SOCIETY FOR AMBULATORY ANESTHESIA

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SAMBA 2024 Annual Meeting

May 2-4, 2024

New ASA Statement on NORA Services

Basem Abdelmalak, MD, FASA, SAMBA-F

Professor of Anesthesiology
Director, Anesthesia for Bronchoscopic Surgery
Director, Center for Procedural Sedation
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Past President Society for Ambulatory Anesthesia (SAMBA) SAMBAHQ.ORG
Past President, Society for Head and Neck Anesthesia (SHANA) SHANAHQ.COM

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Objectives

- Identify a framework for a successful efficient NORA service
- Outline safety issues related to sedation and anesthesia in NORA
- Discuss interventions to improve NORA outcomes

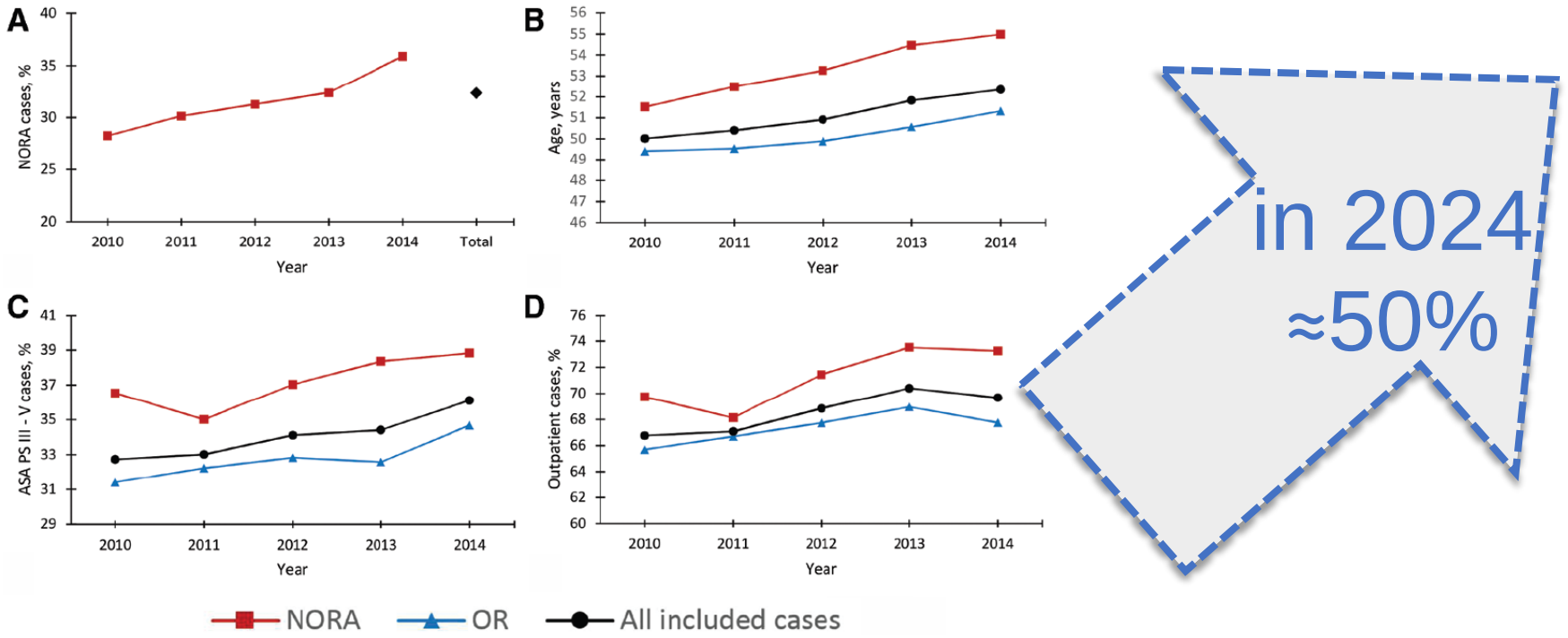
NORA: Definition

Care provided by Anesthesiology personnel for inpatients/outpatients undergoing diagnostic or therapeutic procedures performed at locations outside an operating room 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‡



in 2024
≈50%

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

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Controlling the Demand and Fulfilling CMS Mandate

Workforce Hot Buttons

Anesthesiology Oversight for Procedural Sedation

Basem B. Abdelmalak, MD, FASA, SAMBA-F David P. Martin, MD, PhD, FASA Donald E. Arnold, MD, FASA

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 anesthesiology practice, either personally performed, medically directed, or nonmedically directed. Separate from the extension of anesthesiology services to NORA settings is 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, practitioner 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 offsite locations where anesthesia services are provided. The directive applies to all moderate and deep procedural sedation services provided by nonanesthesiologist proceduralists (asamonitor.pub/3Lu9m3f; asamonitor.pub/3DCUsG9; asamonitor.pub/3xBk3vl). 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 procedurallist-provided sedation services (99.8% vs. 0.2% of total sedation cases, respectively, at the author's Cleveland Clinic institution) (*Anesth Analg* 2022;135:198-208). Of note, in developing the Continuum of Depth of Sedation: Definition of General Anesthesia and Levels of Sedation/Analgesia, 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.

Basem B. Abdelmalak, MD, FASA, SAMBA-F
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Donald E. Arnold, MD, FASA
ASA Treasurer, President, Western

Anesthesia & Analgesia

SPECIAL ARTICLE

A Blueprint for Success: Implementation of the Center for Medicare and Medicaid Services Mandated Anesthesiology Oversight for Procedural Sedation in a Large Health System

Basem B. Abdelmalak, MD, FASA, SAMBA-F,*†‡ Talal Adhami, MD, HCMBA, AGAF, FAASLD,§
Wendy Simmons, MSN, RN,‖ Patricia Menendez, MS, BSN, RN, HACP,¶
Elizabeth Haggerty, MLRHR, MBA,# and Christopher A. Troianos, MD, FASE, FASA**

July 2022 • Volume 135 • Number 1

Sources of Complexity and Challenge In NORA

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- Space and equipment
- Staff
- Patients
- Procedures
- Quality and safety
- Efficiency
- Finances

ASA Task Force on NORA and Procedural Sedation

Commissioned by: Mary Dale Peterson, MD, MBA, FASA

Chair: Basem Abdelmalak, MD, FASA, SAMBA-F

Donald Arnold, MD, FASA
Sheila Barnett, MD, BSc, FASA
Ryan Chadha, MD
Karen Domino, MD, MPH
Vilma Joseph, MD, MPH, FASA
Patricia Mack, MD, FASA
David Martin, MD, PhD, FASA
Mohamed Minhaj,MD,MBA,FACHE, FASA
Daniel Roke, MD, MBA
Tetsu Uejima, MD, MPH, FASA

ASA Committee on procedural And Surgical Anesthesia

Chair: Dr. Cassie Dietrich

https://www.asahq.org/standards-and-practice-parameters/statement-on-nonoperating-room-anesthesia-services

Sources of Complexity and Challenge in NORA……And Solutions

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Facilities Design and Equipment

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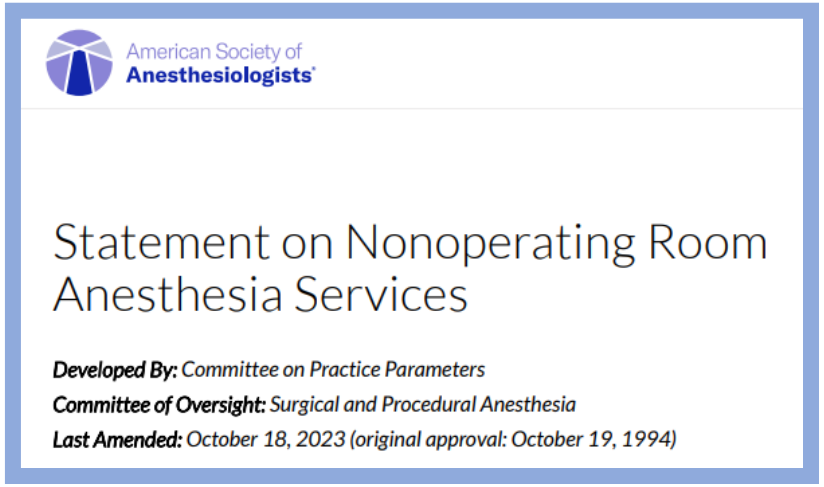
- The DAS or designee shall be involved in the planning and establishing of a NORA service
- Applicable elements of the ASA OR Design Manual should be incorporated
- NORA locations shall be established as close to the main OR as possible
- Such locations should be established in close proximity to each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


American Society of Anesthesiologists

Statement on Nonoperating Room Anesthesia Services

Developed By: *Committee on Practice Parameters*
Committee of Oversight: *Surgical and Procedural Anesthesia*
Last Amended: *October 18, 2023 (original approval: October 19, 1994)*

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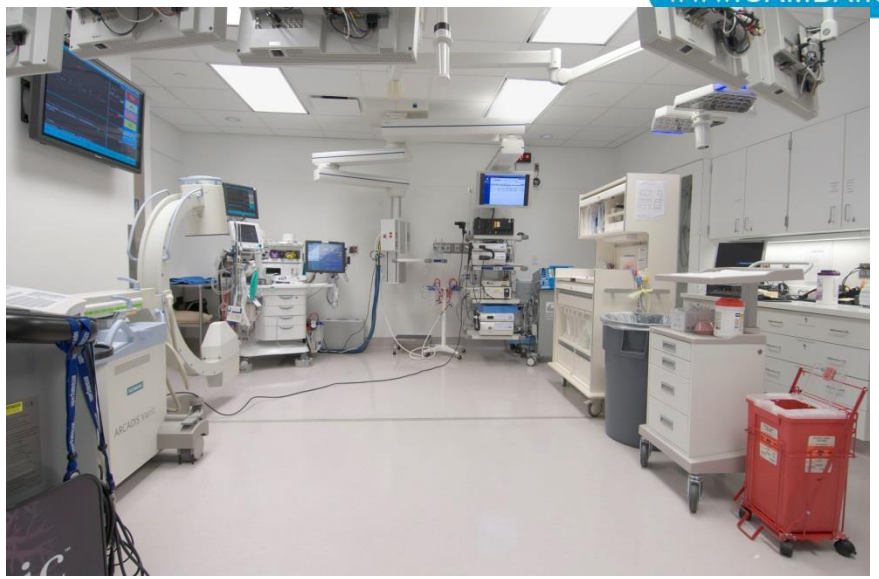
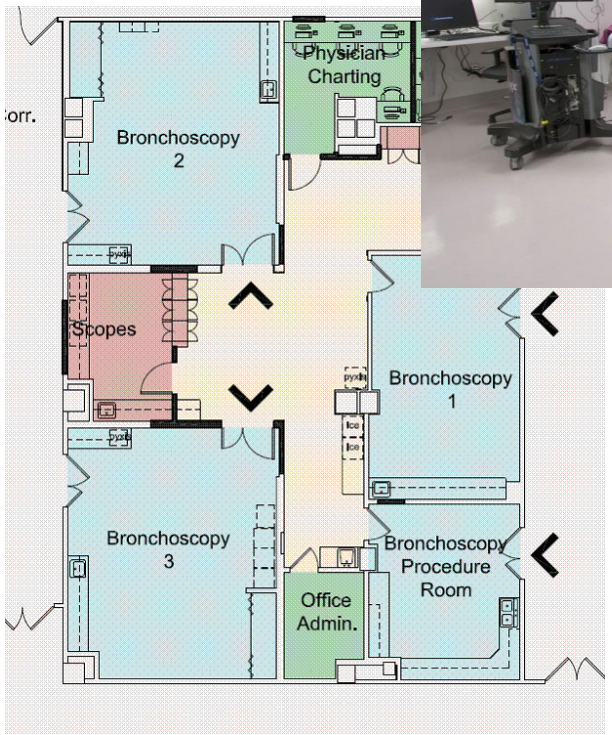
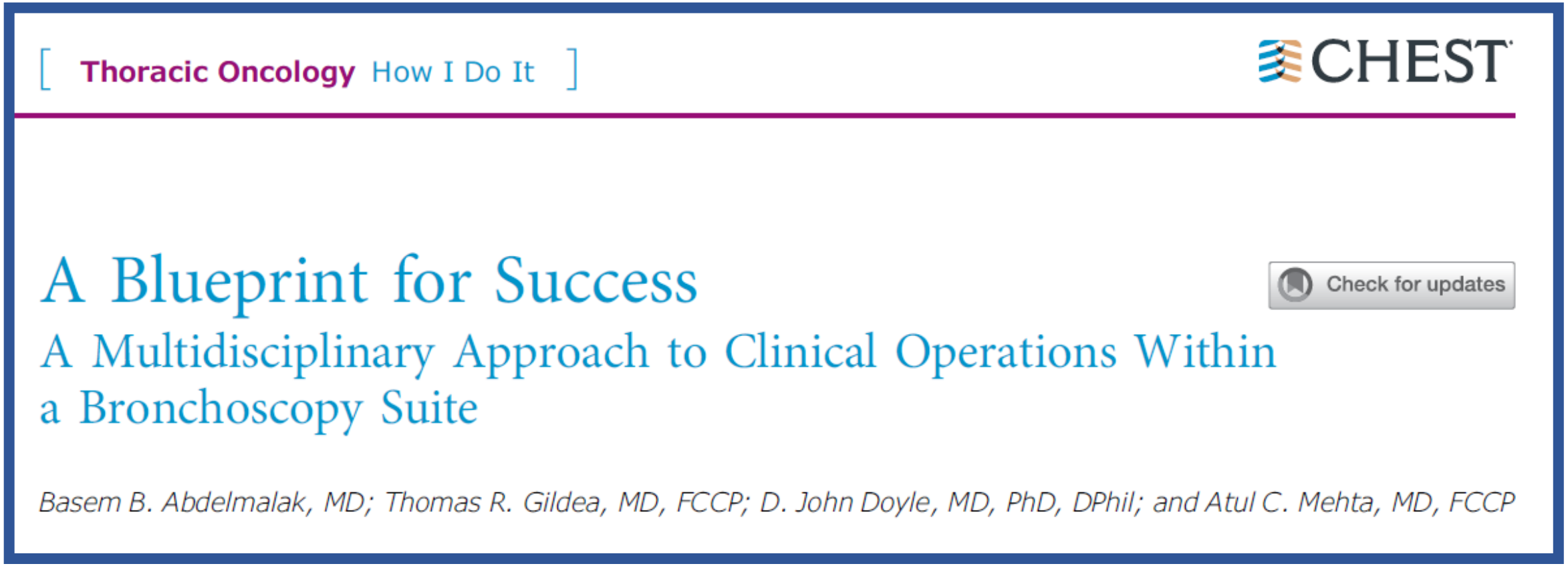
Modern Bronchoscopy Suite





Abdelmalak BB, Gildea TR, Doyle DJ, Mehta AC. A Blueprint for Success: A Multidisciplinary Approach to Clinical Operations within a Bronchoscopy Suite. CHEST 2022; 161(4): 1112-1121



[Thoracic Oncology How I Do It]

CHEST

A Blueprint for Success

A Multidisciplinary Approach to Clinical Operations Within a Bronchoscopy Suite

Check for updates

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

Abdelmalak BB, Gildea TR, Doyle DJ, Mehta AC. A Blueprint for Success: A Multidisciplinary Approach to Clinical Operations within a Bronchoscopy Suite. CHEST 2022; 161(4):1112-1121

Modern Interventional Radiology Suite

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Sources of Complexity and Challenge in NORA

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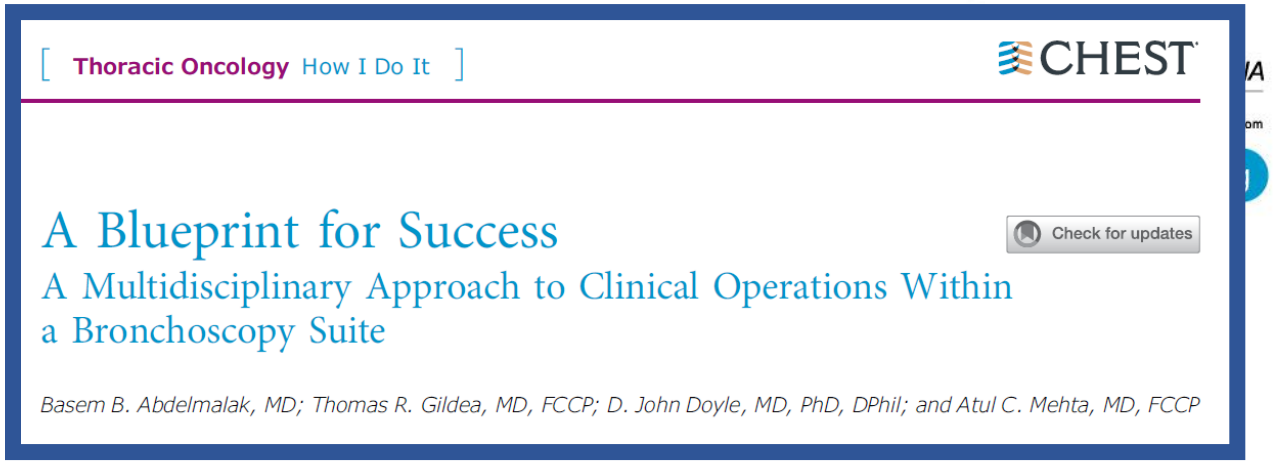
Assignment Desirability


[Thoracic Oncology How I Do It]

CHEST

A Blueprint for Success

A Multidisciplinary Approach to Clinical Operations Within a Bronchoscopy Suite

Check for updates

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

- Proper planning of space, equipment, etc.
- The availability of appropriate resources
- Similarity, as possible, to the main OR
- The same electronic anesthesia record
- Starting with a core group then expand with proper training, education and support.

Assignment Desirability


[Thoracic Oncology How I Do It]

CHEST

A Blueprint for Success

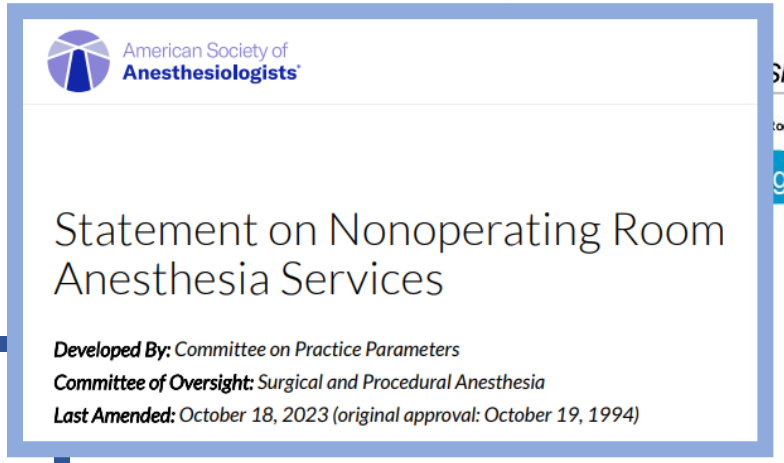
Check for updates

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

- Clinical leaders met weekly for the first few months and regularly thereafter
- Foster teams' cohesiveness and sense of community
- Support each other through meaningful professional collaborations

Environment of Care


American Society of Anesthesiologists

Statement on Nonoperating Room Anesthesia Services

Developed By: *Committee on Practice Parameters*
Committee of Oversight: *Surgical and Procedural Anesthesia*
Last Amended: *October 18, 2023 (original approval: October 19, 1994)*

- Each procedure room must have adequate anesthesia drugs, intravenous fluids, and other supplies and equipment for the intended anesthesia care.
- Each procedure room must have the adequate monitoring equipment, including capnography, to allow adherence to the ASA *Standards for Basic Anesthetic Monitoring*.
- An anesthesia machine equivalent in function to those anesthesia machines used in operating rooms must be available and maintained to current operating room standards when inhalation anesthesia is to be administered.
- Appropriate post-anesthesia management shall be provided as described in the ASA *Standards for Postanesthesia Care*. When feasible, each NORA location should have a dedicated onsite or nearby Post Anesthesia Care Unit (PACU). When this is not possible, in addition to the anesthesiologist, adequate number of trained staff and appropriate equipment should be available to safely transport the patient to a post anesthesia care unit.
- In each NORA location, there should be the same type and level of pharmaceuticals and point of care testing capabilities as in the main operating room dictated by the types of procedures performed in a given location.

Sources of Complexity and Challenge in NORA

- Space and equipment
- Staff
- Patients
- Procedures
- Quality and safety
- Efficiency
- Finances

Sources of Complexity in NORA

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Quality and Patient Safety

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- Patient safety practices implemented in the operating room must be replicated in NORA locations, such as patient identification, procedure and laterality verification, relevant checklists, etc.
- ASA *Basic Standards for Preanesthesia Care* should be followed as appropriate.
- Near misses and adverse events should be analyzed periodically and be subjected to the same robust quality improvement process utilized in the main operating room pavilion. Such analysis may include mortality, unplanned ICU admissions, cardiac arrests, failed intubations., etc.
- Each procedure room must have basic resuscitative equipment, including a self-inflating hand resuscitator bag capable of administering at least 90 percent oxygen as a means to deliver positive pressure ventilation.
- Each NORA location must have an emergency cart with a defibrillator, emergency drugs, and other equipment adequate to provide basic and advanced cardiopulmonary resuscitation.
- Each NORA location using X-ray imaging must have adequate, up-to-date, protective lead wrap-around aprons, thyroid shields, and mobile clear lead glass shields for the anesthesiologist and other anesthesia team members' protection.
- Every NORA location must have access to difficult airway management equipment and, when indicated, malignant hyperthermia management protocol and supplies.
- The lead anesthesiologist for each area should be involved in writing policies and standard operating procedures including different aspects of care (see ASA *Statement on Practice*

American Society of Anesthesiologists

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2023 American Society of Anesthesiologists Practice Guidelines for Preoperative Fasting: Carbohydrate-containing Clear Liquids with or without Protein, Chewing Gum, and Pediatric Fasting Duration—A Modular Update of the 2017 [illegible] of An[illegible] Practi[illegible] Preop[illegible]

Girish P. Joshi, M.B.B.S., M.D. (Co-Chair),
Basem B. Abdelmalak, M.D. (Co-Chair),
Wade A. Weigel, M.D., Monica W. Harbell, M.D.,
Catherine I. Kuo, M.D., Sulpicio G. Soriano, M.D.,
Paul A. Stricker, M.D.,
Tommie Tipton, B.S.N., R.N., C.N.O.R.,
Mark D. Grant, M.D., Ph.D., Anne M. Marbella, M.S.,
Madhulika Agarkar, M.P.H., Jaime F. Blanck, M.L.I.S., M.P.A.,
Karen B. Domino, M.D., M.P.H.

NEWS

June 29, 2023

American Society of Anesthesiologists Consensus-Based Guidance on Preoperative Management of Patients (Adults and Children) on Glucagon-Like Peptide-1 (GLP-1) Receptor Agonists

Girish P. Joshi, M.B.B.S., M.D., Basem B. Abdelmalak, M.D., Wade A. Weigel, M.D., Sulpicio G. Soriano, M.D., Monica W. Harbell, M.D., Catherine I. Kuo, M.D., Paul A. Stricker, M.D., Karen B. Domino, M.D., M.P.H., American Society of Anesthesiologists

SPECIAL ARTICLE

Preoperative Care for Cataract Surgery: The Society for Ambulatory Anesthesia Position Statement

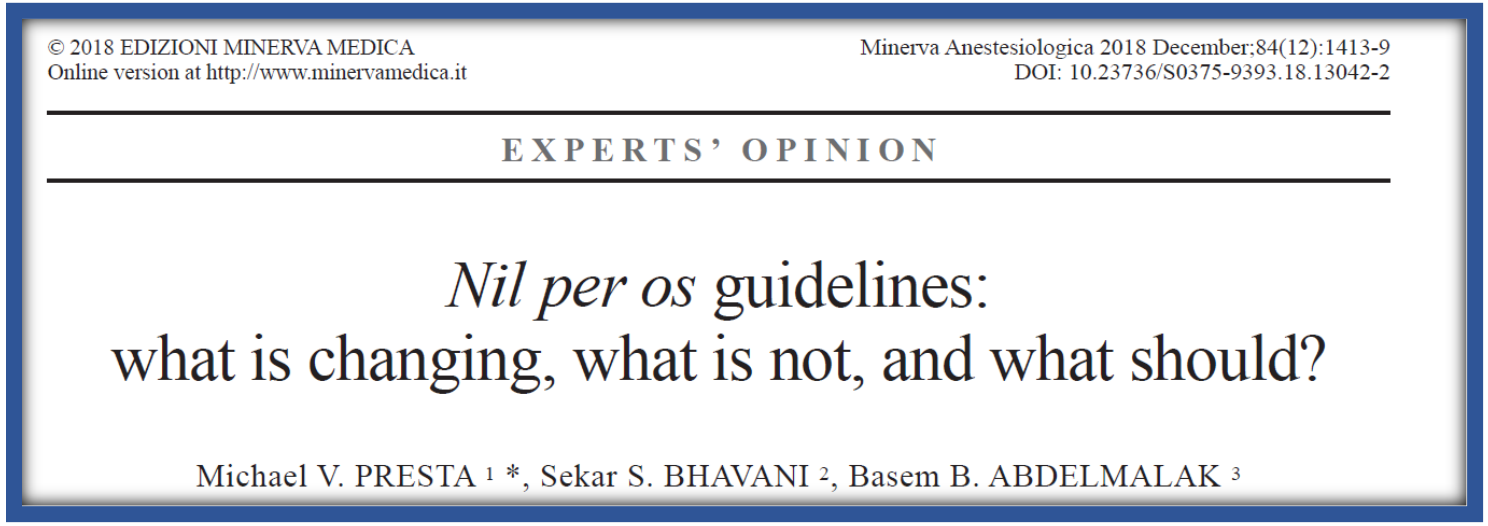
BobbieJean Sweitzer, MD, FACP, SAMBA-F, FASA,* Niraja Rajan, MD,† Dawn Schell, MD,‡ Steven Gayer, MD, MBA,§ Stan Eckert, MD,‖ and Girish P. Joshi, MBBS, MD, FFARCSI¶

Practice Guidelines for Postanesthetic Care

An Updated Report by the American Society of Anesthesiologists Task Force on Postanesthetic Care

Society for Ambulatory Anesthesia Updated Consensus Statement on Perioperative Blood Glucose Management in Adult Patients With Diabetes Mellitus Undergoing Ambulatory Surgery

Niraja Rajan, MD, FASA, SAMBA-F,* Elizabeth W. Duggan, MD, MA,†
Basem B. Abdelmalak, MD, FASA, SAMBA-F,‡ Steven Butz, MD, SAMBA-F,§
Leopoldo V. Rodriguez, MD, MBA, FAAP, FASA, SAMBA-F,‖ Mary Ann Vann, MD, FASA,¶ and
Girish P. Joshi, MBBS, MD, FCAI, FASA#



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Online version at http://www.minervamedica.it

Minerva Anestesiologica 2018 December;84(12):1413-9
DOI: 10.23736/S0375-9393.18.13042-2

EXPERTS' OPINION

Nil per os guidelines: what is changing, what is not, and what should?

Michael V. PRESTA [1] *, Sekar S. BHAVANI [2], Basem B. ABDELMALAK [3]

- Split dose bowel prep:
  - Clinical superiority
  - Better patient acceptability
- The residual gastric volume did not differ between split dose and a single dose.

- Huffman M, Unger RZ, Thatikonda C, Amstutz S, Rex DK. Split-dose bowel preparation for colonoscopy and residual gastric fluid volume: an observational study. Gastrointest Endosc. 2010;72(3):516-22.
- Tandon K, Khalil C, Castro F, Schneider A, Mohameden M, Hakim S, et al. Safety of Large-Volume, Same-Day Oral Bowel Preparations During Deep Sedation: A Prospective Observational Study. Anesth Analg. 2017;125(2):469-76.
- Bhavani SS, Abdelmalak BB. Fasting Before Anesthesia: An Unsettled Dilemma. 2017;125(2):369-71.

Sources of Complexity in NORA

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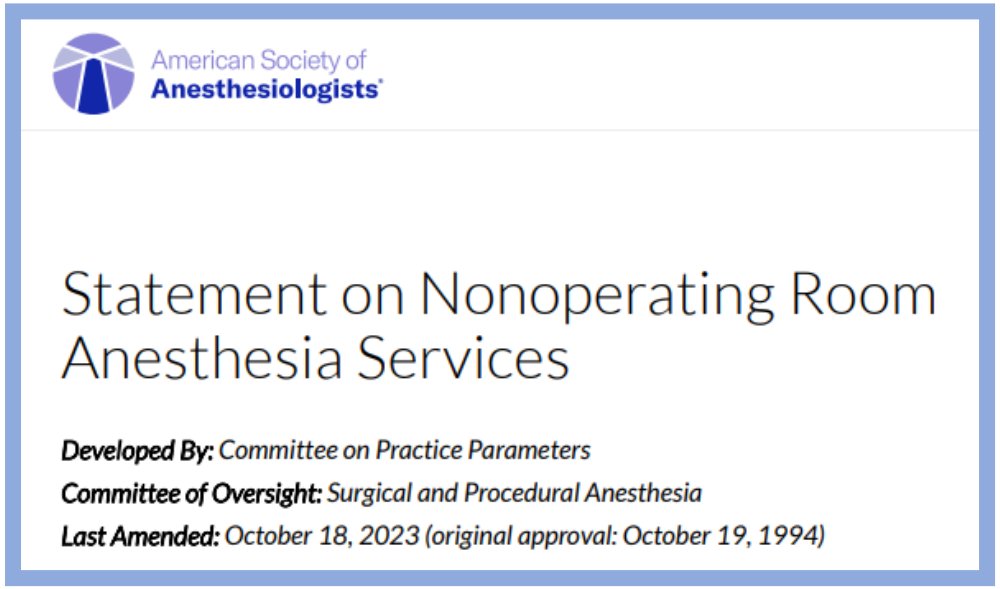
Staffing and Schedule Optimization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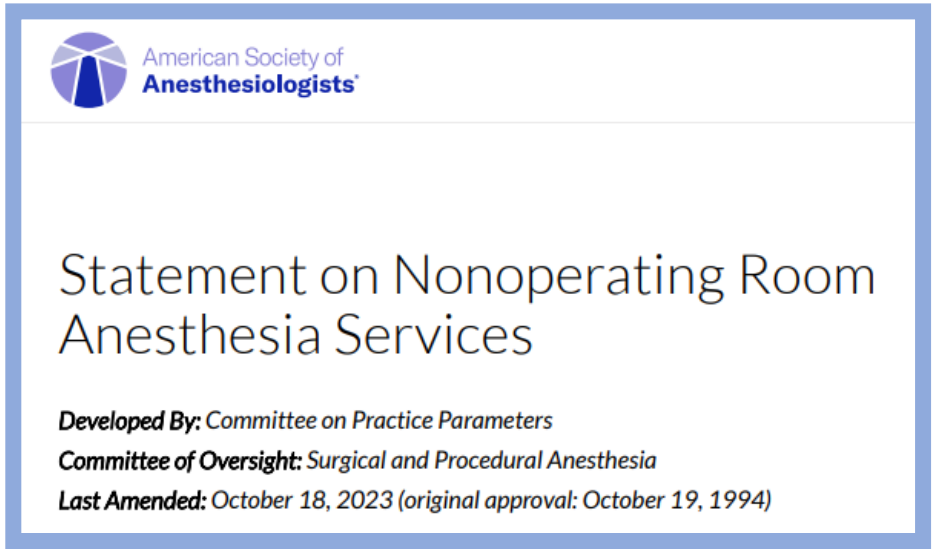
- System-based triage of patients to anesthesiology services vs. procedural sedation
- Similar principles of capacity coordination and data analytics to drive optimization of perioperative services delivery
- Cases should be scheduled as in the main OR to facilitate integration into the electronic anesthesia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

https://www.asahq.org/standards-and-practice-parameters/statement-on-nonoperating-room-anesthesia-services

Staffing and Schedule Optimization



- 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

https://www.asahq.org/standards-and-practice-parameters/statement-on-nonoperating-room-anesthesia-services

Sources of Complexity in NORA

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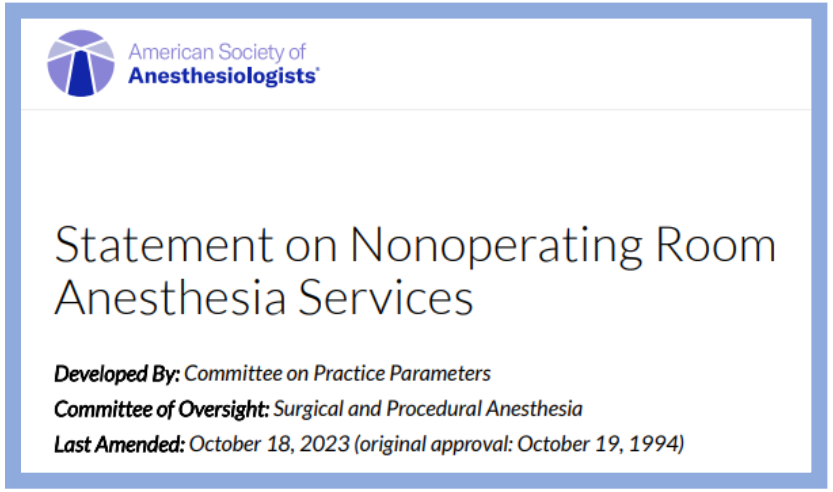
Finances and Budget



- 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

Summary

- NORA is growing fast, and its future is bright
- Some complexities can be addressed by pre-planning such as the space, equipment and personnel challenges
- Effective communications and team work are essential for successful management of these challenging cases
- Successful safe efficient delivery of NORA would require well thought out plan and organization (ASA NORA Statement)

THANK YOU!

Basem Abdelmalak, MD, FASA, SAMBA-F
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