24/7 Expanded Robotic Access

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Background and Clinical Issue

At a high-volume Level I trauma center in the southeastern United States, an established robotic surgery program faced increasing demand while operating at full daytime capacity across 28 operating rooms.

Trauma and urgent care needs required innovative solutions to expand robotic access beyond traditional weekday hours. Without additional access, patients requiring minimally invasive surgery were limited to available daytime robotic blocks.

Perioperative leadership partnered with multidisciplinary stakeholders to safely implement robotic surgery during nights and weekends. Evidence-informed guidelines, structured training, and phased implementation were used to ensure patient safety, workflow stability, and staff competency.

Within six months, the organization successfully launched 24/7 robotic access, creating a scalable framework for sustained program growth.

Clinical Setting and Description of Team

Northeast Georgia Health System (NGHS) is a six-campus hospital system. The Gainesville campus—the system's flagship facility—is a Level I Trauma Center with 28 operating suites and serves as the primary hub for complex and high-acuity surgical care.

In fiscal year 2025, the system completed 32,231 surgical cases, reflecting substantial growth in surgical demand and increasing need for innovative perioperative solutions.

Preparation and Planning

Preparation included working with the robotic steering committee and physician leadership team to chose the correct group of physicians to ensure success of the project. Our case selection included cholecystectomies, appendectomies, colectomies, ectopic/salpingectomies, hernia repairs, oophorectomies, ovarian torsion and ovarian cystectomies. Once those physician champions were identified we mapped out a detailed orientation plan with nurse leadership and educators including online modules, hands on training with many opportunities for return demonstration, and at the elbow support by vendors and our robotic clinical coordinator.

Implementation

Following multidisciplinary planning, a phased implementation strategy was used to safely expand robotic access to nights and weekends.

Key actions included:

• Developed evidence-informed guidelines for off-shift robotic utilization

Implementation Continued

• Identified pilot service lines and surgeons for initial launch
• Created competency pathway for night/weekend RNs and CSTs
• Partnered with vendors and robotic clinical coordinator for hands-on training
• Established escalation and backup processes for troubleshooting
• Piloted cases with day-shift expert support and progressive autonomy
• Utilized continuous feedback and workflow refinement after each phase

A small-scale pilot was launched and expanded gradually as staff competency and confidence increased.

SWOT Analysis:

Strengths
- Mature robotic program
- Phased training rollout
- Strong vendor partnership
- Day-shift expert support
- Patient centric team

Weaknesses
- Training coverage burden
- Variable off-shift experience
- Early learning curve
- Day-shift resource strain

Opportunities
- Expand robotic capacity
- Upskill night/weekend staff
- Boost surgeon and patient satisfaction

Threats
- Equipment/service downtime
- Workflow variation risk
- Change resistance
- Volume inconsistency

Assessment

Program success and safety were evaluated using operational, quality, and workforce metrics.

Measures included:
• Robotic case volume outside business hours
• Conversion to open procedures
• Equipment or service downtime events
• Staff competency completion and confidence surveys
• Surgeon satisfaction and access feedback
• Patient access to minimally invasive surgery

Continuous PDCA cycles were used to refine workflow, staffing models, and training needs.

Outcome

Within six months, our organization successfully launched 24/7 robotic surgery access without disruption to daytime operations.

Key outcomes:

• Expanded patient access to minimally invasive surgery after hours

• Increased robotic utilization and operational flexibility

• Improved trauma and urgent case access to robotic platform

• High staff engagement and successful competency completion

• Positive surgeon satisfaction and increased scheduling access

• No increase in safety events or workflow delays observed

Implications for Perioperative Nursing

This initiative demonstrates the critical role of perioperative nursing leadership in driving innovation and expanding access to advanced surgical care.

• Structured governance supports safe adoption of new workflows

• Workforce development enables sustainable innovation

• Phased implementation reduces risk and builds confidence

• Multidisciplinary collaboration is essential for success

• Continuous evaluation ensures long-term sustainability

In 2025, we performed over 400 after hour robotic procedures, expanding access to minimally invasive surgery and improving timely care for urgent and trauma patients.

1st case in Acute Care Surgery OR 6 with dedicated robot