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Beyond the Sterile Field: The Expanding Role of the Surgical Technologist in da Vinci Surgery

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The lessons described in this article come from working within this growing environment, but the underlying principles can apply to da Vinci programs of many sizes: prepare people well, define the process, communicate clearly, and use frontline experience to guide improvement.

SEEING THE BIGGER PICTURE

As da Vinci surgery programs expand, the surgical technologist role is evolving to include responsibilities that go beyond preparing the sterile field and instruments for individual cases. At Baptist Health South Miami Hospital, surgical technologists are an important part of the operational protocols and processes that make da Vinci® surgery possible—from onboarding and competency development to room setup, communication, instrument care, and ongoing program enhancements.

The technology is only one part of a successful da Vinci program. People, process, and purpose must work together. For surgical technologists, that means understanding not only how to prepare for a da Vinci case, but also how daily decisions may affect the consistency and readiness of the program and the broader health system goals, which can include: quality, access, patient experience, care team experience, operational performance, and the total cost of care.

LEARNING OBJECTIVES

- Explain how da Vinci surgery supports clinical, operational, patient, care team, and access goals
- Describe the elements of a structured onboarding and annual competency pathway for da Vinci surgery staff
- Identify ways surgical technologists can strengthen teamwork, communication, standardization, and program governance
- Apply practical strategies related to room setup, preference cards, workflow metrics, instrument care, and repair processes

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- 12 hospitals
- 30,000+ employees
- 4,500+ physicians
- 8 da Vinci programs
- 27 da Vinci systems



A BROADER ROLE FOR SURGICAL TECHNOLOGISTS

Da Vinci surgery requires technical knowledge, preparation, and coordination among multiple members of the perioperative team. The Association of Surgical Technologists (AST) recommends device-specific training and continuing education for certified surgical technologists (CSTs) working with robotic technology, including education when new robotic components, instruments, or accessories are introduced.[1]

At Baptist Health South Miami Hospital, that learning begins with a structured onboarding process. New team members meet with a nurse clinical educator and robotic coordinator, complete assigned education, such as Intuitive Learning online training modules accessible through My Intuitive, spend time in a da Vinci operating room with an experienced team member, and receive additional guidance as needed. A structured training period may range from 30 to 90 days, depending on individual needs and progress.

The goal is not simply to complete a checklist. A structured pathway gives the learner a sequence for building knowledge and practical skills. It also provides the robotic coordinator and preceptors an opportunity to identify areas that may require additional practice, whether that involves room setup, instrumentation, docking, platform differences, or troubleshooting.

Competency does not end when onboarding is complete. At Baptist Health South Miami Hospital, annual competency activities address essential topics such as system setup, connecting and disconnecting components, external imaging, surgeon sign-in, troubleshooting, differences among da Vinci platforms, and new products or instrumentation. One-to-one training can be useful when additional education is appropriate.

This approach aligns with AST guidance that competency should be documented and that continuing education should address new robotic components, instrumentation, accessories, and procedures.[1] For the surgical technologist, continuous learning builds confidence and the opportunity to become a resource for colleagues.

PRACTICAL ONBOARDING PRINCIPLES

- Set expectations before the learner enters the da Vinci operating room.
- Pair online education with supervised hands-on experience.
- Use competency observations to tailor support.
- Define when the learner is ready for greater independence.
- Maintain a clear route for questions and escalation.



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Standardized staff onboarding process

01 Meet with nurse clinical educator

02 Set up Intuitive account

03 Meet with robotic coordinator

04 Assigned to a da Vinci OR with an experienced team member

05 Meet with Intuitive clinical sales representative

FROM CASE READINESS TO PROGRAM READINESS

As experience grows, surgical technologists may take on responsibilities that can influence more than a single procedure. They may become preceptors or super users, contribute to education, participate in committees, help maintain reference materials, and provide frontline observations to program leaders.

That perspective matters because surgical technologists see the practical effects of variation. They notice when an instrument is missing, when a preference card does not reflect current practice, when a room layout creates confusion, or when a piece of equipment needs attention. These observations can help a program distinguish an isolated event from a recurring process issue.

At Baptist Health South Miami Hospital, a multidisciplinary robotic steering committee brings together representatives from surgical services, surgeons, anesthesia, nursing, sterile processing, scheduling, education, preoperative services, surgical technologists, and Intuitive leadership. The committee reviews program data and discusses operational issues, equipment and instrumentation needs, and new initiatives.

Not every surgical technologist will attend every governance meeting. However, frontline input must have a clear mechanism to reach the people making program decisions. When a surgical technologist communicates a specific observation and provides context, that information can become part of a broader discussion about standard work, education, resources, or process design.

> "Feedback, even when it highlights a challenge, gives us an opportunity to learn, grow, and improve..."

COMMUNICATION STARTS BEFORE THE CASE

In da Vinci surgery, preparation begins before the patient enters the operating room. At Baptist Health South Miami Hospital, daily huddles bring perioperative team members together to review the scheduled cases and anticipate potential challenges, including obesity, adhesions, or prior surgery.

DAILY HUDDLE PERSONNEL

- Front desk charge nurse
- Sterile processing
- OR teams
- Turnover personnel
- Facilitators
- Physician assistants
- First assists
- Fellows or residents
- Surgeons
- Surgical technologists

For the surgical technologist, the huddle provides an opportunity to confirm instrumentation, special supplies, platform requirements, surgeon preferences, and other considerations that could affect case readiness. Discussing anticipated challenges before the procedure gives the team a common understanding of what is needed and who is responsible for each element.

Communication should continue after the case. A brief discussion of what worked, what changed, and what created friction can provide useful insight for the next procedure. The purpose is not to assign blame. It is to make observations visible so the team can determine whether a process, resource, or training need requires attention.

STANDARDIZATION WITHOUT LOSING CLINICAL JUDGMENT

Standard work is another area where surgical technologists can have a meaningful role. A standardized approach can define room arrangement, setup sequence, responsibilities, equipment preparation, and communication practices while still allowing the team to account for the patient, procedure, surgeon preference, and facility requirements.

At Baptist Health South Miami Hospital, one practical example is using concise da Vinci reference sheets to supplement traditional preference cards. The sheets identify the da Vinci platform and incorporate verified changes in instruments or supplies. Surgeon involvement is essential when updating procedural preferences, and changes should move through the established documentation process.

For technologists, preference management is closely connected to daily practice. We see what is being opened, used, exchanged, or requested during a case. That makes accurate communication about verified changes particularly important. A quick-reference resource is most useful when its ownership, version control, accessibility, and review process are clear.

Instrument stewardship is another area in which standard work matters. Point-of-use practices should follow the current manufacturer instructions for use and organizational policy. At Baptist Health South Miami Hospital, team education includes appropriate handling and care of da Vinci instruments, with collaboration between the oper-

Operational Strategies for a Growing da Vinci Program

1. Standardize Room Setup

The operating room should support an orderly flow of people, equipment, and sterile activity. A consistent docking approach and standardized locations for the patient cart, console, and vision tower can reduce collisions, shorten setup and turnover, and help team members orient themselves quickly. Programs should define the standard clearly while accounting for patient position, specialty requirements, facility constraints, and manufacturer guidance.

2. Track Workflow Metrics

Data helps demonstrate whether improvement efforts are producing results. Programs may track case volume and growth, system utilization, room entry to incision, case duration, and turnover time, then share trends regularly with the team. While a sub-30-minute turnover may be a common benchmark, targets vary based on case mix and facility standards. Regularly reviewing these metrics gives the team a shared language to evaluate performance. Surgical technologists play a vital role by recording accurate timestamps, delay causes, and operational observations. The goal is to identify recurring patterns and opportunities to improve the overall process, not to scrutinize any one person or case.

ating room and sterile processing when process questions arise. AST guidance likewise directs CSTs to follow manufacturer instructions for robotic-item decontamination, preparation, and sterilization.[1]

USING DATA TO UNDERSTAND THE WORK

Metrics can also give a program a shared view of its workflow. Depending on organizational priorities, teams may review case volume, system utilization, room entry-to-incision time, case duration, turnover time, and reasons for delays. The purpose is not to evaluate an individual technologist or a single case in isolation. It is to look for patterns that warrant attention.

Surgical technologists help drive this process by accurately documenting operational observations and communicating when a delay involved instrumentation, equipment, supplies, setup, or another factor. Combining this frontline context with data gives the team a clear roadmap for education, standardization, and process improvements.

TECHNOLOGY CONTINUES TO EVOLVE

As da Vinci technology develops, surgical technologists also need to understand how platform changes may affect their workflow. For example, the Intuitive da Vinci 5 platform includes features such as guided tool change to help my team members perform instrument exchanges with confidence, an integrated user interface that includes built-in insufflation to help streamline room setup, and system alerts designed to provide timely information. These features do not replace the knowledge or judgment of surgical technologists. They add another layer of information to a workflow that still depends on trained people, defined responsibilities, and facility procedures.

Learning new technology is part of the profession. The more familiar surgical technologists become with the equipment, instruments, workflows, and available resources, the more effectively they can communicate with the rest of the team. That knowledge empowers experienced surgical technologists to mentor colleagues and drive consistency across all rooms and shifts.

PRACTICAL STEPS FOR SURGICAL TECHNOLOGISTS

For surgical technologists working in a growing da Vinci program, several practices can translate these principles into everyday work:

- Complete assigned education and maintain required competency.
- Learn the hospital's standard room setup, role assignments, troubleshooting pathway, and escalation process.
- Participate in huddles by identifying special instrumentation, supplies, platform requirements, and anticipated barriers.
- Communicate verified preference changes through the approved documentation process.

3. Keep Preference Information Current

Outdated preference cards can lead to missing instruments, unnecessary items, and last-minute delays. To overcome delays in updating traditional doctor preference cards, Baptist Health South Miami Hospital deployed supplemental one-page da Vinci cheat sheets created by the coordinator. The cheat sheets include the da Vinci platform and reflect changes such as different sutures or instruments. Surgeon involvement helps ensure the resource represents the intended procedural approach.

Surgical technologists are key partners in preference management because they observe actual practice. Once a change is verified, the update should move through the program's approved documentation process. A quick-reference tool is most valuable when ownership, version control, accessibility, and review expectations are clear.

4. Protect Instruments Through Point-of-Use Care

Instrument stewardship has clinical, operational, and economic consequences. Flushing instrument ports after the case and cleaning excess char from instrument tips with a lint-free cloth during the case can reduce the burden placed on decontamination staff and support proper processing. All point-of-use and decontamination practices should follow current manufacturer instructions for use and the organization's approved policy. Collaboration across the operating room and sterile processing can help identify process changes.

5. Standardize Repair and Return Processes

A defined return material authorization process supports timely handling of damaged instruments and scopes. Clear steps for identifying the issue, removing the item from use, documenting the concern, communicating with the appropriate roles, and tracking the return help protect patients and program resources.

- Follow manufacturer instructions for use and organizational policy for instrument handling and point-of-use care.
- Report equipment or instrument concerns promptly and follow the organization's established repair and return process.
- Share specific observations after cases, focusing on processes rather than individuals.
- Help orient new team members when qualified and when consistent with facility policy.
- Bring recurring issues to the appropriate educator, robotic coordinator, sterile processing leader, surgeon, or other responsible team member.

These actions may seem routine, but together they create a framework for reliable preparation and communication. They also reinforce an important point: operational excellence is not the responsibility of one role. It is built through the contributions of the entire perioperative team.

LOOKING BEYOND THE STERILE FIELD

Working in da Vinci surgery has broadened the understanding of the surgical technologist's role. Surgical technologists' responsibility begins with the patient and the sterile field, but it does not end there. When surgical technologists expand their technical competency, communicate early, maintain accurate resources, care for instruments appropriately, and share frontline observations, they contribute to the larger system around the procedure.

A growing da Vinci program needs more than equipment. It needs capable people who understand their roles, clear repeatable processes, and open communication that helps the team to learn from experience.

For surgical technologists, that creates an opportunity to grow with the technology and remain grounded in the fundamentals of our profession: preparation, sterile technique, teamwork, communication, accountability, and patient-centered care. Da Vinci technology may be part of the operating room, but the people who prepare, coordinate, and care for the work around it are what make the workflow possible.

> "A successful da Vinci program is built on people, process, and purpose. When these align, excellence follows."

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1. **Which statement best describes the value of a da Vinci surgery program?**
a. It is based only on the number of da Vinci systems
b. It includes clinical, operational, patient, care team, cost, and access goals
c. It eliminates the need for standardized workflows
d. It is limited to surgeon ergonomics

2. **What is a key purpose of standardized onboarding?**
a. To provide the same training time for every learner
b. To replace hands-on experience with online modules
c. To establish common expectations while addressing individual learning needs
d. To allow independent assignment before competency is observed

3. **Which activity was included in the onboarding pathway described in the article?**
a. Meeting with a robotic coordinator
b. Leading the steering committee on the first day
c. Completing only a written examination
d. Training without an experienced team member

4. **Why are annual da Vinci competencies important?**
a. Da Vinci knowledge never changes
b. Competencies support continued readiness as systems and workflows evolve
c. Annual competencies eliminate the need for escalation resources
d. Competencies are intended only for new employees

5. **What is a primary function of a multidisciplinary robotic steering committee?**
a. To focus only on surgeon scheduling
b. To review data, utilization, initiatives, challenges, and improvement opportunities
c. To replace daily operating room communication
d. To manage only instrument purchases

6. **What does the Formula One pit crew analogy illustrate?**
a. Speed is more important than safety
b. Only one team member is responsible for success
c. Assigned roles and coordinated preparation support safe, efficient performance
d. Every case should use the same procedure time

7. **How does a daily huddle support the robotic team?**
a. It creates a shared understanding of priorities, risks, staffing, and support needs
b. It eliminates the need for communication during the case
c. It is used only after a delay occurs
d. It replaces annual competency validation

8. **What is a likely benefit of standardized room setup?**
a. Greater confusion for float staff
b. More variation between rooms
c. Fewer collisions and faster orientation to the room
d. Less need to consider patient positioning

9. **Why should preference information be kept current?**
a. To reduce missing instruments and last-minute delays
b. To eliminate surgeon involvement
c. To avoid documenting procedural changes
d. To replace all approved preference-card processes

10. **Which action best supports instrument stewardship?**
a. Delaying reports of damage until inventory is completed
b. Following approved point-of-use care and promptly reporting concerns
c. Using any cleaning tool that is available
d. Leaving all instrument care to one department

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