Best Practices: Working Collaboratively with the Proceduralist to Improve Patient Safety

Diana Anca, MD
Director NORA
Weill Cornell Medicine
dia9003@med.cornell.edu

Disclosures

- None

Objectives

Outline NORA patient safety issues

Possible solutions and practice improvement

Future directions

Case Scenarios

- 62 years old patient, invasive tongue CA, limited mouth opening, for gastrostomy tube
- 76 years old patient for lung biopsy in prone position; PMH: COPD, HTN,CAD; upon completion has sudden episode of massive hemoptysis
- There is a plan for a new hybrid IR& Bronchoscopy suite, complete with CT, Fluoroscopy and Robotic imaging for advance pulmonology cases
- The institution just received approval for starting a heart transplant program

What do these scenarios have in common?

- Complex cases and patients
- Potential for significant complications
- Multiple teams involved in care
- New suites, programs
- Do we have a seat at the table?

NORA Challenges

- Location
- Patient
- Procedure
- Equipment
- “Curve balls”

Safety in NORA

Safety in Non-Operating Room Anesthesia (NORA),2019,apsf newsletter

- Jason D. Walls, MD; Mark S. Weiss, MD

Non-Operating Room Anesthesia (NORA): Humbug If NOT Careful

- Lovkesh Arora, M.B.B.S., M.D, et al: ASA Monitor September 2019, Vol. 83, 66–68.

Statement on Nonoperating Room Anesthetizing Locations

- Developed By: Committee on Standards and Practice Parameters (CSPP)
- Reaffirmed: October 17, 2018 (original approval: October 19, 1994)

- far away from help and supplies
- -complex patients
- -higher number of emergencies
- -suboptimal equipment, space, lighting
- -unfamiliarity with the teams

Safety of Non–Operating Room Anesthesia

Zachary G. Woodward MD, Richard D. Urman MD, MBA, FASA and Karen B. Domino MD, MPH

Anesthesiology Clinics, 2017-12-01, Volume 35, Issue 4, Pages 569-581, Copyright © 2017 Elsevier Inc.

- Malpractice claims for non–operating room anesthesia care (NORA) had a higher proportion of claims for death compared with operating room (OR) settings.
- NORA claims most frequently involved monitored anesthesia care. Inadequate oxygenation/ventilation was responsible for nearly one-third of NORA claims.
- NORA claims occurred more frequently in cardiology and radiology locations compared with the number of anesthetics in these procedural locations, suggesting a higher risk of adverse events in these locations.

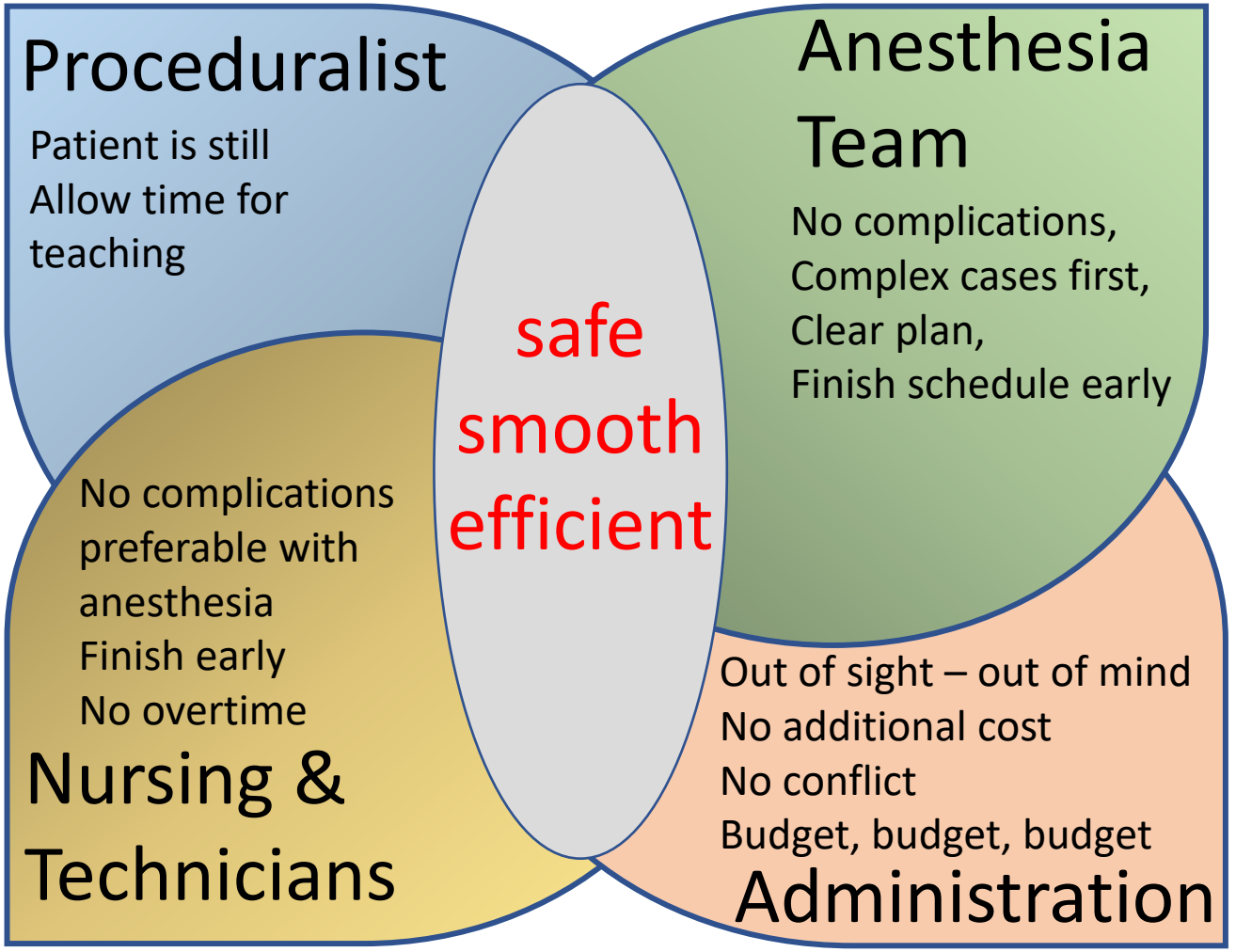
The “Curve balls”

1. **Procedure**:
   - often diagnostic & procedure in one
   - EP Study, possible ablation, possible CIED
   - angiography, possible embolization
   - EGD, possible cauterization, clipping, etc.
2. **Equipment**:
   - complex: RF ablation, Navigation, Robotics, US
   - sensitive: shuts down due to temperature
3. **Staffing**:
   - not the best location for new commers
4. **Unpopular**:
   - IR again?
   - GI: Ugh!!

Players' goals: how are they aligning?

- Proceduralist
- Anesthesiologist
- Nursing, Technicians
- Administration

The intersectional summary



Common Goals

- Safe
- Efficient
- Smooth
- No conflict
- How to do it: is there a recipe for success?

How to do it?

- The 3 Cs

Interdisciplinary Communication & Training

- Effective teamwork is vital in the delivery of safe, high-quality patient care
- Barriers to effective teamwork can have a negative impact on patient care
- The Joint Commission and the Agency for Healthcare Research and Quality have made **teamwork** a priority
- *"Silo Mentality"*
  - Each profession (i.e. nursing, physician, technologist) has its own hierarchical structure
  - Lack of interprofessional communication isolates each group against the others

Paige et al. J Am Coll Surg January 2014

Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION

AHA Scientific Statement

Patient Safety in the Cardiac Operating Room: Human Factors and Teamwork

A Scientific Statement From the American Heart Association

Joyce A. Wahr, MD, FAHA, Co-Chair; Richard L. Prager, MD, FAHA; J.H. Abernathy III, MD; Elizabeth A. Martinez, MD; Eduardo Salas, PhD; Patricia C. Seifert, MSN; Robert C. Groom, CCP; Bruce D. Spiess, MD, FAHA; Bruce E. Searles, MS, CCP; Thoralf M. Sundt III, MD; Juan A. Sanchez, MD; Scott A. Shappell, PhD; Michael H. Culig, MD; Elizabeth H. Lazzara, PhD; David C. Fitzgerald, CCP, FAHA; Vinod H. Thourani, MD; Pirooz Eghtesady, MD, PhD, FAHA; John S. Ikonomidis, MD, PhD, FAHA; Michael R. England, MD; Frank W. Sellke, MD, FAHA; Nancy A. Nussmeier, MD, FAHA, Co-Chair; on behalf of the American Heart Association Council on Cardiovascular Surgery and Anesthesia, Council on Cardiovascular and Stroke Nursing, and Council on Quality of Care and Outcomes Research

Electrophysiology: Teamwork

Circulation 2013; 128:1139-1169

Safety in NORA: What's next?

What's Next for Patient Safety in Non-OR Anesthesia? Exploring Opportunities for Teamwork

Emily Methangkool, MD, MPH; Richard D. Urman, MD, MBA

ASA Monitor June 2022, Vol. 86, 25–26.

- Team training
  - emergency drills, simulation
- Protocols and pathways
- Director of NORA
- Combined conferences

› Anesthesiology. 2014 Jan;120(1):142-8. doi: 10.1097/ALN.0b013e3182a44bc5.

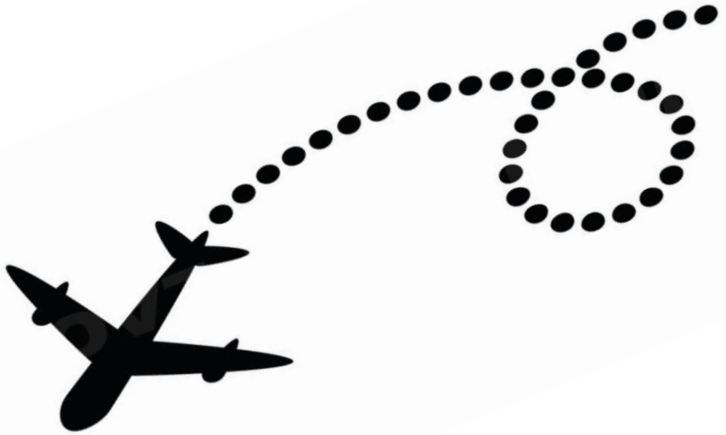
Building the evidence on simulation validity: comparison of anesthesiologists' communication patterns in real and simulated cases

Jennifer Weller [1], Robert Henderson, Craig S Webster, Boaz Shulruf, Jane Torrie, Elaine Davies, Kaylene Henderson, Chris Frampton, Alan F Merry

- Conclusion: ”The similarity of teamwork-related communications elicited from anesthesiologists in simulated cases and the real setting lends support for the ecological validity of the simulation environment and its value in teamwork training. Different communication patterns and frequencies under the challenge of a crisis support the use of simulation to assess crisis management skills.”

Simulation Goals

- Hasten learning curves
- Alleviate participant anxiety/stress
- Reduce adverse events
- No substitute for the real thing



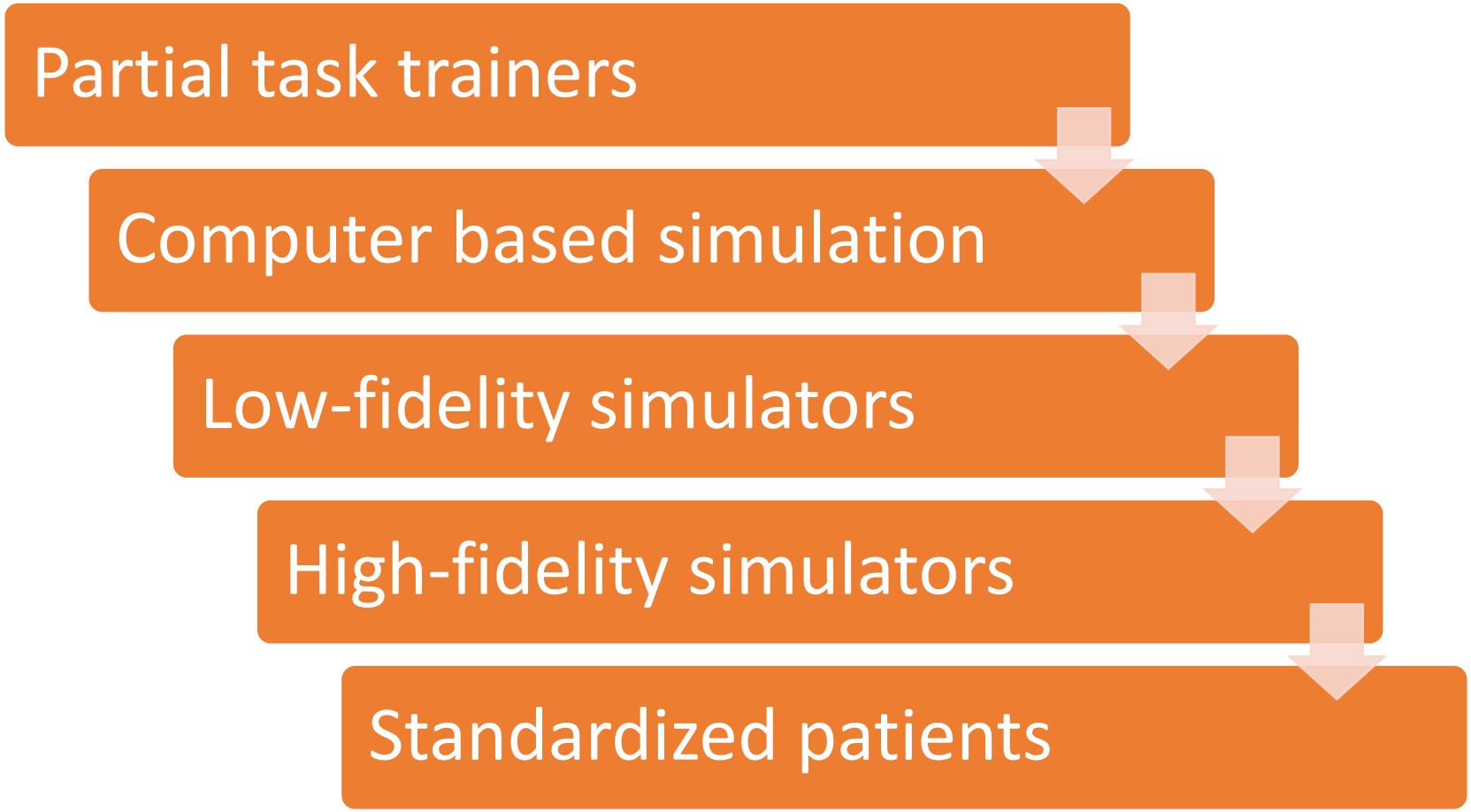
Simulation Goals

- The more, the merrier.
- Make is realistic.
- Stick to the schedule.
- Remember to debrief!

The more, the merrier:
Make it **Multidisciplinary**

- Multidisciplinary planning committee
  - Incorporate multiple different POVs
  - Goals & objectives for each discipline
- Participants
  - Providers
    - IR/GI/EP: Attendings, fellows, residents, APPs, students
    - *Anesthesia team*
  - Nurses
  - Technologists
  - Administrative Staff & Schedulers

Types of Procedural Simulation



Protocols

Complex patients:	Complex Procedures:	Complications:
• LVAD,PHTN,MCS	• high-risk VT ablation • PE thrombectomy	• massive hemoptysis • pericardial tamponade

Protocols for Complications

Massive Hemoptysis – A Rare but Catastrophic Complication

- Candace Chang, MD, MPH; Nathaniel Richins, DO, Aug.2021

Endovascular Occlusion Balloon for Treatment of Superior Vena Cava Tears During Transvenous Lead Extraction

- A Multiyear Analysis and an Update to Best Practice Protocol
- Ryan Azarrafiy, Darren C. Tsang, Bruce L. Wilkoff, Roger G. Carrillo 2
- Originally published 12 Aug 2019 | https://doi.org/10.1161/CIRCEP.119.007266 | Circulation: Arrhythmia and Electrophysiology. 2019;12:e007266

Daily and Pre-procedure huddle

- Discuss the complex cases of the day
- Optimize workflow
- Assess resources(staffing)
- Equipment
- Add-on cases, triage, prioritize
- Prepare for potential complications

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Anesthesiology

Checklists

- Latzman et al: Using checklists to improve care in non-operating room environment (Curr Opin Anes, Aug, 2022)
- "Establishing protocols and implementing site-specific checklists is emerging as a strategy in improving care in improving care in the environment of nonoperating room "
- Chang et Dudley: Time-Out Checklists Promote Safety in Nonoperating Room Anesthesia(NORA)
- Patient and procedure-tailored Time-Out, involving all parties and the patient

Director of NORA

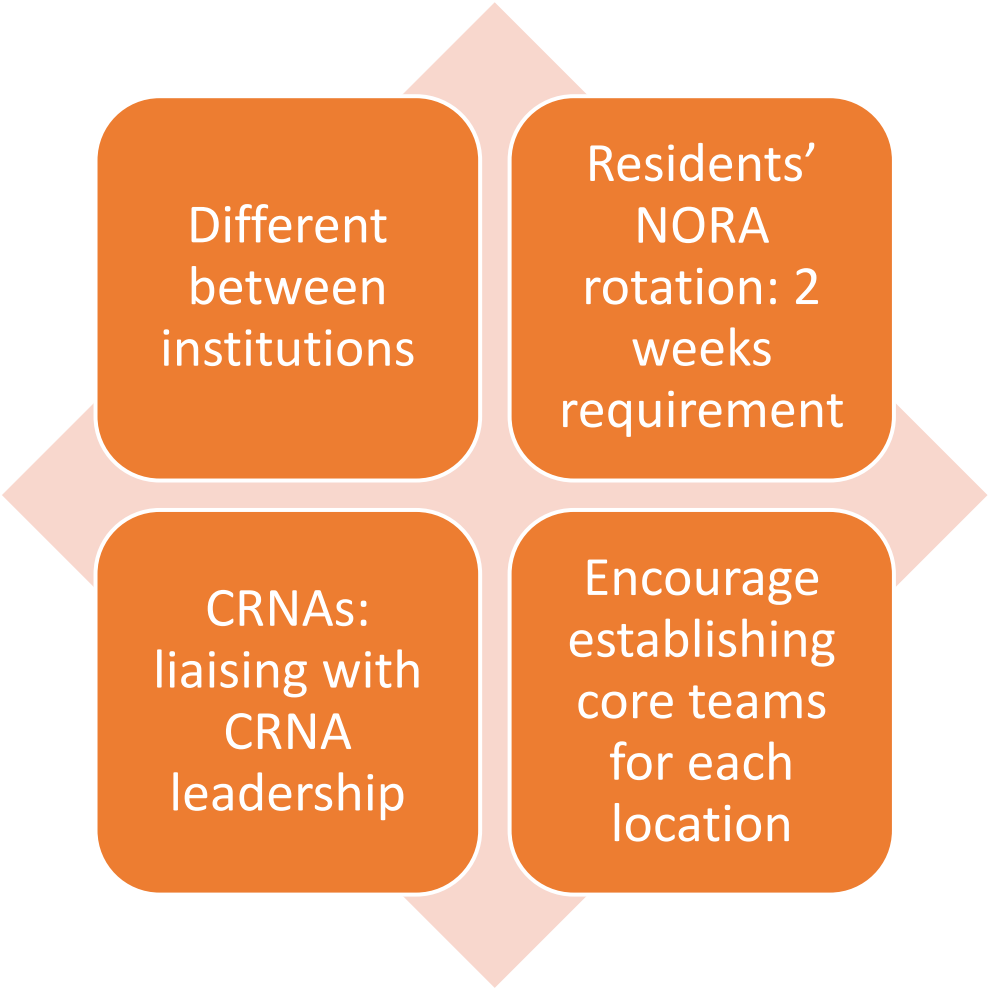
NORA: a division of locations, rather than people

Proceduralists, nursing, technicians: different leadership, multiple departments

NORA director: the liaison between all moving parts

Address present issues and formulate future goals

Team Care Model



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Our experience at Weill Cornell

- Weekly (IR), monthly(GI, EP)
- Daily huddle to discuss add on cases
- Email chain for complex case planning
- Message chain discussion same day complex cases
- Emergency contact numbers posting
- Checklist for emergencies
- Emergency manual
- Protocols for complex cases (LVAD, Pulm. HTN)
- Emergency simulation sessions
- We plan and train for emergencies

Future directions

- ICU: emerging as a NORA location
- Establishing a formal NORA division
- Institutional NORA committees
- Multidisciplinary projects
- Multi-institutional projects

Conclusions

- The number and complexity of cases performed in NORA is increasing
- Communication, Collaboration, Coordination with proceduralists improves safety
- New players are emerging: ICU as NORA
- More papers are published on safety in NORA