

Maximizing perioperative efficiency in the ureteroscopy suite: Real-world best practices



As a global market leader in urology, Boston Scientific's Urology and Pelvic Health (UroPH) organization enjoys a unique and up-close perspective on how day-to-day operations are carried out in clinical-care facilities around the world. We are committed to observing, learning, and sharing clinical and operational best practices in an effort to help our customers improve operational efficiency and quality of care for patients worldwide. Recently, UroPH completed an in-depth, ethnography research initiative designed to benchmark current flexible ureteroscopy (fURS) perioperative workflow and task time efficiencies.

Our research included observing the complete perioperative process at eight highly efficient sites in the U.S., in order to understand the duration and effort expended for all fURS perioperative steps, and to identify best practices and top efficiency needs. We spent 130 hours observing fURS procedures and peri-operative processes during 57 fURS cases in ambulatory surgical centers, academic medical centers and community hospital settings.

Ethnography research to benchmark current flexible ureteroscopy (fURS) perioperative workflow and task time efficiencies

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Community Hospitals

Efficiency benchmarks: How do your fURS perioperative metrics measure up?

The first step of any efficiency initiative, big or small, is to collect current metrics and compare them to real-world benchmarks to evaluate the degree to which improvement is possible. Figure 1 provides key benchmarks for fURS perioperative workflow and task time metrics from the highly efficient sites in our study. We gathered information on case time, OR time, and OR turnover time and compared them by service setting (ambulatory surgical center, academic medical center or community hospital). As shown in Figure 1, these key metrics span a wide range, indicating that median overall case and OR times were much longer at academic centers, presumably because these centers are treating more complex and risky cases compared to their community-based counterparts. Interestingly, academic and community hospitals had similar OR turnover times, which were much longer than those at ambulatory surgical centers (ASC). It's possible that the dedicated surgical centers have optimized their turnover process due to their focus.

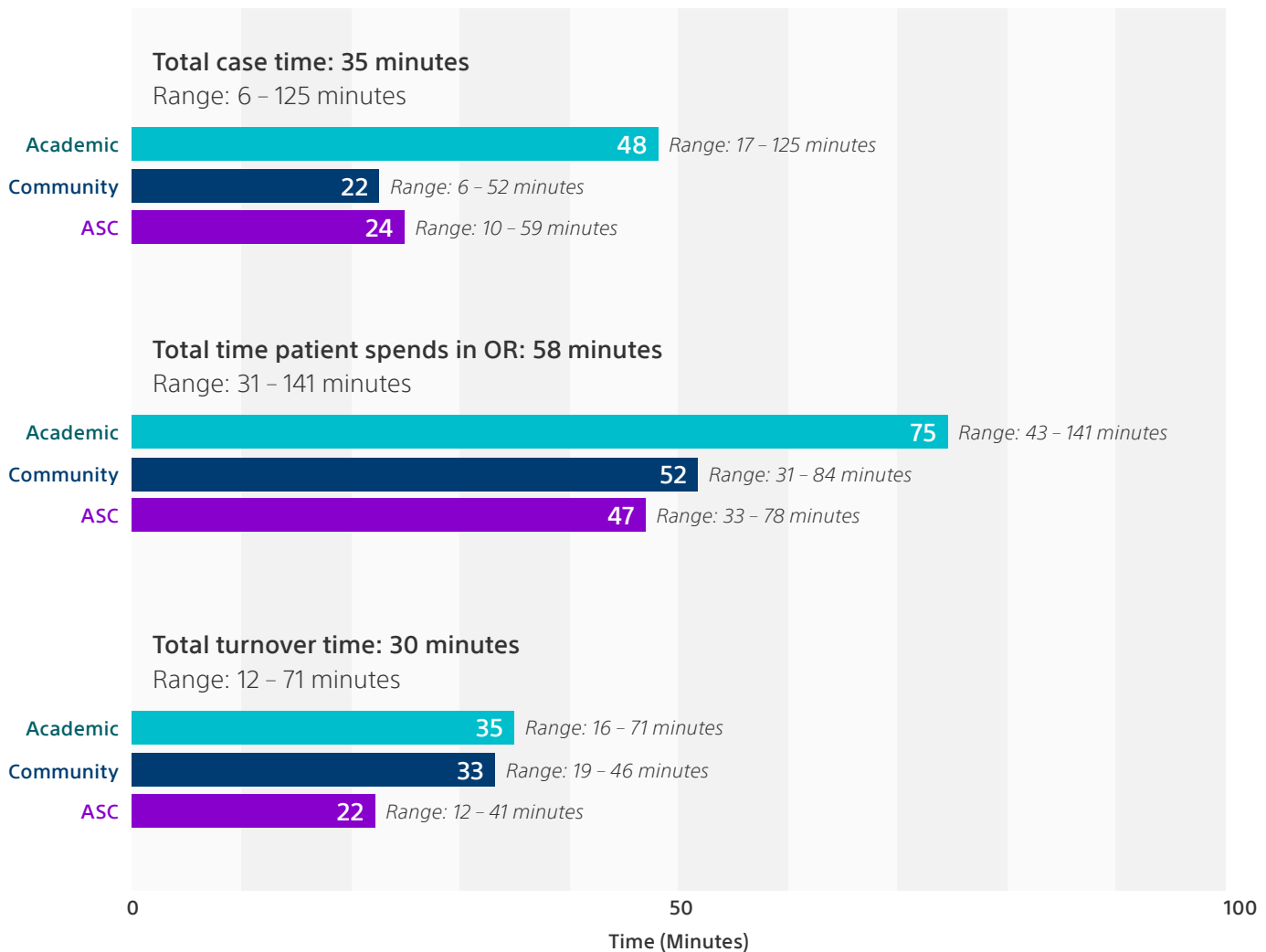


Figure 1: Key perioperative metrics by setting. Data are expressed as median and range.

Best Practices of Efficient fURS Sites: Does Your Site Share Their DNA?

The findings of the ethnography research initiative suggested that the various best practices could be grouped into four distinct domains:

Place, People, Product and Process.

Place

The physical layout, organization, management and flow of the fURS suite proved to be critical for maximizing perioperative efficiency, affecting flow of patients, staff and the physician through one procedure and into the next. The most efficient institutions had the following practices:

- ▶ A dedicated set of pre-op bays for each physician, so that staff and physicians could easily and intuitively locate patients as needed.
- ▶ Self-sufficient pre-op bays, fully stocked with appropriate supplies for test and IV lines.
- ▶ All pre-op bays located in close proximity to the OR.
- ▶ A method to clearly track and communicate which patient was in which pre-op bay at a given time, what type of case was to be performed, the physician and anesthesiologist in charge of the case, and the OR assigned to each patient.
- ▶ Ample computers within the pre-op unit to allow clinicians to easily document case information whenever necessary.
- ▶ Case carts or buckets for each case, with a procedure-specific pick list identified by patient and urologist placed outside the OR before the previous case is finished.
- ▶ Well-organized rooms with clear pathways that allow urologists, nurses and surgical technicians to move freely about different parts of the OR.
- ▶ Required equipment, including laser foot pedals, scope-view monitors and LithoVue™ consoles, set up prior to the case according to the urologist's preference.
- ▶ Products and equipment should be organized and placed in such a way as to make it as easy as possible for the nurse who is charting to also retrieve products as needed.
- ▶ Sufficient storage in the OR for most or all urology products, including scopes in case a substitute is required.

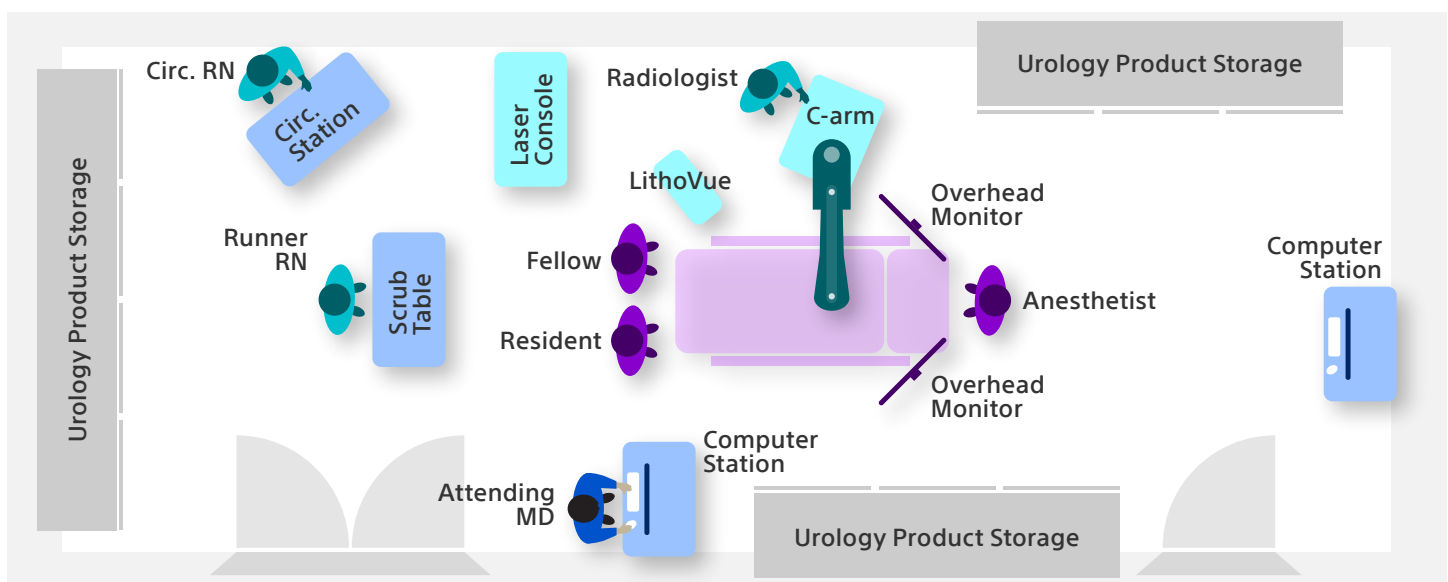
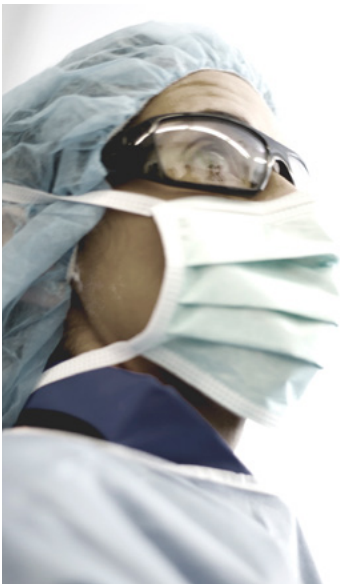


Figure 2: Diagram of a well-organized OR in which to perform fURS procedures

People

The movement of patients and staff through the fURS suite, from the moment of each admission to the moment of each discharge, is governed by a complex series of interactions between various clinical, administrative and support staff. Every interaction, process and event contains within it an opportunity to reduce wasted effort and maximize the value of time spent. The highly efficient organizations in our study generally followed these practices to improve efficiency:

- ▶ A dedicated pre-op nurse assigned to each patient to reduce confusion or repeated processes.
- ▶ An anesthesia team trained to check in with and approve patients for each case without delaying start times or extending turnover times.
- ▶ Appropriate training provided to allow the scrub tech to set up the scrub table for cases.
- ▶ A dedicated scrub tech who sets up the scrub table and then also scrubs in for the case.
- ▶ A consistent operating team for the majority of fURS cases, because familiarity between team members reduces the time spent explaining processes and dealing with new stakeholders who are unsure of the process.
- ▶ Nurses and in-services specifically trained in urology.
- ▶ Assigning the charting nurse to act as a “runner RN,” also carrying out product retrieval and unpackaging.
- ▶ Products charted as they are opened instead of at the end of the case so the charting RN is available to help with OR room turnover.
- ▶ Eliminate the need for an additional dedicated laser technician by assigning the runner RN to manage the laser console, especially when the new, easy-to-use 120W laser is being employed.
- ▶ Open and frequent communication between urologist and OR staff about case progress, potential delays and estimated time to end of case.
- ▶ Assignment of additional responsibilities to the C-arm tech to take advantage of their very low utilization rate, especially during procedures that do not rely heavily on C-arm use, such as lasering or basketing.
- ▶ Cross training the SAU and PACU nurses to allow for more fluidity and flexibility throughout the process.
- ▶ Conducting OR turnover as a team effort that includes the nurses working alongside the dedicated techs who clean the OR.





Product

While most fURS procedures involve a core set of routine supplies and equipment, they inevitably require patient-specific items, some of which are easily predicted before the case begins and some that may never be used but that may also be critical. Thoughtful organization, location and management of supply inventories within the OR and the fURS suite can save valuable case time by eliminating the need for personnel to hunt for needed items in the OR, or even in a supply area down the hall. We noted that highly efficient sites:

- ▶ Keep a physical kit (e.g. an “fURS cart”) assembled with preferred products that are always stocked the same way.
- ▶ Have med and supply carts located close to a group of pre-op beds, shortening the time needed to collect supplies for each case.
- ▶ Stock case carts or buckets ahead of time, from a detailed and patient-specific pick list attached ahead of time.
- ▶ Update their standard pick list regularly to account for the changing needs and preferences of the urologist.
- ▶ Prepare only the regularly used products on the scrub table, with spare or optional items kept in close proximity should they be needed during the case.
- ▶ May, if an extra “runner” nurse is present on the team, set up the scrub table for the subsequent case while the current one is under way.
- ▶ Keep sufficient cystoscopes and ureteroscopes stocked in the OR so that they are available when needed.
- ▶ Refrain from opening single-use products, such as guidewires or stents, during the procedure until the urologist asks for them.
- ▶ Keep a laser console in the OR at all times for anticipated lithotripsy cases.
- ▶ Make routine use of LithoVue Single-Use Digital Flexible Ureteroscopes to reduce procedure delays and OR turnaround time.
- ▶ Make use of the physician-controlled LithoVue Empower™ Retrieval Deployment Device to put the task of stone removal directly in the hands of the surgeon, increase physician control and eliminate the chance of miscommunication during stone basketing.
- ▶ Use a high-watt (120W) laser to improve efficacy of stone dusting and reduce reliance on basketing.
- ▶ Put the scrub tech in charge of accounting for and disposing of products used during a case, as well as for collecting and encasing reusable products for sterile processing.

Process

Efficiency initiatives inevitably involve looking with a critical eye at every step of every process and procedure, always asking two questions “why do we do it this way,” and “is there a more efficient way to accomplish the same objective?” While no process change should ever cut so deeply as to jeopardize patient safety or outcomes, when the only answer to the first question is “because we’ve never done it any other way,” then that step is a potential target for optimization. Some of the ways that highly efficient sites optimize the efficiency of their processes and procedures include:

- ▶ Scheduling as many “similar” cases in one day as possible to maximize the efficiency of products used and processes followed.
- ▶ Scheduling the less complex and smaller-stone cases in outpatient ORs—for hospitals that have them—because these facilities typically run leaner than in-hospital ORs.
- ▶ Increasing flexibility with scheduling to account for cases running fast or slow as well as adding additional cases.
- ▶ Setting up an automated, phone-based check-in system that patients call at a designated time the night before the procedure. The system reminds the patient of arrival time and pre-op instructions.
- ▶ Having patients arrive one hour prior to procedure start. This gives enough time for admission procedures, allows for an early start time if possible, and does not result in overly onerous wait times if the urologist is delayed.
- ▶ Having the pre-op nurse document patient arrival and assigned pre-op bay and OR. Ideally, this information is displayed electronically for the team.
- ▶ Bringing family members in to keep the patient company while they wait to be taken. This reduces idle time and patient perception of delays.
- ▶ Having the urologist mark the patient’s skin on the side of the kidney that is undergoing the procedure.
- ▶ Ensuring the patient is prepared and ready to go before their appointed case time, in the event that the previous case finishes early.
- ▶ Administering anesthesia medications closer to the start of case time, so that the patient is able to walk to the OR themselves and assist the team with presurgical positioning.
- ▶ Keeping staff well apprised of potential cancellations that may occur whether for clinical reasons or because a patient doesn’t show up for their appointment.
- ▶ Continually updating the board with the time of the next scheduled case to keep everyone on task.
- ▶ Starting preparations for the subsequent case (especially time-consuming tasks such as scrub table setup and associated cystoscope and/or ureteroscope setup) while the rest of the OR is being cleaned.
- ▶ Bringing the cleaning techs into the OR immediately after the patient leaves for the PACU.
- ▶ Keeping the OR well organized to reduce time spent moving products and pieces around while cleaning.





Case illustration: HealthEast St. Joseph's Hospital and Kidney Stone Institute

As part of this initiative, BSC UroPH partnered with Dr. Andrew Portis and his team at HealthEast St. Joseph's Hospital and Kidney Stone Institute to learn about their uniquely efficient fURS perioperative process. We have found that there is much to learn from their efficient processes around flexible ureteroscopy procedures. We asked Dr. Portis and his team to share some of their knowledge and insights with us and they prepared the [following paper](#) to provide a deep dive into their best practices for clinicians seeking to provide the most efficient best-quality patient care possible.



OR Connect: Efficiencies overview and reference

Designed for OR Managers, [OR Connect](#) is a rich resource full of helpful information such as best-practice solutions for fURS efficiency, reimbursement tools and educational content.

IMPORTANT INFORMATION: These materials are intended to describe common clinical considerations and procedural steps for the use of referenced technologies but may not be appropriate for every patient or case. Decisions surrounding patient care depend on the physician's professional judgment in consideration of all available information for each individual case at hand. Results from case studies are not necessarily predictive of results in other cases. Results in other cases may vary. Images and photographs provided courtesy of HealthEast. All trademarks are the property of their respective owners.

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Boston Scientific Corporation
300 Boston Scientific Way
Marlborough, MA 01752-1234
www.BostonScientific.com

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