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Sterile processing: How innovative tray solutions can speed throughput and profitability at ASCs

The ambulatory surgery center ecosystem is thriving. New ASCs, whether owned privately or through cooperative investments with hospitals, are springing up across the nation – and their surgical volumes are growing. This trend, driven largely by changes in reimbursement models that prize cost efficiency and high-quality outcomes, is leading to greater ASC specialization, with some ASCs focusing on orthopedics, ophthalmology and urology procedures.

A hidden engine that enables ASCs' efficiency, case volume and specialization is not attention grabbing, but it is critical: It is ASCs' sterile processing departments (SPDs), which ensure that all of the instruments used by surgeons are decontaminated, sterilized and ready to use again, often multiple times each day.

Becker's ASC Review recently spoke with Mark Randall, executive vice president at 3T Medical Systems, and Kristie Dixon, RN, nurse administrator at Orthopaedic Medical Group Surgery Center (Tampa Bay, Fla.), about how ONE TRAY, EZ-TRAX and ONE CART – a new generation solution for reprocessing – can help ASCs safely keep up with increasing case volumes, pressing efficiency needs and expectations around profitability.

The transition to ASCs puts pressure on surgeon efficiency, space and storage

While the migration of increasingly complex surgical cases from hospitals to ASCs is welcome by many – including ASC operators, surgeons and other healthcare staff who prefer working in non-acute care environments – it raises several challenges for ASCs' day-to-day operations.

For one, to accommodate growing case volumes, ASCs must ensure that surgeons are able to start and finish cases on time. "ASCs have an objective of providing a high level of care to their patients, but in order to do so in an ambulatory surgery environment and to be profitable, efficiency is a cornerstone," Mr. Randall said. "It's about finding ways to protect their most valuable asset, which is their surgery time."

There is also the challenge of carving out enough space to store ample surgical instrumentation sets that are used in more complex cases. "Most ASCs were not designed to process large volumes of instruments," Mr. Randall said. "Initially, most of their cases were fairly simple and straightforward, using a tray or two of instruments." Conversely, complex cases can require eight to 12 trays.

Due to limited space, most ASCs also do not have sufficient washers and sterilizers, creating potential choke points in the SPD process that affect efficiency. The result? Losing blocks of

operating room time waiting for instruments to be reprocessed, re-sterilized and ready to be used for another case. This affects not only efficiency but also profitability.

Yet even newly built ASCs that were designed with complex surgical cases in mind can experience space constraints. For instance, in multispecialty facilities such as Orthopaedic Medical Group Surgery Center, which has only been in operation since May 2022, the sheer variety of surgical cases that come through the door require the availability of a wide range of instrumentation sets – and adequate space to store them all.

"My case mix is crazy – it's a massive challenge," Ms. Dixon said. "Today, we had four different doctors in and out of the surgery center. So I started my day off doing pediatric cases and hand cases, and then had to end my day doing knee scopes and a trauma case." She noted how the surgery center was built with storage space to accommodate the mix of instrumentation sets needed onsite on days like this, but at the rate they're growing, that space is dwindling.

A system that reduces the number of trays + space needed is key to efficiency

ASCs that are currently under construction have an advantage over existing ASCs, since they can address the space issue upfront by designing larger SPD and storage units. Conventional ASCs that aspire to take on complex cases but were built under a simpler operational premise, however, need a more creative solution – as do fast-growing multispecialty ASCs like Orthopaedic Medical Group Surgery Center.

That solution can come from compressing the time needed to reprocess an instrument set or by consolidating the number of trays needed for different cases. This, in turn, can reduce the need for larger storage space, higher sterilization processing throughput and expedited tray turnover.

"I needed to find a solution where we could still do total joints, but also be able to have enough room on the shelves to store trays used for spine cases and hand cases," Ms. Dixon said, recalling her search for an efficient tray system when she joined the surgery center in her current role.

ONE TRAY, Innovative Sterilization Technologies' sterilization container, can be – and, for Orthopaedic Medical Group Surgery Center, was – that solution. Using ONE TRAY can reduce sterilization workflow by approximately 30 minutes, as it doesn't require drying or cooling time (cleared by the FDA). As a result, an instrumentation set can be transported to the OR within 30 minutes of initiating the sterilization process, compared to two to three hours when using sterile wraps or conventional containers.

"With ONE TRAY, because you don't have dry time, we can run three loads of instrument sets in the time it takes us to run one load of wrapped stuff, so my reprocessing speed increases," Ms. Dixon said.

Meanwhile, EZ-TRAX, the company's interbody modular organization system, optimizes how instruments are arranged *within* a tray (Ms. Dixon describes it as resembling a puzzle piece). EZ-TRAX permits prioritizing instrumentation sets used during procedures in a way that reduces the total number of trays needed. For example, for total joint procedures, it can consolidate the typical six to eight trays used down to two or three.

ONE CART complements the time and storage gains of ONE TRAY and EZ-TRAX, allowing products to be easily transported across small spaces. "All ORs," Ms. Dixon said, "face the challenge of safely transporting contaminated instruments from the OR to decontamination". Before implementing ONE CART, her staff used a large back table with a plastic cover to transport dirty instruments, which was cumbersome to navigate down narrow hallways.

Ms. Dixon described how ONE CART allows her team to pull cases and keep all case supplies in one location, enabling quick turnover by having the next case ready and waiting outside the OR. "We can now safely place the contaminated instruments in a closed system, keep all surgical debris contained and complete in a timely turnover," she said.

The result of using IST's suite of products is a gain in efficiency. Relieved to have encountered an effective and efficient solution to Orthopaedic Medical Group Surgery Center's instrumentation set handling constraints, Ms. Dixon said: "In ASCs, time and space are a killer."

Efficiency gained through simplifying trays translates to increased profitability

The time and space efficiencies ASCs can gain from using ONE TRAY and EZ-TRAX can lead to increased profitability. "Consolidating trays has a direct impact on profitability because there's a significant cost associated with processing every tray," Mr. Randall said. "If you can cut that cost in half, that's an economic win for everyone."

He detailed a real-world scenario in which an orthopedic ASC that performs 20 total joint replacements per week, using six conventional vendor trays per case at a total tray processing cost of \$6,000 per week, can achieve annual savings of \$156,000 in processing costs alone by switching to EZ-TRAX and halving its weekly processing cost. The purchase of an EZ-TRAX system for that type and volume of cases would require an initial investment of approximately \$25,000. "You recover your ROI in about nine weeks," Mr. Randall said.

Additional cost savings from using ONE TRAY come from not having to use blue wrap – the conventional sterile wrap into which clean instruments are folded post-sterilization – since IST's container system is a self-contained metal device. This feature further eliminates the odds of incidentally puncturing the blue wrap after the instruments have been sterilized, which instantly renders them contaminated, so they need to be re-processed again. Here, additional costs and surgical delays ensue.

Strategic planning and engaging partners can enhance care delivery for ASCs

As ASCs' surgical volumes, case mix and economic models evolve, ideally so should the mindsets of ASC operators. Embracing innovative sterilization processing solutions such as ONE TRAY and EZ-TRAX is one way to adopt a proactive mindset that understands current changes in the industry and anticipates others that may be just around the corner.

"Many facilities get into a routine where they react when something goes wrong but are rarely being proactive and saying, 'Can we do this differently and still get a great outcome, but in a much more efficient way?'" Mr. Randall said.

This kind of thinking should extend to how ASC operators and surgeons treat tray vendors. "A lot of times, individuals in sales are viewed as the box deliverers or the guys and gals who bring stuff and drop it off at the facility – and the value proposition kind of stops there," Mr. Randall said. He suggested that ASC leaders should "change the chip."

"If people have open minds, engage their vendor partners and ask questions such as, 'What are you seeing when dealing with other ASCs? What other standards could we incorporate here that would enhance our delivery of care?'" he said. "That can provide significant benefits for many, many centers."



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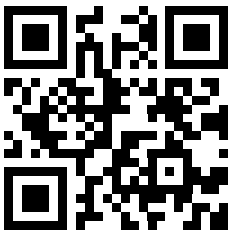
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