MOBILE ASPECTS

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Case Study: Major Academic Medical Center Adopts iRIScope To Increase Scope Security And Accountability

A major US academic medical center has implemented iRIScope from Mobile Aspects to help improve the processes around flexible endoscope storage and documentation. The hospital regularly ranks as one of the nation's best on *U.S. News and World Report's* Honor Roll rankings. The hospital performs approximately 10,000 endoscope-related procedures per year in its perioperative and endoscopy practices. With nearly 80 scopes under management, and procedures taking place in multiple buildings across its campus, keeping track of their endoscopes and documenting the highest levels of adherence to reprocessing protocols have proven to be difficult tasks. The hospital has turned to iRIScope software and smart cabinets from Mobile Aspects to help improve its endoscope management practices.

Facility Type

Academic Medical Center

Department

Perioperative and Endoscopy Services

Solution

iRIScope Endoscope Lifecycle Management Software

Results

- Increased accountability for scope transactions
- Extra layer of security
- Detailed analytics and reports
- Patient safety alerts

Identifying Areas of Improvement to its Current Processes

"Before bringing this system in, we were living in the past," explains the Director of Central Sterile Processing. "We had written logs. We were using an honor system and hoping people were writing down information as they were taking scopes in and out of clean storage. At the end of the day, we weren't sure who was taking out a lot of our scopes or where they were going."

Written logs are a common practice for identifying which staff and physicians are removing scopes for which procedures, but such protocols can lead to dangerous and expensive consequences.

"Over the 18-month period before bringing in iRIScope, we had 8 or 9 scopes disappear on us. They were walking away, and we weren't even sure where," says the Director of Central Sterile Processing.

At an estimated $25,000-$40,000 per flexible endoscope, the disappearing scopes were having a sizeable financial impact.

Having previously served as a Manager in the OR and Endoscopy Suite, the Director of Central Sterile Processing has seen both sides of the endoscope management lifecycle – the usage of endoscopes in the Operating Rooms and Endoscopy suites and the reprocessing of endoscopes in Central Sterile Processing. Prior to bringing in the new software system, the only electronic record for endoscope reprocessing compliance was recorded by the Medivators automated endoscope reprocessors (AERs) in Central Sterile Processing.

"Medivators washers do a very good job of reprocessing our flexible endoscopes. But needing to go in and pull the AER data out of the washers with a USB dongle – I feel like this technology advance actually hurt us. The AERs don't work with other systems and don't capture all of our reprocessing steps. Those issues, coupled with the difficulty of accessing and analyzing the data, made us look for another system to document every single step of the disinfection process."

The hospital also wanted to tighten up the manual processes used to adhere to its already strong patient safety policies. The hospital employs a strict 7-day end-of-life policy for all of its flexible endoscopes. Any scope not used within 7 days of its most recent high-level disinfection is required to be reprocessed before being used in another procedure. To manage this process, the hospital affixed paper tags to every scope after reprocessing that showed the end-of-life date for that scope. In order to reprocess any scopes reaching the end-of-life limit, the staff was required to check all tags on all scopes manually every day.

Identifying a Solution

The hospital began working with Mobile Aspects during the build out of its Ambulatory Center in 2013. At the time, the hospital was looking to employ leading technologies in this new center, and iRIScope was implemented to track the approximately 20 scopes in that facility. When the endoscopy team at the main hospital was looking to upgrade its endoscope management practices, iRIScope was a natural fit.

The desire to move away from pen-and-paper based processes to a more automated way of tracking scope usage and reprocessing played to iRIScope's strengths. The ability to layer in an extra layer of security with iRIScope smart cabinets to protect their expensive endoscopes was also appealing to the hospital's team.

In 2016, the hospital deployed iRIScope software and smart cabinets in 3 different areas within the hospital.

Seeing Huge Improvements in Endoscope Management Process

Since starting to use iRIScope in 2016, the Director of Central Sterile Processing has identified some major improvements in managing the flexible endoscope fleet in the hospital.

1 Accountability

Since deploying iRIScope, the hospital has embraced the ability to increase the level of accountability among the staff who manage the hospital's flexible endoscopes.

> As the Director of Central Sterile Processing puts it, "We're able to hold the staff accountable because they're logging in and out of the systems with their badge. You can see who is doing the work and who isn't."

Having that additional level of accountability ensures that the Director of Central Sterile Processing knows who is completing and documenting all of the endoscope reprocessing steps each time – and more importantly who isn't. He is now able to identify which staff need to be re-trained on reprocessing best practices to make sure that the highest levels of quality are maintained.

2 Security

With iRIScope smart cabinets now housing the entire fleet of endoscopes at the hospital, the Director of Central Sterile Processing's issue with disappearing scopes has disappeared itself.

Automated Scope Monitoring Workflow

Endoscope reaches shelf-life limit → Re-wash alert is generated by software → Real-time alert is sent to your phone → Endoscope is located by employee for reprocessing

As he elaborated, “We’re now tracking where our scopes are and making sure they’re not walking away. We’re even able to give access only to certain cleared personnel, like nurses and the cleaning staff.”

With this extra layer of security, the Director of Central Sterile Processing is now assured that only those who should be accessing his scopes are able to. This reduces the amount of time that his staff spends hunting down missing scopes, and makes sure that when scopes are required for a case, his staff knows exactly where to locate them.

“I love the simplicity of getting scopes in and out of your cabinets. I don’t have to tell someone to go search and hunt them down. They know exactly where they are and can search for the last person to use them if needed.”

3 Electronic Documentation and Analytics

With iRIScope software now installed in Central Sterile Processing, the department has now moved to all-electronic records to track all the reprocessing steps for each scope. Prior to installing iRIScope, the reprocessing staff was manually logging steps using paper – a highly inefficient and error-prone process.

As the Director of Central Sterile Processing noted, “If someone misses a step at a reprocessor, I can go back and check with the cleaner or check the machine to make sure it was washed properly.”

Built in reports and advanced analytics allow the Director of Central Sterile Processing and his team to identify breakdowns in process and take appropriate steps to correct them. The built-in analytics also allow the hospital to improve operationally within the Operating Rooms and Endoscopy areas. For example, the hospital is also able to understand which scopes are being used more often than others in an effort to better balance usage. This can help reduce wear-and-tear and the associated repair costs for damaged scopes.

4 Scope Safety and Patient Safety Alerts

With the built-in intelligence of iRIScope software, the Director of Central Sterile Processing is now able to take advantage of real-time email alerts to make sure his scopes can’t disappear.

Automated Missing Scope Alerts

Scope reaches user-designated threshold for missing scope alert (e.g. 24 hours) since it was last seen by the system → Missing scope alert is generated by software → Real-time missing scope alert is sent to your inbox → Endoscope can now be located by staff using information from alert such as last known user, last known location and time of last use

"The missing scope alerts are a nice benefit. We recently had a physician who took a bronchoscope out for a case. They ended up not using it and it remained by the patient's bedside. With the alert, we were able to track it down without a lot of wasted effort."

The hospital is also having an easier time maintaining its strict 7-day end-of-life policy. They have always kept a close eye on this as an organization, but previously this required a lot of manual effort and valuable time.

According to the Director of Central Sterile Processing, "With the email alerts now enabled, we get an end-of-life alert on day 6, right before a scope reaches its limit. I can then take that information to someone on my staff who can take it right out of storage and down to Central Sterile."

"The beauty of the system is that it's automated, and you're moving to a much more advanced way of creating reports and tracking reprocessing and usage."

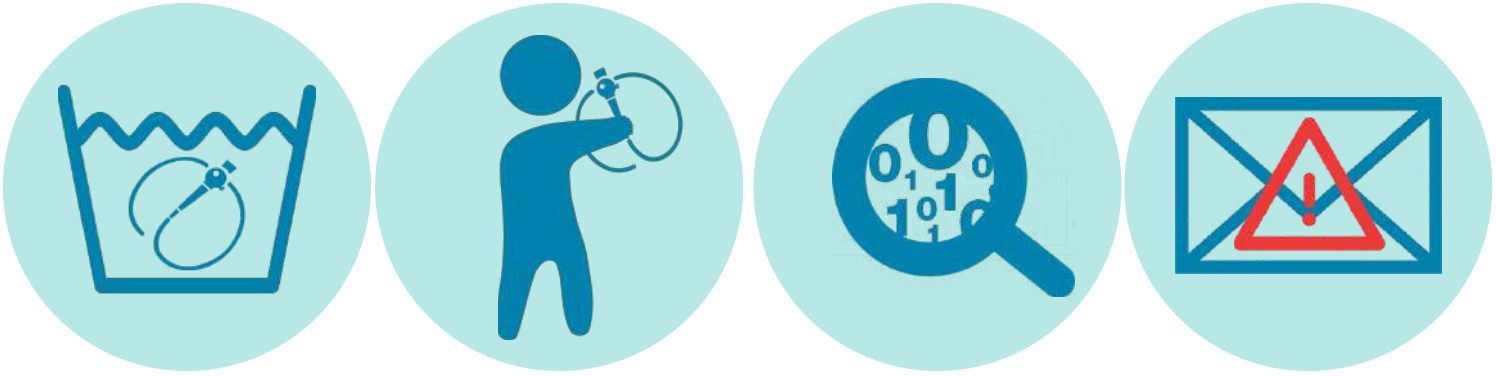
The days of pen-and-paper audit trails, disappearing scopes and an honor system for taking scopes out of storage are in the past.

> I'm not worried about losing scopes any more. I'm not worried about what my staff is doing. It's one less thing to worry about – I know your cabinets are there and they're working, and people can't get around them.
>
> *Director of Central Sterile Processing*

Final Thoughts

The Director of Central Sterile Processing and his staff are enjoying the benefits of an all-electronic documentation system to manage their large and growing fleet of flexible endoscopes.

Patient Safety Alerts from iRIScope



Staff goes through their standard operating procedure for reprocessing endoscopes → Endoscopes are hung in clean storage for their next use in a procedure → iRIScope scans the newly added endoscope to ensure that all proper cleaning steps were followed before return to clean storage → If iRIScope detects any missed steps, an automated email alert is sent to supervisors to take action before the scope can be used in another procedure

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The opportunities for improvement were identified through several pursuits.

1. *Improving Accountability.* The first pursuit related to the need to improve the levels of security for device and implant storage, and in turn organizational accountability for their utilization. With their current open-shelf system, there were few mechanisms that helped maintain a secured environment for managing access to the items and prohibiting inappropriate utilization. Without controlled access to the items, there was an inability to accurately track and manage utilization patterns and inventory levels, as well as an increased exposure for loss, damage, and theft.

2. *Enabling Perpetual Inventory.* The second pursuit related to the organization's interests in moving towards a more perpetual model of inventory procurement and replenishment. As the increasing volumes of device and implant utilization were combined with the high costs of acquisition, it was important for the organization to streamline their procurement processes and optimize their inventory levels to avoid tying up organizational capital on inventory items.

3. *Supporting Patient Care Needs.* Given the critical importance the devices and implants played in their surgical procedures, it was important that the organization pursue an effort to avoid any incidents where needed items were unavailable during the time of procedures due to 'stock out' occurrences. With a goal to provide the highest levels of patient care while also maximizing the available procedure time within the operating suites, any delays in the completion of cases would be detrimental to the performance of the organization. In order to balance item availability with their joint pursuit of a perpetual inventory approach, it was imperative that inventory PAR levels were accurately set to align with expected case volumes and utilization patterns.

> The benefit for our organization to move towards a system of perpetual inventory management has been huge. With the iRISupply system as a key contributor to those efforts, we've been able to more effectively manage our utilization of expensive devices and implants. As we look towards expanding its deployment to additional areas within our Perioperative Services, we will continue to see great strides in our inventory management capabilities.
>
> *Director of Finance and Business Operations, Perioperative Services*

Finding a Solution - iRISupply

After evaluating traditional inventory management solutions that used manually dependent technologies such as barcoding, Perioperative Services engaged Mobile Aspects to assist with their inventory management improvement efforts. Due to its unique item level tracking and management capabilities enabled through radio frequency identification (RFID) technology, it was clear to the organization that the RFID-based iRISupply solution offered a significant advantage when compared to other vendors.

With respect to their pursuits, the system offered a secure, controlled environment for device storage due to its closed-cabinet design and user login technology. Through its RFID-enabled tracking architecture, all individual items stored within the system are continuously monitored, tracked and accounted for, making detailed sets of data available for the analysis of utilization patterns and identification of optimal PAR levels. Lastly, through a web based software application to view real-time data on inventory levels, daily usage, patient specific case data, and other items, the system makes a comprehensive view of inventory status readily available.