Robotics Orientation Tool Kit

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Co-Chair of the Clinical Nursing Practice Committee (CNPC)

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Purpose:
Review new and existing clinical nursing practice issues and develop strategies to assist perioperative nurses to implement successful practices.

Initiative:
1. Develop a Robotics Orientation Tool Kit.
2. Develop resources for intraoperative robotic system failure.
Challenges

• Variety of different robots
• Variety of different applications
• Develop generic vs specific tools
• New technology emerging

OR Nurse Link
• High request for robotic information
Overview

• The Robotics Tool Kit is intended to be used for
  – Program development
  – Education and competency verification
  – Prevention of adverse patient events

• Disclaimer
  – This tool kit is intended for informational and educational purposes only
  – Follow organizational policies and the manufacturer’s written instructions for use
Tool Kit Components

- Robotic Surgery Bibliography(XLS)
- Robotic Surgery Program Development Roadmap(XLS)
- AORN Job Description Robotic Surgery Coordinator(DOC)
- Online Robotic Surgery Resources(DOC)
- Robotic Surgery Education and Orientation Roadmap(DOC)
- Robotic Surgery Educational Presentation(PPTX)
- Robotic Surgery Preceptor Checklist(DOC)
- AORN Robotic Surgery Competency RN or Non-RN(DOC)
- AORN Robotic Surgery Competency RN Manger(DOC)
- Robotic Surgery Second Time Out (ie, 3-4 hours into the procedure)(DOC)
- Robotic Surgery Emergency Checklists(PDF)
Robotic Program Development Roadmap

**Define**
- Form Project Team
  - Team leader
  - Team members
  - What other stakeholders are needed and when (e.g., facilities engineering, others)
- Clarify Project
  - Problem statement
  - Goal statement
- Determine Project Timeline
  - Define key dates

**Analyze**
- Analyze Process Flow Prior to Start
  - Consider simulation to detect issues
  - Determine value-added steps/non-value-added steps
  - Determine opportunities
- Analyze Data After Go Live
- Conduct Root Cause Analysis on Issues
- Identify and Collect Additional Data Needed
- Draw Conclusions
- Develop, Analyze, Report
- Share Results with Key Stakeholders

**Improve**
- Develop Solutions for Process Issues
- Evaluate Options and Choose Final Solutions
- Collect Data to Verify Improvements
- Obtain Support for Key Improvements with Key Stakeholders/Leaders
- Update Financial Benefits Statement

**Control**
- Review and Complete any Outstanding Project Items
- List Best Practices
- Hand Off Project to Final Owner
- Develop Final Report and Distribute

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Education & Orientation Roadmap

- Basic requirements
- Pre-work modules
- Hands on training, overview
- Preceptor and tracking of cases
- Completion of competency assessment
- Simulation assessment
- Meet with coordinator and review questions and emergency processes
Preceptor Checklist

- Basic Overview
- Circulating Role
- Scrub Role
- Patient Positioning / Equipment Placement
- Basic Troubleshooting / Emergencies
Robotic Surgery Educational Presentation

• Introduction to Robotic Surgery
  – Robotic components
  – Set up examples
  – Patient Safety concerns
  – Emergency management

Objectives

1. Identify the three robotic components
2. Describe the process to set up the robot
3. List two robotic surgery patient safety concerns
4. List two components of emergency management
Robotic Surgery Competency

- 2 Competency documents
  – RN or Non-RN
  – RN Manager
Robotic Surgery 3-4 Hour Safety Check

- Not intended to replace the initial time out
- This safety check is intended to be completed 3 to 4 hours into a lengthy robotic procedure
- Goal: To reduce the risk of developing an adverse event

Emergency Management

- Follow organizational or facility policies and procedures
- Follow the manufacturer’s written instructions for use
Job Description:

Robotics Surgery Coordinator (Service Line)

Responsibilities:

1. Manages the robotic surgical service to ensure that all service requests are completed within the promised time frame.

2. Manages the service line for operations, equipment, and personnel to ensure smooth and efficient workflow.

3. Manages the service line for the robotics surgical service to ensure compliance with all regulatory and accreditation standards.

4. Manages the service line for the robotics surgical service to ensure the highest level of patient care and satisfaction.

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Continuing Education Webinar: Building a Successful Robotic Program

Presented by
- Mary Szostakowski
- Alex Vasilevskiy
- Kaitlyn Nowak
- Bryant Gaskell

Learning Objectives
- Identify components of successful robotics surgery program
- Identify education needs and competencies for staff
- Identify the benefits of a robotic coordinator
- 30 min presentation for 0.5 CE
Robotics Surgery Bibliography

- 25 articles
- 2007 to present
- Evidence ranking
- Content categories
  - Program Development
  - Education and training
  - Positioning
  - Adverse events
  - Check lists
  - Emergencies
  - Specialties
Online Resources

Robotic Categories

- Comprehensive systems
- Orthopedics
- Neurosurgery
- Thoracic surgery
- Other

Robotic Surgery Online Resources

Comprehensive Systems
- Intuitive Dr. Vinci surgical systems (eg, Xi, X, 19) (requires a log in)
  - https://careers.intuitive.com/
- Versa surgical (not yet available for commercial sale)
  - https://www.carella.com/
- Maquet robotic-assisted surgery (RAS) system (not yet available for commercial sale)
- CM SLX Surgical System (not yet available for commercial sale)
- Galen Robotics (not yet available for commercial sale, ENT, Spine, Tissue reconstruction)
  - https://www.galenrobotics.com/

Orthopedics
- Stryker/Ortho-ocks robotic arm-assisted surgery for total joint replacement procedures
- Maquet robotic arm-assisted surgery platform for spine, general surgery, and neurosurgery procedures
- Johnson & Johnson's Exactech Orthopedic System (under development)
  - https://www.lhc.com/hospital_WRONLY/patientGalileo/Johnson-Johnson-Medical-Devices-Company-Atlanta-
    dermatology-to-develop-first-ever-clinic-robotic-assisted-surgery-platform-in-orthopedics
- Zimmer Biomet KO5 (Knee, Spine, Oril) (Total Knee)
- Smith & Nephew NAVIO Surgical System (Total Knee)
  - http://www.smithnephew.com/platforms/products/neurosurgery/neo-
    smithnephew/neurosurgery Platforms
- Globus Medical Excelact3d (Total)
  - http://www.globusmedical.com/total/062
- Medtronic MACS 4D (Total)

Neurosurgery
- Medtronic ROSA Brain for neurosurgical procedures

Thoracic Surgery
- Intuitive - endoluminal system for peripheral lung biopsy

Other
- Applied Dexterity ARMS for advancing robotics research
  - http://applieddexterity.com/

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