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 advanced 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 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


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
• 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

**Proceduralist**
- Patient is still
- Allow time for teaching

**Nursing & Technicians**
- No complications preferable with anesthesia
- Finish early
- No overtime

**Anesthesia Team**
- No complications,
- Complex cases first,
- Clear plan,
- Finish schedule early

**Administration**
- Out of sight – out of mind
- No additional cost
- No conflict
- Budget, budget, budget

**safe smooth efficient**
Common Goals

- Safe
- Efficient
- Smooth
- No conflict

How to do it: is there a recipe for success?
How to do it?

• The 3 Cs

Communicate → Collaborate → Coordinate
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”
  o Each profession (i.e. nursing, physician, technologist) has its own hierarchical structure
  o Lack of interprofessional communication isolates each group against the others

Electrophysiology: Teamwork
Safety in NORA: What’s next?

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

- Partial task trainers
- Computer based simulation
- Low-fidelity simulators
- High-fidelity simulators
- Standardized patients
Protocols

Complex patients:
- LVAD, PHTN, MCS

Complex Procedures:
- high-risk VT ablation
- PE thrombectomy

Complications:
- 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
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
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 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
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

- Different between institutions
- Residents’ NORA rotation: 2 weeks requirement
- CRNAs: liaising with CRNA leadership
- Encourage establishing core teams for each location
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