



## ***Addressing the Ramifications of Vendor/Loaner Trays on Peri-op and CSP Operations***

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With the growing population of adults needing total joint replacements and complex spinal procedures, come greater challenges for hospitals to manage loaned and consigned surgical instrumentation. There are significant management and accounting issues with utilizing a third party as a source for instrument trays. Constraints exist because there are multiple parties involved in the process, each with competing priorities and goals. Some of the pain points in the management of loaner/vendor trays and implants result from busy physician offices unable to get information to vendors in a timely manner. In turn the vendors and instrument distributors cannot get the trays needed to the hospital in time which adds to the complexity of the sterile processing operations, while most hospitals are already taxed to provide sterile products in the proper condition at the specific time required. Communication is a key component of this process to ensure all parties have the right information which allows for accurate forecasting and planning. Streamlining these processes and having meaningful communication among all parties in a timely manner are crucial to the Sterile Processing Department (SPD) having adequate time to process instruments according to best practices and instructions for use (IFU's). Implementing a well-defined loaner tray management process and establishing clear and measureable expectations for all parties involved are recommended by medical organizations such as the Association for the Advancement of Medical Instrumentation (AAMI) and the International Association of Healthcare Central Service Material Management (IAHCSMM), and it has become key for survival in today's healthcare environment. IAHCSMM is a professional organization with emphasis on education and certification, while AAMI is a US based organization that establishes practice standards for medical instrumentation; they are both highly utilized sources of standards and best practices.

For years this process has been manual, and the data needed to justify resources and monitor vendor and physician office performance has been hard to capture. It is difficult to hold anyone accountable without precise and accurate data. Challenges associated with loaner tray management can be addressed by having a set of well-defined processes, buy-in from all stakeholders, and feedback mechanisms in place for management of "process drift." Using automated tools for management of the process

and data allows the staffs in the operating room (OR) and SPD to focus on OR efficiency, patient safety, and adherence to standards for best practice in sterile processing. Discovery and mapping out the process is the first step in understanding what resources and applications are necessary for achieving maximum efficiency and effectiveness.

In addition the volume of surgical procedures continues to rise. By 2030 the demand for hip and knee replacement surgeries is expected to increase by more than 600%, which is a projection of about 4.5 million surgeries. Additionally, the costs to a hospital for conducting these procedures are quite expensive. Knee replacement costs range from \$11,317 to \$69,654, and hip replacement costs range from \$11,327 to \$73,987 (Blue Cross Blue Shield Association & Blue Health Intelligence, 2015). With increasing costs and decreasing reimbursements, hospitals could be facing serious financial instability in the future due to the steep increase in the amount of hip and knee replacement surgeries.

Reimbursements for these procedures have been on a steady decline, while acute care medical centers and ambulatory surgery centers (ASCs) are forced to maintain and improve the level of patient care with fewer and fewer resources. One minute of operating room time can average \$25.00 [1]. The cost to process one tray of surgical instruments can cost as much as \$43.02 [2]. By redesigning and deploying a more streamlined process for the procurement of surgical equipment and instruments, these healthcare organizations can benefit from proven financial gains. Most importantly, the level of care and safety provided to patients can be increased by eliminating common errors. Financial gain is only a small piece of the puzzle when discussing the advantages of a

seamless loaner process. Both IAHCMM and AAMI have put together a set of guidelines to help hospitals create the ideal

Financial impacts of lost OR time per specialty [1,2]

	Average case time (minute)	Average surgeon wait time for instrumentation	Average cost for 1 minute of surgery time[1,2]	Average cost per specialty
Otolaryngology	83	1.8	\$25.00	\$ 37.35
Plastic surgery	133	1.6	\$25.00	\$ 53.20
Bariatric surgery	156	3.2	\$25.00	\$124.80
Neurosurgery	133	5.9	\$25.00	\$196.18

workflows. Although these workflows alone can be extremely helpful, there are solutions like UniteOR that not only help to manage and automate these processes but also provide insightful data to measure and analyze performance.

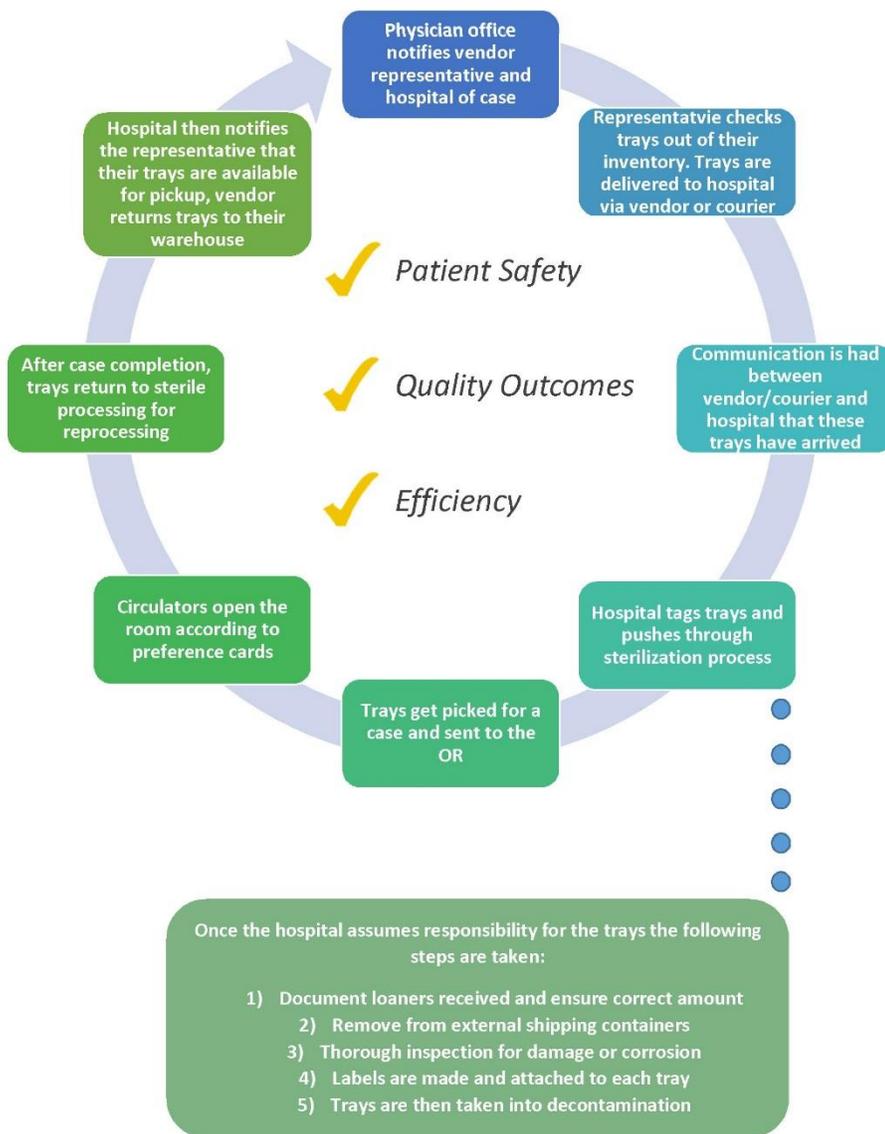
When extensive time is spent interacting with vendors, trays are often late; instruments are missing; or trays are reprocessed that do not need to be - CSP workflow is disrupted. If the improper sterilization technique is used due to lack of access to IFUs or, worst case scenario, immediate-use steam sterilization (IUSS) is used, patient safety and surgical site infection (SSI) are directly and negatively impacted. The questions to be asked are: What causes these disruptions? Why is an instrument missing and how can that be prevented?

Although sterile processing is a fundamental operation to ensure proper instrumentation sterilization and patient safety, the perioperative and supply chain or materials

management organizations can also benefit from solutions like UniteOR. A number of broad healthcare market dynamics have driven the increase in importance of surgical instrument supply chain management and the need to better manage consigned and loaner surgical trays. As the industry moves more toward Value-Based Care (VBC) while doing more with less, healthcare organizations and health systems are looking for ways to reduce OR costs of implants, surgical instruments, as well as the complex yet critical just-in-time logistics of such products. Getting the right products at the right time for the right surgical procedure or surgery case not only saves costs but has a tremendous impact on patient safety, hospital acquired infection (HAI) control, quality and outcome of the procedure, readmission avoidance, patient satisfaction, and physician or surgeon satisfaction. Additionally, with Accountable Care and value based

reimbursement models already hitting the industry (i.e., bundled payment), the clinical supply chain function and leaders thereof are key stakeholders in the surgery processes to ensure the three key measurements of the Triple Aim are met - quality, outcome, and cost. Assuring the Triple Aim also directly impacts OR revenue for a healthcare organization which many generate 50% or more from surgical procedures. Lastly, supply chain executives are often involved in the decision making process of solution selection for consigned and loaner surgical tray management since they have a holistic view of the entire organization's supply chain data which includes surgical supply chain. No longer can enterprise resource planning (ERP) or enterprise material management systems take a monolithic approach yet disjointed view of clinical supply chain data, since

## Loaner Tray Process



surgical instruments are sometimes 35% or more of the costs, and overall procedures are significant revenue drivers for the organization.

The high level loaner tray process usually begins with the physicians and their offices. The request for trays and implants is generated using various methods for communication, (i.e., telephone, emails, faxes, etc.). This communication includes what instrumentation system is needed for the procedure which is relayed to both the vendor and the hospital. The instrument system and any associated implants are then ordered by the vendor and signed out of their inventory where either the manufacture or vendor delivers directly or sends via a courier. The sets then arrive at the hospital, and the handler communicates with either the OR or SPD staff that the trays have arrived. Implants are often kept in or near the operating room, and the trays are sent to SPD for check in, decontamination, packaging, sterilization, and distribution. The use of automation throughout this process greatly assists in identification of process break downs and constraints. There is an explicit need for established expectations among all parties involved. Systems that capture time stamps and report data allow the ability to pinpoint breakdowns and fix them accordingly, as well as clarify accountability. Determining communication gaps and identifying instrumentation issues are half of the battle.

In order to demonstrate the return on investment (ROI) and help solve customer pain points in the loaner tray process, UniteOR, Inc. initially developed and implemented its cloud-based surgical tray tracking and vendor management software solution in three acute care medical centers with an average size of 339 beds. The objective was to improve communication among OR, sterile processing staff, and vendor representatives and positively impact the aforementioned scenarios. Prior to implementation, all three hospitals completed a company provided ROI calculator. The purpose of the ROI calculator was to identify specific problem areas and what the facilities' financial burdens were to manage vendor representatives and the surgical equipment, implants and service they provide. The results are displayed in the following table.

Significant pain areas as expressed in the ROI document

Pre-ROI	Monthly labor costs (per hour) utilized interacting with vendors organizing instrumentation & case coverage with vendors	Monthly financial cost caused by case delays due to missing or unsterilized instrumentation	Monthly financial cost created due to the reprocessing of trays that were needlessly opened during surgery
Hospital #1	\$956.25	\$2,125.00	\$ 914.28
Hospital #2	\$573.75	\$8,606.25	\$ 731.43
Hospital #3	\$318.75	\$2,337.50	\$1,062.50
Avg Cost	\$616.25	\$4,356.25	\$ 902.74

The following changes were made to the current procurement processes, policies, and procedures: Vendor representatives were no longer notified manually via phone, fax, and paper. Instead, they were notified via automated text messages and emails delivered by the solution. In addition vendors were required to confirm the procedure via the solution within 48 hours of the case start time. They were also required to use the solution to provide the following information: tray quantities, what to be held and opened, and identification of whether each tray was consigned or loaned. If loaned they

informed the facility how and when trays will have arrived. The sterile processing staff was then required to provide confirmation of the tray arrival and if all trays requested were on site. The trays were pictured using a PC or UniteOR provided handheld tablet, and proper picklists for the vendor provided equipment were printed and applied to the case cart.

At an average of four (4) months post implementation, the three (3) facilities again completed the ROI calculator. UniteOR's findings showed an average of 62% decrease in time spent communicating and coordinating vendor representatives and an average of 30% decrease in case cancellations or delays. The company also discovered an average of 32% decrease in the need to reprocess trays that should have never been opened initially. See table below.

Significant pain areas as expressed in the ROI document

Post-ROI	Monthly labor costs (per hour) utilized interacting with vendors organizing instrumentation & case coverage with vendors	Monthly financial cost caused by case delays due to missing or unsterilized instrumentation	Monthly financial cost created due to the reprocessing of trays that were needlessly opened during surgery
Hospital #1	\$382.50	\$1,062.50	\$ 548.95
Hospital #2	\$229.50	\$1,593.75	\$ 182.86
Hospital #3	\$157.25	\$1,275.00	\$ 365.71
Avg Cost	\$384.63	\$1,310.42	\$ 284.57
Avg Saving	\$231.62	\$3,045.83	\$ 307.76
		Total Monthly Avg Saving	\$3,585.21

Acute care medical centers and ASCs rely heavily on vendor representative participation. Managing vendor representatives can prove to be a significant financial and time burden. Furthermore, inadequate communication between the facility staff and vendor representatives can result in an unsatisfactory level of care provided to the patient, negative impact to patient safety, and physician frustration. Utilizing current technology to manage the procurement process is a path that is both realistic and achievable. The results can be a significant decrease in time and dollars spent managing the surgical instrumentation procurement process.

UniteOR is a solution helping hospitals meet the goals of having instruments properly sterilized, complete, and on time for every surgical case. This is the mission of every Central Sterile Processing, Perioperative and Supply Chain Department. A formalized loaner tray process that comes with performance expectations is extremely important. Meaningful data generated in the process when properly captured, reported, and analyzed will provide all levels within the healthcare organization to understand where the performance gaps may lie. UniteOR does not concentrate on only checking in trays and instrumentation but provides utilization for every single representative who enters your facility and effectively completes the entire vendor process by closing the gaps between OR, physicians, vendor, and CSP. Loaner trays come into facilities and add complexity to an already complex process. Loaner and consigned instrumentation are a way of life for hospitals, and using solutions like UniteOR will help OR and SPD ensure the correct rep, tray, case, patient, and physician are following the correct policies and procedures set forth by the institution.

Works Cited:

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