is not only important as far as antibiotic cover is concerned, but also to confirm the functional status of the patient and to discern whether the patient needs more investigations to determine the level of functionality (for example an echocardiogram, ECG, stress test).

Questions to better guide us on the functionality level of the specific patient's condition would be, for instance, whether any chest pain is present on exertion, shortness of breath during mild exercise and the ability to climb two flights of stairs without feeling short of breath. Other physical signs or symptoms that patients may experience, pointing to cardiovascular risk, are swelling of the ankles, or the need to raise pillows up to sleep comfortably at night.

Many patients do not regard aspirin as prescribed medication and might neglect mentioning that they are using this daily. The practitioner should enquire about this and about specific cardiac or anticoagulation medication the patient may be receiving in order to decide whether any requires monitoring of the levels or needs to be stopped, in which case whether any bridge therapy should be initiated.

It could be difficult to know about underlying respiratory disease, especially if the patient is asymptomatic. When patients complain of shortness of breath (there may be other reasons for this i.e. obesity), this should alert us to the possibility of underlying respiratory disease, as would also a mention of pain in the chest especially with breathing, and coughing with or without the production of sputum.

If there is sputum production, the colour of the sputum is important. This will give an indication of the possibility of an infectious process in the lungs. If the sputum is yellow or is purulent, the patient may have a respiratory infection, and needs to be referred to their medical practitioner for treatment.

Blood in the sputum may also be a sign of lung disease.

A productive cough may be caused by allergic conditions, but this is a diagnosis that the medical practitioner must make. Wheezing may be caused by uncontrolled asthma. It is not advisable to sedate a wheezing patient.

Chronic, productive cough, weight loss, tiredness or any other symptoms suspicious of chronic disease should alert us to the possibility of undiagnosed tuberculosis which needs investigation and referral.

Remember that elderly patients may be on various drugs for hypertension, coronary artery disease, asthma, bronchitis, and diabetes mellitus. These disease states may influence our choice of drugs for sedation.

Cardio-respiratory signs and symptoms are important determinants of fitness for office-based sedation. When in doubt, rather refer the patient for appropriate investigations or further care and reschedule the sedation and procedure.

CONCLUSION

When evaluating a patient for out-of-office procedural sedation, the sedation practitioner is responsible for making an informed decision about the patient's fitness for the procedure. The practitioner cannot rely on the immediate history alone, but should place reliance on the combination of a detailed history in the form of an MHQ, followed by a focused and thorough clinical examination.[3]

Of great importance is whether the patient has started taking any new drugs, or is experiencing any new symptoms.

References

1. Society of South African Society of Anaesthesiologists Sedation Guidelines 2015. Guidelines for the safe use of procedural sedation and analgesia for diagnostic and therapeutic procedures. 2015;21(2):1–38.
2. Cote. CJ, Wilson S, American Academy of Pediatrics, American Academy of Pediatric Dentistry. Law A, Ng D, *et al*. Guidelines for monitoring and management of pediatric patients before, during, and after sedation for diagnostic and therapeutic procedures: Update 2016. Pediatrics [Internet]. 2016;45(2):180–5.
3. Van Ungern-Sternberg B, Habre W. Pediatric anesthesia- potential risks and their assessment. Ped Anesth 2007;17:206-15.
4. WebMD: Medscape Malpractice Report 2015: Why Anesthesiologists get Sued, January 22, 2016.
5. Adams JP, Bell MDD, Bodenham AR. Quality and outcomes in anaesthesia: lessons from litigation. Br. J. Anaesth. 2012 ; 109(1): 110-22. doi: 10.1093/bja/aes188. Available from: http://www.ncbi.nlm.nih.gov/pubmed/27354454
6. Krauss B, Green SM. Procedural sedation and analgesia in children. Lancet. 2006;367(9512):766–80.