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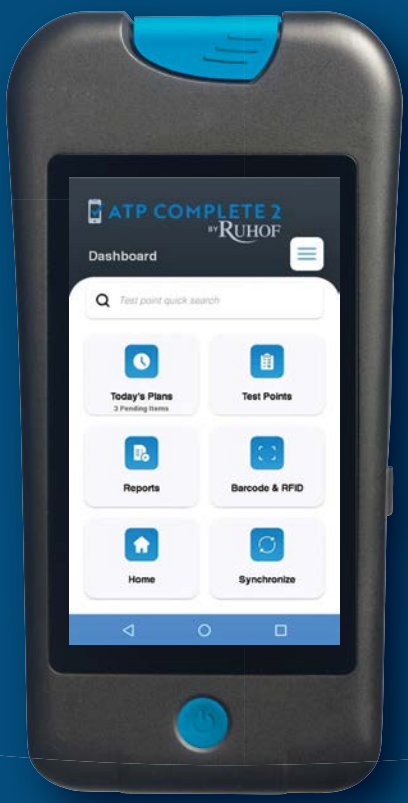


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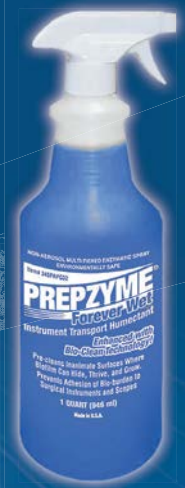


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## NEWS



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**Wasting Syndrome: How Much Trash Do Hospitals Produce? Nina Rastogi, Slate.com, http://www.slate.com/articles/health_and_science/the_green_lantern/2010/10/wasting_syndrome.html*

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# Cobots, Robots and Wearables

**Rick Dana Barlow**
**Senior Editor**

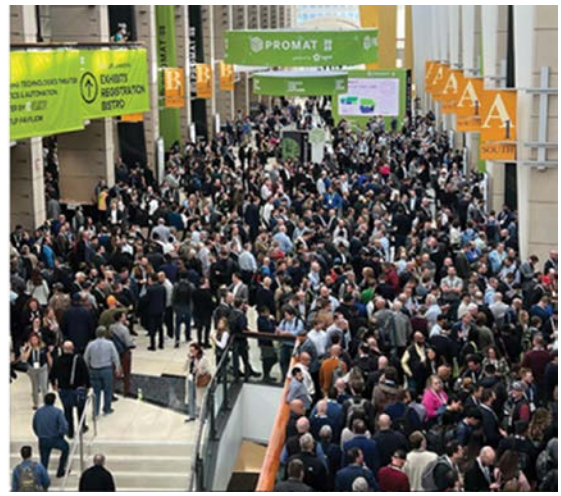
CHICAGO – The last time the Material Handling Institute's (MHI) venerable ProMat show rolled into the vast McCormick Place here, logistics and supply chain attendees bore witness to dozens of exhibitors demonstrating collaborative robotic arms (a k a "cobots"), some of which performed in synchronous fashion (yes, to music) like can-can dancers at the cabaret Le Lido on the Champs-Élysées in Paris.

The year was 2019. You know what happened within 12 months that stifled trade shows and travel opportunities.

Four years later, back in late March, ProMat returned with vigor and volume.

This time, however, while cavorting cobots were present and performing, they were no longer the belle of the ball. That visual recognition passed to automated guided vehicles (AGVs) and autonomous mobile robots (AMRs), transforming ProMat's extensive footprint spanning the 1.2 million square feet of the North and South Halls into something resembling the Chicago Auto Show's test tracks occupying the space a month earlier.

Attendance-wise, ProMat also returned with a vengeance. Host MHI reported that the event drew 12% more registered attendees at nearly 51,000 during the four-day event that took place March 20-24, and that international attendee numbers rebounded, representing 178 countries.




Digital supply chain solutions seemed the dominant discussion and education trend among the keynote and seminar tracts as well as the dominant theme woven throughout the booths occupied by 1,051 exhibitors. In fact, key themes centered on automation, robotics, artificial intelligence (AI), autonomous vehicles, augmented reality (AR), the Internet of Things (IoT), and end-to-end data transparency as well as the bread-and-butter products and technology of containers, conveyors, horizontal and vertical carousels, cooling fans and forklifts and a growing number of wearables for computational tracking and physical exertion and posture protection.

In fact, cooling fans are growing even more gigantic, forklifts are sporting more elite and luxuriant automation capabilities and logistics-oriented wearables are transforming warehouse staff into a prototypical version of Marvel's Iron Man-as-designed-by-supply-chain intelligence. Further, wearables manufacturers are itching to expand beyond the storeroom and warehouse into largely uncharted (but not unknown) areas. Like what? How about the operating room (OR) in surgical services?


And what's a trade show without cool swag? Most popular among the myriad branded bawbles, doodads, squeakers and squeezables was found at SICK's booth where the manufacturer of industrial sensors, encoders,

*See **Buyline** on page 8* ▶



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## Sterile Processing professionals profile

**Sterile Processing Technicians play a vital role in our healthcare facilities, cleaning, maintaining, and managing the very tools and products that are essential to surgeries and procedures. So, who are the people that are typically employed in these roles?**

There are over **49,205** sterile processing technicians currently employed in the United States. **61.7%** of all sterile processing technicians are women, while **38.3%** are men.

The average age of an employed sterile processing technician is **42** years old.

The most common ethnicity of sterile processing technicians is White **56.4%**, followed by Hispanic or Latino **18.0%**, Black or African American **9.9%** and Asian **9.5%**.

Sterile processing technicians are most in-demand in Los Angeles, CA, where the annual average wage of **$57,110** is the highest in the U.S.

In 2021, women earned **95%** of what men earned.

Sterile processing technicians are **89%** more likely to work at private companies in comparison to education companies.

https://www.zippia.com/sterile-processing-technician-jobs/demographics/

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# NEWSWIRE

## GHX recognizes the best in healthcare supply chain

Global Healthcare Exchange (GHX) has announced its list of the Best 50 supply chains for 2022, which recognizes the top performing hospitals and health systems in North America. These 50 distinguished provider organizations are standard-bearers for the industry, improving operational performance while driving down costs through supply chain automation and innovation. This year's recipients will be honored at the 2023 GHX Summit taking place May 9 -12, 2023 at the Hilton Chicago.

"To earn Best 50 status, these leaders demonstrated their commitment to achieving the highest levels of efficiency within the hospital supply chain," said Tina Vatanka Murphy, president and CEO, GHX. "Organizations like these understand that stronger, more resilient supply chain operations are critical to the success of healthcare organizations and their ability to deliver affordable, quality patient care for all. Congratulations to this year's honorees!"

Best 50 honorees are selected from more than 4,100 provider organizations connected to the GHX digital trading platform. Top performing organizations are identified and ranked based on key supply chain metrics such as purchasing volume, exception rates, exchange utilization and number of trading partner connections during the 2022 calendar year.

Read on: https://hpnonline.com/53028697

## End of COVID emergency brings changes to healthcare

The Biden administration's decision to end the COVID-19 public health emergency in May will institute sweeping changes across the healthcare system that go far beyond many people having to pay more for COVID tests. In response to the pandemic, the federal government in 2020 suspended many of its rules on how care is delivered. That transformed essentially every corner of American healthcare — from hospitals and nursing homes to public health and treatment for people recovering from addiction. Now, as the government prepares to reverse some of those steps, here's a glimpse at ways patients will be affected.

The end of the emergency means nursing homes will have to meet higher standards for training workers. Advocates for nursing home residents are eager to see the old, tougher training requirements reinstated, but the industry says that move could worsen staffing shortages plaguing facilities nationwide.

In the early days of the pandemic, to help nursing homes function under the virus's onslaught, the federal government relaxed training requirements. The Centers for Medicare & Medicaid Services instituted a national policy saying nursing homes needn't follow regulations requiring nurse aides to undergo at least 75 hours of state-approved training. Normally, a nursing home couldn't employ aides for more than four months unless they met those requirements.

Last year, CMS decided the relaxed training rules would no longer apply nationwide, but states and facilities could ask for permission to be held to the lower standards. As of March, 17 states had such exemptions, according to CMS, as did 356 individual nursing homes.

Read on: https://hpnonline.com/53042695

## Increased threat of fungus spread in healthcare facilities

Candida auris (C. auris), an emerging fungus considered an urgent antimicrobial resistance (AR) threat, spread at an alarming rate in U.S. healthcare facilities in 2020-2021, according to data from the Centers for Disease Control and Prevention (CDC) published in the Annals of Internal Medicine. Equally concerning was a tripling in 2021 of the number of cases that were resistant to echinocandins, the antifungal medicine most recommended for treatment of C. auris infections.

In general, C. auris is not a threat to healthy people; however, people who are very sick, have invasive medical devices, or have long or frequent stays in healthcare facilities are at increased risk for acquiring C. auris. CDC has deemed C. auris as an urgent AR threat, because it is often resistant to multiple antifungal drugs, spreads easily in healthcare facilities, and can cause severe infections with high death rates.

"The rapid rise and geographic spread of cases is concerning and emphasizes the need for continued surveillance, expanded lab capacity, quicker diagnostic tests, and adherence to proven infection prevention and control," said CDC epidemiologist Dr. Meghan Lyman, lead author of the paper.

Read on: https://hpnonline.com/53029217

## Chemical linked to 500% increased risk of Parkinson's

A common and widely used chemical may be fueling the rise of the world's fastest growing brain condition—Parkinson's disease. For the past 100 years, trichloroethylene (TCE) has been used to decaffeinate coffee, degrease metal, and dry

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clean clothes. TCE causes cancer, is linked to miscarriages and congenital heart disease, and is associated with a 500% increased risk of Parkinson's disease.

In a hypothesis paper in the Journal of Parkinson's Disease, an international team of researchers—including University of Rochester Medical Center (URMC) neurologists Ray Dorsey, MD, Ruth Schneider, MD, and Karl Kieburtz, MD—postulated that TCE may be an invisible cause of Parkinson's.

In the paper they detailed the widespread use of the chemical, the evidence linking the toxicant to Parkinson's, and profile seven individuals, ranging from a former NBA basketball player to a Navy captain to a late U.S. Senator, who developed Parkinson's disease either after likely working with the chemical or being exposed to it in the environment.

The connection between TCE and Parkinson's was first hinted at in case studies more than 50 years ago. In the intervening years, research has shown that TCE readily enters the brain and body tissue and at high doses damages the energy-producing parts of cells known as mitochondria. Individuals who worked directly with TCE have an elevated risk of developing Parkinson's. However, the authors warn that, "millions more encounter the chemical unknowingly through outdoor air, contaminated groundwater, and indoor air pollution."
Read on: https://hpnonline.com/53029229

## Early menopause, later hormone therapy may increase risk of Alzheimer's

Women are more likely than men to develop Alzheimer's disease (AD), with women making up two-thirds of the population living with AD. A new study, led by Mass General Brigham researchers, sheds light on the relationship between the risk of Alzheimer's disease and age of menopause and use of hormone therapy (HT). The results, published in JAMA Neurology, indicate that early age at menopause may be a risk factor for AD dementia, but that women who were prescribed HT around the age of menopause onset did not show increased risk.

"HT is the most reliable way to ameliorate severe menopause symptoms, but over the last few decades, there has been a lack of clarity on how HT affects the brain," said corresponding author Rachel Buckley, PhD, of the Department of Neurology at Massachusetts General Hospital (MGH), a founding member of the Mass General Brigham healthcare system. "We found that the highest levels of tau, a protein involved in Alzheimer's disease, were only observed in hormone therapy users who reported a long delay between age at menopause onset and their initiation of hormone therapy. The idea that tau deposition may underlie the association between late hormone therapy intervention and Alzheimer's disease dementia was a huge finding, something that hadn't been seen before."

Premature menopause, defined as menopause that occurs spontaneously before the age of 40 or due to surgical intervention before the age of 45, has been associated with increased risk of AD dementia. HT improves many severe symptoms related to menopause and has been hypothesized to also prevent cognitive impairment. However, two decades ago, the seminal Women's Health Initiative (WHI) study found that HT use was associated with a nearly two-fold higher incidence of dementia compared to a placebo among women aged 65 years and older, possibly due to the initiation of HT many years after menopause onset.
Read on: https://hpnonline.com/53056349

## WHO updates guidance for COVID-19 vaccinations

Following its March meeting, WHO's Strategic Advisory Group of Experts on Immunization (SAGE) revised the roadmap for prioritizing the use of COVID-19 vaccines, to reflect the impact of Omicron and high population-level immunity due to infection and vaccination.

The roadmap continues SAGE's prioritization of protecting populations at the greatest risk of death and severe disease from SARS-CoV-2 infection and its focus on maintaining resilient health systems. The roadmap newly considers the cost-effectiveness of COVID-19 vaccination for those at lower risk – namely healthy children and adolescents – compared to other health interventions. The roadmap also includes revised recommendations on additional booster doses and the spacing of boosters. The current COVID-19 vaccines' reduction of post-COVID conditions is also considered but the evidence on the extent of their impact is inconsistent.

"Updated to reflect that much of the population is either vaccinated or previously infected with COVID-19, or both, the revised roadmap reemphasizes the importance of vaccinating those still at-risk of severe disease, mostly older adults and those with underlying conditions, including with additional boosters," stated SAGE Chair Dr. Hanna Nohynek. "Countries should consider their specific context in deciding whether to continue vaccinating low-risk groups, like healthy children and adolescents, while not compromising the routine vaccines that are so crucial for the health and wellbeing of this age group." HPN
Read on: https://hpnonline.com/53042844

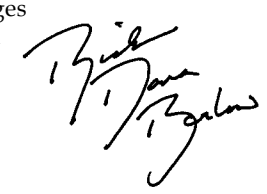
◀ ***Buyline*** *from page 4*

analyzers and other factory, logistics and process automation technology, was handing out battery-powered glowing blue plastic lightsabers that might have motivated Luke Skywalker to welcome all the ProMat Jedi if he weren't rendered a Force ghost in the Star Wars sequels.

MHI also released its 2023 Annual Industry Report, "The Responsible Supply Chain: Transparency, Sustainability, and the Case for Business," the 10th in a series of annual industry reports published by MHI and Deloitte that "provides updates on the innovative technologies that have the most potential to transform supply chains into more transparent, sustainable, and responsible operations."

The report highlighted results from a survey of more than 2,000 supply chain professionals that found that 74% of supply chain leaders plan to increase their supply chain technology and innovation investments. Two noteworthy subsets: 90% plan to spend more than $1 million and 36% plan to spend more than $10 million, all of which is geared around improving supply chain resiliency, transparency and sustainability as well as addressing the ongoing labor shortage, according to MHI.

Visit HPN Online for a more complete exhibit hall report on many of the tools and toys trends as well as exclusive interviews with on-site supply chain executives about storeroom and warehouse design challenges tied to this month's feature on storeroom/warehouse workflow improvements.



*Senior Editor Rick Dana Barlow can be reached at rickdanabarlow@wingfootmedia.biz.*

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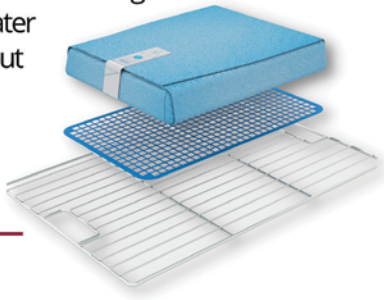

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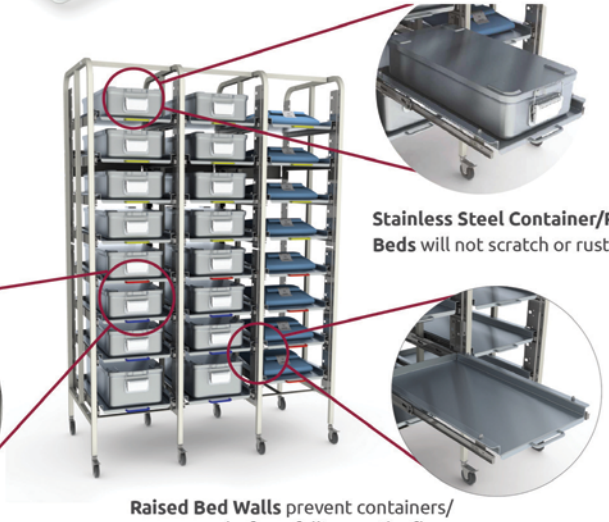

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# Revolutionizing storeroom, warehouse workflow pairs human with machine

## *Automation options augment leader, worker ingenuity*

*by Rick Dana Barlow*

Illustration 144813767 © Mast3r | Dreamstime.com

If shelving and storage serve as the bones and the skeleton of a storeroom or warehouse (see the April 2023 edition of *Healthcare Purchasing News* for the prequel, https://hpnonline.com/53027220), then the aisles and walkways, laden with humans scurrying about and vehicles scooting around, serve as the arteries and veins that support clinicians and administrators who deliver patient care and customer service, respectively.

Depending on the storeroom or warehouse footprint and layout, a healthcare organization may need some type of fulfillment traffic controller or coordinator – be that human or technology – just to keep the circulation flowing.

With the COVID-19 pandemic fomenting a labor crunch during the last several years that continues to afflict business and industry in general, many organizations are investigating and turning to technology to offset the lack of manpower as well as to generate financial and operational efficiencies.

One area attracting heavy Supply Chain concentration involves configuring and redesigning the layout of the storeroom or warehouse to revolutionize – if not streamline – workflow.

### Digital domains

As the healthcare industry may not enjoy the spatial resources of other industries, supply chain leaders in healthcare must conjure up creative designs and outlines for the footprint in which they control.

It's all about planning strategically and acting tactically, and knowing when to implement the appropriate technology, according to Cory Turner, CMRP, senior director, Healthcare Strategy & Product Marketing, Tecsys Inc. Turner should know as he spent eight years at Greenville (SC) Health System's Materials Distribution Center, leaving in 2016 as director of the GHS Regional Distribution Center. GHS earned *HPN*'s Supply Chain Department of the Year Award in 2013.

***Cory Turner***

"I've worked with many healthcare organizations that felt they were splitting at the seams and were on the hunt for larger facilities, but that may just be a symptom of planning tactically," Turner observed. "Some strategic re-engineering and new technology integration often resolves capacity challenges and avoids the cardinal sin of simply transplanting the same inefficiencies that got you into trouble.

"At the end of the day, it is next to impossible to set up your storeroom properly without visibility into where your workflow problems exist," Turner continued. "Even the most seasoned supply chain professional's intuition can benefit from the kinds of visibility that the right technology system can provide.

Think digitally, Turner advises. "Take, for instance, the emerging world of digital twinning, which is now being embedded into warehouse management software like Tecsys' Elite WMS," he said. "Being able to digitally map your areas of high interactivity helps you digitally visualize and address bottlenecks. With those data insights in hand, it may be suitable to solve for bottlenecks with low-tech automation like conveyors and sortation systems, or more high-tech systems such as [automated storage and retrieval systems] or [autonomous mobile robots]. But it could also be as simple as relocating your fast movers and optimizing picking routes. Being able to see and manipulate your warehouse with technology allows you to make strategic decisions while driving tactical improvements."

Timing and review frequency remain key matters to manage a warehouse optimally, recommends TJ Fanning, COO, SVT Robotics.

***TJ Fanning***

"Unfortunately, most organizations only consider the storage locations of their inventory when they are initially setting up their warehouse or storerooms, but even then, it just becomes a discussion point around the difficulty of keeping it

optimized," Fanning noted. "In many cases this is because 'inventory management' is solely considered to be maintaining accurate inventory levels to match financials, as well as minimize out-of-stocks or mis-picks — but who is responsible for optimizing operational performance?

"When considering the design of your existing warehouse or storeroom, it's critically important to understand the frequency at which the requirements change, and to what level of variability. These two metrics will define the level of optimization required in your facility," he emphasized.

When inventory variability is low and requirements are fairly well-known, Fanning recommends performing a slotting analysis of items based on ergonomic picking conditions, the [stock-keeping unit] ABC curve and order container requirements as the most ideal solution. "Ultimately, this will drive fixed locations to be assigned to specific SKUs to maximize the performance of individuals interacting with specific inventory," he added.

When inventory variability is high, however, and involves frequent requirement updates, then automation may be needed, according to Fanning. Automation options can range from using digital twin applications, like Verses.io to highlight inefficiencies, to more automated solutions like Kardex Solutions AutoStore ASRS, which automatically optimizes inventory locations after each interaction. "That means that inventory can be constantly optimized to not only reduce the automation requirements, but also increase operator performance, sometimes as much as 400%," he added.

Fanning calls attention to the economics of real estate.

"We are also seeing that in addition to operator efficiencies, it's critical to understand the cost of the space you are operating in," he said. "Many facilities that I walk [through] today have poor space utilization and planning, as historically that element was not of significant concern. But with the supply chain disruptions we've seen in the last 24 months, many organizations are holding additional localized inventory and therefore require additional density to prevent the need to create an expansion or migration to another facility. In these cases, we see many uses for vertical lift modules, like the Modula Slim unit, which requires a very minimal footprint but uses vertical clear height to maximize density. Additionally, the operators remain on ground level, improving efficiency and safety."


***Cardinal Health warehouse with Swisslog's AutoStore high-speed robots.***

Optimizing your storeroom and warehouse layouts and inventory is critical to maintaining service level commitments to not only your customers, but your employees, Fanning urges. "Unfortunately, this is typically thought of only when it's too late and you now must consider a new location because the current one no longer meets expectations and it's difficult to change," he added.

## Human ingenuity

***Ryan Truax***

Ryan Truax, director, Operations, Cardinal Health at-Home Solutions, understands the challenges behind building and designing warehouses to maximize process efficiencies and effectively utilize space in a market that is constrained with transportation lead times, labor market limitations, product mix variations and physical designs. Look to labor and then automation to augment, but not necessarily replace, workers.

"Organizations need to have a dynamic workforce that can be fluid in how they process material through a building," Truax indicated. "Hiring warehouse workers that have a variety of skills will enable leadership to adapt quickly to changes on the horizon. This is obviously easier said than done. That's why training is also a key component to managing a dynamic workforce. Another key component is utilizing technology to support warehouse employees and their leadership. The more automated the processes, in this sense, the better. This does not always mean more mechanical handling equipment (MHE) to process material, however, that is also key to driving efficiencies."

Still, Truax views automation through a different lens.

"Automated processes that help users make a specific decision, whether ordering additional non-inventory material or managing labor through the system, drive consistency across an operation," he noted. "Simply put, having easier decision points that are defined for the user based on a set of input parameters keeps the operation consistent. To drive the input parameters, it is key to have a set of standards or guidelines to operate across an organization. This is best set by a team of process subject matter experts (SMEs) that understand the bigger impact to multiple sites in a network."

As customer demand changes, an organization's physical layout constraints become more prominent as user processes need to drive storage space design, according to Truax.

"Having a layout that is designed with the end user in mind, along with different principles for managing the sortation of inventory in a specific location, will help drive efficient processes," he observed. "For example, managing the pick process in a facility is crucial. Maximizing the time spent picking by reducing the time spent traveling between picks is an effective way to improve warehouse design."

Truax cites the newest warehouse operated by Cardinal Health at-Home Solutions, located in Grove City, OH, as an example of forward-thinking for future picking processes. The warehouse includes Swisslog's AutoStore high-speed robots. "These robots bring products directly to our warehouse employees for packing and shipping, which not only brings more speed to order fulfillment, but also decreases human error," he said. "This type of technology is just one example of the automation we're infusing in our warehouses across the country – and for all of Cardinal Health, across the globe – we see these modernization efforts as a

top priority in creating a more efficient, resilient supply chain."

Paul Farnin, director, Supply Chain Solutions, Cardinal Health U.S. Medical Products & Distribution, agrees that because space remains a premium in the warehousing/distribution business the company focuses heavily on improving it for optimal service. Farnin further emphasizes where human ingenuity brings value versus automation.

*Paul Farnin*

"In each of our distribution centers at Cardinal Health, we have a designated role called an 'Inventory Profiler' whose responsibility it is to utilize our warehouse management system to analyze customer demand data to position our inventory in the most optimal locations," Farnin explained. "One 'rule of thumb' is to keep your fastest moving products closest to the outbound shipping dock to reduce travel time. Another strategy is to place your slower moving SKUs in the upper racks where an Order Picker (materials handling equipment) is needed, while storing your fast-moving items 'on the floor' where no heavy equipment is needed to pick these SKUs. This inventory profiling work helps improve our picking efficiency, quality and employee safety."

Designing and redesigning any storage and warehouse space should involve multidimensional thinking that relies on 2-D modeling and analysis for a 3-D perspective or "cubage," according to Emmanuel Langlois, executive vice president, Global Alliances and Partners, Generix Group North America.

*Emmanuel Langlois*

"The first step in optimizing storage space is by using data to ensure that inventory requirements are optimal," Langlois noted. "This can be achieved by using appropriate data analytics, taking into consideration demand but also average delivery delays from vendors by specific products rather than globally by vendors.

"Secondly, you should establish a few standard space sizes and determine their cubic capacity," he continued. "You should then determine the cube measure of all products and use a dynamic slotting application to determine in which location each product should be located. Dynamic slotting applications will also use other data, such as the frequency of picks to locate products based on their velocity. Such applications can present a 2-D plan to visualize the result of the simulation and allow users to make changes, if need be, prior to locating products. [See Figure 1, below.] Once the initial configuration is completed, dynamic slotting applications will propose changes based on new data such as the velocity."

From these considerations, healthcare supply chain leaders can assess such storage technology options as bulk racking, flow racking and unitary picking, for example, and such automation technology options as vertical carrousels, conveyors, shuttles and various iterations of goods-to-person robots, Langlois recommends.

Ongoing supply chain challenges, accelerated by the pandemic, such as manufacturing and distribution disruptions and changing customer demands can be diminished, if not resolved, by deploying some type of automation technology, according to Grant Beringer, vice president, Integrated Systems, Swisslog Americas. Yet the decision to automate and implementation of automation technology should not be a static move, he suggests.

"Distribution systems and supply chains need to remain agile to respond to change," Berringer noted. "That's only possible when the automation systems that are deployed can flex in size and performance over time.

"Flexible and scalable robotic automation technology enables companies to adapt to fluctuating demand and rapid growth in ways the traditional automation simply cannot," he continued. "In applications that range from pallet handling to item picking, these solutions are giving warehouse operators the ability to scale throughput and inventory independently. They are fundamentally capable of driving higher performance with the same inventory or expanding inventory without requiring higher performance. This capability, combined with unprecedented redundancy, makes them an easy automation choice even for the hesitant."

Berringer emphasizes the flexibility of the automation technology should adapt to the shape of the building where deployed, whether that involves upgrading older warehouses or repurposing unneeded or underutilized facilities to accommodate increased distribution capacity. In fact, he views flexible robotic automation technologies taking center stage on operational wish lists, moving "from an alternative to


*Figure 1 – Slotting analytic with 2-D warehouse mapping from Generix Group*

fixed and inflexible technologies to becoming the first choice for operators across virtually every industry," he added.

"The key to harnessing the power of automation solutions is using software that has been designed to manage the solution and maximize its efficiency," Berringer indicated. "Such software should provide warehouse management, material flow and automation control system functionality in a single, modular platform that integrates seamlessly with host systems and other warehouse software."

In working with healthcare organization customers, Medline Industries designs and redesigns storerooms and warehouses using PAR optimization, velocity slotting and ABC analysis to redirect effort and time spent on operations to time spent on patient-focused care, according to Jaimin Patel, senior project manager, Engineering, Medline Industries.

"One main way is to free up space to store more inventory, SKUs, pandemic supplies and [physician preference item] bulk buys and improve the visibility of that available inventory to save healthcare workers time when searching for products," Patel said. "Ensuring your inventory is appropriately spread throughout your facility will also aid in reducing bottlenecks."

Patel also recommends reducing human error in storage organization and the picking and fulfillment processes.

## Low-tech for high returns

*Dave Salus*

Dave Salus, healthcare market manager, InterMetro Industries Corp., acknowledges that making the most of storeroom space is a common issue their storage experts face when working on layouts for warehouses and storerooms. Consequently, InterMetro's storage experts point to four key recommendations they make.

**High-Density track shelving with active isles.** "High-density shelving allows pickers to access materials easily by incorporating easy-to-move individual shelving units attached to a track," Salus said. "This design concept can increase your storage space by 70% in confined areas and is able to be paired with Metro accessories to keep materials organized.

**Room and process planning to increase the storage space.** "Each of Metro's sales representatives are trained to help facilities build the best storage space within the space available by determining the ideal workflow and configuring the storage solutions with aisles that deliver the most efficiency," he noted. "This is a value-added service that is included in the price of the product, no extra fee is charged. For the 'do-it-yourselfer' or for smaller areas Metro has invested in room-builder tools that can create a 3-D model of your space and show Metro products put in place so you can view prebuilt plans, for free, in real time."

**S hooks for corner-space storage.** "S hooks get rid of the need for corner shelving to have an external post," he added.

**Color-coding storage locations.** "Many customers utilize Metro's color shelf markers to distinguish items or areas by function," Salus indicated. "These color codes can be customized to identify items by type (i.e., IV, Blood, Suction, Ostomy, etc.), by service line (Ortho, Cardiology, Oncology, etc.), unit of use versus bulk, etc. Helping staff narrow down the area or number of compartments to search for a needed item is a huge time saver." Salus notes that color coding remains both popular and inexpensive as an option. HPN

*Visit https://hpnonline.com/53056055 for the sidebar "Riding the conveyor belt of storeroom, warehouse design creativity."*

# Crisis Management in Critical Care and Surgery

*What COVID-19 taught the healthcare industry, and how it can be applied in the future.*

*by Brenda Silva*

Photo credit: Halfpoint | stock.adobe.com

As the healthcare industry continues to recuperate from the longstanding medical and economical effects of COVID-19, the recent governmental ease in public health restrictions is a welcome industry update. However, reduced restrictions should not reduce the importance of many crisis management lessons that were learned the hard way during the pandemic. With this in mind, it is of critical import that healthcare leaders, industry experts, and on-site professionals review existing crisis management protocols, and work together to improve and streamline more effective procedures going forward.

As arguably the most devastating lesson COVID-19 taught healthcare, the error of medical hubris in underestimating what the SARS-Co-V2 virus was capable of was clearly evidenced by the millions of pandemic-related deaths. As such, for hospitals and healthcare facilities around the country, now is the time to be proactive in solidifying crisis management plans across the board, in order to be better prepared for any future medically related crises that may occur.

According to the American Association of Critical Care Nurses (AACN), disaster drills often "focus on the immediate aftermath of an incident, such as managing the initial triage and patient surge in the emergency department and testing the hospital incident command system." However, they also point out that a disaster also may require critical care capacity to expand in a rapid and sustained fashion.

Published in *AACN Advanced Critical Care*, "Mass Casualties and Disaster Implications for the Critical Care Team" details various considerations to integrate critical care-specific needs into disaster response planning, including the ability to expand capacity for intensive care unit (ICU) beds, the number of trained personnel, supplies, and equipment. As one of the authors of the article, Jennifer Adamski, DNP, APRN, ACNP-BC, CCRN, FCCM, has responded to multiple mass casualty incidents during her nursing career, and helped numerous organizations develop disaster response plans. Currently an assistant professor and director of the adult-gerontology acute care nurse practitioner program at Emory University in Atlanta, Georgia, Adamski is also a critical care nurse practitioner on the critical care flight team for the Cleveland Clinic.

***Jennifer Adamski***

"Disaster planning can take a general all-hazard approach or one that focuses on a specific hazard that the facility may be at higher risk for, due to its location and other factors," Adamski said. She added, "Thinking through the ramifications of an incident, preparing for worst-case scenarios and practicing the response can literally save lives when a disaster happens."

The AACN also pointed out that, "when disaster surge conditions increase pressure on healthcare operations, facilities move from conventional to contingency or crisis-level standards to meet the needs

for their patients. Pre-disaster planning includes taking inventory of available space to expand ICU space, with the possibility that other areas within the hospital may need to become ICUs. When internal space is at capacity, external or remote ICU expansion and field hospitals may be needed."

In addition to space and personnel, "facilities must identify supply and equipment needs and vulnerabilities. These include personal protective, redundant oxygen, ventilators, point-of-care ultrasound, and emergency blood components. Some common critical care medications may be in short supply due to increased demand, while others, such as chemical weapon and nerve agent antidotes, may be needed only during specific types of disasters."

Another major concern within all healthcare facilities—regardless of a pandemic—is hospital-acquired infections (HAIs), which can present a crisis for patients, as well as for staff. Elliot M. Kreitenberg, cofounder and president at Dimer, pointed out, "To prove a measurable and statistically significant reduction in HAIs with UV surface disinfection machines requires a sample size of 36,000 cases. Many companies in the space promote studies with small sample sizes and high margins of error."

*Elliot M. Kreitenberg*

He continued, "If we believe reducing environmental contamination reduces the risk of HAIs, then measuring germ-kill of a sample of many surfaces of a room is the best way to measure effectiveness of a UV machine."

During the COVID-19 pandemic, Dimer's UV disinfection technology was used on aircrafts, which subsequently led to applications in healthcare settings. Today, Dimer offers the UVHammer for healthcare. Kreitenberg noted, "It is the only product on the market that is operationally mobile, and can adjust the angle of the lamps to optimize consistent exposure to any surface, quickly. Dimer products uniquely unlock UV-C's potential by designing for minimal distance, optimized angle and elimination of 'shadowed areas.'"

Also focused on preventing an infection crisis in critical care and surgery, Executive Director of Marketing – Infection Prevention at Diversey, Larinda Becker noted the critical importance of patient safety and speed of room turnover.

She said, "Diversey knows that speed of room turnover and patient safety are both critical, and provides a programmatic approach to reduce the risk of infection and improve patient outcomes, without compromising any time or speed to the process. We have two programs: number one is TurboTurn, a programmatic approach that includes products, procedures and validation; facilities can also radically improve effectiveness and speed of OR turnover with cleaning and disinfecting. Number two is the Perfect Turnover for a similar approach in room turnover for the next patient. These were both implemented to address the need for speed without compromising quality." Becker continued, "These are based upon having clarity on the appropriate products to do the job, clear roles and responsibilities, along with a process for the workflow and programs for ongoing validation that the work was completed. The need came for challenges customers were facing in having the adequate labor to do the job, increased turnover and some loss of expertise, and high census in facilities. We have demonstrated up to 30% reduction in turnover time, and have not seen increased rates of transmission from the environment."

*Larinda Becker*

She added, "In addition to the manual cleaning and disinfection, UV-C disinfection technology has also aided in reducing the risk of spread of pathogens while providing extra disinfection for safer and more hygienic areas. This technology has had favorable results in many areas including ICU, CCU and ERs, as well as operating rooms."

Addressing crisis management in surgical settings, Renae Battié, MN, RN, CNOR, and Association of periOperative Registered Nurses (AORN) vice-president of nursing, said, "Perioperative departments are expected to have crisis management policies and procedures in place, and you must demonstrate your team has the competency, skill, and knowledge to manage these crises to keep patients safe. Perioperative leaders do risk assessments on what could occur in their department – which informs what type of education, training, drills and simulations the department should do."

*Renae Battié*

She added, "The type of scenarios may depend on the area you're in – such as for tornados or blizzards, or near refineries and industrial plants. Planning adequate supplies for these crises are as important as staffing. Perioperative departments use real surgical scenarios to educate teams on patient crises, and AORN provides a variety of resources for all facilities."

One company offering an example of how best to address the role of nasal colonization on infection risk is Nozin, who offers products and programs to help hospitals reduce colonization pressure increasing patient safety. According to Nozin, recent studies confirm that the nose is a "critical reservoir for bacteria and vector of transmission for many of the pathogens responsible for healthcare-associated infections (HAIs). Reduction of nasal colonization has been clinically proven effective at helping reduce surgical site infections (SSIs) and HAIs."

When using Nozin Nasal Sanitizer antiseptic, published third-party outcomes data in clinical studies include: a 63% reduction in all-cause SSI; a 51% reduction in *S. aureus* SSIs; a 98% reduction in total hip SSIs; and a 96% decrease in MRSA bacteremia hospital-wide.

John Willimann, CEO at Nozin, said, "Despite industry-wide supply-chain challenges, I'm proud that the Nozin team was able to successfully ramp up production so that hospitals could continue to protect their patients without any product delivery interruption. We are witnessing a paradigm shift as hospitals expand their adoption of universal nasal decolonization to protect all patients by reducing colonization pressure and infections."

*John Willimann*

## Reducing the rate of SSIs

In an attempt to reduce the rate of surgical site infections (SSIs), many hospitals and healthcare facilities look to established protocols and procedures, which are enhanced by educational and training policies. However, in spite of concentrated efforts and existing best practices, SSIs remain the most common complication of surgery worldwide, with many causes and few proven solutions to reduce the increasing rate of occurrence.

According to Chad Flora, BSN, RN, CNOR, gloves U.S. clinical director at Mölnlycke Health Care, "A bundled approach to minimizing surgical site

infections (SSIs) continues to be guided by various methodologies based on previous studies, outcomes and even technologies." Flora referenced a new study that "demonstrated the value of routinely changing sterile gloves and instruments prior to abdominal wound closure, offering one of the first proven methods of reducing surgical site infection (SSI), still regarded as the most common complication of surgery worldwide."

*Chad Flora*

He added, "The ChEETAh trial found that routine change of surgical gloves and instruments before abdominal wound closure reduced the risk rate of surgical site infection (SSI) by 13% at 30 days after surgery compared with the trial control group, which is equivalent to a reduction of one in every eight SSIs." Flora reported the reduction in SSI was seen across the trial, from large hospitals with advanced perioperative services to small, rural hospitals with only a few beds. A total of 13,301 patients were recruited into the ChEETAh trial, which took place between June 2020 and March 2022.

Citing data from the CDC, Flora summarized, "The simple, cost-effective process of changing sterile gloves and instruments prior to surgical closure is a best practice that can minimize SSIs and improve lives around the world. The average cost of just one SSI is an estimated $25,546."

In agreement about the cost of SSIs is Dr. Boldtsetseg Tserenpuntsag, director – data unit, Bureau of Healthcare Associated Infections, New York State Department of Health, who reported findings of SSIs associated with hysterectomies. The findings from an analysis of more than 66,000 abdominal hysterectomies performed in New York hospitals revealed key risk factors for surgical site infections (SSIs) following these procedures, including open surgery, obesity, diabetes, gynecological cancer, and age under 45. Published in the *American Journal of Infection Control* (AJIC), the data can help inform surgical and clinical decisions to reduce post-operative infections.

"Improved understanding of patient-related, clinical, and surgical factors associated with SSI in hysterectomy, a common surgical procedure in the United States, could help to reduce infections and improve risk models," said Dr. Tserenpuntsag, adding, "As far as we know, our findings are derived from the most comprehensive dataset to date, making them more generalizable as compared to previous studies on this subject."

***Boldtsetseg Tserenpuntsag***

SSIs are infections that occur at a surgical incision site within 30 days after the incision is made. According to the Centers for Disease Control and Prevention, SSIs account for 20% of all healthcare-associated infections (HAIs), and are associated with a 2-to 11-fold increase in the risk of mortality. SSIs are also the most costly type of HAI with an estimated annual cost of $3.3 billion. **HPN**

## Product flexibility needed in patient monitoring crises

**At GE HealthCare, President and CEO of Patient Care Solutions, Tom Westrick, asserted that the pandemic crisis highlighted the need for adaptable products that are flexible enough to accommodate any future patient-monitoring crises that occur in critical care.**

***Tom Westrick***

"As hospitals had to quickly adjust from normal to surge operations to respond to the increase in COVID-19 cases, the pandemic highlighted the need to have flexible patient monitoring technologies that could easily adapt to meet a patient's acuity level. These 'adaptable acuity spaces' with flexible, scalable solutions allowing institutions to customize on the fly for patient and case types are on the rise post-COVID-19."

He added, "But monitoring technologies require different connections and ports for each new patient vital sign, which can create confusion and prevent institutions from leveraging new clinical capabilities easily. Standardized medical USB connections and flexible software on GE HealthCare's vital sign monitoring devices allow them to be used at the bedside to deliver the accuracy healthcare teams need to help make proactive clinical decisions. GE HealthCare calls this FlexAcuity, and has been investing in tools and technologies that enable hospitals to standardize patient monitors that can be flexibly deployed across their enterprise."

When looking at potential crises in the OR and/or surgical suite, Westrick pointed out the need for a streamlined and efficient plan of organization in order to best address patient and facility crisis-related needs.

"Real-time healthcare, or having all patient care resources working in concert constantly for the best possible outcomes for each patient and efficiency for the system, can help with many aspects of surgical efficiency and growth."

He continued, "For example, GE HealthCare's Command Center software tiles, or apps, provide a comprehensive view of forward-looking surgical utilization, downstream bed requirements, and potential patient readiness challenges. This is used by perioperative program leaders to focus pre-admission-readiness efforts, plan the surgical grid, avoid over-scheduling for both perioperative and downstream bed utilization, and help maximize utilization with visibility to the true downstream demand based on nuanced algorithms."

In times of crisis, having a database of resources can potentially make the difference between life and death for some patients. GE HealthCare addresses that concern with their Regional Capacity System, which tracks healthcare resources in a specific region. Westrick summarized the benefits of the system and noted its vital importance in a medical crisis.

"If capacity is of concern during a crisis, GE HealthCare's Regional Capacity System is a framework to track healthcare resources in a specific geographic region, such as a city, state, or country using reliable and automated data sources, and common definitions across health enterprises. The system tracks resources such as ICU, adult, pediatric, NICU, behavioral health and many other types of bed capacity and census, as well as vents, COVID-19 census and associated data, divert status, PPE and more. GE HealthCare helps each state or region set-up their system to include the data elements relevant for them."

He added, "The goal of the Regional Capacity System is to help care coordinators make the most efficient and effective use of precious resources by making it easy to know the current state which is constantly changing and highly nuanced."

Sponsored Content

# BD accelerates testing accuracy, convenience, speed

BD develops innovative technologies, services and solutions to help the healthcare community improve safety and increase efficiency. Joseph Mann, MSN, FNP-C, Global Medical Science Liaison at BD, is a board-certified family nurse practitioner, who shares with *Healthcare Purchasing News (HPN)* how the company is improving viral testing today and for years to come.

**HPN: As reports emerge of COVID, flu and RSV declining in hospitals and the general public succumbs to COVID-19/pandemic fatigue and numbness, how might this affect demand for and interest in a virus detection test that distinguishes between COVID-19, influenza A, influenza B and RSV?**

**MANN:** I think we're at a dull point now where we're seeing lower case rates and a little bit of pandemic fatigue, which has fully led to a decrease in demand for testing to a certain extent. But I also think it's important that everyone consider and recognize that the usual patterns, especially flu and RSV circulation that we've been accustomed to seeing, have been massively disrupted by the pandemic. When everyone started imposing restrictions and staying at home – for example, mask-wearing and social distancing and capacity limits – those types of things really interrupted the normal pattern of flu and RSV transmission. As an example, we saw a sharp rise in both flu and RSV cases in early and late fall of last year. Usually, we see this happening later on during the winter months of December and January. This same pattern of unpredictability occurred in other parts of the world as well.

I'll remind everyone that even last year in late May we saw a significant rise in flu cases here in the U.S. When you couple that with the variances in the COVID-19 virus that are continuing to evolve and pose challenges to vaccine efficacy, the overall point that I'm trying to stress here is that things can change at any moment. And while cases seem to be on the downtrend now, and we're hopeful that pattern will continue, we need to stay vigilant and be prepared.

**Symptoms for common respiratory viruses can resemble those for COVID-19 so how does the *BD Veritor™ Plus System* delineate positive and negative results for the clinician and/or end user administering the test?**

The *BD Veritor™ Plus System* is our rapid antigen testing platform, which is for use with healthcare providers only in point-of-care settings like urgent care centers, doctors' offices and pharmacies, etc. Clinicians use the BD Veritor™ Plus System to conduct rapid testing at the point of care. It offers a broad menu of assays, including tests for COVID, flu-A, flu-B, RSV and even group A strep.

BD was granted Emergency Use Authorization (EUA) for a rapid antigen test that can detect SARS-CoV-2, influenza A and influenza B in a single test one nasal sample in 15 minutes*. These viruses – flu and COVID – present very similarly with a lot of overlapping symptoms. This makes it really challenging for healthcare providers to accurately diagnose symptoms and presentations alone, so these combination tests can help healthcare providers distinguish and delineate between the symptoms and arrive at a more accurate diagnosis.

**BD recently obtained Emergency Use Authorization from the FDA for a new molecular diagnostic combination test for COVID-19, influenza A + B and RSV. What more can you share about this development?**

We were very excited to receive that news from FDA. The BD MAX™ Respiratory Viral Panel received emergency use authorization from the FDA earlier this week**. It's a highly sensitive multiplex assay that can be used by laboratories on the BD MAX™ System to conduct respiratory testing for COVID-19, flu-A, flu-B and also RSV. Given the relevance of these viruses and what we saw this past fall and during the early winter months in the U.S., we're hopeful this combined PCR assay can allow labs to conduct more efficient testing.

Like our COVID-19 and flu combo assays through *BD Veritor™ Plus**, we believe this combined approach can help healthcare providers in distinguishing and diagnosing a lot of these viruses that present very similarly but have very different treatments. These combined testing approaches lead to more accurate diagnoses and more guided antiviral treatments. HPN

*For the full version of this interview, visit https://hpnonline.com/53028865.*

References:

***BD Veritor™ At-Home COVID-19 Test (256094)**

**BD Veritor™ System for Rapid Detection of SARS-CoV-2 (256082)**

**BD Veritor™ System for Rapid Detection of SARS-CoV-2 & Flu A+B (256088)**

- These products have not been FDA cleared or approved; the BD Veritor™ At-Home COVID-19 Test has been authorized by FDA under EUA; the BD Veritor™ System for Rapid Detection of SARS-CoV-2 and the BD Veritor™ System for Rapid Detection of SARS-CoV-2 & Flu A+B assays have been authorized by FDA under EUA for use by authorized laboratories
- The BD Veritor™ At-Home COVID-19 Test and the BD Veritor™ System for Rapid Detection of SARS-CoV-2 have been authorized only for the detection of proteins from SARS-CoV-2, not for any other viruses or pathogens; the BD Veritor™ System for Rapid Detection of SARS-CoV-2 & Flu A+B has been authorized only for the detection of proteins from SARS-CoV-2, influenza A and influenza B, not for any other viruses or pathogens; and,
- The emergency use of these products is only authorized for the duration of the declaration that circumstances exist justifying the authorization of emergency use of in vitro diagnostics for detection and/or diagnosis of COVID-19 under Section 564(b)(1) of the Federal Food, Drug and Cosmetic Act, 21 U.S.C. § 360bbb-3(b)(1), unless the declaration is terminated or authorization is revoked sooner.

****BD Respiratory Viral Panel for BD MAX™ System**

- This product has not been FDA cleared or approved but has been authorized for emergency use by FDA under EUA for use by authorized laboratories.
- This product has been authorized only for the detection and differentiation of nucleic acid of SARS-CoV-2, influenza A, influenza B, and respiratory syncytial virus, not for any other viruses or pathogens.
- The emergency use of this product is only authorized for the duration of the declaration that circumstances exist justifying the authorization of emergency use of in vitro diagnostics for detection and/or diagnosis of COVID-19 under Section 564(b)(1) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. § 360bbb- 3(b)(1), unless the declaration is terminated or authorization is revoked sooner.

INFECTION PREVENTION

# Infection Prevention Post-Pandemic

## *2023 Infection Preventionist Salary Survey*

*by Kara Nadeau*

***Staffing shortages and expanding roles drive high burnout rates. Is compensation keeping pace and is it enough to retain current IPs and attract the next generation?***



Professional recognition in healthcare can be a double-edged sword. The pandemic shined a light on infection preventionists (IP) because of their critical role in protecting patients and staff and stemming the spread of SARS-CoV-2. Many IPs report having taken on added responsibilities with roles expanding beyond the acute-care setting. Like many other professions in healthcare, IP too has been burdened by staffing shortages with too many IPs quitting or retiring and not enough entering the field to make up for the loss.

The results of the 2023 *Healthcare Purchasing News* Infection Prevention Salary Survey reveal that IPs are still doing more with fewer resources. The question becomes – do they feel as though they are being adequately compensated? How does their level of work compare to the financial rewards?

To provide real-world perspectives alongside the quantitative research, U.S. IPs offered their comments and experiences.

### Most report pay raises, job security remains high

The average base salary across all IP positions in 2023 is $101,695, up from $95,000 last year. When looking back to 2020, the average salary has increased by $15,643 (up from $86,052). When asked whether their current annual base salary in 2023 represents an increase over 2022, 70% of survey respondents said "yes." The percentage of those expecting a bonus this year dropped slightly since last year, at 17% down from 20% in 2022.

The responses on job security were on par with last year's results, with 52% of IPs surveyed stating they feel "very secure" in their current position, 36% "somewhat secure," 9% "somewhat insecure," and 3% "very insecure."

When looking at reported average annual base salary by title, all titles reported increases except for Infection Prevention/Control Coordinator, where the average salary dropped by $5,370 ($93,869 in 2022 down to $88,499 in 2023.)

The biggest pay jump was reported by Infection Prevention/Control Nurses, with an average increase of $17,123 ($71,785 in 2022 up to $88,908 in 2023). When looking at the average annual reported salary for this position two years ago, in 2021, it was reported to be $80,037; therefore, the large jump might be more related to the specific individuals who took the survey this year rather than the salary for this title in general.

"For the education and licensing required, I believe the IP field is underpaid," said Bethany Phillips, MPH, CIC, MLS, director of Infection Prevention and Control, Children's Health in Dallas. "Especially considering the increase in regulatory requirements that fall on the IP teams among other things such as epidemics, increases

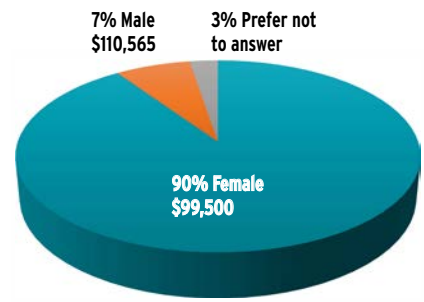
### Respondent snapshot

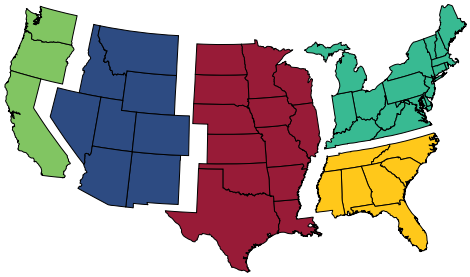
**Title:** Infection Preventionist
**Reports to:**
VP/Director, Quality/Risk Management/Chief Quality Officer
**Gender:** Female
**Years in IP/Years at facility:** 14/11
**Type of facility:**
Non-profit, Standalone Hospital
**Average number of beds:** 294
**Avg. # of dept. employees:** 3.21

**THIS YEAR**
2022 AVERAGE BASE SALARY: $101,695

**LAST YEAR**
2022 AVERAGE BASE SALARY: $95,000

**10 YEARS AGO**
2013 AVERAGE BASE SALARY: $71,800





## Salary by Region

| Percentage | 3% | 10% | 38% | 30% | 19% |
|---|---|---|---|---|---|
| Region | Pacific | Mountain | Central | Northeast | Southeast |
| Average | $145,500 | $101,245 | $95,620 | $96,200 | $91,235 |
| Female | $142,100 | $99,100 | $94,200 | $95,000 | $92,250 |
| Male | $151,200 | $103,635 | $97,635 | $128,000 | $89,345 |

*3% of respondents opted not to answer for gender. Their responses are not included in this breakout.

in HAIs nationwide, increase in vaccine preventable infections, and drug resistant organisms. I think the benefits are good at my facility."

## Once again, location and education count in IP compensation

As in past years, the Pacific region of the U.S. had the highest IP average annual salary at $145,500 in 2023, followed by the Mountain states at $101,245, the Northeast at $96,200, Central states at $95,620 and Southeast $91,235.

With regards to demographics, IPs working in urban areas reported the highest salaries at an average of $110,985, followed by those in the suburbs at $105,980 and rural areas at $83,256.

IPs working in IDN/VHA/Alliance/Multi-group health systems reported the highest average annual compensation at $117,229. Next were IPs in surgi-centers/ambulatory centers at $99,667, followed closely by behavioral/psychiatric health facilities at $98,500. IPs employed by long-term acute care facilities (LTAC) reported an average annual salary of $94,667, neck and neck with those in standalone hospitals at $94,656, followed by IPs in critical access hospitals at $80,000.

IPs employed by for-profit organizations reported the highest annual average salary at $129,190, followed by non-profit organizations at $113,989 and government owned facilities at $99,273.

"Although the enhanced role of IP has been recognized, compensation, unfortunately, is not commensurate with job responsibility," said Janet Hsieh-Li, DNP, RN, CIC, Infection Preventionist, New York City Children Center, Office of Mental Health. "Working as an IP for the last 16 years in state-run facilities is not financially rewarding as the pay is less than that of a middle-manager. The exodus of qualified IPs continues as they seek more compensation in other titles. There is no additional career ladder compensation for IPs who receive certification. That said, the intrinsic rewards of being in a career that challenges you to keep abreast of the latest evidence and work collaboratively with other disciplines to ensure patient safety are immeasurable. Looking back, I would have it no other way."

*Janet Hsieh-Li*

As in past years, IPs holding post graduate degrees reported the highest pay, at an average of $110,062 annually, followed by those with bachelor's degrees at $99,428, and associate degrees at $77,777.

## IP remains a female, nurse-dominated profession, but change is on the horizon

The majority of survey respondents are female (90%), 66% are aged 51 or older and 65% are registered nurses (RN). This aligns with the findings of the Association for Professionals in Infection Control and Epidemiology (APIC) "megasurvey" conducted with APIC members prior to the pandemic, according to APIC President Patricia Metcalf Jackson, RN, MA, BSN, CIC, FAPIC.

"Prior to the pandemic we surveyed the bulk of our membership and found we had an aging workforce," said Jackson. "Nearly 40% of respondents were at retirement age or would be in the next 10 years. We also discovered our workforce is not as diverse as it should be. The survey respondents were almost exclusively female, 86% were White, Non-Hispanic, and 78% came from a nursing background."

"We know we need to attract and retain the next generation for us to survive as a profession," Jackson added. "And the next generation is not the same. They have different ideals, different values, and different things they want to achieve."

Jackson noted how APIC is working on several initiatives to attract people from diverse backgrounds into the IP profession, including an academic pathway to IP, an accelerated internship program guide for employers to rapidly onboard IPs, and content for both an undergraduate degree and master's degree in IP.

"When IP was first designated a profession in the 1970s, it was nurses who did the job," Jackson commented. "In fact, they were called 'Infection Control Nurses.' But today, we know there are lots of other degreed people who could do the job very well, such as those with master's degrees in public health, laboratory professionals, and others."

The *HPN* IP Salary Survey results revealed a drop in RN respondents compared with last year, at 65% in 2023, down from 76% in 2022. When asked if they had licensure or experience in other categories, 12% said they were medical technologists, 9% epidemiologists, 7% educators, 3% LVN/LPN/nurse practitioners, with fewer than 1% of those surveyed reporting to be laboratory technicians or legal nurses.

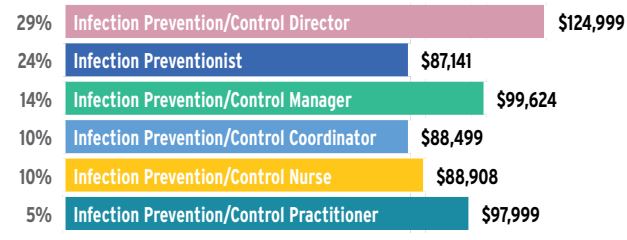
Those offering write in comments on their background reported experience in cell and molecular biology, endoscopy, veterinary and dental. One respondent said they were working toward a master's degrees in public health (MPH).

Marko Predic, MS, CIC, Division AVP of Infection Prevention, HCA Capital Division, Richmond Va., agrees there needs to be a better pathway for the IP profession, stating:

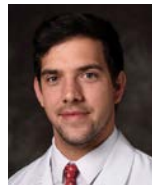
"For new IPs, a more standardized pathway needs to be developed on how to access the field and learn the required skills to function as a proficient IP. This pathway can be created at a facility/

## Salary by Education


## Salary by Title



system level or at an even earlier level at college and universities. Earlier exposure to the field will create more interest and draw for the profession and fill the needs with ever expanding tasks and duties. The field has a bright future with the pathways into IP expanding and the opportunities once with the field growing. With the increased spotlight on the field, I am hopeful that there will be a draw for new generation of IPs."


*Marko Predic*

"If you ask most people my age, nobody found this profession purposely," said Jackson. "They didn't go to school for it. They just fell into it. One of our goals at APIC is to make it a purposeful profession to find."

## Pandemic pains continue

When asked in what ways COVID-19 has impacted their profession, the most affected areas identified by those surveyed were: implementing infection prevention protocols at 33% (down from 88% in 2022), staff shortages at 25% (down from 66% in 2022), patient volumes at 21% (down from 70% in 2022), and PPE shortages at 21% (down from 62% in 2022).

"Staffing challenges directly impacted the IP profession," said Hsieh-Li. "This was because the pandemic resulted in new nursing graduates needing bedside clinical experience. Clinical experiences through Zoom are not conducive to developing nursing competency skills. More time was necessary to bring these nurses up to speed, placing an undue burden on the IPs and new graduates as nurse managers wanted them to be unit-ready before they were prepared."

Although staff shortages appear to be a diminishing concern according to the survey data, those IPs interviewed for this article tell a different story, indicating how shortages continue to fuel burnout rates.

"IPs are facing challenges with burnout," said Lerenza Howard, MHA, CIC, LSSGB, Infection Preventionist, Advocate Aurora Health, Chicago. "Although we're transitioning to an endemic approach with COVID-19 there are a myriad of other infection control initiatives that IPs must manage to promote patient safety and quality health services. Staffing shortages have also impacted the workflows of IPs whereas they must provide additional coverage for open positions until they're filled which could also induce burnout."


*Lerenza Howard*

"Burnout is huge," said Jackson. "I have been an IP for 29 years and the past three years have been 1,000 times more stressful than any other time in my career. IPs have left the field because of it, so we are working on programs to help our members cope. And we are working on retaining IPs through mentorship programs. We are looking at leaders and departments that have had great success in finding people and retaining them to determine what are they doing differently, and then sharing those resources among our members."

## IP roles and responsibilities continue to expand, even beyond the hospital

During the pandemic, many IPs were asked to take on additional responsibilities outside of their regular job duties. The survey results show that continues today. Most respondents (71%) said they continue to perform roles and tasks for which they were not responsible prior to the pandemic.

The pandemic has highlighted the critical importance of IP in preventing and controlling the transmission of infection," said Hsieh-Li. "Today, the world considers IP synonymous with patient and staff safety. From ensuring data metrics, IP has had to adapt to new pathogens, evolving guidance, and ensure operationalization in their setting. Additionally, IP has had to take full responsibility for PPE inventory, dispensing and accountability for appropriate use at the bedside. This also meant that the IP had to be business-savvy in terms of cost containment and not merely clinically- competent."

"IPs are experts whose guidance is sought by a plethora of stakeholders throughout their facility therefore it can become a daunting task to ensure IP needs are met within an organization," said Howard. "Many IPs collaborate with various stakeholders on initiatives across the care continuum that may extend beyond their daily tasks. At times, this may require working longer hours or bringing work home to ensure that timelines are met, and that the organization is adequately supported by IP."

Infection prevention efforts in their organizations' non-acute care settings (e.g., physician offices, clinics, long-term care, etc.) were high on the list, with 86% of those surveyed indicating they had responsibility in this area (up from 82% in 2022). Additionally, the write-in comments from survey participants show that many play a role in employee health.

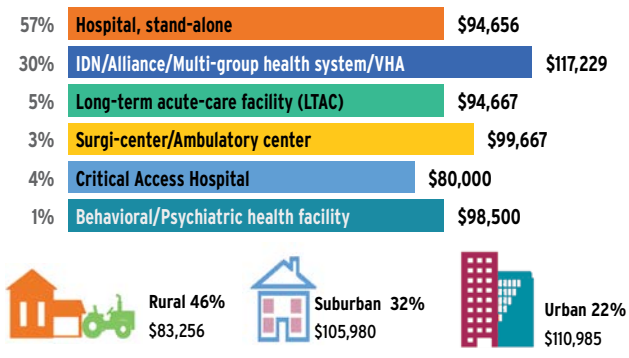

*Craig Pennington*

"I have been asked to cover multiple facilities, including a new hospital, ambulatory surgery center and surveying of clinics," said Craig Pennington, Infection Preventionist, Ochsner Health, Metairie, La.

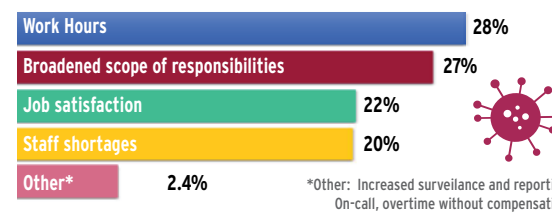
"During the pandemic, IPs functioned in roles not traditionally assigned to the profession and now at the tail end of the pandemic those duties have continued," said Predic. "Re-assignment will help IPs return to critical tasks along with empowering staff to function in roles similar to theirs prior to the pandemic."

Phillips commented on some of the new responsibilities that have fallen on IPs: "increased regulatory focus on manufacturers' instructions for use (IFU), supply

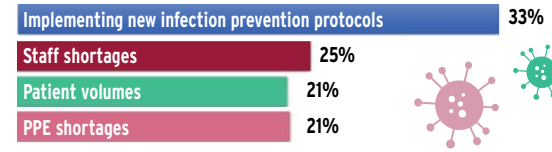
### Salary by Facility Type & Location




### How has COVID-19 affected IP?




### Areas most affected?



shortage issues, increases in sterilization and high-level disinfection (HLD) requirements, and increased environmental issues (example, fungal)."

To compensate IPs for this added work, she calls on employers to provide: "increased salaries that reflect how the demands of the job and cost of living increases, increased support for environmental and construction related specialty areas, and increased support for managing regulatory hot topics such as IFUs."

While IPs are being asked to do more, Pennington noted how most people outside of the profession don't realize the extent of responsibilities and work related to infection prevention, stating:

"They have never had to put themselves in our work environment where we deal with patients, family members, physicians, nurses, EVS staff and facility staff. They are not aware of all the regulatory bodies and regulations that we must keep up to date on and apply to protect everyone in the facility."

The U.S. Department of Labor doesn't even recognize Infection Preventionist as a job code, despite the fact the field got its start in the 1970s.

"They don't know we exist," Jackson commented. "APIC is working on a multi-faceted approach to recruiting and retaining new infection preventionists. We need the U.S. Government to recognize the profession in its official codes so that it will be included in career interest inventories. We are working to develop customized and appropriate academic programs that provide a direct pathway into the field. And, finally, recognizing that there must be varied approaches to accessing training and education, we are working to develop an Occupational Framework and internship model for the field."

## The future of the IP profession

Each year, the *Healthcare Purchasing News* Infection Prevention Salary Survey provides a snapshot on the current state of the profession. The survey results document changes in compensation, new challenges and opportunities for IPs, and general trends impacting their work. When asked what the IP profession will look like in the future, some of those interviewed offered their thoughts.

"I think that there are some amazing advancements on the horizon for the IP profession," said Howard. "There's a need for accessible graduate level education focused on infection control to properly train the next generation of professionals. As a member of APIC's Infection Prevention Academic Pathway (IPAP) committee, we're collaborating on graduate level IP education so I'm most looking forward to this instructional plan being made available to future and current IPs. I think that it's important than IPs have access to a focused curriculum which provides them with the tools to adequately advance and maintain their IPC program whilst promoting quality healthcare services that are free of nosocomial infections."

"The IP profession will continue to change and adapt to suit both the increasing patient safety needs along with regulatory compliance and reporting needs," said Predic. "To support this growing need for current IPs a focus needs to be placed on dedicated time for learning and resources to learn new skills."

"The role of IP is changing – we are not just healthcare people anymore," said Jackson. "When I started in this profession nearly 30 years ago, IPs were just in acute care hospitals. We are so much more now. IPs are working in long term care hospitals, nursing homes, schools, companies, on cruise ships, and as consultants to the entertainment industry."

"One area of healthcare that is ushering in significant changes and where IPs must serve as thought leaders is the hospital at home," Jackson added. "How do we prevent infections in the home environment? How do we perform surveillance for infections in the home environment? Infection Preventionists are experts in healthcare associated infections and we want to be a part of the discussion to provide the safest environment possible for these patients." HPN

STERILE PROCESSING

# Interdisciplinary collaboration drives process improvement, error reduction and SPD/OR satisfaction

## *Dayton Children's Hospital is HPN's 2023 CSSD of the Year*

*by Kara Nadeau*


***1st row Left to Right:***
***Aleah Hildebolt, Mindy Allen, Rachael McCray, Stacy Osborne, Sandy House, Markita Jones, Britteny Johnson, Diane Reed, Miracle Curtis, Jill Thomas***
***2nd row Left to Right:***
***Tony Thurmond, Shirley Myles, Heath Smith, Brian Wendling, Cody Gravitt, Haley Hasenauer, Dawn Kackley, Karen Thomson, Harley Danes, Tony Turner***

"It's time to burn the village," was the sentiment expressed by a surgeon with whom Tony Thurmond met upon taking the position of manager of Dayton Children's Hospital's sterile processing department (SPD) in October 2020. Issues with timely reprocessing, missing instruments and inoperable endoscopes resulted in "a loss of faith" in the sterile processing team among some physicians.Thurmond was no stranger to perioperative services at Dayton Children's Hospital; he began his civilian career there as an operating room (OR) scrub tech upon completing his service in the U.S. Air Force in 1996. Over 20 years later, he was back, but this time leading the SPD in a collaborative effort with the OR to improve instrument reprocessing quality and safety.

Like many SPDs, Dayton Children's Hospital's team was performing the best they could with what they were given as they struggled with staffing shortages, inconsistent scheduling, and insufficient inventory to support growing procedural volumes.

"The SPD team recognized the need to address concerns from surgical staff and physicians, but they also needed to know that their customers and executive leadership understood their challenges and limitations in meeting expectations and processing demands," Thurmond told *Healthcare Purchasing News*. "Fortunately, we had immediate buy-in from the surgical staff."

Over the past two and a half years, Dayton Children's Hospital's SPD and OR teams have worked "cohesively and deliberately to steer the safest practices and meet identified quality improvement goals" in the words of Thurmond. They have excelled in this work: achieving a 99.86% error-free tray rate, 99.78% non-immediate use steam sterilization (IUSS) rate, and a 95% POU treatment rate, all while increasing the percentage of trays processed by 61% from 2019 to 2022.

In the spirit of continuous improvement, they have pursued other initiatives that push the traditional bounds of the SPD role - taking control over instrument reprocessing for the hospital's clinics, supporting the OR's emergency code planning, and even collaborating with the OR team to support the 96-hour long surgical separation of conjoined twins.

And the work doesn't stop there - the Dayton Children's Hospital SPD team follows a strategic plan that changes each year and must be monitored by leadership (and adjusted as needed). Each staff member must know the "WHY" behind each step of the plan.

"They must know that the search for success lies in each step, and that the actions are for the good of the department and the customers and patients we serve," said Thurmond.

Through these efforts, the Dayton Children's Hospital SPD team has brought its department from the brink of destruction by burning to the pinnacle of success in customer service, productivity, teamwork, education and training, and strategic outlook.

Today, they are living their organization's mission in "the relentless pursuit of optimal health for every child within our reach." For these reasons, Dayton Children's Hospital has earned the 2023 SPD of the Year Award from *HPN*.

## Scoping out instrument errors

Working in collaboration with OR staff, the Dayton Children's Hospital's SPD team has made tremendous strides in reducing tray errors and damaged instrumentation. The SPD processed 71,921 trays in 2022 for 11,522 surgical procedures with minimal errors (see table of results).

"The OR staff and surgeons have always expected precision from SPD, but the difference is now that the SPD staff expect it from themselves and the departments they serve," said Ben Goodstein, vice president and chief ambulatory officer, Dayton Children's Hospital. "That is the difference in our SPD team is that they know the 'why' behind the processes and techniques used in their department and they want to share that with others and be recognized as the true experts in their field."

The SPD team identifies tray errors before processing and after processing, with most errors now identified before the tray reaches the sterilizer. They record quality events in their SPM instrument tracking system and send each one to the responsible SPD staff member, their supervisor, the educator, and the manager. Next, they have a conversation with the staff member to ensure they are aware of the issue and understand the error and how to correct it.

"When tray errors happen, we aim to provide awareness and education, not punitive charges," Thurmond explained. "Errors are not approached with judgment or harshness, but with the purpose of understanding the event and how it can impact our patients. If the error continues to recur, however, a peer reviews the technician's trays to ensure no mistakes are missed and to offer further guidance on proper procedure."

"Having that confidence in their abilities, as individuals and teammates, prepares them for unforeseen challenges and poises them for remarkable results," Goodstein added. "Just as they hold themselves accountable, they also hold others accountable to do the right thing each time for our patients."

## Aligning with industry standards

To improve the effectiveness, safety and efficiency of endoscope reprocessing, the Dayton Children's Hospital SPD team designed, built and equipped a dedicated endoscope reprocessing room adjacent to the OR.

It supports the ANSI/AAMI ST91:2021 standard, featuring automatic reprocessors with pass-through windows, a borescope for scope inspection after manual cleaning; protein testing for both channeled and non-channeled scopes; and a "state-of-the-art" scope dryer. Furthermore, the team has achieved industry leading rates in the avoidance of preventable repairs for both rigid and small flexible scopes.

## Improving POU treatment compliance

Another area where the team is using standards to drive best practices is in POU treatment. The SPD team had experienced trays coming into decontamination that clearly hadn't been treated. The OR team believed they didn't have enough time to perform POU treatment because of high-case turnover.

The SPD team reminded the OR team that POU treatment begins at the surgical field and continues through the end of the procedure. They informed surgical staff that just as the SPD team has standards and guidelines to follow, such as those from the Association for the Advancement of Medical Instrumentation (AAMI), the OR, too, should follow standards and guidelines, including those from the Association for Surgical Technologists (AST) and the Association of periOperative Registered Nurses (AORN).

To back their points with data, the SPD team added a scan in their decontamination area, as part of their instrument tracking system, to identify whether the trays were effectively treated at the POU before being transported. They discovered only 31% of trays had been treated.

With this technology in place, they were able to identify the surgical staff who failed to pretreat trays. To drive the point home, they presented photos of improper instrument care and handling. Additionally, they installed Stryker foam sprayers in key locations of the surgical suites to help support compliance.

As a result of their efforts, the percentage of trays being sprayed with moistening agents before being transported to the SPD rose to 95%.

## Centralizing reprocessing for the clinics

A central theme and guiding principle among Dayton Children's Hospital's SPD staff members is "doing the right thing" even if that creates added work for the team.

The hospital's clinics were responsible for transporting soiled instruments and retrieving their processed instruments from the SPD. But they struggled with staffing shortages, lack of transport container standardization, and inconsistencies in transport routes and type of carts used (open versus closed).

Hospital leaders turned to the SPD team for help, and they stepped up to the challenge, assuming responsibility for retrieving soiled instruments and delivering back to the clinic after the devices are processed. They established a set schedule for each clinic and

### Dayton Children's Hospital Fast Facts:

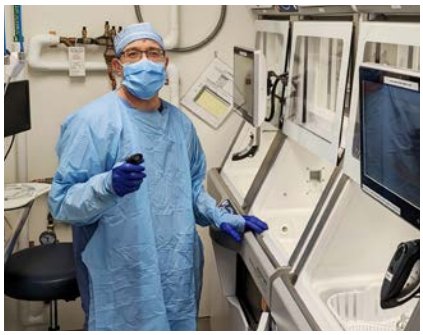
**Total Surgery Suites: 15**

**Years of Experience: 389**

**Hospital Beds: 181**

*Lashawna Best, Brian Wendling and Sydney Conn*

*Brandi Vance, Desiree Jordan, De Summerlin and André Butler*



*Carlos Velasquez loading the scope processor*

*Deidre Wilson loading the container rack*

*Jessica Kueteman manually cleaning a tray*

*Tony Turner working in Prep/Pack*

*Britteny Johnson working in Prep/Pack*

standardized on transport containers and the use of a closed cart system. As they do with trays from inside the hospital, they use their instrument tracking system to document whether POU treatment was performed and report compliance metrics to the clinical manager.

Thurmond commenting on this centralization initiative, stating:

"There are times in our department when we feel busy and overwhelmed so why would we take on more? In this case, we did what was best for the organization. We went in with education on POU treatment and told clinic staff, 'if you do this part, we will do the rest.' Now they can stay onsite caring for their patients instead of leaving to pick up/drop off instruments."

## Collaborating on specialized carts

The Dayton Children's Hospital OR team required an Emergency Obstructed Airway Cart containing instruments they could use when a child presented with an obstructed airway. They previously had a cart with instruments that had been high-level disinfected laid out in drawers. The downside of this approach was the instruments could be touched or removed, compromising their safety and availability. It was also unclear whether the instruments had been processed.

The OR team wanted visibility to the instruments in the cart to ensure nothing was missing. They also preferred that the instruments be stored unsterile. The SPD and OR teams collaborated on a solution: the SPD built trays with age-specific instrumentation, endoscopes and accessories needed for the procedure to remove an airway obstruction. They are presented in the cart in a gusseted peel-pouch system, where the surgeon can easily view every instrument and supply present.

This Emergency Obstructed Airway Cart has proven to save time and ensure product availability and has led to improved surgeon satisfaction with sterilized instruments. It has become a standard for these emergent procedures.

## Preparing for emergencies

The Dayton Children's Hospital OR educators perform bi-monthly emergency code drills for different specialties. Recognizing the importance of alignment with the SPD on prompt and effective response, the OR team includes the SPD in code planning. This includes measuring SPD team response time, accuracy of cart pulls, and knowledge of their role as it pertains to the code(s). During a recent emergency code from a reaction to a drug after induction, Dayton Children's Hospital's leadership recognized


*Challenge Coin*

SPD staff for their helpfulness and coordinated response.

"Our SPD staff members are well versed on these situations and have come to expect challenges and seek best practice-based solutions," said Thurmond. "Preparing for adverse situations by utilizing this training keeps us all prepare for the unexpected. It also highlights a team approach where we are all working in tandem for the patient, our customers, and colleagues."

## Keeping the patient as the focus

Thurmond has prioritized efforts to connect his team with their impact on patient care. One way that he has done this is through challenge coins, which is a long-standing tradition in the military to honor achievements. In this case, the challenge coin that he presented to each of his team members reminds them of their importance in care delivery. It reads:

"May every instrument be clean, every tray sterilized, every test monitored, and every patient receive safe care."

"We also shared the challenge coins with the surgical specialty chiefs to let them know this is our challenge to ourselves and we are sincere about it," Thurmond added.

With SPD working behind the scenes away from the frontlines of patient care, staff members voiced concern on an internal survey that they do not always see the outcome of the procedures they support. SPD supervisor Tony Turner suggested a way to bring patients' faces to staff members.

Working with the hospital's aesthetics committee, the SPD team selected nine different professional photographs of patients who underwent surgery at the facility. The chosen images were framed and displayed throughout the SPD department, and in the hallway entrance to the department.

"During our huddles, we can look at those images on our walls and be instantly reminded why we are here," said Thurmond. "In doing so, we talk about the outcomes of our patients and why we put in the effort for those we may never know."

In 2021, the Dayton Children's Hospital SPD team had the opportunity to collaborate with the OR to support a once-in-a-lifetime surgery. The OR team was faced with performing an exceptionally difficult procedure to separate conjoined twins. This type of

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separation procedure had previously never been performed in the U.S., and precise planning was crucial.

During the 10 months leading up to the planned surgery, the SPD team participated in mock drills and discussions around what to expect and challenges they may face. On the day the surgery commenced in April 2022, the team had "expertly and diligently prepared" all instrumentation and supplies for the procedure; one set for each child. The procedure, which was expected to take 19-24 hours, ended up lasting 96 hours in duration. The SPD team reprocessed instruments during intervals so they would be ready for the surgical team as needed.

"Often sterile processing is an afterthought, but in this case, the OR knew our role was important enough to have us there at the table with them from the very beginning," said Thurmond. "While the surgeons and other surgical professionals were the true heroes of this successful separation, our team felt immense pride in knowing how much they too contributed to the positive outcomes. It was a highlight of many of our careers."

## Prioritizing education and certification

The Dayton Children's Hospital SPD team, comprised of 31 full-time employees and four PRN staff members, is committed to continuing education and knowledge advancement for the sake of patient safety and exemplary care delivery, as evidenced by its 78% certification rate.

The department provides resource manuals and study guides at no cost to help prepare staff members for all the certification exams, pays for certification tests and works to prepare each technician for success.

Collectively, the team has a total of 46 certifications from both the Healthcare Sterile Processing Association (HSPA) and the Certification Board for Sterile Processing and Distribution (CBSPD), with two employees holding Golden Crown status (those who hold all four certifications from HSPA).

Dayton Children's Hospital's SPD leaders work to ensure their staff are capable and knowledgeable in using manufacturers' instructions for use (IFU) and know how to access, read and follow them correctly. To reinforce this knowledge, they send out a quiz every three months, tasking team members to find answers to reprocessing questions in the department's IFU repository.

SPD leadership cross-trains staff members for all jobs within the department, which allows for interchanging of roles, and staff members feeling more comfortable in their various roles. This includes proactively reviewing processes to ensure they follow the latest industry standards. They provide education through in person, online or assigned homework, and continually review departmental competencies to determine whether the frequency needs updating.

## Driving success from the top down, and advancing from within

Thurmond says he and his team are extremely thankful that senior leadership is very supportive of all departments throughout the hospital, including SPD. Dayton Children's Hospital's president and CEO, Deborah Feldman, and vice presidents frequently engage in "walk-throughs" of the SPD, talking to staff members and asking, "what are your challenges and needs?"

"Senior leadership are more than willing to be open ear for us, and not just a pass by," Thurmond explained. "Anything we have suggested they have been more than willing to listen to us. They know this is a hard-working team and are supportive all around – we couldn't ask for better. When the CEO walks through our department, our staff members are excited that she is coming to talk to them – they love her visits."

At the same time, SPD leaders encourage staff to be part of the decision-making process in the department. Their commitment to career advancement can be seen in the team's structure, with three supervisors, two lead technicians, and an educator who have been promoted from within the department.

"I've been doing this for 38 years and the Dayton Children's Hospital's SPD team is the best team with which I've ever worked," said Thurmond. "They understand the importance and urgency of our role and dig deeper to find better ways of doing things. Thank you for allowing us to share our SPD's successes and recognizing our work with the *HPN* 2023 SPD Department of the Year Award." HPN

## Successful vendor associations

*All successful outcomes often come with successful partnerships. Dayton Children's Hospital Sterile Processing Department would be amiss if we did not recognize the following vendors. Their contributions and willingness to help have been vital to develop opportunities we could not have accomplished alone.*

**Belimed** helped us streamline a preventative maintenance schedule more sufficient to not interrupt department flow. Scheduling to meet our schedule helped keep equipment in compliance and problem-free. They also worked with our staff on the education of cleaning chemistries. This allowed our staff to understand the importance of maintaining cleaning chemistry for the effectiveness of its cleaning purposes.

**Steris SPM** came in with the equivalent of two upgrades due to the inability to visit during COVID. A four-day training session for all staff allowed the staff to become more familiar with the changes, and the opportunities to capture more information and utilize reports necessary to gain traction when interacting with customers. We now produce reports to show the point of use cleaning statistics, and exact pick-up and delivery of processed products.

**Stryker Power** was very instrumental in working with staff to understand the proper care and handling of power equipment to allow for the best result in longevity. Demonstrating how our Pro-Care contract would benefit us in better management of our equipment for longevity and performance has proven to save us on repairs and replacement. They also provided a point of use foaming system to be used in the operating room to allow the surgical team to become more involved in the cleaning process.

**Steris** supports our team with the most modern endoscopy cleaning and storage equipment for our remarkably busy endoscopy suite. Their input of education to our team and the continuous support to assure our machines are working thoroughly and efficiently. With their help and guidance, we have made our endoscope cleaning team one of the strongest in the nation.

**Steris IMS** has provided our team with top quality education and service that has made our team very proficient in identifying instruments in need of attention. Our team understands if there is a doubt, we will pull it aside for an inspection. Education has prepared them to identify issues and what to do when they are identified. We have the proper inspection equipment such as a borescope, scope inspection kits, instrument testing kits, etc., for staff to make their inspection process complete.

**Karl Storz Endoscopy** has been instrumental in providing education and guidance for ENT endoscopic procedures and instrumentation, as well as laparoscopic scopes and instrumentation. They were great resources when Sterile Processing developed an Emergency Airway Obstruction Cart developed to save time and assure accuracy during emergent procedures.

**Integra Instrumentation** has provided excellent help with instrumentation and was key to helping guide staff to the proper disassembly, cleaning, and reassembly of dermatomes. They have also provided a cross reference for ordering using another vendor catalog number.


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# The 5 "W"s of point-of-use treatment

*by Heidi Ames and Janet Strong*

**May 2023**
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## Certification

The CBSPD (Certification Board for Sterile Processing and Distribution) has pre-approved this in-service for one (1) contact hour for a period of five (5) years from the date of original publication. Successful completion of the lesson and post-test must be documented by facility management and those records maintained by the individual until recertification is required. DO NOT SEND LESSON OR TEST TO CBSPD. For additional information regarding certification, contact CBSPD - 148 Main Street, Suite C-1, Lebanon, NJ 08833 • www.cbspd.net.

HSPA (Healthcare Sterile Processing Association, https://myhspa.org) ) has pre-approved this in-service for 1.0 Continuing Education Credits for a period of three years, until April 14, 2026. The approval number for this lesson is **STERIS-HPN 231404.**

For more information, direct any questions to *Healthcare Purchasing News* (941) 259-0832.

## LEARNING OBJECTIVES

1. *Define point-of-use treatment for reusable medical instruments.*
2. *Identify areas where point-of-use treatment may occur.*
3. *Verbalize point-of-use treatment procedures.*

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The operating room is changing at a breakneck speed. What was once an intrusive open surgery has become a minimally invasive procedure. Robots aid surgeons in complex procedures. The operating room staff must be familiar with an ever-increasing inventory of complex medical instrumentation to support the advancement. Maintaining instrumentation during surgery and preparing them for transport is no longer a simple task of wiping of gross soils. Knowing why, who, where, what and when is imperative to successful point-of-use treatment.

## Why is point-of-use treatment important?

Point-of-use treatment helps to protect instrumentation. OR staff remove gross soils intraoperatively and following completion of the surgery. This helps keep instrumentation in good working order keeping joints and hinges moving smoothly. Removing corrosive soils, such as saline and blood, protect instrument surfaces and cutting edges from rusting and pitting.

Point-of-use treatment supports sterile processing efficiencies necessary to support the OR. Maintaining moist soils prevents soils from drying, especially proteins. Think of an egg yolk left on a breakfast plate. If allowed to dry prior to cleaning, the egg yolk's protein becomes difficult to remove requiring more force and longer soak times in the sink. Rinsing the plate and preventing drying of the yolk makes it easier and faster to remove. Point-of-use treatment keeps soils moist allowing sterile processing departments to clean more efficiently helping them to deliver the processed instruments to the OR on time.

Point-of-use treatment is a necessary step to prevent cross contamination. Removing gross soils reduces the number of microbes and their food source slowing their growth and replication. This helps prevent the formation of biofilms. Biofilms are special bacterial colonies that can form a protective layer capable of preventing high level disinfection and sterilization from reaching the bacteria within. Controlling biofilm growth reduces the potential of cross contamination to the next patient using that instrument.

Lastly, point-of-use treatment is necessary for compliance. Guidelines and standards dictate the need to perform point-of-use treatment. It is a survey expectation. Inappropriate or missed point-of-use treatment can lead to noncompliance.

## Who performs point-of-use treatment, Where is it done?

Scrub nurses and surgical technicians have responsibility for point-of-use treatment during and after the surgery. Often, the pressure of room turnover causes challenges to complete post procedure point-of-use treatment. Some facilities have moved case carts to hallways where sterile processing staff complete post procedure point-of-use treatment. This creates risk a of cross contamination as open case carts and bins expose hallways and surgical staff to potential contaminants.

Some facilities may choose to transport soiled instrumentation to sterile processing or a different location to complete point-of-use treatment. This delays treatment allowing residual soils to dry on instruments and biofilms to begin to form. According to the Association of peri-Operative Registered Nurses (AORN), the Association for the Advancement of Medical Instrumentation (AAMI), and the Association for Surgical Technologists (AST), point-of-use treatment should be done in the OR by OR staff members.

## When and What should be done?

Point-of-use treatment begins during the set-up of the surgical procedure. The scrub and the circulator should plan and have sterile water on the surgical field while preparing the OR room for the procedure. If the case is small, then a liter of sterile water may be sufficient. However, some instrumentation and larger cases, such as

a total joint replacement, may require a sterile basin in a ring stand with two liters of sterile water to perform point-of-use cleaning. Sterile syringes may be needed to flush canulated instrumentation. This should be identified prior to the case and made available.

Point-of-use treatment expectations change based on timing.

**Intraoperative point-of-use treatment**

During the procedure, gross soil is removed from instruments returned to the scrub nurse or surgical technician. Scrub personnel wipe soils from the surface using a sterile gauze sponge moistened with sterile water. It is important to replace gauze sponges as they become soiled. All gauze sponges must be radiopaque and included in the sponge count at the beginning and completion of the procedure.

Canulated instruments are flushed by attaching a syringe filled with sterile water to one end of the instrument. When flushing submerge the cannulated tip beneath the surface of the sterile water in the basin to prevent aerosolization and splashes.

Some instruments may have added steps or specialized point-of-use instructions. Instructions may require soaking instrumentation between uses, for example. Robotic arms may require a sterile sheath to protect the arm from contamination between uses during the procedure.

Electrocautery instrumentation creates a unique challenge to point of use treatment. Electrocautery instrumentation uses electric current to create a high temperature working tip. The instrument cuts and stems bleeding by burning the tissue. These instruments can collect charred tissue called eschar that is difficult to remove. During the procedure, a sterile scrub pad moistened with sterile water is used to remove eschar. Additionally, instrument tips can be coated with an anti-stick solution that helps reduce eschar build up on instrument tips.

**Postoperative point-of-use treatment**

As the procedure closes, OR staff complete surgical counts and break down the back table. Post procedure point-of-use treatment starts at the same time however, application of pretreatment products should wait until the patient leaves the room.

Point-of-use treatment changes at the end of the procedure. Whereas intraoperative point of use focused on the removal of gross soil, post procedure point-of-use focuses on preparing the instrumentation for transport to sterile processing. Preparation for transport includes:

1. Removal of remaining gross soil
2. Preparing instrumentation for transport
3. Maintaining moist soils

Dispose of disposable sharps and other items as is required per hospital procedures for sharps and biohazardous wastes. Sort and regroup instrumentation into the trays and containers they came in. Grouping instrumentation helps with instrument counts in the OR and processing efficiencies in sterile processing. Instruments that came to the OR on stringers should go back to the sterile processing department open and on stringers. Be sure to identify instruments which need sharpening or repair.

As instruments are sorted, they are checked for residual soil. Surfaces should be wiped with a non-linting cloth or surgical sponge that has been moistened with sterile water. Start at the point on the instrument with the least amount of visible soil and move towards the areas with greater amounts of soil. Change the sponge or wipe when it becomes visibly soiled.

Lumens and cannulas are flushed with solution. Either a specific volume of solution or specified flush time will be listed in the instrument's instructions for use. Some instruments may require adapters to allow proper flushing.

Review the instrument's instructions for use. Some instruction may state the need for precleaning using a cleaning chemistry as part of post procedure point-of-use treatment. These recommendations do not follow the recommended practices, standards, and guidelines of the Association of peri-Operative Registered Nurses (AORN), the Association for the Advancement of Medical Instrumentation (AAMI), and the Association for Surgical Technologists (AST) in that cleaning of instrumentation should not done in the OR. The facility must resolve conflicts with policies, best practices, and instructions for use prior to use of the instrumentation. Reach out to the instrument manufacturer for guidance. Some manufactures may be able to supply alternative directions. In those rare cases where instrument manufacturer guidance does not resolve the conflict, work with risk management, infection control, and other key stake holders to assess the risks associated with the practice and develop an alternative practice. Remember to justify and document the decision for future reference during surveys.


*Figure 1: Pretreatment product application should be even across all surfaces.*

Some instruments, such as retractors, may require disassembly during point-of-use treatment. Disassembly ensures the removal of gross soils that can become trapped in the instruments design. Always follow the manufacturer's instructions for use. Never forcibly disassemble an instrument that does not require disassembly per the instructions for use.

Instruments are expensive investments for any facility. Protecting that investment is an important part of preparing them for transport. When placing instruments in containers, trays, or bins; keep sharp edges away from soft materials like light cords, and tubing. Loosely coil power cords, light cords, and tubing. Tight coils places strain on the cords and tubing damaging them. Place heavy instruments like mallets on the bottom with lighter instrumentation above. This protects the lighter more delicate instruments from crushing.

All instrumentation should completely fit within the containment device. Instruments that hang over or above the containment device can catch on edges, corners, and other bins damaging the instruments.

Maintaining moist soils during transport and while awaiting the start of cleaning in sterile processing is a critical step for

Self-Study Test Answers: 1. D, 2. C, 3. A, 4. B, 5. B, 6. D, 7. A, 8. A, 9. D, 10. A

post procedure point-of-use treatment. Minimally, cover the instruments in each tray with a non-linting towel moistened with sterile water. The towel should be damp but not dripping. It should be large enough to cover the instruments but not hang over the side. Towels will dry over time. Facilities should evaluate how quickly towels will dry. It may be necessary to evaluate towels dampened by several staff members to capture the inherent variability between staff practices. Facilities should ensure that instruments begin the cleaning process before the towels dry.

Commercial pretreatment products are alternatives to dampened towels. Pretreatment products consist of foams or gels designed to cling to instrument surfaces and penetrate joint and hinges. All have cleaning agents that help to break down and lift soils from surfaces. Some have agents that prevent the growth of bacteria. This aids in preventing biofilm formation.

Application should occur at the time that instrumentation is placed into the trays. Apply products in an even pattern to evenly coat all instrument surfaces. Pay special attention to box locks, hinges and other moving components that can hold residual soils after soil removal. Pretreatment products should not be dispensed into channels, lumens, or cannulas unless directed to do so by the pretreatment product's instructions for use.

The pretreatment product dispensers should not create aerosols during dispensing. Aerosolization has the potential of making the gel or foam airborne where staff can inhale it. As these pretreatment products have several chemicals of which some are hazardous to breath in, it is important that they are applied in a non-aerosol generating manner.

There are a few things to consider when selecting a pretreatment product. First is compatibility. The pretreatment product should be compatible with the instruments. It should also be compatible with any cleaning solutions used during manual and mechanical cleaning. Though instruments are rinsed prior to cleaning, residual pretreatment product could remain and react with cleaning solutions used in sterile processing.

The next important consideration is wetting properties. The product should cover quickly and adhere to surfaces. It should be fluid enough to penetrate crevasses, recesses, hinges, and other moving parts but not drip off as the instruments are transported.

Staying power is the last consideration. A product that drips off or dries out before cleaning starts is not suitable for the facility. Facilities should verify that the product maintains moist soils for the time needed at peek processing times where wait times between receipt in sterile processing and the start of cleaning are longest. During this time, the properties of the pretreatment product may change. Products that become tacky or stain surfaces with prolonged exposure may not be suitable.

### Preparing to transport

The container that will be used to transport contaminated instrumentation should be leak proof and puncture resistant on all sides and the bottom. It should be labeled, and color coded for identification as a biological hazard. Items should be covered to prevent accidental exposure to the contaminated materials while they are transported to the processing are.

## Solutions for difficult-to-clean tips

As mentioned, eschar can be a difficult gross soil to remove. It can become lodged in crevasses, wires, and hinges not easily accessed during point of use treatment. Pretreatment products can aid with moisture retention but may not be able to start the cleaning process. For these types of devices and other tips that can create a challenge to gross soil removal, cleaning may be started using specialized pretreatment products which insert tips into a self-contained tube with cleaning solutions and enzymes that break down and lift soils. The vials also serve to protect tips during transport. As with any point-of-use treatment product, confirm compatibility of the product with cleaning chemistries used within sterile processing, the pretreatment products used by the OR, and the instrument. Always follow the manufacturer's instructions for use when using these types of products.

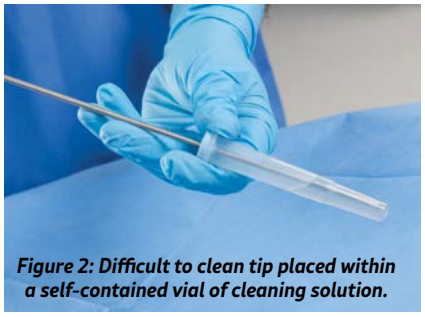

***Figure 2: Difficult to clean tip placed within a self-contained vial of cleaning solution.***

## Conclusion

Point-of-use cleaning has become as varied and complex as the instrumentation used in surgery. Buy developing policies and procedures that follow manufacturer's instructions for use and best practices, facilities can ensure that this critical first step in successful processing of instrumentation is done right. HPN

References:

- Association for peri-Operative Registered Nurses. (2021) AORN Guidelines for Perioperative Practice. AORN, Inc.
- Association for peri-Operative Registered Nurses. (2021, March17) SURGICAL INSTRUMENTS, CLEANING AND CARE-POINT-OF-USE TREATMENT AND TRANSPORT. Retrieved from https://www.aorn.org/-/media/aorn/digital-products/sterile-processing/policy-and-procedure-templates/06_instruments_pointofuse.doc?la=en
- Association for the Advancement of Medical Instrumentation (AAMI). (2020) ANSI/AAMI ST79:2017& 2020 Amendments A1, A2, A3, A4 (Consolidated Text) Comprehensive guide to steam sterilization and sterility assurance in health care facilities. AMMI
- Association for the Advancement of Medical Instrumentation (AAMI). (2021) ST91:2021 Flexible and semi-rigid endoscope processing in health care facilities. AAMI
- Association of Surgical Technologists. (2018, June 1) Guidelines for Best Practice for Breaking Down the Sterile Field. AST.org. https://www.ast.org/uploadedFiles/Main_Site/Content/About_Us/Guidelines%20Breaking%20Down%20Sterile%20Field.pdf
- Klacik, S. (2019). Is point-of-use treatment an integral part of your sterilization process? ORManager. https://www.ormanager.com/point-use-treatment-integral-part-sterilization-process/
- Meyer, J and Sonstelle, A. (2019) Making Sense of Point-of-Use Cleaning. Horizons, 53(s2) 56-60. https://doi.org/10.2345/0899-8205-53.s2.56
- Occupational Safety and Health Administration (OSHA) (2023, March 17) Occupational Safety and Health Standard 1910.1030 Bloodborne Pathogens. https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1030

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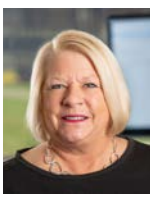
*Janet Strong RN, BSN, CNOR, CRCST was an operating room nurse for over 20 years. Janet has held various positions at IU Health. She was the Total Joint Coordinator, Ortho Trauma Coordinator, the OR educator and manager of a surgery center. During this time, she also worked in the SPD wrapping ortho instruments for the next day. She learned to clean and decontaminate instruments when taking call on the evening and weekends. Janet is a member of HSPA, AORN, APIC and SGNA.*



## CONTINUING EDUCATION TEST • MAY 2023

# The 5 "W"s of point-of-use treatment

### Circle the one correct answer:

1. **How does point-of-use treatment protect instrumentation?**
   A. It neutralizes sterilants
   B. It removes disposable items
   C. It adds lubrication
   D. It removes corrosive soils

2. **Why should soils be kept moist?**
   A. It makes cleaning harder
   B. It encourages biofilm formation
   C. It reduces cleaning time
   D. It eliminates the need to clean

3. **Which operating room team member does NOT perform point-of-use treatment?**
   A. Environmental Services
   B. Surgical technician
   C. Scrub nurse
   D. Scrub technician

4. **Where should point-of-use treatment be done?**
   A. Sterile hallway
   B. Operating room
   C. Decontamination room
   D. Soiled linen room

5. **Point-of-use treatment is pre-cleaning of instruments in the operating room using cleaning solutions.**
   A. True
   B. False

6. **When does point-of-use treatment happen?**
   A. During surgery and upon arrival in sterile processing
   B. Only during Surgery
   C. Only after the patient leaves the room
   D. During and after surgery

7. **When should instrumentation be disassembled for point-of-use treatment?**
   A. When the instructions for use state to
   B. When the surgeon hands the instrument back
   C. When there are hinges and moving parts
   D. When gross soil is lodged in a hard-to-reach place

8. **When should a commercial pretreatment product be applied to instrumentation?**
   A. As instruments are placed in containers
   B. After the container has been completely loaded
   C. After the containers are placed in the case cart
   D. When they arrive in sterile processing

9. **What should the pretreatment product be compatible with?**
   A. Cleaning chemistry in sterile processing
   B. Disinfectant used in the operating room
   C. Instrument
   D. A and C
   E. B and C

10. **Which label should be applied to the transport cart?**
    A. Biohazard
    B. Chemical hazard
    C. Danger
    D. Radioactive

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CBSPD

The approval number for this lesson is **STERIS-HPN 231404.**

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# Efficiency is prudent, but SPD shortcuts are perilous

*by David Taylor*

High demand and limited resources seem to be a prevailing wind for many Sterile Processing departments (SPDs) across the country. Healthcare organizations' push to do more with less may lead to Sterile Processing (SP) technicians to cut corners—skipping or rushing steps in order to meet high procedural volume and end users' instrumentation demands.

When processes are considered redundant or inefficient by SP technicians, there may be opportunities to reevaluate and streamline existing practices when appropriate. Doing so can be part of process improvement initiatives as long as the changes remain rooted in standards and best practices and follow manufacturers' instructions for use (IFU), and the frontline employees are solicited for their input. Eliminating or altering steps is never appropriate, however, when the goal is to hasten instrument processing to keep up with procedure scheduling and requests from end users or departmental leaders (including SP supervisors and managers) to turn instruments around more quickly than is safe.

Cutting corners or eliminating steps is typically indicative of more serious operational and budgetary issues, and even insufficient leadership support. Whatever the cause, taking shortcuts causes a ripple effect for the healthcare organization and, most importantly, patients. Rushing or skipping steps can cause bioburden, instrument damage or other potentially dangerous scenarios to be overlooked, increasing the likelihood of contaminated or malfunctioning devices making their way to patient procedural areas. If such devices are used, patients could become injured or infected. Even if an instrument problem is identified at the point of use, before being used on the patient, stopping to find a replacement device translates to costly and potentially risky procedural delays.

## Speak up for safety

Individuals should always do the right thing and never cut corners, but their decisions may often be rooted in more complex circumstances. It is not uncommon for more procedures to be scheduled than what instrumentation inventories and SP equipment, staffing and other resources can safely or comfortably accommodate, for example. Even SP leaders feeling the pressure from user departments could prompt SP technicians to work faster than is safe or appropriate—a moral dilemma where the desire to do the right thing is countered by demands for more expedient instrument turnaround and the fear of not doing what one is told (this is especially problematic when a supervisor or manager makes the request).

Every healthcare employee must feel empowered to speak up whenever they know something is being requested or done that goes against standards, best practices, instructions for use (IFU) and policies and procedures. This is true regardless of whom makes the request. If a technician sees an SP teammate taking shortcuts or performing any step incorrectly, they should identify the problem/error at that moment, even if the technician incorrectly performing the task is experienced or in a higher position. If the employee does not feel comfortable correcting a co-worker or if the co-worker refuses to listen or correct the mistake, the SP leader should be made aware so they can address the issue.

A similar approach should be followed if a healthcare customer pushes the SPD to turn instruments or sets around too quickly or is engaging in practices that go against standards, IFU and policies and procedures. It is helpful to share standards and other guidance documents to support the correct practice and remind why processes must never be hastened or circumvented. *Note: It is also important to remember that every SP professional has their own experiences and strengths that make them valued team contributors. This understanding can help SP supervisors and managers increase productivity and employee satisfaction and reduce burnout by ensuring tasks are well suited and fairly distributed to each individual. Increasing training for certain tasks and reassigning and rebalancing responsibilities throughout the shift can ensure the team gets the right work done at the right time.*

## When leaders won't do what's right

An individual's integrity and commitment to doing what's right is crucial to the success of the team, department and facility, but if practices are compromising one's integrity, seeking new employment with an organization that shares the similar values could be prudent. This might especially be the case if SP leadership fails to support safe, effective, standards-based practices (or presses staff members to rush steps to stay on schedule and keep clinicians happy) and technicians feel they have nowhere else to turn. *Note: When an SP leader refuses to support the team or promote proper practices, technicians could seek assistance and support from the Infection Preventionist, Risk Manager or other facility executive.*

If an SP professional decides it's time to seek new employment, they can set themselves up for success by advancing their knowledge and education and becoming more specialized in regard to skill sets. Becoming certified can also help create new job opportunities.

## Conclusion

SP professionals sometimes face circumstances where they are pressured to go against what they know is right in order to expedite a process. In such difficult circumstances, they must take control by sharing their knowledge about standards and best practices and explain how skipping or rushing steps or otherwise pressuring the SP team to go against policy can impact patient safety. Further, they should escalate the situation to SP leadership (or Infection Preventionists and facility executives in the event that the SP leader fails to do the right thing). If none of these approaches is successful and the organization and its leadership fail to respond and support the SPD, seeking employment with a new facility could very well be the best solution. HPN

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# Holes or no holes in my mats?

*by Stephen M. Kovach*

**Q "In my department, we use anti-fatigue mats that do not have holes in them. A surveyor just cited us and stated anti-fatigue mats require holes in them. Is this true?"**

A The Occupational Safety and Health Administration (OSHA) does not have regulations or standards specifically for anti-fatigue mats, but in its *Ergonomics* publication, the government body recommends their use for employees who need to work in uncomfortable positions. That basic description fits the work we do in the decontamination area—"uncomfortable."

We know that OSHA mandates that workplaces have clean floors, and American National Standards Institute (ANSI) issued regulations in 2001 about updating floor standard systems with mats. The organization issued the standard ANSI/ASSEA 1264.2-2001 Provision of Slip Resistance on Walking/Working Surfaces. These standards detail ways to create and maintain work surfaces and reduce falls. To my knowledge, having holes or not having holes [in mats] is not specified.

Here are a few suggestions for picking anti-fatigue floor mats:

- Know the purpose of the mat.
  - Anti-slip or other mats are different from anti-fatigue mats.
  - Choose a mat that matches your needs best (might be different for different areas of the department).
- Select the correct thickness of the mat.
  - Softer and thicker may not always be better.
  - Choose a mat that provides some elasticity.
  - Overly soft mats may cause standing discomfort.
- Measure the area for the correct size where the mat will be used.
  - Decontamination area (usually in front of the sink area).
  - Assembly area (usually in front of the workstation).
- Know the environment the mat will be used in.
  - Mats should not slip or create a trip hazard.
  - Mats should have sloped edges (less of a trip hazard and allows carts to roll over them more easily).
- Mats may need to be cleaned.
  - Being able to adequately clean mats is important.
  - Can it be cleaned by being placed in a medical cart washer?
  - What chemicals can be used on the surface for cleaning?
  - Set up a schedule to clean them and under them (the floor).

Concerning the statement that the surveyor made about anti-fatigue mats require having holes, you (as a customer of the surveying organization) have the right to ask the surveying body where they are quoting a standard or guideline from and to share that information with you to see if you are compliant or even following that guidance/guideline document. Surveying organizations do not make standards or guidelines. You have a right to challenge the surveyor (in a positive way).

Here is how I might word my reply.

"Since the Occupational Safety and Health Administration (OSHA) does not have regulations or standards specifically for anti-fatigue mats, the type of mats we have chosen for our staff provide the proper safety requirements for the task they perform and within the area they are working in. We respectfully ask that [the name of the surveying organization] to please share with us the specific standard or guidelines being referenced concerning our mats we have selected for our staff to use in our Sterile Processing Department (SPD) so that we can respond accordingly."

Lastly, document the process you used to pick the mats you have and keep that on file. If anybody asks, you have your reasoning.

**Q "What is the difference between OSHA and NIOSH?"**

A The National Institute of Occupational Safety and Health (NIOSH)- This government agency was established as the research counterpart to OSHA. NIOSH activities include testing and certifying respirators and conducting research and investigations on the health effects of occupational exposures.

The U.S. Occupational Safety and Health Administration (OSHA)- This agency was established to promulgate and enforce workplace health and safety standards. HPN

References:

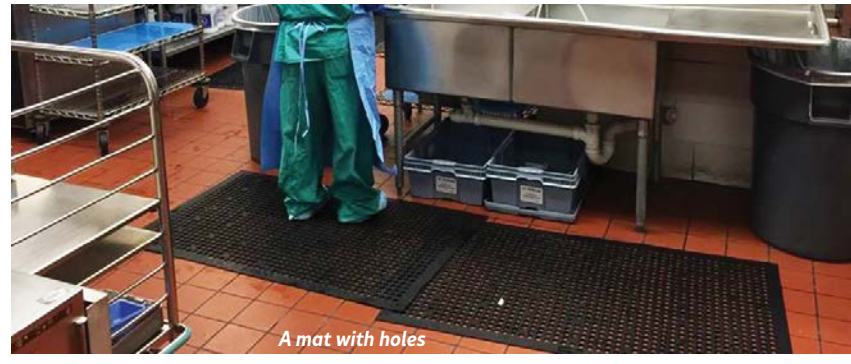
1. Scott, Gillian. (2019). A Guide for Prolonged Standing at Work: Anti-Fatigue Mats. MSC Industrial Direct Co., Inc. https://www.mscdirect.com/betterMRO/safety/guide-prolonged-standing-work-anti-fatigue-mats.

2. Dixon-Roderick, P. (2015). [Memo to Kyle Sullivan, Senior manager of Environmental, Health, and Safety Governance; Amazon NAFC]. United States Department of Labor/Occupational Safety and Health Administration (OSHA). https://www.osha.gov/ooc/citations/Amazon_1074833_eHAL.pdf.

3. XpressMats. (n.d.). Safety Laws by OSHA and ANSI formats. XpressMats. https://www.xpressmats.com/safety-laws-osha-ansi-mats.

4. NoTrax. (n.d.). Floor Safety OSHA Regulations: A Guide to Avoiding Injury and Lost Productivity. NoTrax. https://notrax.justrite.com/buyers-guide/injury.

*Dirty wetness under solid mat*



*A mat with holes*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# 2023 Sterile Processing Technology Guide

*by Scott Tomko*

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Nothing like a global pandemic to reinforce the essential contributions of and the important roles played by [CSSD] professionals within healthcare organizations. Without their dedication to cleaning, decontaminating, disinfecting, sterilizing and maintaining and repairing devices and instruments used in the operating room (OR), doctors, nurses and other clinicians likely would find it difficult, if not impossible, to provide infection-free patient care.

*Healthcare Purchasing News* devoted the introduction to this year's annual Sterile Processing Technology Guide to the companies that support the industry and profession. *HPN* asked executives from 10 companies to share their insights and observations on process and product trends.

## Increased efficiency

Guidelines have evolved to clarify expectations of the Sterile Processing Department and decision-making around product usage, outcomes and documentation – such as an increased reliance on IFUs and expanded manufacturer testing. Owens & Minor's HALYARD product brand continues to prioritize expansive testing, which allows us to stay ahead of trends and continue to be a role model in the sterilization space.

Owens & Minor understands the important role the CSSD plays in a hospital and the need for quality products so professionals can focus on patient safety. Since introducing our SMS wrap over 35 years ago we have evolved, staying at the forefront of innovation and best practices. Today, the patented technology of our SMART-FOLD sterilization wrap and our partnership with Belintra are just two examples of how we have driven efficient and protective solutions for the SPD.

I expect there will be a move toward efficient tracking and documentation of patient outcomes in the OR, an uptick in use of streamlined tools to ensure quality, and the need for workflow standardization due to the influx of CSSD traffic. Owens & Minor is focused on creating a portfolio of products that are easy to use and drive efficiency in the CSSD.

***- Joe Hannibal, Sr. Director of Sterilization Marketing, Owens & Minor***

Cenorin product development is predicated on concepts of automation, process control, systems integration, quality oversight, documentation and sustainability. Cenorin's automation of cleaning and high level disinfecting of respiratory, sleep and anesthesia devices through process control and an integrated system to document achievement of parameters is designed to help prevent cross-contamination and disease transmission.

The Cenorin 610 and 610HT Washer-Pasteurizer/High-Level Disinfectors automate cleaning and high level disinfection, eliminating human error and opening opportunities for safe reprocessing of semi-critical devices in respiratory, anesthesia and sleep areas where many plastic devices are well-suited for reprocessing in the Cenorin 610.

We'll continue to expand automation and increasingly use Artificial Intelligence to improve device processing and information exchange among CSSD, inventory management and surgery. A huge industry challenge is managing increased workflows with fewer people. Manufacturers must develop products that manage costs and improve efficiency, sustainability and patient outcomes.

***- Ric Radford, CEO at Cenorin***

## Evolving standards and evolving products

The evolution of sterile processing standards has allowed us to expand as a company, as we design and manufacture innovative products to meet these new standards and guidelines. It is bringing the industry to the forefront, where it needs to be as the sterile processing department is one of the most important departments in any healthcare facility.

Over the last few years as the CSSD has taken a more prominent role in the industry, the regulatory bodies and recommendations have evolved to match. This has forced companies, like Torvan, to follow stricter quality systems and innovate further. Some of the products we have developed include automation (eSink) for our sinks and tracking with flow sensors for our endoscope cabinets to help reduce human error and allow an optimized environment.

I believe that ( CSSD) will continue to become a more regulated and studied department where management will continue to realize the importance and invest accordingly. This would include both capital equipment improvements and worker education and training. Companies will continue to automate and there will be a significant push towards remote monitoring and support so that equipment uptime is improved.

***- Doug Brown, Director of Sales & Marketing, Torvan Medical***

As a U.S. EPA Safer Choice Partner, and specifically a Partner of the Year, we ensure that our products are both safer for the intended use and sustainable. We are continuing to advance our technology, by pushing the limit of what our containers and cleaners can do. For example, we questioned whether our enzymatic detergents could do more than clean, and contracted with USGS to better understand the cause, spread and prevention of infectious diseases, including prion disease. We decided to see whether our proprietary multi-enzymatic cleaner formulations could effectively degrade infectious prions, the most persistent infectious agent on the planet. We discovered that our multi-enzymatic cleaners offer great potential for decontaminating neurological, brain, and eye tissue from stainless steel devices.

There are many trends happening in Sterile Processing, from consolidation and off campus centralized reprocessing facilities to a greater reliance on loaner sets and new technologies. All of which will require greater coordination to prevent bottle necks. We understand that regulatory agencies are looking for more detailed documentation and proof of procedure to ensure that all steps are followed, personnel properly trained, and equipment maintained preventively. With that in mind, paper documents are not up to the task. As a company, Case Medical has gone paperless with all procedures from risk analysis, planning, R&D and production. We see a similar need in healthcare facilities to go digital, as we have done, utilizing safer data security, cloud-based software, that is ISO 27001 certified, and provides real time data. The same can be applied to CSSD departments to meet ever increasing future demands for coordinated, documented medical device usage. With so much information to review and procedures to follow, we developed software for tracking, tracing, recording with a unique 2D barcode that links to a human readable UDI and now can link with an app in real time to our IFU, and to CaseTrak360, our proprietary asset management software with a simple scan.

Sterile processing has come a long way over the last three decades. During this time, Case Medical has developed innovative products and provided monthly educational seminars with free CE, and a weekly blog to support the CSSD community. We've seen the introduction of complex devices that are challenging to decontaminate and a rush to get them properly processed in rapid speed. The need to process sets faster without compromising safety is why Case Medical manufactures enzymatic solutions to rapidly breakdown soil and bioburden, and containers that rapidly sterilize with dry loads for immediate use and terminal sterilization. We developed our FlashTite valve option to convert our standard SteriTite containers to IUSS with a brief dry time to express the condensate before the container is opened. Then, we went even further when we validated a 5 to 8 minute dry time for terminal sterilization with our standard SteriTite filtered container.

***- Marcia Freeze, CEO, Case Medical, Inc.***

## Enhanced equipment is the key

No matter how guidelines or standards change, adaptability is crucial for sterile processing departments. Consider how many recent changes the OR in one particular facility may undergo in only a couple years; sterile processing departments aren't likely to receive comparable investment in new technology & equipment, so developing solutions that can adapt and yet remain compliant has been an exciting challenge to explore. Pure Processing focuses on how our equipment can remain flexible amidst changing requirements when we engineer and design solutions. At the end of the day, customer input is pivotal to achieving that objective and we've put an even greater emphasis on getting that input. Our ongoing dialogue with customers gives us insights into their needs as standards & guidelines change, allowing us to help them navigate those changes as a team.

Pure Processing is proud to launch our newest innovation: PureSteel EZ Hinge Pegboards for our instrument reprocessing sinks. This new pegboard system allows technicians to easily deep clean behind even hard-plumbed fixtures, where aerosols may pose increased risks. The EZ Hinge Pegboards also allow equipment configurations to remain adaptable and dynamic, providing easy access to move accessories or even reverse workflows as needs evolve. Departments can add or remove accessories quickly to ensure new compliance requirements are met.

Sterile processing departments are faced with a laundry list of challenges, but ensuring compliance to IFU within the means they're provided may be the toughest. Finding a vendor that works one-on-one with departments to understand both short- and long-term objectives while remaining compliant is key. That's why we're excited about our PureSteel EZ Hinge Pegboards; they're allowing our customers to modify sink systems which usually can't be replaced often enough to keep up with changing standards, while still allowing departments to terminally clean in accordance with infection control requirements.

***- Megan Pietura, Business Operations Manager, Pure Processing LLC***

As we see the development of devices become more complex we know our reprocessing equipment, services and solutions must also develop to support each customer's unique needs. Because of these rapid advancements we work closely with our customers to better understand how these changes affect their workflow, staffing models, education plans and patient outcomes. Some of adaptations for Belimed include ensuring our maximum tray weights are validated to accommodate 25lbs in our sterilizer chambers as the industry shifted their maximum weight of trays, creating accessories that make cleaning easier and more efficient through equipment washer racks and attachments that accommodate flushing for channel and lumen cleaning in the washer chambers, and the development of point of use care products that are safe, effective and have longer foam retention times and are ergonomically friendly. Our newest WD290 IQ washer along with a selection of automation options, can increase efficiency and performance while reducing workload and costs, helping departments process items safely and in a "lean" way.

***- Randalyn Walters, Clinical Education Manager, US, Belimed***

The industry is evolving technologically. The advancements made in the CSSD industry surrounding the use of data has rapidly developed along with the expectation to utilize these systems in all reprocessing activities. From scanning to traceability and digital monitoring of outcomes. We focused our momentum on promoting digitalization within the CSSD, using our equipment data to visually communicate performance trends and extract valuable outcomes effecting higher machine uptimes. Through the development of our connectivity solution Smarthub, we allow customer-Belimed Service collaboration using equipment data & performance analytics. This solution can help customers determine a problem before they arise, saving headaches and potential downtime. The implementation of software and connectivity solutions has allowed our equipment to collect millions and millions of data points we plan to use to help us understand more closely what is going on in the departments across the globe. CSSD leaders are looking for ease of use and want interoperability with their departments devices that allows them to see what is happening and allowing all equipment to be connected to the software they use for tracking, documentation and training.

***- Mohammad Murad, Regional Business Owner, Connectivity, Belimed***

## Maximizing potential

Sterile processing often doesn't acquire the same amount of real estate as other departments during renovations. With no chance of expanding outward/horizontally, CSSDs are left with expanding upward/vertically. They should take advantage of a room's full height, even through ceiling tiles to the floor above. Rows of wire carts can be consolidated and replaced as an automated solution with a single footprint, and any sterile supplies are available at the touch of a button. Another growing trend is offsite sterile processing; rather than an CSSD adjoining the operating room, sterile processing can be done in a completely separate building, and then shuttled to the OR according to the daily surgery schedule.

Sterilized supplies need to remain sterile, and they can't unless they're more protected from routine handling. The three-touch rule allows for contact at only three points in supplies' usable lifespans: 1) storing the tray/wrap, 2) removing the tray/wrap from storage and placing it on the case cart, and 3) opening the tray/wrap in the OR. However, many more than three touches occur in CSSDs on a regular basis. The more tray/wrap is handled, the more likely it needs to be re-sterilized. Hänel's Rotomat automated sterile storage carousel prevents physical contact with sterile supplies until they're ready to be used in the OR.

***- David Phillips, Marketing Manager, Hänel Storage Systems***

While great strides have been made in recent years to improve patient safety through regulations, standards, and guidelines, we continue to see a lack of industry investment to support the practical, everyday needs of people in the CSSD and OR.

We found that fundamentally, the workforce is being required to master increasingly complex processes without the proper tools to do so.

We completely agree that technology and complexity is on the rise in sterile processing, but we are not convinced that quality and effectiveness have been advancing along with it. Based in the heart of Silicon Valley, LayerJot is not only focused on bringing the latest technology to sterile processing, but also – and more importantly – making it maximally usable and effective in the hands of sterile processing staff.

At the intersection of people, surgical instruments and devices, the LayerJot EasyTray - tray assembly solution helps to ensure that every single surgical instrument and device is correctly identified, inspected, and assembled according to the complex requirements required to ensure patient safety and surgeon satisfaction. We use Computer Vision to accurately identify the instruments, and seamlessly deliver the largest content library of its kind directly to the technician when they need it most. If CSSD technicians are spending more time on the critical tasks like inspection and assembly, and less time searching the internet for accurate and reliable information (or worse – guessing), we're going to make a real impact on patient safety and surgeon satisfaction.

We believe there is a tremendous opportunity to close the information gap between current practices and optimized workflows. Today, too many decisions between the OR and CSSD are made without the data to support them. We are working hard to close this gap by automatically collecting OR utilization data, so practical and meaningful action can be taken to optimize complex surgical trays and inventory.

***- Etay Gafni, CEO, LayerJot***

## Protecting our patients

The sterile processing industry plays a significant role in keeping patients safe from hospital-acquired infections. However, the industry still faces many challenges in ensuring the sterile processing of medical equipment. One of the primary issues is the potential for instrument damage during the sterilization process and transportation, causing the equipment to become non-sterile and increasing the risk of infection. Additionally, the industry struggles with inconsistencies in the sterilization process and techniques.

Summit Medical's Instrusafe products can help address these challenges by providing advanced solutions for the protection of medical instruments during sterilization processes. Our unique solutions offer a range of benefits, including the prevention of instrument damage and the promotion of consistent sterilization techniques through customized sterilization trays, specialized packaging, labeling, and tracking features.

By using InstruSafe products, hospitals and medical facilities can improve their sterile processing practices while reducing the risk of infection for patients. Through the adoption of these advanced solutions, the sterile processing industry can make significant strides in ensuring the safety and well-being of patients while improving its overall efficiency and effectiveness.

***- Aaron Lieberman, Director of Sales and Marketing – Sterile Processing, Summit Medical***

Addressing the ever-increasing concern of cross-contamination in hospitals and medical facilities we at Ruhof, recently added the ELEMENTUM Multi-tiered Enzymatic Detergents to our product line of cleaners. Featuring 4 new molecules of enzymes created for the medical device cleaning market —ELEMENTUM and ELEMENTUM AW rapidly break down tough-to-clean medical soils including the multi-layers of bioburden and prevent redeposition. The first and only enzymatic detergent to conform to ASTM8179, Elementum also complies with both AORN and AAMI Guidelines for optimal cleaning detergent characteristics.

Beyond decontamination Ruhof also allows healthcare professionals to verify cleaning effectiveness with the ATP Complete 2 Contamination Monitoring System. ATP Complete 2 is a reliable method for verifying the cleanliness of all endoscopes, surgical instruments, and surfaces with results in only 15 seconds. This next generation technology features a user friendly, smart handheld mobile platform, Wi-Fi connectivity, infinite users and test points, RFID and Barcode reader and more. HPN

***- Douglas MacKay, VP of Sales & Marketing, Ruhof Corporation***

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Transport from OR to SPD

Decontamination

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Prep & Pack

**Package and Organize**

Place in SteriTite Container

Sterilization

**Sterilize**

Pick case and send to the OR

Storage

**Transport and Store**

Return to SPD to start the process over again

Case Cart Staging

Operating Room



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www.casemed.com

## STERILE PROCESSING EQUIPMENT

### AUTOCLAVES/STEAM STERILIZERS

**Belimed Infection Control**
www.belimed.com

**Cygnus Medical**
www.cygnusmedical.com

**Midmark Corporation**
www.midmark.com

**Steelco USA**
www.steelco-usa.com

**STERIS**
www.steris.com

**Tuttnauer Co. Ltd.**
www.tuttnauerusa.com

### ETHYLENE OXIDE STERILIZERS

**3M Medical Solutions**
www.3m.com/medical

**Cygnus Medical**
www.cygnusmedical.com

### GAS PLASMA

**Advanced Sterilization Products**
www.asp.com

### HYDROGEN PEROXIDE STERILIZERS

**Advanced Sterilization Products**
www.asp.com

**Cygnus Medical**
www.cygnusmedical.com

**SteraMist by TOMI**
www.steramist.com

**STERIS**
www.steris.com

### LIQUID CHEMICAL STERILIZERS

**STERIS**
www.steris.com

**Varigard, LLC**
www.varigard.com

### LOW-TEMPERATURE STERILIZERS

**3M Medical Solutions**
www.3m.com/medical

**Advanced Sterilization Products**
www.asp.com

**American Ultraviolet**
www.americanultraviolet.com

**Cygnus Medical**
www.cygnusmedical.com

**STERIS**
www.steris.com

**Varigard, LLC**
www.varigard.com

**Xstream Infection Control,LLC**
xstreaminfectioncontrol.com

### MEDICAL DEVICE DRYERS

**Belimed Infection Control**
www.belimed.com

**Cantel**
www.medivators.com

**Cenorin**
www.cenorin.com

**LogiQuip**
www.logiquip.com

**Olympus**
www.olympusamerica.com

**Steelco USA**
www.steelco-usa.com

**Torvan Medical Inc.**
www.torvanmedical.com

### MOBLIE STERILE PROCESSING FACILITIES

**Belimed Infection Control**
www.belimed.com

**mmic™ Medical Systems**
www.mmicmedical.com

**STERIS**
www.steris.com

### TEE PROBE REPROCESSOR

**CIVCO Medical Solutions**
www.civco.com

**CS Medical**
www.csmedicalllc.com

**GE Healthcare**
www.gehealthcare.com

**Nanosonics**
www.nanosonics.us

## DECONTAMINATION/ CLEANING EQUIPMENT

### AUTOMATED ENDOSCOPE REPROCESSORS

**Advanced Sterilization Products**
www.asp.com

**Cantel**
www.medivators.com

**CS Medical**
www.csmedicalllc.com

**LogiQuip**
www.logiquip.com

**Olympus**
www.olympusamerica.com

**STERIS**
www.steris.com

### CART WASHERS

**Belimed Infection Control**
www.belimed.com

**Steelco USA**
www.steelco-usa.com

**STERIS**
www.steris.com

### DECONTAM SINKS/ WORKSTATIONS

**Belimed Infection Control**
www.belimed.com

**CS Medical**
www.csmedicalllc.com

**Cygnus Medical**
www.cygnusmedical.com

**Finsen Technologies Inc**
www.finsentech.com

**Medical Resources Group Limited**
www.mrgona.com

**Owens & Minor**
www.owens-minor.com

**Pure Processing**
www.pure-processing.com

**Ruhof Healthcare**
www.ruhof.com

**Steelco USA**
www.steelco-usa.com

**STERIS**
www.steris.com

**TBJ, Inc.**
www.tbjinc.com

**Torvan Medical Inc.**
www.torvanmedical.com

### DETERGENT DOSING SYSTEMS

**Belimed Infection Control**
www.belimed.com

**Blickman, Inc.**
www.blickman.com

**Cygnus Medical**
www.cygnusmedical.com

**Diversey**
www.sdfhc.com

**KTW Group**
www.ktwgroupinc.com

**LogiQuip**
www.logiquip.com

**Ruhof Healthcare**
www.ruhof.com

**STERIS**
www.steris.com

**TBJ, Inc.**
www.tbjinc.com

**The Hubscrub Company**
www.hubscrub.com

**Torvan Medical Inc.**
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## LOADING EQUIPMENT

**Belimed Infection Control**
www.belimed.com

## SONIC IRRIGATORS

**STERIS**
www.steris.com

**TBJ, Inc.**
www.tbjinc.com

**Tuttnauer Co. Ltd.**
www.tuttnauerusa.com

## ULTRASONIC CLEANERS

**Belimed Infection Control**
www.belimed.com

**Midmark Corporation**
www.midmark.com

**Steelco USA**
www.steelco-usa.com

**STERIS**
www.steris.com

**TBJ, Inc.**
www.tbjinc.com

**Torvan Medical Inc.**
www.torvanmedical.com

**Ultra Clean Systems, Inc.**
www.ultracleansystems.com

## ULTRAVIOLET DISINFECTION

**American Ultraviolet**
www.americanultraviolet.com

**BFW, Inc**
www.bfwinc.com

**Diversey**
www.sdfhc.com

**Finsen Technologies Inc**
www.finsentech.com

**Hospital Safety Solutions**
www.hospitalsafetysolutions.com

**Nuvo Surgical**
www.nuvosurgical.com

**R-Zero**
www.rzero.com

**Steriliz, LLC**
www.rduvc.com

**Sterilray, Inc.**
www.sterilray.com

**Surfacide**
www.surfacide.com

**The Hubscrub Company**
www.hubscrub.com

**Tru-D SmartUVC**
www.tru-d.com

**UVDI, Inc.**
www.uvdi.com

## WASH RACKS

**Pedigo Products**
www.pedigo-usa.com

## WASHER-DISINFECTORS/ HLD

**Advanced Sterilization Products**
www.asp.com

**Belimed Infection Control**
www.belimed.com

**CIVCO Medical Solutions**
www.civco.com

**EvaClean by EarthSafe Chemical Alternatives**
https://www.evaclean.com/

**Meiko**
www.meiko.us

**Nanosonics**
www.nanosonics.us

**Steelco USA**
www.steelco-usa.com

**STERIS**
www.steris.com

**The Hubscrub Company**
www.hubscrub.com

# INSTRUMENT CARE & CLEANING CHEMISTRIES

## BRUSHES & SPONGES, INSTRUMENT CLEANING

**Aspen Surgical**
www.aspensurgical.com

**BD**
www.bd.com

**Cantel**
www.medivators.com

**Capital Medical Resources LLC**
www.capitalmedicalresources.com

**Case Medical, Inc.**
http://www.casemed.com/

**Certol International LLC**
www.certol.com

**CIVCO Medical Solutions**
www.civco.com

**CS Medical**
www.csmedicalllc.com

**Cygnus Medical**
www.cygnusmedical.com

**Healthmark Industries**
hmark.com

**Key Surgical**
www.keysurgical.com

**Medtrica**
www.medtrica.com

**Metrex**
www.metrex.com

**Nuvo Surgical**
www.nuvosurgical.com

**Olympus**
www.olympusamerica.com

**Ruhof Healthcare**
www.ruhof.com

**STERIS**
www.steris.com

**STERIS IMS**
www.steris-ims.com

**Strategic Business Holdings**
www.sbhsurgical.com

**Summit Medical, an Innovia Medical Company**
www.summitmedicalusa.com

## DETERGENTS/ ENZYMATIC CLEANERS

**Advanced Sterilization Products**
www.asp.com

**BD**
www.bd.com

**Belimed Infection Control**
www.belimed.com

**Cantel**
www.medivators.com

**Case Medical, Inc.**
http://www.casemed.com/

**Certol International LLC**
www.certol.com

**CIVCO Medical Solutions**
www.civco.com

**CS Medical**
www.csmedicalllc.com

**Cygnus Medical**
www.cygnusmedical.com

**Diversey**
www.sdfhc.com

**EvaClean by EarthSafe Chemical Alternatives**
https://www.evaclean.com/

**Medtrica**
www.medtrica.com

**Metrex**
www.metrex.com

**Midmark Corporation**
www.midmark.com

**Miele**
www.miele-pro.com

**O&M Halyard**
www.halyardhealth.com

**Olympus**
www.olympusamerica.com

**Owens & Minor**
www.owens-minor.com

**Pure Processing**
www.pure-processing.com

**Ruhof Healthcare**
www.ruhof.com

**Steelco USA**
www.steelco-usa.com

**STERIS**
www.steris.com

**STERIS IMS**
www.steris-ims.com

**Summit Medical, an Innovia Medical Company**
www.summitmedicalusa.com

**Symmetry Surgical**
www.symmetrysurgical.com

**The Hubscrub Company**
www.hubscrub.com

**Ultra Clean Systems, Inc.**
www.ultracleansystems.com

## HIGH-LEVEL DISINFECTANTS

**Advanced Sterilization Products**
www.asp.com

**Biocentris Pharmaceuticals**
biocentris.com

**Cantel**
www.medivators.com

**CIVCO Medical Solutions**
www.civco.com

**CS Medical**
www.csmedicalllc.com

**EvaClean by EarthSafe Chemical Alternatives**
https://www.evaclean.com/

**Metrex**
www.metrex.com

**Nanosonics**
www.nanosonics.us

**Olympus**
www.olympusamerica.com

**Ruhof Healthcare**
www.ruhof.com

**SteraMist by TOMI**
www.steramist.com

**STERIS**
www.steris.com

**The Hubscrub Company**
www.hubscrub.com

**TOMI Environmental Solutions, Inc.**
www.tomimist.com

## INSTRUMENT CHANNEL FLUSHING

**Cantel**
www.medivators.com

**Cygnus Medical**
www.cygnusmedical.com

**Kenall Mfg**
www.kenall.com

**Pure Processing**
www.pure-processing.com

**Ruhof Healthcare**
www.ruhof.com

**STERIS**
www.steris.com

**TBJ, Inc.**
www.tbjinc.com

**Torvan Medical Inc.**
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## INSTRUMENT LUBRICANT

**BD**
www.bd.com

**Belimed Infection Control**
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**Case Medical, Inc.**
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**Certol International LLC**
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**Cygnus Medical**
www.cygnusmedical.com

**Metrex**
www.metrex.com

**Miele**
www.miele-pro.com

**Ruhof Healthcare**
www.ruhof.com

**STERIS IMS**
www.steris-ims.com

**Ultra Clean Systems, Inc.**
www.ultracleansystems.com

### INSTRUMENT/SCOPE MAINTENANCE, REPAIR, REPROCESSING

**Aesculap**
www.aesculapusa.com

**Agiliti**
www.agilitihealth.com

**Cantel**
www.medivators.com

**Capital Medical Resources LLC**
www.capitalmedicalresources.com

**Clarus Medical**
www.clarus-medical.com

**Cygnus Medical**
www.cygnusmedical.com

**Healthmark Industries**
hmark.com

**jac-cell medic**
www.jaccell.com

**Metrex**
www.metrex.com

**Olympus**
www.olympusamerica.com

**Ruhof Healthcare**
www.ruhof.com

**STERIS**
www.steris.com

**STERIS IMS**
www.steris-ims.com

**Stryker Sustainability Solutions**
https://sustainability.stryker.com/

**Xstream Infection Control,LLC**
xstreaminfectioncontrol.com/

### INSTRUMENTS WITH REMOVABLE/ DISPOSABLE PARTS

**Healthmark Industries**
hmark.com

**Medical Resources Group Limited**
www.mrgona.com

### PRE-CLEANERS

**BD**
www.bd.com

**Belimed Infection Control**
www.belimed.com

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www.medivators.com

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www.micro-scientific.com

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**O&M Halyard**
www.halyardhealth.com

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### RUST AND STAIN REMOVERS

**BD**
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**Midmark Corporation**
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**Miele**
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**Ruhof Healthcare**
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### STERILANTS

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**AACN booth #915 |**
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VALUE. DELIVERED.

# Supply Chain collaboration and the Triple Bottom Line

*by Karen Conway, Vice President, Healthcare Value, GHX*

Over the years, in this column, we have returned to several perennial themes, including:

- The importance of having a system vs. siloed perspective when solving problems
- The need for trust among trading partners to create a willingness to share data to support effective collaboration
- The value in identifying solutions that can achieve benefits for multiple stakeholders and objectives

This month's column depicts an initiative between a manufacturer, distributor and provider that once again incorporates all three of those themes and supports what is known as the Triple Bottom Line (supporting people, profits, and the planet). More specifically, we will explore a recent initiative between Ethicon, a Johnson & Johnson MedTech company, Chicago-based Rush Health, and Rush's primary distributor Concordance that delivered multiple benefits for all three organizations, including cost savings, operational efficiencies, clinician satisfaction, and improvement in environmental sustainability.

It started with a relationship that Rush and Ethicon had strengthened with the successful completion of a Lean Suture program. Through that initiative, Rush was able to both reduce the number of SKUs and better meet clinician needs. With good utilization data, clinicians recognized that their desire to have every kind of suture potentially needed on site made it harder for them to find what they needed in a timely and efficient manner. The data showed that they regularly used only a fraction of the sutures ordered from Ethicon, and Rush credits Ethicon with helping clinicians understand where they could substitute one Ethicon suture for another in the company's portfolio. Through clinical and supply chain collaboration, Rush now stores only the most commonly used sutures onsite in OR suture rooms with the different suture types color-coded for easy identification. In cases where physicians need a different suture, they can be accessed from an offsite location. The results were impressive, including a 70 percent reduction in waste and expired product and an 86 percent decrease in money spent on suture management.

The success of this program got Ethicon and Rush to consider broader range strategic objectives and longstanding commitments to health equity and environmental sustainability. Once again, the trading partners turned to the data, which this time showed that individual Rush facilities were ordering sutures in a piecemeal fashion, sometimes many times in a month. The orders were handled through different channels, each triggering a separate shipment and at times resulting in expedited freight and minimum order fees, as well as the economic and environmental impacts of multiple orders and shipments.

Because each facility was ordering independently, no one saw the overall opportunity. By analyzing order volume using data from the GHX exchange, Rush and Ethicon realized they had enough volume to consolidate all system suture orders through Concordance. Today, Rush places only one or two orders per month, each of which is distributed by Concordance as part of its regular deliveries and in reusable totes, not cardboard boxes. Ethicon, meanwhile, sends fewer orders and by truck as opposed to sending the sutures in multiple shipments by air, which is both more expensive and has a high carbon footprint. Both Ethicon and Rush also benefit from lower transactional costs associated with order management. Further, Ethicon gets a better demand signal and Rush can be notified in advance of potential inventory challenges.

As with the Lean Suture project, this latest collaboration has delivered a wide variety of benefits to all three organizations, as outlined below:

For Rush, this latest initiative further validates the importance of trading partners being willing to share data to identify and pursue opportunities that deliver value to their respective organizations, the clinicians, other employees, and the patients they serve. In the words of the supply chain leader, "The days of hiding our cards and operating in siloes are over. If we want to truly make an impact, it will take all of us across the entire supply chain, from raw materials to the delivery of patient care." HPN

| Rush | Concordance | Ethicon |
|---|---|---|
| Reduced Lead Time (from three days to one day) | Fewer drop ship and expedited orders | More consolidated shipments |
| Reduced minimum order, rush, and shipping fees | Increased volume | |
| Better inventory accuracy with standardized orders | | |
| **Shared Benefits** | | |
| Improved operational efficiency (e.g., fewer POs, invoices)<br>Lower carbon footprint<br>Reduced packaging waste | | |

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