Non-Operating Room Anesthesia (NORA) and Procedural Sedation and Workforce Shortages

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Conflict Of Interest Disclosure

- Consultant and Speaker – Medtronic Inc.
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NORA: Definition

Care provided by anesthesiology personnel for inpatients/outpatients undergoing diagnostic or therapeutic procedures performed at locations outside an OR pavilion within the hospital

Old term: “Remote” Anesthesia
Growth of Nonoperating Room Anesthesia Care in the United States: A Contemporary Trends Analysis

Alexander Nagrebetsky, MD, MSc,* Rodney A. Gabriel, MD,† Richard P. Dutton, MD, MBA,§ and Richard D. Urman, MD, MBA‡

Figure 2. A, Percent of nonoperating room anesthesia (NORA) cases among all cases included in this study. B, Mean age of patients. C, Percent of cases performed in patients with American Society of Anesthesiologists physical status (ASA PS) III-V. D, Percent of outpatient cases.

Anesth Analg 2017;124:1261-7
Controlling the Demand and Fulfilling CMS Mandate

Anesthesiology Oversight for Procedural Sedation
Bassem B. Abdelmalek, MD, FASA, SAMBA-F
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Driven by advances in minimally invasive diagnostic and therapeutic procedures, the demand for anesthesia and procedural sedation outside the OR has expanded more rapidly than ever. This has placed tremendous strain on anesthesiology departments, both to fulfill anesthesia service needs and to oversee procedural sedation. Nonoperating room anesthesia (NORA) is an extension of OR anesthesia practice, either personally performed, medically directed, or nonmedically directed. Separates from the extension of anesthesiology services to NORA settings in the procedural sedation performed by nonanesthesiologist providers in many procedural units. Because of the significant variability that may exist in sedation practices (e.g., patient preparation and monitoring, practitioners education and training, oversight of quality and safety in provided care), procedural sedation may place patients, practitioners, and health systems at risk. Whether or not the anesthesiology department fully embraces the role, physician anesthesiologists are responsible for patient safety and regulatory compliance everywhere procedural sedation is performed.

In 2009, the Centers for Medicare & Medicaid Services (CMS) issued the §482.52 Condition of Participation. CMS states that the director of anesthesia services is responsible for all anesthesia services throughout the hospital, including all departments in all campuses and off-site locations where anesthesia services are provided. The directive applies to all moderate and deep procedural sedation services provided by nonanesthesiologist proceduralists (asamonitor.pub/3lu/bm3e, asamonitor.pub/pdc8kd, asamonitor.pub/3kl3f). Procedural sedation can be either moderate or deep (Table 1). Moderate sedation is typically provided by a nonanesthesiologist physician proceduralist who is also performing the procedure and a sedation nurse. Deep sedation involves two nonanesthesiologist physician proceduralists—one administers and monitors deep sedation while the other performs the procedure. While the oversight includes both moderate and deep sedation, efforts (and this overview) are generally focused on moderate sedation, as it constitutes almost all the proceduralist-provided sedation services (99.0% vs. 0.4% of total sedation cases, respectively, at the author’s Cleveland Clinic institutions) (Anesth Analg 2022;135:1986-1993).

Of note, in developing the Continuum of Depth of Sedation: Definition of General Anesthesia and Levels of Sedation Analysis, ASA has recognized that sedation is a continuum, and it is not always possible to predict how an individual patient will respond. Hence, practitioners intending to provide a given level of sedation should be able to rescue patients whose level of sedation becomes deeper than initially intended.

A Blueprint for Success: Implementation of the Center for Medicare and Medicaid Services Mandated Anesthesiology Oversight for Procedural Sedation in a Large Health System
Bassem B. Abdelmalek, MD, FASA, SAMBA-F,† and Talal Adhami, MD, IIICMDA, AGAF, FAAGLD,§ Wendy Simmons, MSN, RN, Patricia Menendez, MS, BSN, RN, HAACP, Elizabeth Haggerty, MLRHR, MBA, and Christopher A. Troianos, MD, FASE, FASA**
Standardizing Procedural Sedation Across a Large Healthcare System

Our approach to ensuring patient safety

Picture taken from internet and social media post: https://consultqd.clevelandclinic.org/standardizing-procedural-sedation-across-a-large-healthcare-system/
New ASA Recommendations for NORA Locations (Long Term Plans)

- The DAS or designee shall be involved in the planning and establishing of a NORA service
- Applicable elements of the ASA OR Design Manual should be incorporated
- NORA locations shall be established as close to the main OR as possible
- Such locations should be established in close proximity to each other to improve:
  - Safety
  - Effectiveness
  - Efficiency
  - Timeliness of delivering care

ASA Statement on Nonoperating Room Anesthetizing Services. In consideration by the ASA HOD on October 18, 2023
Optimizing NORA Services: Efficiency and Safety

A Blueprint for Success
A Multidisciplinary Approach to Clinical Operations Within a Bronchoscopy Suite

Basem B. Abdelmalak, MD; Thomas R. Gildea, MD, FCCP; D. John Doyle, MD, PhD, DPhil; and Atul C. Mehta, MD, FCCP

Modern GI Suite
Modern Interventional Radiology Suite
For Immediate Implementation: Anesthesia Services NORA Staffing

- Anesthesiologist only
- Anesthesia Care Team
- Teaching Physicians

- New ASA Recommendations:
  In each NORA location, there must be adequate staff trained to support the anesthesiologist and other members of the Anesthesia Care Team in the delivery of safe patient care
Scheduling of Anesthesia Services

- Block time versus fitting into gaps
  - If sufficient volume, block time may improve utilization
  - Scheduling full days rather than partial days of coverage should improve efficiency
    - For lower volume services, a long day every other week rather than shorter blocks every week
  - Economic goal is to minimize overutilized and underutilized time

Dexter, Franklin; Wachtel, Ruth E Current Opinion in Anaesthesia: August 2014 - Volume 27 - Issue 4 - p 426–430
Strum DP, Vargas LG, May JH. Anesthesiology 1999;90:1176-1185
New ASA Recommendations for NORA Scheduling

- System-based triage of patients to anesthesiology services vs. procedural sedation
- Similar principles of capacity coordination and data analytics to drive optimization of perioperative services delivery
- Cases should be scheduled as in the main OR to facilitate integration into the electronic anesthesia record system

ASA Statement on Nonoperating Room Anesthetizing Services. In consideration by the ASA HOD on October 18, 2023
New ASA Recommendations for NORA Scheduling

- Case scheduling should be done in a manner to enable personnel assignments, improve efficiency, and provide the means to track clinicians' clinical activities
- Constant awareness of locations of all anesthesia cases
- No interruptions imposed by procedural sedation cases
- Scheduling inpatient and outpatient complex procedures during standard resource hours to support safe care
Planning for new or expanding NORA services should be supported by a business plan.

When anesthesiology professional revenue does not support the costs to deliver care, maintenance of operations may require institutional financial support.
Conclusions

- Workforce Shortages are real
- NORA constitutes about 50% of all anesthesiology services and is very inefficient!

Solutions:
- Controlling the increase in NORA demand through effective oversight of procedural sedation
- Improving efficiencies in NORA services
THANK YOU!

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