



VA NATIONAL CENTER FOR PATIENT SAFETY

Moderate Sedation Toolkit for Non-Anesthesiologists

Facilitator's Guide

*Content Produced by
The Durham VAMC Patient Safety Center of Inquiry (PSCI)*

Facilitator's Guide for Moderate Sedation Toolkit for Non-Anesthesiologists

Introduction

Approximately 160,000 procedures involving moderate sedation, a majority of which are for upper or lower gastrointestinal (GI) endoscopy, are performed annually at VA hospitals. In these settings, sedatives and analgesics are administered by non-anesthesiologists to relieve anxiety and increase patient comfort. Unfortunately, these sedation practices may result in a range of serious adverse events, including cardiac and respiratory depression, hypoxic brain damage, cardiac arrest or death. Furthermore, these procedures are often performed in hospital or clinic locations that are remotely located, where staff resources to manage unexpected and potentially life-threatening situations may be limited.

To address these risks, professional organizations such as the American Society of Anesthesiologists and the Veterans Health Administration (VHA) have issued practice guidelines for moderate sedation.^{1,2} A key component of these recommendations is the requirement for training of personnel involved in these procedures. In 2006, VHA Directive 2006-023 mandated new training requirements for all physicians and nurses performing moderate sedation, including completion of a Web-based didactic course and practical training through certification in Advanced Cardiac Life Support (ACLS). Although the requirement for ACLS certification may provide useful information and skills necessary to manage life-threatening conditions, the practitioner providing moderate sedation likely requires a different set of skills than those provided through ACLS training. These specific sedation skills include early recognition of airway obstruction, careful titration of sedative and analgesic medications, and early intervention and cardiopulmonary support for the over-sedated patient.

To assist VA facilities in accomplishing these goals, the VA National Center for Patient Safety (NCPS) has developed a **Moderate Sedation Toolkit for Non-Anesthesiologists**, based upon work done at the Durham VAMC Patient Safety Center of Inquiry. This Facilitator's Guide describes the parts of the toolkit and provides guidelines for use in VA facilities.

Toolkit Components

1. **Moderate Sedation Facilitator's Guide.** This introductory guide describes the moderate sedation toolkit components, the role of the sedation training facilitator at each medical center, and includes answers to frequently asked questions pertaining to this moderate sedation toolkit and training program.
2. **Learner Objectives for Moderate Sedation Training.** These 18 objectives describe the knowledge, skills and behaviors that should be demonstrated by individuals who administer moderate sedation.

¹ ASA "Practice Guidelines for sedation and analgesia by non-anesthesiologists." *Anesthesiology* 2002; 96(4): 1004-17

² VHA Directive 2006-023



3. **Moderate Sedation Curriculum Guide.** This document provides detailed information about moderate sedation practice. Topics include:

- General principles of moderate sedation
- Pharmacology of commonly used medications
- Relevant anatomy and physiology
- Principles of pre-procedural patient assessment and education
- Monitoring techniques
- Required safety equipment
- Common complications and their recognition and treatment
- Special situations and high-risk patients

The curriculum guide also includes educational materials for recognition of cardiac dysrhythmias that would require urgent treatment in these clinical settings (Appendix A) and treatment protocols for initial resuscitation of life-threatening dysrhythmias (Appendix B).

4. **Pre-Procedure Patient Evaluation Template.** This template identifies key features of patient evaluation that should be performed prior to beginning a procedure that requires moderate sedation. Facilities may use this as a guide for creating CPRS templates.
5. **Moderate Sedation Study Aid.** This colorful graphic summary includes key elements of moderate sedation practice, including many of the topics from the curriculum guide. It will be available electronically to clinicians who administer moderate sedation and as a laminated 8.5- by 11-inch front and back reference guide that may be posted for practitioners in all sites where moderate sedation is administered (e.g. GI endoscopy rooms, pulmonary bronchoscopy rooms, etc.)
6. **Moderate Sedation Cognitive Aid.** Modeled after the NCPS Cognitive Aid for Anesthesiology, this colorful laminated 8.5- by 11-inch front and back reference guide provides bulleted guidelines for managing common complications of moderate sedation (hypotension, hypertension, bradycardia, tachycardia, hypoxemia and agitation/difficult to sedate). Each complication is addressed in three parts: initial response; follow-up response; and things to consider. It is intended to be available to practitioners in all sites where moderate sedation is administered (e.g. GI endoscopy rooms, pulmonary bronchoscopy rooms, etc.).
7. **Call for Help Card.** This template identifies key resources for assistance. Facilities must customize this card for local use. The local version should be posted and CLEARLY VISIBLE in all sites where moderate sedation is administered.
8. **High-Fidelity Moderate Sedation Simulation Cases.** Four cases are available for use in facilities that have the capability to conduct simulation training using a high-fidelity medical simulator. The cases demonstrate the common and important problems encountered during sedation practice.
 - Case 1: Orientation to Simulator and Training Sessions
 - Case 2: Upper Airway Obstruction

- Case 3: A Difficult to Sedate Patient
- Case 4: Medically Compromised Patient

9. **Table Top Moderate Sedation Simulation Cases.** Four cases are available for use in all facilities, specifically those that do not have the capability to conduct simulation training using a high-fidelity medical simulator. These cases cover the same material available in the high-fidelity sedation simulation cases described above.

Guidelines for Sedation Training Facilitators

The **Moderate Sedation Toolkit for Non-Anesthesiologists** is intended to provide guidance and useful resources for improving training of clinicians who administer moderate sedation. In order for these tools to have benefit, they must be accessed and used across VHA medical centers. At each facility, an individual should be identified who has responsibility for oversight of moderate sedation practices. This facilitator's guide should be used by that individual (the facilitator) to allow optimal use of the toolkit in the local facility. Frequently asked questions are addressed below.

Q-1. Who should serve as the sedation training facilitator at my medical center? In larger facilities, it is likely that a member of the anesthesiology service has responsibility for oversight of moderate sedation policies and procedures. In smaller facilities, members of the nursing service or other medical center educators may have these responsibilities. In these smaller facilities, the sedation training facilitator should have support and oversight from an anesthesiologist or nurse anesthetist from a larger facility, preferably one within the VISN that provides other consultative services for the smaller facility. It is recommended that each facility identify an individual who has experience with and content expertise in moderate sedation practice. This individual would serve as a training facilitator and be familiar with the **Moderate Sedation Toolkit for Non-Anesthesiologists**. The sedation training facilitator should have the knowledge and skills to serve in a clinical educational capacity. In particular, the facilitator should have experience *counseling and debriefing* peers in clinical settings. Successful debriefing is a key element of adult experiential learning.³ In smaller medical centers without staff anesthesiologists or nurse anesthetists, the sedation training facilitator should be working closely with these anesthesiology content experts, who may be able to provide on-site consultation and oversight of the sedation training program.

Q-2. How should the lengthy curriculum guide be used? This document provides the "syllabus" that sedation training facilitators should include in training activities. It serves as a detailed resource for training facilitators. It may also be provided to clinicians who administer moderate sedation, either prior to or following interactive sedation training sessions. The sedation training facilitator may customize the curriculum guide for the particular needs of clinicians in each facility.

Q-3. How do we use the table top sedation simulation cases? These provide a structure for a facilitator to conduct an interactive training session, much like problem-based learning or case studies. The facilitator provides background information (brief patient history, pre-procedure assessment, active medical problems and medications) for members of the discussion group to

³ Rudolph, J.W., Simon, R., Rivard P., Dufresne, R.L., Raemer, D.B.. Debriefing with good judgment: Combining rigorous feedback with genuine inquiry. *Anesthesiology Clinics* 2007;25:361-76

review. Using the guided question format, the facilitator then engages individuals in a discussion of the sedation management of each case, including identification and management of complications that may occur. In general, table top simulation is most effective when there are three to six participants of varying clinical roles involved in each training session, and the training is conducted in the clinical environment. This facilitates appropriate small group learning, encourages teamwork, and helps recognize opportunities to improve the work environment by assuring that appropriate resources are available for safe clinical care.

Q-4. Who should be involved in moderate sedation training? Optimally, training sessions should include mixed teams of physicians, nurses and technicians who work together in the clinical areas where sedation is practiced. In this way, interactions and behaviors can be demonstrated, observed and “debriefed” by the facilitator. In many settings, the registered nurse (RN) is the individual administering the sedative medications. However, safe practice requires close physician-nurse-technician collaboration and teamwork.

Q-5. Are there any additional suggestions for successful use of the high-fidelity simulation training cases? In order to contribute to the reality of the simulation, the endoscopist should be assigned to perform a distracting activity while patient sedation is being administered by the nurse. For example, we used a GI endoscopy task trainer and required the endoscopist to complete a simulated colonoscopy. Cross training of providers is appropriate, and physicians and nurses may trade roles between simulated cases to better appreciate the responsibilities of different team members.

Q-6. Does this training replace current VHA requirements for ACLS or “equivalent” training for all providers who administer moderate sedation? The materials included in the **Moderate Sedation Toolkit for Non-Anesthesiologists** provide the necessary didactic content, but providers must still demonstrate technical skills including recognizing airway obstruction, establishing a patent airway and ventilation with an Ambu® bag. To the extent that a facility provides “hands-on” training, whether this is high-fidelity simulation or task-training demonstration of basic airway management, relevant ACLS “equivalent” skills may be considered to have been successfully demonstrated. Each facility is responsible for defining local policies and implementing procedures that meet the requirements of VHA Directive 2006-023 (Moderate Sedation by Non-Anesthesia Providers).

Q-7. How may we help NCPS improve the Moderate Sedation Toolkit for Non-Anesthesiologists? Please provide feedback. Call or e-mail VA National Center for Patient Safety (NCPS), Peter Mills, Ph.D., M.S., (802) 295-9363, ext. 6567, Peter.Mills@va.gov; or Durham VAMC Patient Safety Center of Inquiry, Alberto Bonifacio, R.N., phone (919) 286-6938, Alberto.Bonifacio@va.gov