

Using TeamSTEPPS to improve interdisciplinary collaboration during high risk procedures at a community hospital

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INTRODUCTION

Surgical treatment of TAAA is crucial to prevent rupture but is associated with high postoperative mortality. A new hospital surgeon has a high volume of TAAA patients.

Nursing recognized ineffective communication is among the top 3 root causes of sentinel events reported to the Joint Commission.

Nursing led the implementation of TAAA surgery using TeamSTEPPS, an evidence-based teamwork system to improve communication, teamwork skills, and patient safety, with the goal of decreasing mortality.

TAAA

Thoracoabdominal aortic aneurysm (TAAA) is an abnormal enlargement (ballooning out) of the main artery (the aorta) and involves all or part of the aorta in your chest as well as all or part of the aorta in your abdomen.

It also involves the part of the aorta where the arteries that bring blood to the liver, stomach and intestines and kidneys are attached.

TAAA affects about 15,000 people in the United States each year, and are the 13th leading cause of death. Research has shown that patients with untreated large thoracic aneurysms of the aorta are more likely to die of complications associated with their aneurysms than from any other cause.

Complications

- Hemorrhagic shock,
- Cardiac arrest
- Multisystem organ failures
- Death
- Paraplegia
- Renal failure.

References available upon request

TeamSTEPPS

TeamSTEPPS® is an evidence-based teamwork system aimed at optimizing patient care by improving communication and teamwork skills among health care professionals, including frontline staff. It includes a comprehensive set of ready-to-use materials and a training curriculum to successfully integrate teamwork principles into a variety of settings

TeamSTEPPS tools used:

- **Brief**-Short session prior to start to share the plan, discuss team formation, assign roles and responsibilities, establish expectations and climate, anticipate outcomes and likely contingencies.
- **Simulation with Situation Monitoring**- the process of continually scanning and assessing a situation to gain and maintain an understanding of what's going on around you.
- **Debrief**-Informal information exchange session designed to improve team performance and effectiveness through lessons learned and reinforcement of positive behaviors.
- **Handoff**-The transfer of information (along with authority and responsibility) during transitions in care across the continuum. It includes an opportunity to ask questions, clarify, and confirm.

IMPLEMENTATION

TAAA Team: 17 team members from

- 7 disciplines
- 4- ICU Nurses
- 3- OR Nurses
- 3- Surgical Assistants and Techs
- 2-Perfusionists
- 2-Anesthesiologists
- 1-Blood Bank
- 1-Surgeon
- 1-Pharmasits

Brief where the surgeon communicates with the 17 person team expected patient complications and expected management of the patient

Simulation occurs with all disciplines involved in caring for the patient from the OR to the ICU. They use **Situation Monitoring** to continually assess all aspects of the care needed for a TAAA patient

Debrief occurs after every simulation or patient to identify areas of opportunity related to patient safety, teamwork, and communication.

Handoff where ICU nurses enter the OR for bedside handoff prior to the patient transferring to the ICU for recovery.

IMPLICATIONS FOR NURSING PRACTICE

Keys learnings from the simulation:

1. Maintenance increased room temperature in ICU and decreased temp in OR beyond set boundaries.
2. Increased number of suction canister ports in the ICU room.
3. Reconfigure the OR room set up to allow for additional people and equipment.
4. Effectively transported the patient from the OR to the ICU with increased number of people and equipment. Location of 2 units are on opposite ends of the hospital.
5. Due to a large interdisciplinary team enhanced communication methods were implement using real time visual communication boards.
6. Developed a unique hand off where the ICU nurses go to the OR to get bedside handoff prior to the patient being transfer to the ICU for recovery. This practice has spread to other disciplines.
7. Continue using the TeamSTEPPS tools of Brief, Situation Monitor, Handoff, and Debrief with every patient undergoing a TAAA.

OUTCOMES

Although open surgical repair of the thoracoabdominal aorta can be life-saving to patients at risk for fatal aneurysm rupture, these operations remain challenging and are associated with substantial risk of early death and major complications.

Using the TeamSTEPPS methods to simulate prior to live patients has limited complications and served as a best practice that is continued to be used with every patient.

Results: (n=10)

- 1: Death in the operating room
 - 0: Renal Failure
 - 0: Paraplegia
 - 0: Cardiac arrest
 - 0: Hemorrhagic shock
- Length of Stay Range: 9-11days

*Literature reports ALOS is 9.8 days