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HEALTHCARE PURCHASING NEWS®

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Green Cash Flow Offer

Q: How does the $100 upgrade credit work?

A: For every new TAT-5000 thermometer purchased, Exergen will credit the hospital $100 each for every hospital grade ear or electronic thermometer taken out of service and sent to Exergen.

Q: Can I purchase through a distributor and still qualify for the $100 upgrade credit?

A: **Yes.** If the TAT-5000's are purchased through an authorized Exergen distributor, proof of purchase needs to be sent to Exergen to qualify for the $100 upgrade credit (or direct payment) to the hospital.

Q: What thermometers will be accepted for the $100 trade in credit?

A: Any hospital grade ear or oral/rectal electronic thermometer that is in currently in use at the hospital.

Q: What does a 1 year payback mean?

A: Since ear and electronic thermometers have operating costs of $300 or more per year per thermometer, and a TAT-5000 with the $100 upgrade credit will cost much less than $300 to purchase, payback on the Exergen purchase will be well under 1 year.

Q: What does the 100% reduction in waste mean?

A: Studies show that each staffed bed produces more than 30 pounds of waste per day. Included in that total are thermometer probe covers, broken probes/cables, and discarded thermometers.

Exergen requires zero disposables. If the TAT-5000's are returned for replacements, the returned units are recycled into refurbished units. The refurbished units are also covered by the Lifetime Warranty. The hospital has zero costs and zero waste after purchasing the Exergen TAT-5000.

Q: What does 100% reduction in operating costs mean?

A: Ear and electronic thermometers have annual operating costs to use, including probe covers necessary for each use, probe replacements from breakage, repair charges from limited warranties, user abuse, and significant biomed costs for in house service. This can run about $300 per year or more per thermometer in use.

Exergen TAT-5000 thermometers have zero operating costs. Disposables are optional and can be reused on the same patient. Under the Lifetime Warranty, Exergen will repair or replace at no charge.

Q: How often are the optional disposable probe caps used?

A: On average, the optional disposable covers are used on about 5% of temperatures taken. This is a negligible cost and waste compared to ear and electronic thermometers.

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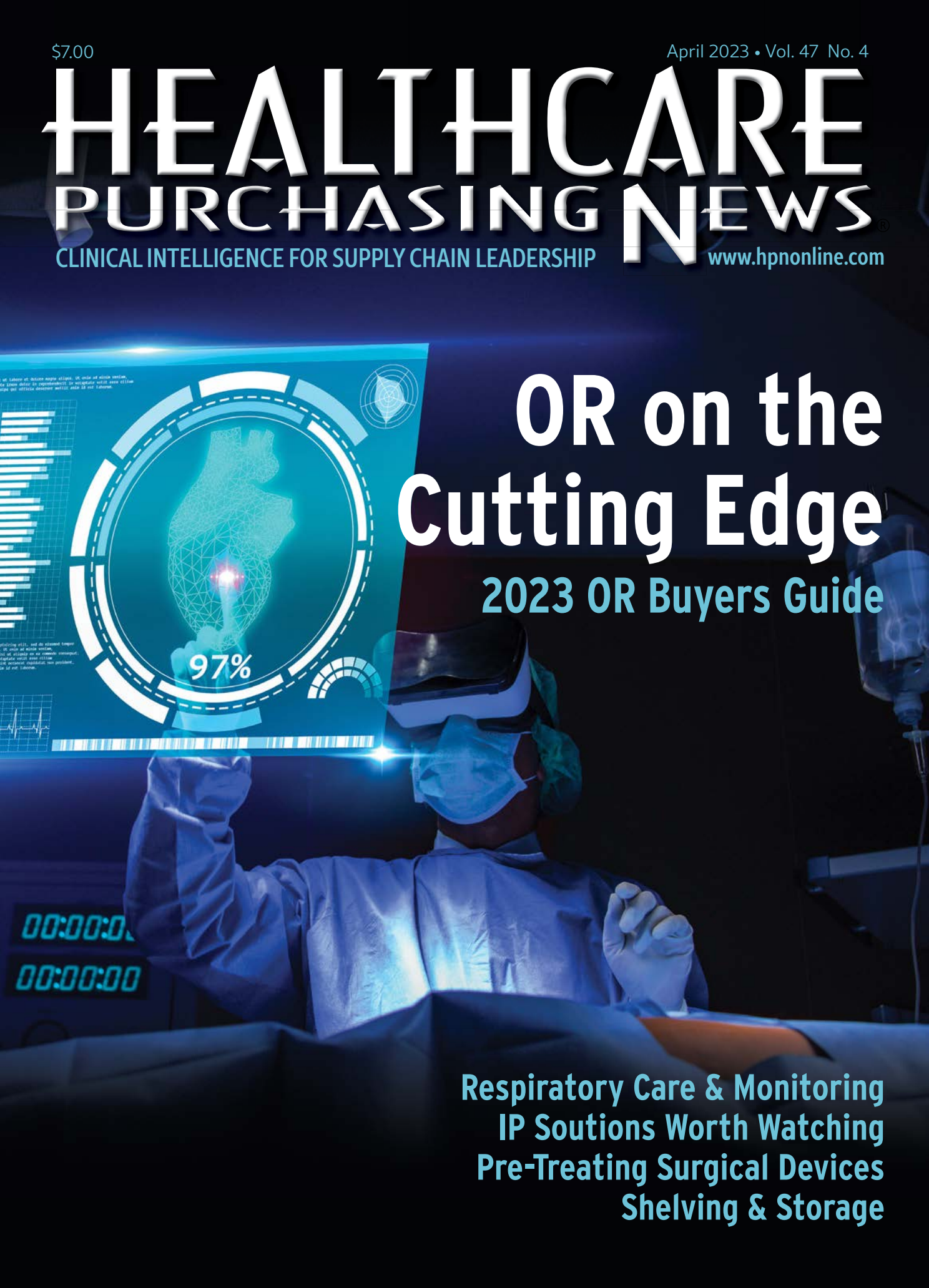

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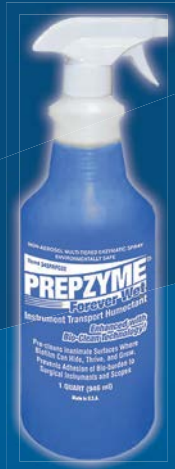

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BUYLINE

Don't be a tool

Rick Dana Barlow
Senior Editor

Peer into any building contractor or mechanic's garage, truck or van and you'll likely see a version of the famed Fibber McGee closet from the 1930s-1940s radio show and movies (see https://www.youtube.com/watch?v=h9FGC68YcwM). In this YouTube link you'll also likely notice a stairwell finial gag that Frank Capra picked up five years later for "It's A Wonderful Life."

To wit, contractors and mechanics tend to strew their ruddy and well-worn tools anywhere and everywhere, yet somehow manage to find what they need in the nick of time.

Surgeons in the operating room don't enjoy that "luxury" because their tools tend to be brought to them, arranged orderly in sterile kits and trays.

One of my favorite scenes from the popular Netflix series, "The Crown," which is based on Queen Elizabeth II's life, occurs within a very early episode when King George VI is hunting ducks at one of the royal estates and instructing young son-in-law Prince Philip on the importance of Princess Elizabeth.

Oddly enough, the most memorable part of the scene wasn't the impassioned dialogue but the process leading to the King's hunting technique. To the left of the monarch, a royal aide handed him a loaded shotgun that he promptly aimed and fired. He then handed the spent weapon to a royal aide standing on his right for … ahem … reprocessing in a servant assembly line that likely would have pleased contemporary American automobile magnate Henry Ford across the pond.

Surgeons may feel similarly: They want their tools ready and waiting at a moment's notice – before, even!

Sterile processing professionals harrumph because they know how challenging that demand is, particularly when soiled tools post-procedure finally are wheeled down for reprocessing long after the caked-on bioburden residue, inorganic material and organic tissue have solidified and hardened to a point requiring use of a hammer and chisel.

If only someone in the OR would have prepped the dirty devices and transported them for reprocessing once the procedure ended.

Effective in 2022, thanks to AAMI and ANSI, someone in the OR must do just that.

To make this "pre-cleaning" process more palatable, AAMI went so far as to rename the process as "pre-treating" to remove the perceived stigma of "cleaning" inside the OR by anyone other than Central Sterile Services or Environmental Services professionals.

My dad routinely advised me as a child, "you take care of your tools, and the tools will take care of you."

Some in the OR may think it's beneath them or not their job to pre-treat soiled surgical devices post-procedure. But AAMI guidelines now require it, which also is supported by AORN and HSPA, among others.

Most – if not all – healthcare organizations – from administrators to clinicians – likely recognize that pretreating devices and instruments quickly following a surgical procedure prevents any foreign and infectious bioburden or organic and inorganic materials from solidifying, drying and hardening on device surfaces. Without this crucial step, OR turnaround ultimately would be clogged and slowed, due in part to cleaning/decontamination process challenges, disinfection/sterilization failure, production/workflow hurdles and speedbumps and surgical scheduling delays from lack of device/instrument access and availability. (Remember that AORN, HSPA and APIC all endorse the mantra that if it's not clean then it can't be disinfected or sterilized.)

Of course, the patient safety issue lingers and looms all around this needlessly contentious issue.

In short, clinical science as well as occupational science logically justifies the prompt pre-treatment of surgical devices and instruments post-procedure. The surgical services version of NIMBY (Not In My Back Yard), a k a NIMOR (Not In My Operating Room), need not apply.

In the frontier days of yore, such insolence invited a trip to the tool shed.

Without the OR nurses and Central Sterile Processing's cooperating, the surgeons likely will suffer what the beleaguered shopkeeper exclaimed in the early 1930s predecessor program to "Fibber McGhee and Molly" and be "Smackout" of what they need.

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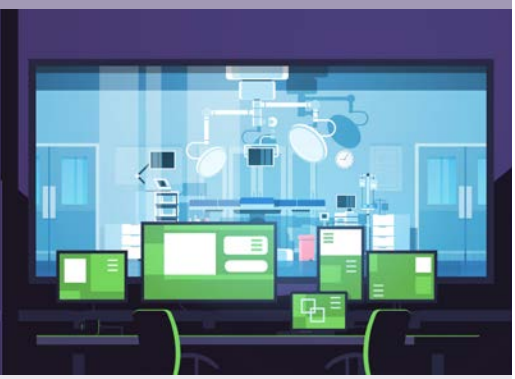

Operations Overview

Courtesy of the Agency for Healthcare Research and Quality (AHRQ), here are some statistics concerning what is going on most frequently within our operating rooms today:

More than 1/4 of inpatient stays in the United States involve at least one operating room (OR) procedure. On average, these stays are more than twice as costly as stays without OR procedures.

In 2018, 9.6 million inpatient stays involved OR procedures, with a total of 14.4 million OR procedures. Stays involving OR procedures totaled $210.3 billion in aggregate costs.

Cesarean sections constituted 8.1% of all OR procedures, with a rate of 2,001.3 per 100,000 females aged 18-44 years.

Spine fusion was the most costly principal OR procedure in 2018, with stays for this procedure totaling $14.1 billion in aggregate costs.

Ranked by mean cost per stay, heart, lung, and liver transplants were among the 5 most expensive principal OR procedures in 2018.

Source:

https://hcup-us.ahrq.gov/reports/statbriefs/sb281-Operating-Room-Procedures-During-Hospitalization-2018.jsp

NEWSWIRE

Organ damage common after COVID-19 infection

Organ impairment persisted in more than half of over 500 individuals who followed up at one year post COVID-19. Symptoms included extreme breathlessness, cognitive dysfunction, and poor health-related quality of life.

These findings have implications on follow-up treatment and longer-term health, even among younger patients with no comorbidities. Earlier work by this team has shown that MRI is useful for detecting such damage. The study appeared in the *Journal of the Royal Society of Medicine*, and its senior author is Amitava Banerjee, Department of Medicine, University College London Hospitals NHS Foundation Trust, London.

As the researchers wrote, "Symptoms of long COVID, also known as post-acute sequelae of COVID-19, are well documented, but natural history is poorly characterized, either by symptoms, organ impairment or function."

To further address this question, these researchers assessed symptoms, health status, and multi-organ tissue characterization and function at six and 12 months after patients recovered from acute COVID-19. These patients came from two healthcare settings— Oxford and London.

A total of 536 individuals were studied with an average age of 45. They were 73% female, 89% white, 32% healthcare workers, and 13% had acute COVID-19 hospitalization. Of those, 331 (62%) showed organ impairment or incidental findings and had follow-up.

Extreme breathlessness (38% and 30%), cognitive dysfunction (48% and 38%) and poor health-related quality of life (57% and 45%) were common at 6 and 12 months. These symptoms were associated with female gender, younger age, and single-organ impairment. Single- and multi-organ impairment were present in 69% and 23% at baseline, persisting in 59% and 27% at follow-up, respectively.

Read on: https://hpnonline.com/53026192

Study finds two plant extracts inhibit COVID-19 virus

Two common wild plants contain extracts that inhibit the ability of the virus that causes COVID-19 to infect living cells, an Emory University study finds. *Scientific Reports* published the results — the first major screening of botanical extracts to search for potency against the SARS-CoV-2 virus.

In laboratory dish tests, extracts from the flowers of tall goldenrod (Solidago altissima) and the rhizomes of the eagle fern (Pteridium aquilinum) each blocked SARS-CoV-2 from entering human cells. The active compounds are only present in miniscule quantities in the plants. It would be ineffective, and potentially dangerous, for people to attempt to treat themselves with them, the researchers stress. In fact, the eagle fern is known to be toxic, they warn.

"It's very early in the process, but we're working to identify, isolate and scale-up the molecules from the extracts that showed activity against the virus," said Cassandra Quave, senior author of the study and associate professor in Emory School of Medicine's Department of Dermatology and the Center for the Study of Human Health. "Once we have isolated the active ingredients, we plan to further test for their safety and for their long-range potential as medicines against COVID."

Read on: https://hpnonline.com/21296234

Model created to predict COVID-19 resistance

Researchers from Johns Hopkins Medicine and The Johns Hopkins University have created and preliminarily tested what they believe may be one of the first models for predicting who has the highest probability of being resistant to COVID-19 in spite of exposure to SARS-CoV-2, the virus that causes it. The study is reported online in the journal *PLOS ONE*.

"If we can identify which people are naturally able to avoid infection by SARS-CoV-2, we may be able to learn — in addition to societal and behavioral factors — which genetic and environmental differences influence their defense against the virus," said lead study author Karen (Kai-Wen) Yang, a biomedical engineering graduate student in the Translational Informatics Research and Innovation Lab at The Johns Hopkins University. "That insight could lead to new preventive measures and more highly targeted treatments."

For its study, the research team set out to determine if a machine-learning statistical model could use health characteristics stored in electronic health records — providing patient data such as comorbidities (other medical conditions) and prescribed medications — as a means to pinpoint people with a natural ability to avoid SARS-CoV-2 infection. Those persons, said Yang, could then be studied to better understand the factors enabling their resistance.

A machine-learning model is a computer program or system that uses mathematical algorithms to find statistical patterns, and then apply the patterns moving forward. This gives such systems the ability

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Updated guidance published on hand hygiene in healthcare settings

Five medical organizations are recommending updated best practices for hand hygiene to protect patients and staff in healthcare settings. The recommendations emphasize the importance of healthy skin and nails and easy access to alcohol-based hand sanitizers.

"Strategies to Prevent Healthcare-Associated Infections through Hand Hygiene: 2022 Update," one in a series of expert guidance documents known collectively as the Compendium, was published in the journal *Infection Control & Hospital Epidemiology*.

"Hand hygiene is a basic function of healthcare safety," said lead author Janet Glowicz, PhD, RN, CIC, with the Centers for Disease Control and Prevention. "By engaging healthcare personnel and establishing reliable processes described in the Compendium, we can achieve effective, consistent hand hygiene. Commitment by healthcare leadership is also necessary to establishing a culture of safety."

The document addresses how facilities can train healthcare personnel in proper technique, monitor their compliance, engage them in the selection of products to keep their skin healthy, and properly use gloves. It also discusses where facilities should place and how they should maintain alcohol-based sanitizer dispensers and sinks.
Read on: https://hpnonline.com/21295949

AI has potential benefits in improving colonoscopies

Colonoscopy remains the gold standard in detecting and preventing colorectal cancer. But the procedure has limitations. Some studies suggest that more than half of post-colonoscopy colon cancer cases arise from lesions that were missed at patients' previous colonoscopies.

Now researchers at Mayo Clinic are investigating how artificial intelligence can be harnessed to increase polyp detection. In fact, gastroenterologists are engaging AI as a tool to improve care for a wide range of conditions, with the goal of finding elusive signs earlier when the diseases are more treatable.

In the case of colon cancer, the AI system works alongside the physician in real time, scanning the colonoscopy video feed and drawing small, red boxes around polyps that might otherwise get overlooked.

James East, M.D., spends his days skillfully examining people's colons, searching for and snaring away suspicious polyps that might one day turn into cancer. A gastroenterologist at Mayo Clinic Healthcare in London, he says the ability to identify cancer risks and eliminate them on the spot during a colonoscopy is one of the most satisfying parts of his chosen profession.

"We're all familiar with facial recognition software," Dr. East says. "Instead of training the AI to recognize faces, we train it to recognize polyps."

Artificial intelligence can be added to a traditional colonoscopy to identify polyps that otherwise might be overlooked.
Read on: https://hpnonline.com/53027300

Study finds vitamin D could help prevent dementia

Taking vitamin D supplements may help ward off dementia, according to a new, large-scale study.

Researchers at the University of Calgary's Hotchkiss Brain Institute in Canada and the University of Exeter in the UK explored the relationship between vitamin D supplementation and dementia in more than 12,388 participants of the US National Alzheimer's Coordinating Center, who had a mean age of 71 and were dementia-free when they signed up. Of the group, 37 per cent (4,637) took vitamin D supplements.

In the study, published in *Alzheimer's & Dementia: Diagnosis, Assessment & Disease Monitoring* and supported by the National Institute for Health and Care Research (NIHR) Exeter Biomedical Research Centre, the team found that taking vitamin D was associated with living dementia-free for longer, and they also found 40 percent fewer dementia diagnoses in the group who took supplements.

Across the entire sample, 2,696 participants progressed to dementia over 10 years; amongst them, 2,017 (75%) had no exposure to vitamin D throughout all visits prior to dementia diagnosis, and 679 (25%) had baseline exposure.

Professor Zahinoor Ismail, of the University of Calgary and University of Exeter, who led the research, said, "We know that vitamin D has some effects in the brain that could have implications for reducing dementia, however so far, research has yielded conflicting results. Our findings give key insights into groups who might be specifically targeted for vitamin D supplementation. Overall, we found evidence to suggest that earlier supplementation might be particularly beneficial, before the onset of cognitive decline."
Read on: https://hpnonline.com/53027415

FDA authorizes first OTC tests for flu and COVID-19

The U.S. Food and Drug Administration has issued an emergency use authorization (EUA) for the first over-the-counter (OTC) at-home diagnostic test that can differentiate and detect influenza A and B, commonly known as the flu, and SARS-CoV-2, the virus that causes COVID-19. The Lucira COVID-19 & Flu Home Test is a single-use at-home test kit that provides results from self-collected nasal swab samples in roughly 30 minutes.

"The authorization of the first OTC test that can detect Influenza A and B, along with SARS-CoV-2, is a major milestone in bringing greater consumer access to diagnostic tests that can be performed entirely at home," said Jeff Shuren, M.D., J.D., director of the FDA's Center for Devices and Radiological Health. "The FDA strongly supports innovation in test development, and we are eager to continue advancing greater access to at-home infectious disease testing to best support public health needs. We remain committed to working with test developers to support the shared goal of getting more accurate and reliable tests to Americans who need them."

The Lucira COVID-19 & Flu Home Test is a single-use test for individuals with signs and symptoms consistent with a respiratory tract infection, including COVID-19. The test can be purchased without a prescription and performed completely at-home using nasal swab samples self-collected by individuals 14 years or older or collected by an adult for individuals age two or older.

The test works by swirling the sample swab in a vial that is placed in the test unit. In 30 minutes or less, the test unit will display the results that show whether a person is positive or negative for each of the following: Influenza A, Influenza B and COVID-19. Individuals should report all results obtained to their healthcare provider for public health reporting and to receive appropriate medical care.

In individuals with symptoms, the Lucira COVID-19 & Flu Home Test correctly identified 99.3% of negative and 90.1% of positive Influenza A samples, 100% of negative and 88.3% of positive COVID-19 samples and 99.9% of negative Influenza B samples. Since there are currently not enough cases of Influenza B circulating to include in a clinical study, validation confirmed that the test can identify the virus in contrived specimens, and the EUA requires Lucira to continue to collect samples to study the test's ability to detect Influenza B in real-world settings.
Read on: https://hpnonline.com/53026627

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Racked and stacked: Shelving, storage options keep supply chain on track

by Rick Dana Barlow

Shelving and storage serve as the bones, if not the entire skeleton, of a storeroom or warehouse, which represents the bulwark of a healthcare organization's operational success.

For that reason alone, Supply Chain leaders and professionals must have a set-up that facilitates efficient workflow and pair it with effective service to clinicians and administrators in support of patient care and customer service.

While on paper, that aim may make sense, but in practice, it requires considerable design and fiscal resources to establish and implement, sources tell *Healthcare Purchasing News*.

Expanding outward and upward may seem to be the most obvious tactics when arranging and designing a storage footprint, but from a strategic standpoint, maximizing and optimizing available space – as in maneuvering shelving configurations within existing space – makes a realistic difference.

Ian Loper

"When DSI thinks of efficiency we think of the people working in the department, the processes to retrieve and put away the supplies and the storage equipment being used in the department," said Vice President Ian Loper. "It seems the most successful hospitals in the country are not only the most well-regarded by the patient community, but they are also very good operators when it comes to maximizing the efficiency of their people, the effectiveness of their processes and the adoption of specialized storage equipment throughout their facility. Capital equipment is sometimes an afterthought during the planning process of a renovation or new construction project, and this presents an opportunity for hospitals to become better. Conventional wire shelving is designed for a one-size-fits-all scenario and that leaves room for wasted space between supplies. A few inches lost here and there quite often becomes thousands of square feet lost."

Tim Ramcoobeer

Tim Ramcoobeer, sales development representative, H+H System Inc., calls space one of the "most valuable commodities within a warehouse" that must be maximized whenever possible.

"Doing so can vastly improve efficiency and output to levels previously thought to be unattainable," he noted. "Unfortunately, it's not uncommon for facilities to (unknowingly) implement storage options that waste space and adversely impact workflow. Even the most powerful teams can realize operation deficiencies if their storage options don't adequately support their work processes. We often don't realize how much 'dead space' generic storage options waste and lock us into."

Ramcoobeer encourages the use of multiple sub-divisible bins, modular configurations and bar-code labeling to facilitate quick access and reordering, which can lead to "less time spent stocking, picking and searching for inventory, affording teams more time for other valuable functions and contributing to overall efficiency."

David Philips

For David Phillips, marketing manager, Hänel Storage Systems, the prospect of designing shelving configurations should be looking up.

"Existing space can easily be optimized by storing vertically," he insisted. "The next time you're in your storage area, take a good look around. Is there much space between shelves, or are the shelves so tightly packed that you can barely remove what you need? Is there empty space above the rack itself? Is there room to reposition the racks to find the items you're looking for? You need to store vital supplies, not air. Everything you see can be condensed into unused overhead space, with several racks consolidated into a single, smaller footprint. By introducing automated vertical storage, less space is needed for storage, and you can find other uses for that newly vacated area."

Using a vertical carousel, supply chain operators can press a button to bring the items directly to them, according to Phillips. "The need to reach for and lift supplies is virtually eliminated, and stored items are much easier to access," he indicated. "Hänel's Rotomat also helps reduce the time it takes for staff to find what they're looking for, because no one needs to hunt

throughout the storeroom. No distractions or frustrations and less time spent searching for supplies means the staff can focus on their main tasks and become much more productive."

Dave Salus

Equipment options matter, too, because they can provide needed flexibility and modularity, according to Dave Salus, healthcare market manager, InterMetro Industries Corp., which makes available to healthcare organization customers high-density shelving, s-hooks, "EZ-ADD" shelves and computerized design applications to customize planning.

Salus sees high-density track shelving molded in chrome, epoxy and polymer as a solution for larger spaces. "Each unit has the potential to create as much as 50% more storage when added to your storeroom or warehouse design by placing more physical units in limited floor space," he noted. "Track shelves include 'active isles' with sliding mobile units that move to access materials with ease. Tracks can be installed on top of the unit or the floor."

S-hooks can be used for corner storage space. "S-hooks eliminate the posts in the front of corner shelving units that block access to shelving space in corners," Salus added.

InterMetro's "EZ-ADD" shelves enable supply chain staff to add and remove shelves without having to take apart the previously built shelving unit, according to Salus. "EZ-ADD shelves are placed with a specially designed connector that can be easily clipped and moved to wherever you need a shelf without tools," he indicated. "This is a great solution to continuously eliminate wasted space in supply rooms that are consistently changing."

InterMetro also offers multiple design tools – one for shelf design, one for room design and one for track shelving design – via the company website to help healthcare organizations customize their space. "These tools offer the ability to create 3-D models of your storage solutions and to view them in the room with the [augmented reality] feature," Salus said.

Remote care rescue

If hospitals struggle for enough storage space for inventory, think about how smaller non-acute facilities fare, according to Brian Hazelwood, marketing manager, Midmark Corp.

Brian Hazelwood

"It's no secret that primary care facilities are challenged with inadequate storage space," he observed. "Many non-acute facilities have limited storage space depending on the size and configuration of the exam rooms, which can often have a negative impact on patient and caregiver experience as well as the quality of care delivered.

"There are many reasons for the shortage of storage space," Hazelwood continued. "Sometimes storage is not a major consideration during the design phase, or the facility was not originally designed to handle continued growth and increased patient volume. Cabinetry and storage solutions oftentimes aren't designed for the medical environment and a changing patient and provider demographic that may interact with the space and equipment in a much different way."

That's why Midmark focuses on ways storage equipment can be more accessible, efficient and standardized, bringing supplies closer to the point of care and maximizing floor space to help improve clinical workflow, according to Hazelwood.

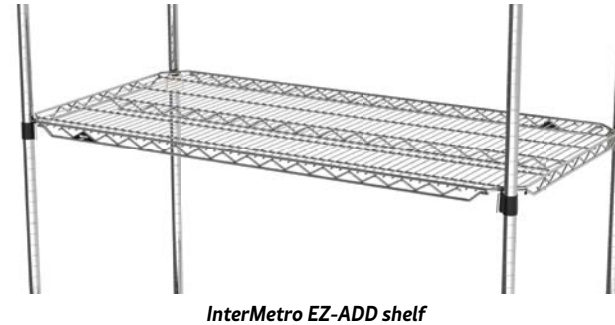
Midmark studied numerous healthcare facilities across the U.S. to identify elements that were missing from much of the current cabinetry used in clinical environments and compared the findings to Bureau of Labor Statistics data that report 76% of healthcare workers are female and that the average height of females tops out at five feet four inches, according to the Centers for Disease Control and Prevention.

"We found that the typical cabinetry used in clinical environments was not designed for people of that height," Hazelwood said. "In many instances, they need to use stools or other devices to see or reach supplies on upper shelves of cabinetry. Therefore, the upper shelves often go unused. We worked closely with healthcare staff, infection

DSI supply closet

Midmark cabinetry solution

Hanel's storage solutions



InterMetro EZ-ADD shelf

prevention specialists and ergonomics experts to design a line of wall-hung cabinetry that can improve ergonomic reach and visibility while helping enhance storage efficiency and support infection prevention."

As a result, Midmark's latest line of cabinetry "features base and tall cabinets that better position the most-used areas of storage for easier reach by physicians and staff," Hazelwood described. "The lower upper height and thinner depth of the cabinets improve access to storage with less reach and lean required. The use of gravity-fed, angled flow shelving improves visibility and access to supplies, even for items stored toward the back of the cabinet." And they can be configured for exam rooms, he added.

Don't fear simplicity

Ed Granger, Director of Sales, Quantum Storage Systems, cautions supply chain professionals against believing that shelving and storage systems must be automated and elaborate to be effective and efficient. *[See "Unsophisticated utilitarianism may be just right for you," "Unsophisticated utilitarianism may be just right for you" on page 14 or https://hpnonline.com/53027220]*

Ed Granger

"Quantum's products are not sexy or sophisticated," he said. "Nothing is motorized, no hydraulics, no automation. Quantum's products are, however, utilized around the world in healthcare facilities. While our products are not sophisticated, they are efficient and effective at a relatively low cost compared to more elaborate systems. Do healthcare facilities want more elaborate and sophisticated items? Yes. But do they have the budget to buy those items? Quantum often becomes the best use of budgetary funds that allows healthcare facilities to operate efficiently and within their budget means."

Bottom line? Concentrate on proper labeling and storage unit mobility with plastic bins and wire shelving carts for a closed loop system, Granger advises.

"Proper labeling makes products much easier to identify," he said. "Gone are the issues of searching to find products. Products seem to either up and move on their own, or more likely are not put back in the registered space by a hospital employee. At Quantum Storage Systems we offer shelf labels and bin labels that assist hospital employees find and return products to an identified area. We also can help product identification by using color coding of storage bins.

"When storage systems are mobile – basic wire racks on wheels – an entire cart full of products can be moved throughout the facility either delivering or retrieving products to where they are needed most," he continued. Mobile wire racks hold as much as 1,200 pounds and roll through the hallways quietly to go unnoticed and to not disturb patients or hospital staff."

Shelving affects more than storage

Craig Crock, president, Southwest Solutions Group Inc., contends the secret to optimizing shelving and storage space involves the capability of doing more with fewer people and less space.

"Everything you see is adjustable, modular, moveable to the next space, not built in, and is what everybody is moving towards to store more in less space and allow quick access to what is needed to serve the patient," he told *HPN*.

Craig Crock

Crock highlights how shelving and storage can be configured by department and function.

For example, pharmacy tends to use shelving with gravity-feed and rear-loading capabilities to reinforce first-in/first-out (FIFO) consumption patterns. "This allows for a higher density of meds in the same floor space and allows fast access to everything," he said. Gravity-feed or gravity-flow shelves are tilted at an angle toward the end user so that when someone removes an item the rest move forward and closer.

In the sterile core of Central Sterile Supply, staff can use an automated vertical carousel storage system or a compression storage system to facilitate access to surgical supplies to build cases and sets for the Operating Room (OR). "Within these rotating Ferris wheels, the units rotate around and use lights to show [staffers] what items to pick for surgical sets," he said.

"Compression systems are floating aisles where the shelves sit on rails and can be moved along by turning a wheel on the side," Crock explained. "The shelves spread apart to make aisles."

Carousels and compression systems also make sense for shelving and storage for the laboratory, pathology and histology for storing lab specimens, DNA samples, glass slides and paraffin blocks even in refrigerated space, according to Crock. Further, when labs use an automated slide-sorting and block-filing system, they can reduce the amount of time and number of people doing the task as well as increase accuracy and productivity, he adds. Crock cites one customer that employed four people to sort, store and track three million samples and specimens on slides each year. By using an automated system, they were able to do it 60% percent faster and "reallocated three of the people to do something more productive with their time," he recalled. The key is more effective and efficient use of labor, space and time, he adds.

For materials management in the warehouse, Supply Chain can use mobile pallet rack systems or automated picking carousels to reduce square footage requirements and allow faster access to items to do more with less space and fewer people, according to Crock. "You eliminate wasted aisle space and move bins to people rather than people to bins," he noted.

Meanwhile, in the medical supply rooms staffers can use radiofrequency identification

Quantam shelving system

Southwest Solutions' mobile pallet racks

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(RFID) with the two-bin Kanban system to link with order fulfillment in the warehouse, which can "eliminate stockouts, expired product and actually can reduce inventory," Crock noted. "We did a recent project where a hospital had almost $2 million in losses for expired product, and we virtually eliminated that and the savings went back to the hospital," he said.

Randalyn Walters, clinical education manager-US, Belimed Inc., laments the lack of priority given to storage strategies and tactics during construction or renovations, and that can prove dangerous.

"Storage and shelving options in healthcare, supply chain and surgical operations are often not given the attentiveness they deserve during the planning phases of a project," Walters said. "Simply waiting until it is too late to determine the type of storage or the amount of size necessary can result in bottlenecks and unsafe conditions. Sometimes a stainless-steel rack is thought to be the end-all-be-all sterile storage, but why is that? With so many innovative products on the market I have found it to be extremely successful in coordinating the storage solution with inventory placed there and including a variety of options for just one department's needs." HPN

Sidebars online:

"Handling space shrinkage creatively even with steady supply volume"

"Shelving, storage require higher attention, priority than afterthought"

at https://hpnonline.com/53027220

Unsophisticated utilitarianism may be just right for you

Simplicity simply reinforces choice to go down to the wire

When healthcare organization leaders conjure up images of effectively and efficiently managed shelving and storage areas they likely envision automated high-tech enterprises with conveyor belts, robotic arms, vertical carousels and eyeglass-mounted, hand-held and wrist-worn computers.

But Ed Granger, director of sales, Quantam Storage Systems, insists there's nothing wrong with keeping things simple and embracing efficiency and effectiveness without being elaborate.

Simplicity may seem the obvious answer to budget and resource challenges, but it can go deeper than that, according to Granger.

"The traditional wire shelving is desirable because it is very durable," he said. "Quite literally, it can last a lifetime if taken care of. Also, this shelving style can handle a lot of weight per shelf – 1,000 pounds 48 inches in shelf length – so the units can really store a lot of products. The different shelving brands are interchangeable with each other, so purchasing agents are not beholden to one brand. During COVID, inventory was scarce and whichever supplier had inventory on hand won the order for new shelving. If the brands were incompatible, a buyer would likely have had to wait for one particular brand to come available."

Sometimes, simplicity also serves as a metaphor for crawling and then walking before you run, ride something or drive, Granger agrees.

"The traditional efficient and effective shelving is easier to locate and purchase and carries a much shorter lead time," he indicated. "Some of the more sophisticated storage systems have much longer lead times and are often out of stock, as they are only made upon order. Traditional efficient and effective wire shelving is relatively maintenance-free and will only fail if the product is severely overloaded or abused. More elaborate storage systems that may contain hydraulics, a rotating shelf system powered by a small motor or contain any kind of electronics are susceptible to breakdowns and expensive maintenance calls to keep them working."

Craig Crock, president, Southwest Solutions Group Inc., recognizes and understands the appeal and desire for simplicity that eventually can be updated or upgraded with some type of software later.

Much depends on the racks facilities buy, according to Crock. "You want something where you are utilizing your space effectively," he noted. "If you walk into typical supply rooms or a lot of locations, you will see they use a wire shelving unit with a lot of airspace and are wasting storage space. You have to have channels that are adjustable to tighten the space."

Crock advocates the two-bin Kanban system as organized simplicity. Kanban, which is a Lean Six Sigma concept and is a Japanese word for signal, calls for you to separate the PAR stock into two quantities – a group of products in the front and a group in the back, he explains. The inventory tech or nurse will pull from the group in the front, called the active compartment. Once that compartment is empty, they will move the group in the back, called the back-up compartment to the front, which simultaneously sends a signal to reorder stock.

"What this does is allow rotation of stock so they eliminate expired product," Crock noted. "You would not believe how much money some hospitals [lose] on an annual basis from expired product. One hospital customer [expensed] nearly $2 million."

Hospitals can add some technology to this process if they wanted, Crock encourages.

"Technology gives you the ability to understand the turn on your inventory," Crock said. "We implemented something with a hospital that not only allowed them to eliminate millions of dollars of expired product but also when they ran their data they noticed they never used certain products that often so they adjusted their inventory level down."

What did Crock's team do for the hospital that used the 2-bin Kanban system manually? They added a radiofrequency identification (RFID) tag to the bottom of the back-up compartment so that when the active compartment was emptied and the contents of the back-up compartment were moved forward it triggered the RFID tag to send a reorder/replenish alert to the warehouse to restock.

One side benefit to this process is that it generates confidence in the system, according to Crock.

"Nurses may not have confidence in the system, so they'll take a few of these things extra and put them in their locker or desk drawer," he said. My daughter-in-law is a nurse and I asked her if she hid stuff. She said yes because she didn't have confidence in their system. They were always running out of this or that. She at least had a backup because if she didn't have the backup she'd have to call down to the warehouse and central supply and tell them that they're out of something. Then they'd have to run somebody over to get and deliver it. That takes time. Meanwhile, there's a patient that needs the product. With this system, however, nurses have confidence because they know something already is on order."

If hospitals didn't want to invest in new bins or other equipment there is software that they can attach to their existing wire shelving and plastic bins to implement and use their existing bar-code system, he assures. Other options include investing in a "Scan & Restock" mobile app, affixing tags to bins that must be pressed each time product is removed or installing "smart weighing" bins that contain built-in scales that send a replenish signal once a minimum weight has been reached, he describes.

"Right now, materials management in these warehouses are going up to the rooms and using hand-helds that read bar codes for counting," he noted. "They might have 200 or 300 rooms to do. This can be a series of all-day events. It's wasted labor. By implementing technology, you typically have a return on investment pretty rapidly because people are doing something else. They're not up in these rooms counting."

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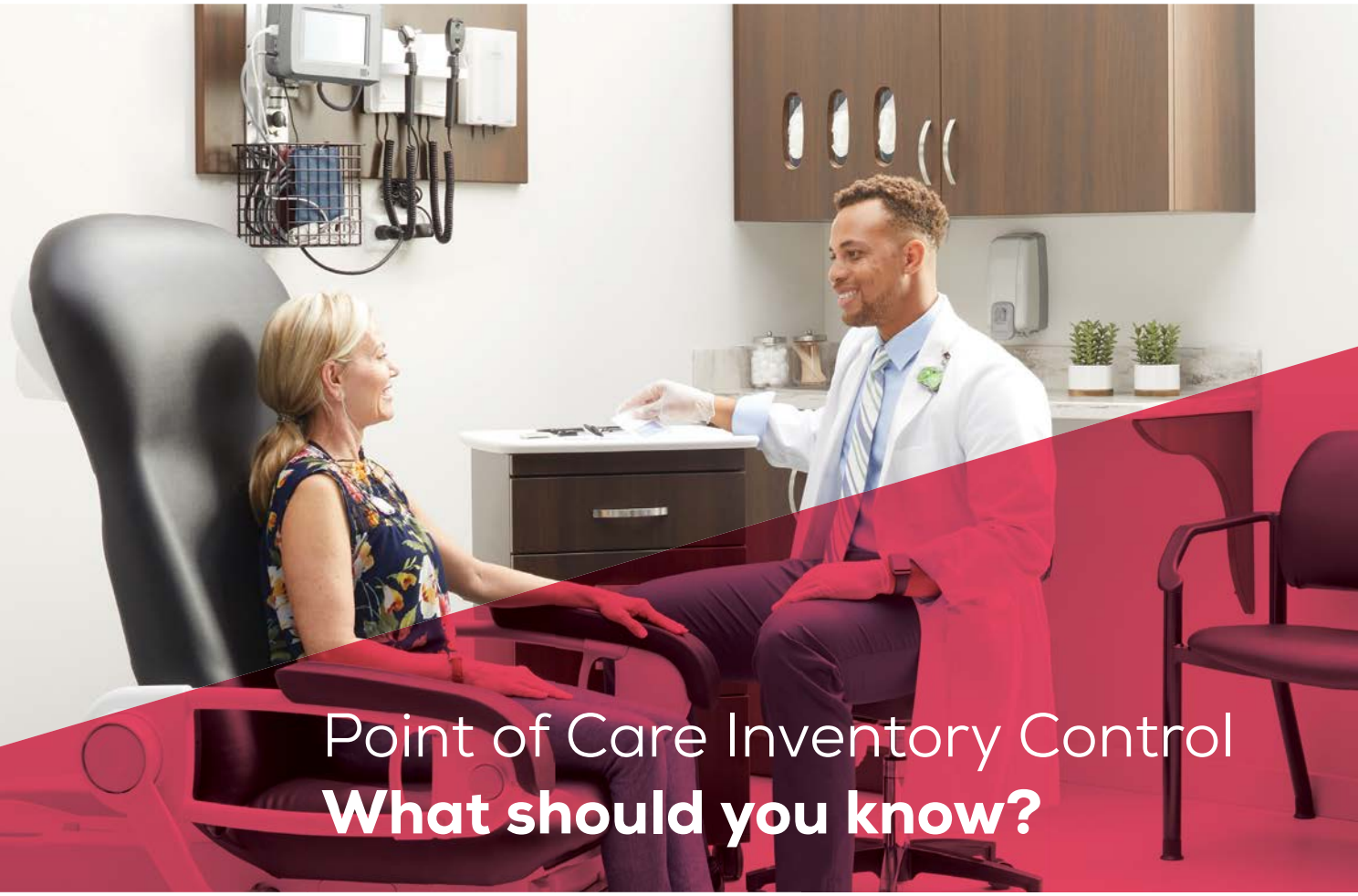

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Talent and technology must converge in respiratory care delivery

by Kara Nadeau

Breathing is essential to life, but most individuals take it for granted until they experience an issue.

In today's world of contagious respiratory illnesses (RSV, flu, SARS-CoV2, pneumonia, bronchitis), common conditions such as asthma and chronic obstructive pulmonary disease (COPD), and the widespread use of oxygen therapy and mechanical ventilation for acute and non-acute care, it is likely most people will find themselves needing respiratory support at some point in their lives.

HPN asked respiratory care product and solutions manufacturers to share some of the latest high-tech options to assist clinicians in helping patients breathe and monitoring their respiratory status. Also presented are some of the ongoing challenges that continue to impact respiratory care delivery and monitoring success.

New technologies in respiratory care

Respiratory therapists (RT) are a vital but scarce resource in today's healthcare environment. Recent research has found more than 92,000 RTs will leave the profession by 2030 while there is a need to retain more than 155,000 RTs.

Technology advancements, particularly those that make it easier and more efficient for RTs to care for patients, are essential in respiratory care delivery. When asked for their biggest barriers to better patient care, "Technology availability/function/performance" was a close second to "Talent on our team/understaffed", at 65% and 67% respectively. Among the RTs surveyed, 84% said they have influence in making decisions around patient care and technology.

Product and solutions providers are developing technologies to help RTs deliver safe and effective care in a more efficient manner given the significant staff shortages in the profession. Here are three such innovations.

Respiratory monitoring goes digital

The digital transformation of healthcare is frequently cited these days by leading analyst firms, industry thought leaders and futurists. For example, Deloitte stated in its 2023 Global Health Care Outlook report, "One of the silver linings of COVID-19 was that it accelerated advances in digitization and telemedicine that previously were hard to be accepted by either patients or clinicians."

Johnny Mann, VP sales and marketing, Caretaker Medical, said the most promising digital healthcare trend in respiratory monitoring is the integration of wearable monitoring, wireless technology, and predictive analytic tools.

When describing wearable monitoring devices, Mann pointed to devices such as smartwatches or wearable sensors that continuously monitor and transmit vital signs, including heart rate, respiratory rate, and blood pressure, to healthcare providers.

Mann noted how wireless technology has enabled remote monitoring of patients, allowing healthcare providers to monitor patients from a distance and respond quickly if there are any changes in their condition.

Speaking about predictive analytics, Mann commented on how they are being used in patient monitoring to help healthcare providers detect changes in patients' conditions more quickly and accurately. He provided the example of an Early Warning System (EWS), which can be used to analyze vital signs and other data to predict when a patient may be at risk of complications and provide insights needed to create personalized treatment plans.

"These three digital advances are expanding access to advanced care, automating routine tasks and streamlining the workload of nurses, which can improve job satisfaction, reduce burnout, and improve patient outcomes," said Mann. "At Caretaker Medical we are pioneering a digital health platform that delivers real-time comprehensive ICU-grade parameters never before available in one mobile device."

Caretaker Medical's VitalStream

Mann said Caretaker Medical's flagship product, VitalStream, is the world's only wireless wearable to be clinically validated and U.S. Food and Drug Administration (FDA) cleared to measure continuous blood pressure, cardiac output, and other hemodynamic parameters continuously, non-invasively, and wire-free.

VitalStream is designed to improve hospital patient care in several ways:

1. Rapid assessment: The real-time continuous monitoring capabilities of VitalStream allow for rapid assessment of a patient's hemodynamic status, which can help healthcare providers quickly identify and respond to changes in the patient's condition.
2. Early warning system: The VitalStream platform can act as an early warning system for health care providers by alerting them of any changes in a patient's vital signs that could indicate a problem. This can be especially useful for patients who are at high risk for complications, such as the elderly or those with chronic illnesses.
3. Reduced need for manual checks: Continuous monitoring with VitalStream can reduce the need for manual checks, freeing up healthcare staff time for other tasks and improving the efficiency of care.
4. Better decision-making: Real-time hemodynamic monitoring provides healthcare providers with accurate and up-to-date information about a patient's status, which can help inform better clinical decisions and guide therapy.
5. Reduced risk of overtreatment: With real-time monitoring, healthcare providers can avoid overtreating patients with unnecessary interventions, which can reduce the risk of harm.

"Overall, the VitalStream monitor can help healthcare providers provide more effective, efficient, and patient-centered care," Mann added.

Increasing interest in AI

When asked which technologies are most likely to be implemented by 2025, 92% of healthcare chief information officers (CIO) surveyed by Gartner selected artificial intelligence (AI)/machine learning (ML).

"AI in healthcare has the potential to free up millions of hours, allowing healthcare professionals to meet more patients and commit more time to complex medical activities," stated Danielle Rasooly and Muin J. Khoury, Office of Genomics and Precision Public Health, Centers for Disease Control and Prevention (CDC), in their article on AI in medicine and public health.

"Artificial intelligence (AI) has now penetrated many aspects of healthcare – although adoption is often lagging," said Kathryn Clark, MS, RRT-NPS, Director of Clinical Development, Etiometry. "The lucky respiratory care teams who've already embraced it see how AI can enhance care and make their work more satisfying. I say 'lucky' because we know respiratory therapists are getting burned out with increased patient loads and needing to address more complex conditions. AI is poised to counter those stresses."

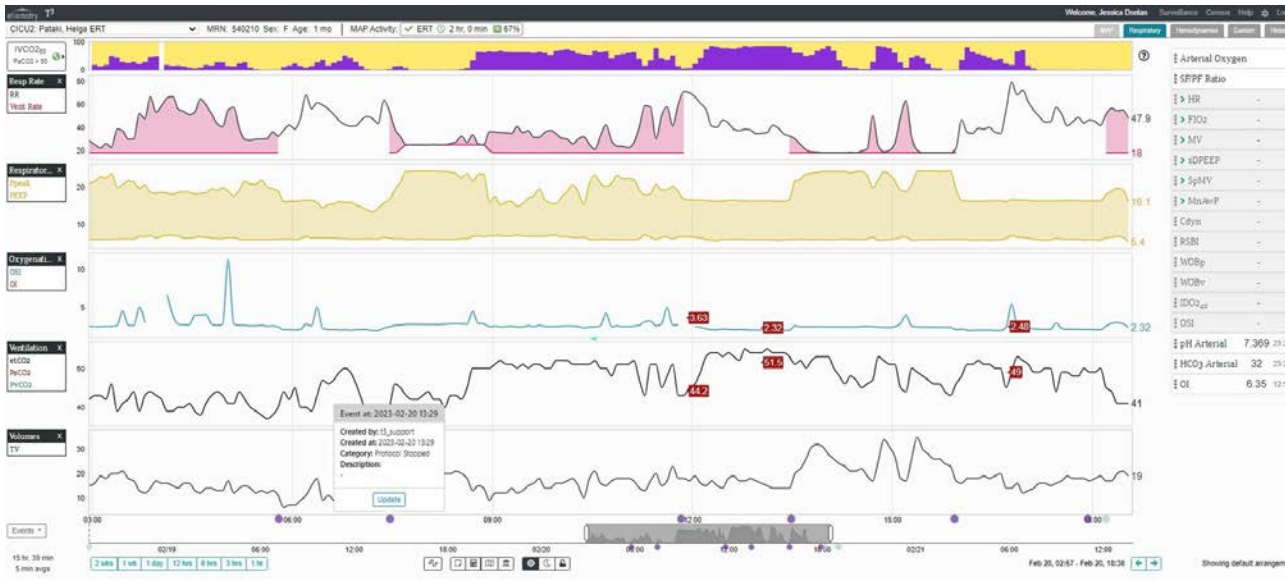
"AI offers a way to make informed data-driven clinical decisions allowing for earlier liberation from mechanical ventilation," Clark continued. "Critical care teams are focusing on intensive care unit (ICU) liberation and creating protocols to extubate patients as quickly and safely as possible to minimize potential adverse effects of invasive ICU interventions. This is a central reason clinicians look to Etiometry's clinical decision support software, which uses over 150 million hours of deidentified patient data to inform its AI-based, FDA-cleared risk algorithms."

Etiometry's software platform allows respiratory therapists to monitor patient conditions at the bedside and remotely, as well as gain insight into patient deteriorations so clinicians can intervene more quickly. Developed in the ICU, the platform includes data aggregation and visualization with continuous display, risk-based analytics, protocol automation, and remote surveillance. Its customizable workflow automation alerts physicians, nurses and respiratory therapists when hospital-specific protocol conditions are met, such as eligibility for spontaneous breathing trial or extubation readiness.

"Etiometry's market-leading clinical decision support software empowers care teams to make rapid, informed decisions that reduce ICU length of stay and associated costs," Clark added.

Flexible ventilation support continuity of care

"Hospitals are faced with labor shortages and a steady flow of patients that require ICU care by a team of MDs, RNs, and RTs," said Ed Coombs, MA, RRT-NPS, ACCS, FAARC, Sr. director of marketing at Dräger in North America. "This coupled with the financial pressures creates the need for identifying value and efficiency in the delivery of care. Trends in respiratory care are multi-faceted. Automation in



Etimetry's clinical decision support software

monitoring workflow, including the avoidance of intubation and cost-effectiveness remain at the forefront."

Coombs described how the Dräger Evita Infinity V500 ventilator takes a comprehensive approach to the continuity of care with the ability to provide high flow oxygen therapy, non-invasive ventilation in volume and pressure modes, as well as a full array of invasive modes of ventilation.

"The patient ranges of infant, pediatric and adult allow for flexibility within the hospital to service all its ICUs within the facility," said Coombs. "A pragmatic approach to automated weaning using SmartCare/PS has also led to decreased ventilation time and earlier discharge from the ICU."

Dräger Evita Infinity V500

Ongoing issues impacting respiratory care

Respiratory care is complex and can be complicated by a variety of factors, both clinical and technical. Here are several long-standing challenges that continue to present issues in care delivery and monitoring.

Skin pigmentation and pulse oximetry

One respiratory monitoring issue that has been recently garnering national attention is how pulse oximetry can be less accurate for people who have dark skin pigmentation.

This is by no means a new subject in clinical research. A search of PubMed reveals research on the effect of skin pigmentation on pulse oximetry accuracy dating back nearly four decades, with a study by JR Emery, Department of Pediatrics, Riverside General Hospital, Loma Linda University Medical Center, published in the Fall 1987 *Journal of Perinatology*.

What has spurred a focus on the issue by the FDA, industry associations and the trade and mainstream media in more recent years is a 2020 study by researchers at the University of Michigan Hospital in Ann Arbor, MI, that found "Black patients had nearly three times the frequency of occult hypoxemia that was not detected by pulse oximetry as White patients."

These findings have since prompted additional research on the disparities in hypoxemia detection via pulse oximetry, and the formation of an FDA committee to "discuss the concerns related to pulse oximeters being less accurate in individuals with darker skin pigmentations."

Ventilator cleaning and disinfection

According to the Agency for Healthcare Research and Quality (AHRQ), 800,000 patients receive mechanical ventilation in the U.S. each year. While it is a common intervention, there are challenges to its safe administration, including the effective reprocessing of reusable ventilator components.

ECRI has named "Confusion Surrounding Ventilator Cleaning and Disinfection Requirements Can Lead to Cross- Contamination as one of its "Top 10 Health Technology Hazards for 2023," stating how "Reprocessing instructions provided by ventilator manufacturers are, in some cases, incomplete or confusing; and even guidance from regulatory authorities is not always clear."

In its report, ECRI stated:

"Lack of clarity about the cleaning and disinfecting steps to be taken between patients can lead to ineffective reprocessing of ventilator components. This in turn increases the risk of cross- contamination, an otherwise preventable occurrence that can lead to the spread of infectious disease."

To help address the issue, "ECRI challenges manufacturers to ensure that their instructions for cleaning and disinfecting ventilator components are complete, clear, well documented, and realistically achievable. The instructions should specify the frequency of cleaning and/or disinfection for all essential ventilator components."

Ventilator associated pneumonia

"Historically, ventilator-associated pneumonia, or VAP, was considered one of the most lethal healthcare-associated infections (HAI)," stated AHRQ in its Monitoring Ventilator-Associated Events Facilitator Guide. While much work has been done to reduce VAP rates in the U.S., the COVID-19 pandemic served to drive it up.

A Centers for Disease Control and Prevention (CDC) analysis published in *Infection Control & Hospital Epidemiology* found ventilator-associated events (VAEs) had the largest increase across all HAI types from 2019 to 2021. "First quarter standardized infection ratios (SIRs) were 51% higher than the same period in 2019, and 60% higher in the third quarter when the Delta variant drove COVID-19-related hospitalizations to all-time highs."

In 2022, *Infection Control & Hospital Epidemiology* published updated guidance, "Strategies to prevent ventilator-associated pneumonia, ventilator-associated events, and nonventilator hospital-acquired pneumonia in acute-care hospitals," which was sponsored by the Society for Healthcare Epidemiology (SHEA).

Nuisance alarms

Alarm management continues to top patient safety priority lists from leading healthcare standards bodies and policy makers. "Reduce patient harm associated with clinical alarm systems" is one of The Joint Commission's (TJC) 2023 National Patient Safety Goals (NPSG) for hospitals (NPSG.06.01.01), with the recommendation being to "improve the safety of clinical alarm systems."

One recent study of patient monitor alarms in a university hospital emergency department found the most common alarm types to be respiratory related: respiratory rate high (32.2%), pulse oximetry low (16.2%) and pulse oximetry probe off (14.3%).

When Avera Heart Hospital in Sioux Falls, S.D. was developing a NPSG-compliant clinical alarm management system with Dräger, they discovered their baseline alarm count for three critical care and telemetry patient units was 18,798 alarms in a week – which averaged 71 alarms per patient, per day. The biggest alarm source was advisory alarms specific to SpO2 – which accounted for 46% of the alarms.

Based on this information, Dräger and Avera reviewed default settings and eliminated duplicate and non-actionable alarms – such as couplets, bigeminy, bradycardia and tachycardia – and replaced them with high/low parameters.

Premature ventricular complexes (PVC) parameters were changed from 10 to 20/min. SpO2 was decreased to 88%. Retraining was done on proper skin hygiene prior to lead placement and uses of oximetry technology.

After the initial changes, Avera was able to reduce the average per bed/per day alarm count from 71 to 42 – a reduction of 30%.

The future of respiratory care

Respiratory care is a vital, dynamic discipline that continues to advance in professional growth and technological innovation despite challenges in its path.

SURGICAL/CRITICAL CARE

In its 2022 review, the National Board for Respiratory Care (NBRC) noted how it had administered 22,626 examinations last year, a slight increase over 2021 (22,443 exams). They also awarded 12,471 new credentials. Exams and credentials spanned specialty areas such as sleep disorders, adult critical care, neonatal/pediatrics, asthma, clinical simulation, and pulmonary function technology.

With regards to technology, RTs say the top three procedures needing innovation are mechanical ventilation, secretion management and aerosol therapy, while the top three technologies needing innovation are ventilators, nebulizers and oxygen blenders, according to a survey conducted by the American Association for Respiratory Care (AARC) and Boston Scientific.

The convergence of talent and technology to support the future of respiratory care was cited by Dräger's Coombs in a recent article on the RT shortage:

"I call on all stakeholders to the respiratory care profession to do more in support of RTs on the front lines today, while making improvements so that the future generation sees the profession not as a burden but as an opportunity for personal and professional greatness." **HPN**

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Infection prevention solutions worth watching

Successful best practices look to enhance protocols and prevention.

by Brenda Silva

Benjamin Franklin once said, "An ounce of prevention is worth a pound of cure," meaning that it's easier to prevent something from happening in the first place, than be faced with the consequences after it's happened. Today, the same can be said about preventing infections—especially in the case of life-threatening infections such as influenza, sepsis, and most recently, COVID-19—that it's better to prevent an infection if possible than deal with the after-effects of a deadly infection.

With that in mind, the question remains: to what degree can hospitals and healthcare facilities prevent infection for the health and safety of employees and patients alike? The answer to this question is being found at companies and facilities that are taking the idea of best practices in infection prevention (IP) beyond the minimum requirements. As evidenced by the innovative products and technology that follow, successful IP solutions can easily be described as contagious ideas worth catching.

Success starts with sanitization

As a growing trend in air and surface cleaning and disinfection, germicidal ultraviolet (UV) systems have proven successful at purifying air and exposed surfaces. These systems succeed in their efforts by using UV wavelengths in dosages that are lethal to infectious microorganisms such as bacteria, mold, and viruses.

At Atlantic Ultraviolet, located in Hauppauge, N.Y., the Sanidyne portable area sanitizers are designed using germicidal UV-C wavelength lamps to disinfect both air and exposed surfaces in unoccupied rooms up to 1,000 square feet in under an hour. The sanitizers are considered efficient and easy to use, are available in four different models, and can accommodate rooms up to 3,500 square feet.

As part of the Sanidyne product success story, the Veterans Memorial Hospital in Allamakee County, Iowa, purchased two Sanidyne UV sanitizers in 2020, which have since proved a wise financial investment, as well as a benefit to patient rooms and other areas of the hospital. After each patient discharge, housekeeping does routine cleaning and then sanitizes rooms with UV-C disinfection for 30 minutes.

Tara Reisinger and Rose Ann Mark

According to Tara Reisinger, RN and infection control specialist, "We wanted to purchase these products, but with the onset of COVID-19, we made them a priority. Not only is Sanidyne great at killing the COVID-19 virus, but we want to be sure we have knocked out other germs like *C. diff*, staph, and drug-resistant bacteria."

Rose Ann Mark, housekeeping supervisor, added, "Our Sanidyne models are a clean, safe way to sanitize surfaces and the air we breathe. Our department has peace of mind knowing every room has had this extra sanitization. Sanidyne is large enough to sanitize an entire room, and is easy to use. It will be an important tool in our housekeeping process for years to come."

Also focused on room sanitization and zone cleaning is Medline, located in Northfield, IL, where Megan Henken, vice president of product management, EVS division, pointed out, "In a healthcare setting, there typically isn't just one person in charge of creating all infection prevention protocols/practices, choosing appropriate products, and training the staff. Decisions often involve collaboration from the infection prevention department, Environmental Services, nurses, clinicians, and more."

Megan Henken

She continued, "In the operating room, patients are often at heightened risk for infection, and collaboration is most critical, with turnover time in the OR being as fast as 15 minutes, compared to a standard patient room, where it may be closer to an hour. In standard patient rooms, an EVS technician is usually assigned to the room with clarity on the cleaning assignment. In the OR, a collection of staff between cases—including OR technicians, nurses, EVS staff, and anesthesia techs—is tasked with cleaning, making team collaboration critical to reducing the risk of infection. With that many people cleaning a room simultaneously, it is important to define responsibilities. Otherwise, certain surfaces and tasks can be missed as one individual assumes another is cleaning a particular area."

Henken suggested, "One way to drive improved outcomes is through zone cleaning, which clearly defines the responsibilities of each person. Spending precious time outlining these responsibilities sometimes feels counterintuitive, but in the long run, if done successfully, it can result in more efficient and effective cleaning. An example of zone cleaning responsibilities could include one person cleaning all surfaces around the OR table (like hood lights, belt, controls on a table, mattress, etc.), one person cleaning anesthesia equipment (like machine, cart, and IV pole), and a third person cleaning surfaces around the perimeter of the room. In a process like this, everyone is clear on their tasks, which minimizes the chances of a surface not being disinfected."

In hospitals and healthcare facilities, a solid working relationship between the infection prevention and sterile processing departments is integral to ensuring the best IP practices throughout the facility. In agreement is Malinda Elammari, clinical education specialist at Healthmark Industries, located in Fraser, MI.

Seeing infection prevention in 3D: dye, dispense, and disinfect

Among the many cleaning and sterilization products designed for the healthcare industry, verifying their effectiveness can be time-consuming and costly. This is true of products that are marketed and purchased based on a high percentage of promised sterilization, but can only live up to their potential when used correctly and completely.

As a prime example, disinfectant wipes are only effective when they wipe an intended area or item completely, without missing anything. But, because the solution used on the wipes is clear, there is no way to ensure every area was wiped thoroughly unless follow-up tests are done to identify any remaining bacteria. This process would not only require time and labor, but it would also affect the workflow of a hospital or healthcare facility. All of these items required would equate to additional facility costs as well.

As an innovative disinfection solution, Kinnos, located in Brooklyn, N.Y., developed its Highlight system for wipes, which succeeds where other products fail by making disinfectants visible.

According to Kinnos' product description, the Highlight system "is available for ready-to-use wipes across the three most commonly used chemistries of bleach, quaternary ammonium, and hydrogen peroxide through an innovative delivery lid that fits on existing wipes and adds the dye as it dispenses wipes. It fits into existing workflow without disrupting or altering the cleaning process. The blue color gives instant visibility to confirm coverage, then fades to clear in a few minutes to remind of contact time, and requires no other steps by users."

Jody Miller Elliot

Jody Miller Elliot, director, Housekeeping Strategies and Initiatives at Fraser Health, located in British Columbia, Canada, pointed out, "The addition of the Highlight system allows our employees to perform their cleaning and disinfecting tasks with a higher level of accuracy and efficiency because they can see where they have applied the chemistry on a surface. The in-the-moment verification helps build our employee's skill level and confidence in their performance. Our system-wide implementation is taking our infection control practices to the next level at over 30 acute and long-term care facilities, with more than 1,500 employees."

She added, "Through its function, the Highlight system allows us to identify surfaces that require additional cleaning and disinfecting, including maintenance, repair or replacement. The Highlight system is one of the first innovations we have introduced that can be directly used by housekeeping, nursing, care and clinical employees, providing the opportunity for multiple levels of increased infection control."

Peer-reviewed evidence offered by Kinnos shows that Highlight improves cleaning scores by 70 to 95% in just weeks, and that modest improvements in cleaning scores translate to significant drops in healthcare infection rates. Currently, Highlight is the only technology providing instant real-time feedback for cleaning staff.

She noted, "The relationship between Infection Preventionist (IP) and Sterile Processing Departments (SPD) should be one of trust, respect, and partnership. IPs are some of the brightest and most well respected members of the healthcare system. However, most will freely admit to a scarcity of knowledge surrounding specialty areas such as SPD. Usually, the daily intricacies of the processes can equate to speaking a foreign language to anyone who does not work in the department, IP included. This absence of understanding is primarily due to a lack of in-depth exposure, SPD managers' and staff's perceptions of IP's role, and an unwillingness to invite them in. However, the foundation of a great relationship can be formed through the vulnerability of not knowing and openness to learning from both departments."

Malinda Elammari

Further asserting the importance of IP and SPD working together, Elammari cited an example of the benefit of department teams having a symbiotic relationship.

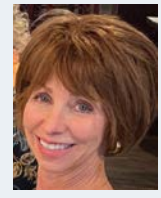
"One situation where the importance of this relationship and understanding was made evident was during the construction stages of our SPD department. Prior to construction, our IP spent

Give infection prevention a hand…sanitizer

While soap and water have traditionally been the main stars on the infection prevention stage, the use of hand sanitizer was often regarded as a back-up option for hand cleaning that paled in comparison but was better than nothing in a pinch. But 2019 changed that way of thinking when COVID-19 showed up in the U.S., and hand sanitizer products were thrust into the spotlight.

As COVID-19 appeared more and more nationwide, hand sanitizer products were available less and less, leading to many home recipes and overpriced one-off brands for sale as substitutes. Luckily, the mad panic that ensued has subsided, and hand sanitizers are easy to find in stores once again. In addition to community availability, hand sanitizer products are also reestablishing their importance in hospitals and healthcare facilities.

At Angelini Pharma, located in Atlanta, GA, Michele Padovan, product education specialist, pointed out the importance of compliance with hand hygiene.



Michele Padovan

"Despite broad acknowledgement of the critically important role of hand hygiene in reducing the transmission of pathogenic microorganisms, overall compliance with hand hygiene is less than optimal in most healthcare settings. Healthcare worker's hands are their most relied upon "tools" but they can also be a conduit for infection spread."

She continued, "The Centers for Disease Control (CDC) and the World Health Organization (WHO) have created several educational aids available to staff that demonstrate how and when to use hand sanitizers. In addition, facilities hold training and refresher sessions for staff, and direct-observation audits are conducted to enforce routine use. It is the organization's primary responsibility to provide easy access to hand sanitizers, enforce policy, establish accountability, and ensure overall safety culture. So how can the industry help facilitate adherence to alcohol-based hand sanitizers?"

Padovan noted, "Hand sanitizers are a great example of a 'subjective' product to the user. Color, fragrance, sensation, and delivery method play a part in compliance. The sanitizer may be considered sticky or 'smelly' by one healthcare worker and not another. The product needs to be well tolerated by most staff. With the Amekina hand sanitizer, a sanitizer gel and foam that has no color or fragrance, of great importance is the addition of emollients to aid by counteracting the drying effect alcohol has on the skin. Our sanitizers have a unique red pump and push dispenser and contain aloe vera and vitamin E to provide softness to the hands, while the 70% alcohol active ingredient gives broad-spectrum antimicrobial pathogen kill."

In agreement with Padovan is Megan DiGiorgio, senior clinical manager at GOJO, located in Akron, Ohio, who added, "Post-pandemic, many healthcare facilities are implementing a 'back to basics' approach with hand hygiene. Hand hygiene is one of the few quality activities expected of every single person involved in patient care, and yet it is one of the least adequately measured.

Amekina hand sanitizer by Angelini Pharma.

She continued, "Purell SMARTLINK technologies provide hospitals with the infrastructure to monitor hand hygiene on a 24/7 basis across units and facilities, generating large volumes of standardized hand hygiene data and providing a more complete picture of hand hygiene practices. These automated data allow Infection Preventionists, unit-level leadership, and other stakeholders to better target their time and energy areas needing intervention."

Megan DiGiorgio

DiGiorgio reported, "We know that implementation of automated hand hygiene monitoring systems (AHHMS) alone or with limited complementary behavioral strategies will not deliver improvement. In a study of 10 U.S. hospitals utilizing SMARTLINK, those that employed clinician-based vendor support (Purell Clinician-Based Support) combined with hospital-led, unit-based complementary strategies saw the greatest improvements in hand hygiene performance (a 48% increase). This is the result of the synergistic effect of employing multiple elements simultaneously, which is emphasized in the WHO's multimodal strategy."

Purell SMARTLINK dispenser by GOJO

Additional study results reported by GOJO showed the adoption of Purell SMARTLINK Service Alerts resulted in a 31% reduction in labor time by more efficiently using FTE resources, a 14% reduction in consumable costs, and a 100% reduction in staff complaints.

time in SPD learning processes according to regulations, standards, and industry recommendations, and became very familiar with the AAMI standards. It was during a meeting later in the construction process, where the leadership group was reviewing a new set of updated blueprints, when our IP quickly realized that the new blueprint for decontamination had variations in the location and connections for some of the equipment."

Elammari continued, "These variations would cause issues with the insulation of needed equipment and make the workflow inconsistent with standards. In addition to the lack of proper workflow and the extra work for staff (crossing decontamination four times for each tray), if not caught, the result would have been a significant financial hit for the hospital and a delay in construction time. Our IP was so happy that she was able to catch the issues because she knew SPD and the standards."

Optimum operating organization

One area in hospitals and healthcare facilities that is both the most-used and most in need of infection prevention is the operating room/surgical suite. The daily turnover in a typical OR can be such that the cleaning/disinfection staff must work effectively between patients and procedures to ensure all bacteria and viral microbes have been removed. In addition to efficient cleaning and sterilization, OR turnover scheduling must also be as seamless as possible.

At Ecolab, located in Saint Paul, MN, efficiency and effectiveness are their goals, with a new digital program designed to ensure their goals are achieved in hospitals and surgery centers.

Olivia Broaddus

Olivia Broaddus, senior marketing manager healthcare, digital strategy, said, "Our Ecolab Operating Room Program is a complete offering that helps hospitals monitor and standardize room turnover processes and workflows for their teams. With our teamwork-based program, ORs can reduce their room turnover time and improve cleaning results. We work with our customers to implement these new workflows to maximize their outcomes."

She added, "Through our professional training of staff, both in-person and on-demand, teams learn how to work together efficiently and effectively. We recently launched OR Program Reinforced, which is a digital training element to help hospitals improve the quality and consistency of clean for this critical care area. Ecolab OR Program Reinforced includes a library of over 30 interactive lessons on industry best practices for hospital OR turnover teams anytime and anywhere, helping managers onboard new team members, while also reinforcing important processes with existing staff. Efficiency is key when it comes to OR room turns. Everyone following the same process every single time." **HPN**

OR Program Reinforced by Ecolab

STERILE PROCESSING

Pre-empting pre-treatment in the OR not CSSD's preference, nor industry standard

by Rick Dana Barlow

Photo credit: shaiith | stock.adobe.com

Among those administratively, clinically, financially and operationally associated with healthcare procedures, most acknowledge that pre-treating surgical devices and instruments once a procedure is completed makes logical sense.

Of course, those in the Operating Room (OR)/Surgical Services department may find some disagreement with those in Central Sterile Services Department (CSSD) over the simple issue of accountability, responsibility and timing – namely, who's supposed to do it when, as in how quickly or soon after a procedure is finished.

Historically, CSSD adapted and dealt with the OR sending down post-surgical devices and instruments soiled with crusty bioburden and solidified organic and inorganic material left behind that could have been removed rather easily and quickly in the OR before transport to CSSD for sterile processing.

Then last year the American National Standards Institute (ANSI) and the *Association for the Advancement of Medical Instrumentation (AAMI) issued guidelines – the revised ANSI/AAMI ST91:2021 standards – that generated more clarity where there was opaqueness. [See "Responsibility, accountability for pre-treating soiled devices finds a home," https://www.hpnonline.com/sterile-processing/article/21283933/responsibility-accountability-for-pretreating-soiled-devices-finds-a-home]*

Per the joint ANSI/AAMI guideline, the gauntlet was thrown down: Pre-treating surgical devices and instruments is to occur in the OR (a k a at the point of use) right after a procedure and before those products are transported to CSSD for cleaning, decontamination and high-level disinfection or sterilization. To make it more acceptable in the OR, ANSI/AAMI even changed the name to "pre-treating" from "pre-cleaning."

Case closed? Not exactly. Considerable ruffled feathers around attitude and behavioral modification, collaboration and cooperation linger. The question remains why this practice of pre-treatment at the point of use isn't universally accepted, adopted and implemented by now as standard practice – if anything else, because ANSI and AAMI say so and the Association of perioperative Registered Nurses (AORN) and the Healthcare Sterile Processing Association (HSPA) agree?

Education and incentives may be the ignition to act, sterile processing experts indicate.

The village needs a roadmap

History shows that dictates and mandates may be effective at changing behaviors (versus attitudes), but education and incentives may accelerate the process, according to clinical experts and executives at companies that make products used for sterile processing.

Sharon Ward-Fore, MT(ASCP), CIC, FAPIC, infection prevention advisor, Envista Co., makers of the CaviWipes and Metrex brands, takes the high road customary of a clinician.

"The greatest incentive is patient safety," Ward-Fore told *Healthcare Purchasing News*. "The ability to remove bioburden from instruments becomes more difficult the longer the bioburden remains on the instrument. Not only does it make it harder for SPD/CSS personnel to clean it, but it may also shorten the life of the equipment due to the need for more aggressive cleaning prior to decontamination. This may also slow down processing time, causing instruments to be out of service longer, which can negatively impact the OR and the patients waiting for procedures."

Sharon Ward-Fore

Ward-Fore refers to well-publicized infection outbreaks linked to improperly cleaned instruments that led to patient harm as motivation for pre-treating early.

"I believe education on patient harm that results from improper cleaning is one way to incentivize staff," she urged. "If they don't understand what can happen downstream, they have little incentive to pre-clean appropriately. I sometimes ask staff how they or a loved one would feel if they were harmed by an improperly cleaned instrument. I've never had anyone respond they would be okay with that."

Everyone needs to be involved and on board, according to Ward-Fore.

"Healthcare personnel work in healthcare because they are caring, compassionate people," she noted. "Most everyone wants to do the right thing. In the OR, I think adding equipment pre-cleaning to a checklist as a reminder might be one way to get it done in a timely manner. There are many moving parts before, during, and after a procedure so checklists that indicate what and who is responsible for performing a specific task are a useful tool. The protocol for pre-cleaning should be driven by all stakeholders so all perspectives are considered."

Nothing short of a comprehensive understanding of why pre-treatment is necessary in the OR and the likely outcomes of that not happening should drive proper response and responsibility, insists Eric Smith, CFER, infection prevention and control specialist, Medical & Scientific Affairs, Olympus Corporation of the Americas, who embraces education as the go-to response.

Eric Smith

"Providing education and training on the importance of pre-treating instruments and devices immediately after a surgical procedure can help change attitudes and behaviors," Smith insisted. "Not just educating on the steps that are required, but also educating on *why* the steps are required is critical.

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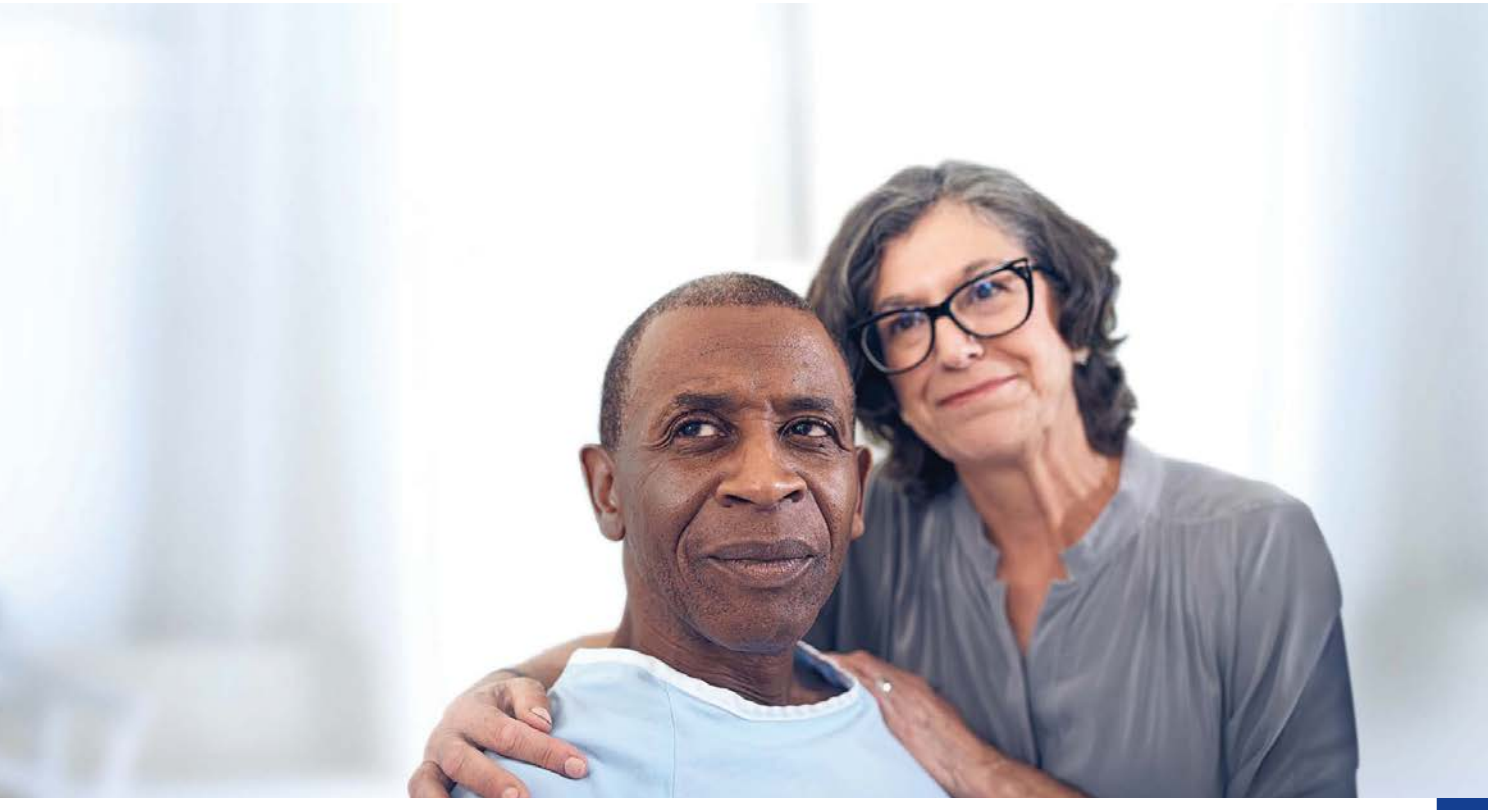

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REFERENCES 1. Infections Associated with Reprocessed Urological Endoscopes - Letter to Health Care Providers. U.S. Food & Drug Administration. https://www.fda.gov/medical-devices/letters-health-care-providers/infections-associated-reprocessed-urological-endoscopes-letter-health-care-providers. Published April 1, 2021. Accessed November 9, 2021. 2. Dirlam Langlay AM, Ofstead CL, Mueller NJ, Tosh PK, Baron TH, Wetzler HP. Reported gastrointestinal endoscope reprocessing lapses: the tip of the iceberg. Am J Infect Control. 2013 Dec;41(12):1188-94. doi: 10.1016/j.ajic.2013.04.022. Epub 2013 Sep 8. PMID: 24021660.

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This can be in the form of workshops, seminars or regular in-service training sessions."

Smith also calls for a roadmap to set parameters and priorities and incorporation of tracking technology to assist.

"Developing clear policies and procedures for pre-treatment of instruments and devices can provide a roadmap for OR staff and help ensure consistent practices," he indicated. "Leading by example, by encouraging OR managers and leading staff to model the desired behaviors, can go a long way to promoting a culture of proper pre-treatment.

"We are all probably familiar with the old proverb, 'It takes a village to raise a child.' Well, it takes an entire facility to ensure patient safety," Smith continued. "Collaboration with the Sterile Processing Department (SPD) can be accomplished by building a strong relationship between the OR and SPD. This can help promote a shared understanding of the importance of proper pre-treatment. Implementing technology, such as bar-coding systems or automated tracking tools, can help streamline the pre-treatment process and ensure that instruments and devices are being properly pre-treated in a timely manner. Lastly, regularly assessing and improving pre-treatment processes can help ensure that best practices are being followed and that the OR is continuously working towards more efficient and effective pre-treatment protocols."

Communicating ownership is one key component of that education, says Holly Montejano, CIC, CPHQ, VA-BC, clinical science liaison, PDI Gulf Coast.

"As an infection preventionist, I have found that staff acceptance of appropriate process is imperative to compliance, as are clear parameters for process ownership," she said. "In addition to maintaining compliance with multiple guideline recommendations, intentionally communicating to the OR staff the importance of their ownership of this step of the process as a patient safety mechanism provides a healthy 'why' regarding task ownership and accountability.

Holly Montejano

"Initiation of the pre-treating step in the OR helps to reduce both the time in which organic and inorganic debris on the instrument or device surface solidifies and the potential for biofilm formation – thus reducing the overall reprocessing time," Montejano continued. "Circling back to infection prevention and patient safety, we know that if procedural instruments and reusable devices are not effectively pre-treated, complete sterilization can be compromised, creating an infectious risk to the next patient."

Seth Hendee, CSPDT, CFER, CRCST, CIS, CER, CHL, HSPA-approved instructor, clinical education specialist, Healthmark Industries, agrees that explanations not only make the most sense in driving behavioral change, but they can be the most effective option – but backed up with audits.

Seth Hendee

"In my experience when trying to directly affect attitudes, I find making sure everyone understands why [about] a process needs to be important," he said. "If a process is seen as unimportant then complying with it seems unimportant as well. One strategy that is worth exploring is internal auditing of point-of-use processes. If the culture of the facility is geared towards data driven initiatives. Internal auditing may provide the numbers to convince leadership in the point of use departments to push for greater compliance."

Hands across the sterile field

Justifying the need for pre-treatment in the OR immediately following a surgical procedure may be the first step to improve a process, but the next step involves implementing the process change.

That's where communication follows education, sterile processing experts concur.

"Regular meetings between the SPD and OR can help foster a strong relationship and open communication between the two departments," Olympus' Smith recommended. "During these meetings, the two departments can discuss best practices, address any challenges and work together on continuous quality improvement initiatives. Joint training sessions can help ensure that both the OR and SPD staff are well-informed and on the same page about best practices for pre-treatment of instruments and devices. This can help promote a shared understanding of the importance of proper pre-treatment and ensure consistent practices across both departments."

Smith encourages treating the change as you would any process improvement within a department.

"Creating process improvement teams that include representatives from both the OR and SPD can help ensure that any changes or improvements to pre-treatment protocols are made with input from both departments," he noted. "Communication is key. Regular feedback and open communication between the OR and SPD can help address any challenges or issues in a timely manner and promote a culture of collaboration and cooperation. Establishing joint performance metrics, such as time to pre-treat instruments and devices or rate of instrument damage, can help ensure that both departments are working towards common goals and that the pre-treatment process is continuously improving. Encouraging staff from the OR and SPD to spend time in each other's departments can help build understanding and empathy between the two groups and promote a culture of collaboration."

Recruiting infection prevention to assist and support the process change adds clinical credibility and emphasis, according to PDI's Montejano.

"The inclusion of facility infection prevention to aid with a coordinated and systematic approach to instrument and device re-processing is a key support component to implementation of a new process," she said. "As is the case when any two (or more) departments are developing a partnership around a new process, communication is key. Where applicable, using the support of best practice guidelines and recommendations (in this case APIC, AAMI, AST, AORN and HSPA) provides credibility to the decisions around workflow and process ownership."

Healthmark's Hendee agrees and promotes joint learning as the bridge.

"Joint learning, from a source that is respected by both departments, has the potential to create an impact," he said. "Since infection preventionists garner respect from all clinical settings and are often the point person during accreditation surveys, they have a perspective that could change attitudes about compliance. Here's something to consider, one of the overarching themes during a survey is that the facility makes efforts to reduce hospital-acquired infections (HAIs). Surgical site infection (SSIs) are a subset of HAIs. If an IP can get both departments to understand the link between reducing biofilms and better cleaning, and subsequently better HLD and sterilization outcomes, then true importance of the practice can be understood."

Still, Envista's Ward-Fore praises the ongoing partnership between CSSD and OR.

"The OR and SPD/CSS generally work together pretty well, from my experience," she observed. "Since SPD/CSS are the 'experts' on instrument cleaning, perhaps they could in-service the responsible OR personnel on the proper pre-cleaning of instruments at point-of-use, explaining the most efficient method so the process doesn't seem overwhelming to OR personnel. It's really in SPD/CSS and OR personnel's best interest to perform this properly. No OR likes to start a case and find dirty instruments, then have to stop everything. No SPD/CSS personnel likes to hear that dirty instruments were found and stopped a patient from receiving care."

Embedding expertise?

What if, the OR were to allow someone from CSSD to come to the OR to handle pre-treatment procedures or to maintain a CSSD tech within the department akin to the OR materials manager who may handle supply ordering and requisition?

Sterile processing experts express intrigue at the idea but offer mixed opinions on the matter.

"Both departments tend to work pretty lean," acknowledged Ward-Fore. "To have someone from SPD/CSS enter the OR to perform pre-cleaning seems like a lot to ask. The pre-cleaning process, from what I've seen, is not labor-intensive. I guess since the scrub nurse or circulator is already in the room, and is very knowledgeable in handling instruments, I could see them performing pre-cleaning at the end of the case, when things are getting put away. I think it really depends on staffing levels in both departments, case volumes and training."

Hendee questions the feasibility, too.

"Unfortunately, an SPD Tech would not be able to fully accomplish all that point-of-use treatment entails," he lamented. "There are aspects of the process, like wiping off gross soil, that are meant to be done as the instruments are passed off the field. Those processes can't be done by anyone other than the scrub. Potentially, an SPD tech could come in after the case and help apply pre-sprays or place instruments in packs designed to maintain moisture, but if the initial wiping is not performed biofilms may already have begun to form."

Lingering labor challenges may make such a concept easier conjured up rather than carried out, according to Montejano.

"Departmental and individual employee bandwidth may not allow for this given the current staffing challenges in healthcare," she said. "This capability will vary based on the facility's own personnel circumstances, though the cross-training of staff generally benefits process efficiency. We know that turnaround time is precious in both the OR and sterile processing departments. Once instruments are received by CSSD the clock is ticking for efficient turnaround. OR personnel can ultimately improve their own metrics by assisting CSSD with point-of-use pre-treatment. What helps make OR ownership of the pre-treating step feasible is keeping the 'ask' simple. Providing product (for the process) that is easy to use and easily accessible may provide a greater acceptance into workflow. Some surface disinfection wipes include an indication within the product instructions for use (IFUs) stating the product may be used to preclean and decontaminate critical or semi-critical medical devices prior to sterilization or high-level disinfection."

Smith, however, remains optimistic about the possibility.

"It is generally acceptable and feasible for the OR to allow someone from SPD to come to the OR to do pre-treatment of instruments and devices as an OR-based SPD tech," he noted. "This approach can have several advantages, including:

1. Improved efficiency: Having an OR-based SPD tech on hand can help ensure that pre-treatment is done in a timely manner, as soon as the surgical procedure is completed. This can help minimize the risk of instrument damage and ensure that instruments are ready for sterilization as soon as possible.
2. Increased understanding: By having an SPD tech physically present in the OR, they can get a better understanding of the surgical procedures and the instruments and devices used, which can help them perform pre-treatment more effectively.
3. Improved communication: Having an SPD tech present in the OR can improve communication between the two departments, as they can provide real-time feedback on the pre-treatment process and address any issues in a timely manner.

"Having an OR-based SPD tech can have several benefits and is generally acceptable, but the feasibility of this approach must be evaluated on a case-by-case basis," Smith added. HPN

Visit https://hpnonline.com/53027197 for "Pre-treatment of surgical devices at point of use more than simple process name change."

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by Sarah B. Cruz

April 2023

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LEARNING OBJECTIVES

1. *Review the meaning of "competency" and how technical application is measured against quality expectations.*
2. *Explain the responsibility of Sterile Processing professionals to assess department processes and proficiencies.*
3. *Identify when remediation is necessary, and which evaluation categories can be used to create a remediation plan.*

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The Sterile Processing (SP) profession is more than just instrument focused, it is patient safety driven. While SP professionals are a key component of the infection prevention process, they are also tasked with responsibilities away from the assembly tables, outside of the department, and even throughout the healthcare facility. Needless to say, it is nearly impossible to capture the entire scope of duties within the character limits of a job description. Being certain that specific criteria and job skills are met consistently is part of the SP department's quality management system. This is done both formally and informally by SP and operating room leadership, department culture, and even the longest standing team members. Department workflow is determined through standard operating procedures, standard works, and best practices. To ensure that "how we've always done it" is actually creating the outcome the patient must have, competencies come into play.

From massive healthcare systems that dominate geographic locations to the smallest eye care center in the middle of nowhere, competencies are utilized in some capacity within Sterile Processing departments. The word "competency" is often referred to when quality is discussed, referred to, or even called into question. When a competency comes to mind, we think of a one- or two-page checklist that is used to prove proficiency throughout all the areas of the department or a new piece of equipment. Revisited sometimes yearly or before a surveyor's site assessment, this document attests that all processes in the department are performed effectively and yield the desired outcomes. That is a lot of expectation to put on a single document. So what happens when the quality outcomes are not what we expect them to be?

What are "Competencies"?

Before a "near miss" in the operating room or a patient safety event occurs, let us pull the competency conversation all the way back to the beginning. Competencies, as a business tool, were formally introduced in the mid 1980's. Around the time that Dr. John J. Perkins was advocating for the centralization of reprocessing medical instruments,[1] an approach to enhance organizational performance was being introduced to companies throughout the United States.[2] Their primary purpose was to determine if a worker had the ability to do something successfully and efficiently. Over time, competencies would evolve to define the necessary skills and talent requirements as well as outline individual performance improvements to align with the definitions of "effective" and "successful" as determined by the organization. In the past, the weight of these expectations was left to the job description. The job description would only list the tasks and baseline skills necessary to qualify for the position, not the type of professional you would become.

With the introduction of competency evaluations, workplace leadership is able to assess success while in the real-world work environment. No longer relying on a "you have it or you don't" mentality, competencies evaluate how a task is performed and consider the multiple factors that contribute to the desired outcome. Utilizing competencies contributes to the streamlining of talent development, encourages best practice, and creates measurable results. Today, competencies have been integrated into the recruitment, development, quality management, succession planning, and retention programs of many organizations.[3]

Supporting Quality Management

Competencies are to be used as a process evaluation tool. Process evaluation is a key component of assuring that a quality management system (QMS) is effective. During competency evaluations, we observe the process that we anticipate the SP professional will follow. Evaluation, by definition, is the determination of condition by appraisal and study. Therefore,

competency evaluations are not detailed instructions on how the process needs to be done, but rather the assessment of the process being performed. The processes being evaluated during competency assessments are trained through department standard operating procedures (SOPs) and standard works. Hence, competencies should result in the affirmation that the department's QMS is being taught and adhered to effectively.

Competencies also demonstrate proficiency. To be proficient is to demonstrate an advanced understanding in a branch of knowledge. Assessments and tests are two ways that proficiency is typically evaluated. Although these words are often used interchangeably, they are utilized differently. An assessment is used to test the value and effects of a process, typically through real time instances. Testing is when something is put through a series of trials to determine its value⁶. Therefore, if our competencies resemble a checklist or a quiz, these are competency tests, not evaluations. The limitation to this approach is that it merely states whether or not our SP professional has value. The importance of creating competencies that mirror assessments is the ability to observe our SP professionals carrying out the department's QMS as a whole. It evaluates the technician's professional development as a result of department onboarding, training, and education.

Conducting Assessments

The key component to competency assessments is that they are performed during real-time observations. They were designed to demonstrate how the task should be performed in a real-life work environment. This is what makes them different from a job description. If there has ever been a moment of frustration surrounding a work performance review that offered no solutions or process improvement recommendations, there is a strong chance that competencies were either underutilized or not utilized at all. Competencies provide leadership and team members the opportunity to discuss important issues with actionable outcomes and they are provided with exact areas in need of improvement. A competency assessment in itself is just a document, however. The ability of the document and the measurable outcomes it produces directly correlate to the proficiency of the professional administering it: the competency of the competency administrator.

Method of Instruction: How is is being taught?		Validation
A Audio	D Demonstration	Can the professional perform the anticipated processes that result in the desired result? Are they proficient?
V Video	R Review/ Research	
Method of Verification: How is comprehension demonstrated?		**Remediation**
E Explanation	DO Direct Observation	Will the professional need a remediation plan?
RD Return Demonstration	DV Documentation Verification	

Area the Competency Covers	Purpose of Competency: List why or the frequency the competency is being performed? Yearly review? New hire? Retraining? New equipment?				
	Method of Instruction	Method of Verification	Proficient Y/N	Remediation	Initials / Date
What are some important factors that we would assess?				Create a note/ observation that recognizes improvement or success	
Competency recognizes actions. Write areas of assessment in present tense instead of in question form.					Who/ When is this being observed?
What processes do they need to be able to perform in order to achieve proficiency?				Create a note/ observation that recognizes improvement or success	
Will they need to explain any documents?					
Are there any standards or definitions they must know in order to be successful?					
There can be as many items listed					
Remember: The longer the document, the longer it takes to complete the assessment					
Assess the components of the competency and be sure they stay focused on the area listed.					

Please list any additional comments, concerns, and/or remediation processes below.

Detailed remediation plans or areas of success can be written here.

NOTE: The individual's learning and comprehension style and preference will contribute to overall perception and impression of proficiency. If they are having issues, consider utilizing the variety of methods of instructions and verification.

Remediation plans are the action areas we are asking the professional to improve in. These will become the tangible and measurable ways we determine retention and application in improvements.

Manager Signature:	Date:
Educator Signature:	Date:
Employee Signature:	Date:

Example Competency Assessment document

Download: https://hpnonline.com/53027334

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

Competencies typically fall on the responsibility of the SP department manager. The effectiveness of a competency assessment is directly correlated to the time available to dedicate to them. Depending on the size of the department and the number of areas it supports, this may or may not be feasible for an SP manager to conduct such assessments on their own. As a solution, this task can be delegated to another SP professional such as an educator, preceptor, or even shift lead. The most important determinations to make when selecting a candidate are:

- Are they able to carry out the process as expected? Are they teaching "our way" or the way "they do it"?
- Are they honest? Can they write what they see as it is?
- Do they have integrity? Can they observe their colleagues objectively and assess process administration without bias?
- Do they understand the goals of a competency and how to correctly fill out the document?

Document Anatomy

A competency test and assessment differ in document style. A competency test typically looks like a quiz, very similar to the one at the end of this lesson. The reader will take the quiz and either demonstrate that they have comprehended the information or not. A competency document that looks like a checklist also produces the same results as a test. It demonstrates whether or not the SP professional is sound in their practices. There are a few components that need to be added to a competency to make it an assessment.

Remember, the goal of an assessment is to test the value and effects of a process, typically through real time instances. Please look at the sample document provided in this lesson (previous page). It defines areas that lend to the ability to assess rather than test. Keep in mind that competency documents are printed on paper and not etched in stone. They are meant to be revisited and revised for accuracy, attainability, and feasibility. Competencies should be reviewed for accuracy whenever new SOPs are created and/or standard works are revised.

Successful Competencies

A successful competency effectively highlights and celebrates areas of proficiency and subject matter expertise, also known as conscious compliance with department processes. It also provides a clear indication of not only where remediation is needed but also how to educate or train the professional in the area by highlighting nonconscious compliance and nonconscious noncompliance. We will be able to effectively determine where management may need a sterner approach by documenting conscious noncompliance on these assessments, as well.

Because the goal of a competency is to assess the overall proficiency and performance of the SP professional, remediation and education are now also successful outcomes of the competency program. Remediation plans can be drafted as a result of this. These plans are created to address the various reasons why proficiency was a concern in an area. The concerns can typically be separated into groups that require one to three of the following actions to correct certain behaviors.

Retraining:

1. The base comprehension is present, but the execution is not correct.
2. Review the steps of the process necessary to achieve the outcome.
3. Teach the "how" of the process.
4. Directly observe, return demonstration, and review at a later date to assess retention.

Education:

1. The technical execution is correct but executive decision-making skills are lacking due to incomplete information.
2. Provide the educational materials necessary for comprehension.
3. Teach "why" we carry out the process.
4. Return explanation and review at a later date to assess retention.

Intervention:

1. The base comprehension is not present due to lack of training, skills, and/or education.
2. Be aware of learning and comprehension style.
3. Teach "from scratch," like it is being learned for the first time and ask open-ended questions to confirm interpretation of material.
4. Return explanation, directly observe, return demonstration, review at a later date to assess retention.

As the SP professionals evolve, competency assessments become even more important in assuring that we are providing the support necessary to their professional development, our department's retention program, and the facility's succession planning. This is good measure and preventative planning for the known fact that the Sterile Processing industry is always growing and evolving. New instruments will be created, revolutionary surgical procedures will change lives, and regulations will pass and go into effect. It is safe to say that because of these factors, the duties of the SP professional will not be the same as the day they began working in the field.

It is easy to assume the competencies are the be-all and end-all of the training and quality programs within a Sterile Processing department. However, they are only one part of the overall quality management system. Effective competencies are preceded by SOPs and standard works. Successful competencies encourage best practices and contribute to workplace culture. The robust duties and expectations of an SP professional cannot be left to a mere checklist. Whether or not a competency will be proven to be effective lies in its creation, implementation, evaluation, and change management. Competencies can also demonstrate what is or is not working in the quality management system the department has put into place to evaluate their team with. SP competencies can be utilized to develop, train, and retain the talent necessary for the succession planning in our organizations and industry. Most importantly, competencies ensure that our patients can return to their lives after surgery. HPN

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Sarah B. Cruz, CSPDT, CRCST, CHL, CIS is president and founder of PRETREAT CSS, where she and Sterile Processing professionals work together to create objective-driven goals to advance their professional development. She is an industry speaker, published writer, social media enthusiast, mentor, and CTSPA Chapter President and HSPA Director. Sarah is a Sterile Processing instructor at her local community college and a CS Quality Education Program Development Coordinator in her full-time role.

CONTINUING EDUCATION TEST • APRIL 2023

Education nation: create core competencies

Circle the one correct answer:

1. **Tests and assessments are the same thing.**
   A. True
   B. False
2. **Competencies are only one of the components to a department's quality management systems (QMS?**
   A. True
   B. False
3. **Competencies do not need to be reviewed or revised after their initial creation.**
   A. True
   B. False
4. **A remediation plan is made up of:**
   A. Retraining
   B. Education
   C. Intervention
   D. All of the above
   E. None of the above
5. **Competencies are less effective when performed in real time.**
   A. True
   B. False
6. **Competencies contribute to:**
   A. Talent development
   B. Best practices
   C. Measurable results
   D. All of the above
   E. None of the above
7. **SP managers are the only personnel capable of performing a competency.**
   A. True
   B. False
8. **Competencies outline areas of improvement and celebrate areas of subject matter expertise.**
   A. True
   B. False
9. **Competencies only need to be performed before a surveyor visit.**
   A. True
   B. False
10. **Competency checklists and competency assessments are the same thing.**
    A. True
    B. False

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SPD administrative controls play key role in staff safety

by Marie Brewer

The Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) identify five levels of controls for managing workplace hazards: elimination, substitution, engineering controls, administrative controls and personal protective equipment (PPE) (See Figure 1). Elimination tops the NIOSH hierarchy of controls because it physically removes the hazard. In contrast, PPE falls at the bottom of the controls in regard to effectiveness, although it is still essential for employee safety.

This article addresses administrative controls and explains how their use can reduce Sterile Processing-related hazards for employees. While administrative controls are not a permanent solution to eliminating safety risks, they are nonetheless effective and deserving of careful attention because they entail changing work behaviors to limit or prevent hazard exposure and incorporate other controls that reduce employee risk. SP leaders see greater acceptance and implementation of administrative controls when they provide adequate employee training and ensure consistent compliance with policies and procedures aimed at improving staff safety.

With administrative controls, one might assume a hazard must be tolerated because it cannot be eliminated entirely. In the decontamination area, for example, SP professionals routinely encounter wet floors (slip and fall risks), bloodborne pathogens, various chemicals, aerosolization when working at sinks, sharp instruments that can pierce the skin and pose infection risks, and more. Anytime an employee is injured, SP leadership must work to identify the cause and seek solutions to prevent their reoccurrence.

The following are four facets of administrative controls:

Staff training: SP leaders must teach every employee across all shifts why safety procedures must be diligently followed, and they should ensure technicians understand safety concerns and risks and how to identify new problems as they arise, so they can better protect themselves and their co-workers.

Departmental policies: Daily environmental cleaning of SPD areas promotes employee safety and operational efficiency. The SPD (all areas) must be tidied, decluttered and maintained daily by SP employees and thoroughly cleaned by Environmental Services staff. Preventive maintenance measures that help prevent equipment issues and failures is essential versus addressing them reactively, after an issue arises. Instruments and equipment should be routinely and properly serviced. Further, rotating staff members through all areas of the SPD is prudent because it acclimates employees to a range of SP tasks, reducing process/task fatigue and the risk for repetitive motion injuries.

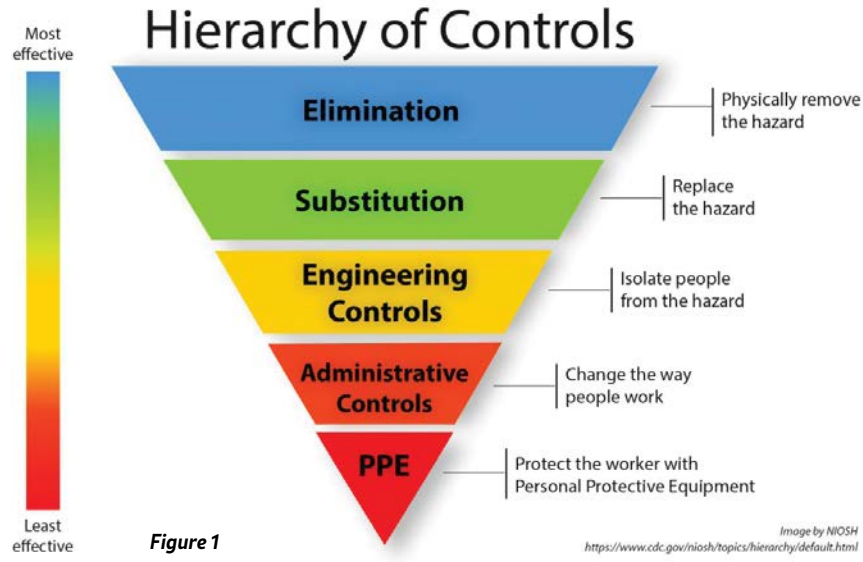

Figure 1

Procedural changes: Safety concerns can be identified and addressed by performing routine procedural reviews and audits. Safe, standardized work practices are critical for creating a high-performing safety culture, and SP leaders should regularly request employee feedback when processes are changed or added. This helps ensure staff buy-in and compliance.

Visual and auditory cues: Manufacturers' labels for all chemicals, sterilants, lubricants and other SP-related products and supplies should remain intact on their original packaging to ensure proper use and prevent potentially dangerous chemical mix-up or misuse. Warning signs, including those identifying clean or soiled areas, slip hazards or restricted areas, are useful visual cues. Alarms are effective auditory (hearing) cues to identify malfunctions or other potential risks with equipment. An alarm can alert staff to an overheated sterilizer, for example, or when a biological indicator fails in the incubator, and insulation testers in workstations may alarm if an insulation breach occurs.

Conclusion

Administrative controls are critical elements of a comprehensive, carefully developed and well-implemented employee safety program. Adopting these controls and reviewing them regularly to ensure they are appropriate, well understood and followed consistently contributes greatly to an SPD's safety culture. SP leaders should encourage their teams to identify actual or potential safety risks and share ideas to mitigate them and improve safety for the entire team. Ingraining safety protocols into ongoing employee training and daily staff huddles can reduce safety risks and remind employees that their safety is prioritized. HPN

Marie Brewer, CST, CRCST, CIS, CHL, CER, GTS, CLSSBB, serves as Sterile Processing Manager for St. Luke's Hospital in Cedar Rapids, Iowa, and is a subject matter expert and columnist for the Healthcare Sterile Processing Association.

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Hemostats, box locks, and fractures: oh why?!

by Stephen M. Kovach

Q We are having issues with a lot of our hemostats being fractured in the box lock area. Can you share your thoughts on why this might be happening?

A To me, one of the most common causes of fractured box locks is poor cleaning. My first response is: do you know how many brushes are needed to clean these simple instruments?

If you answered at least two brushes, you are correct! We all know you need to brush the external surface. Usually, a soft bristle brush or even a wipe (depending on what the instructions for use [IFU] states) can be used.

What is the second type of brush you need, and where do you use it?

While these medical devices (hemostats) seem simple, you must pay particular attention to the hinges, crevices, ratchets, serrations, and other hard to clean areas to make sure you remove all organic debris. If you do not brush properly, debris (e.g., dried blood) may be left behind. If the debris is not removed, it can get baked on during the sterilization process and may cause the box lock to crack. Thus, prevention of the buildup of "baked on" debris and mineral deposits is important to avoid box lock fracture/damage.

I was able to find some quotes backing up my thought process. "Found in box locks (joints) and other tight spaces, crevice corrosion often appears as red rust. It is caused by blood and other soils that gather in box locks that haven't been properly cleaned. … Improper cleaning can lead to the stiffening of an instrument's joint. Soil buildup typically occurs in the box lock (joint) - the weakest part of the instrument. When the box lock cannot hold any more debris, a stress crack occurs in the joint; the crack is noted at the pin joining male and female parts of the instrument. Once this crack occurs, the instrument can't be repaired. It must be immediately removed from the instrument set because it can fail at any time. Also, the blood and body fluids that enter the crack will not be completely removed, no matter how vigorous the cleaning efforts."

(Based on my observations), the box lock area is sometimes forgotten to be cleaned. If it remains dirty, [over time] it can cause box lock fractures and the medical devices are damaged permanently (beyond repair). I usually see just brushing the external surface and not much detail—deep cleaning/brushing—is given to the box lock area.

It should be noted that fracturing of the box lock area can also be caused "from over-clamping or sterilizing with ratchets closed."

My brush of choice is a trumpet style brush. You could use other brushes that fit the area of the box lock, but I have found this trumpet brush fits nicely into most medical devices that have box locks, like hemostats. You can combine it with a nice box style brush for the other parts of the external surface and the serrations. Now you have a winning combination to reduce fractured box locks!

Also, work with your repair company. What I mean is, if you have fractured box lock(s), save some to show your staff. The repair person could even do an in-service for your staff on the issue of why the box lock fractured. Pictures help tell a great story.

Remember, you need friction and fluid to clean any medical device properly. Be sure to keep the medical device completely under the waterline when brushing according to the manufacturer's IFU. Proper brush selection and brushing will help any medical device reprocessing departments make their medical devices last longer and remain clean and functional. Like I always say, "Keep it Clean." HPN

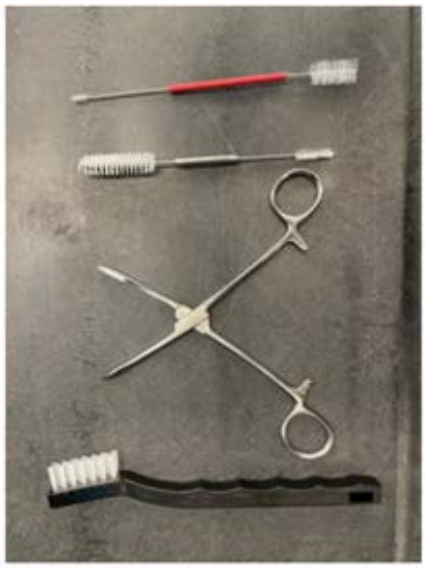

Figure 1.
Photo courtesy Stephen M. Kovach

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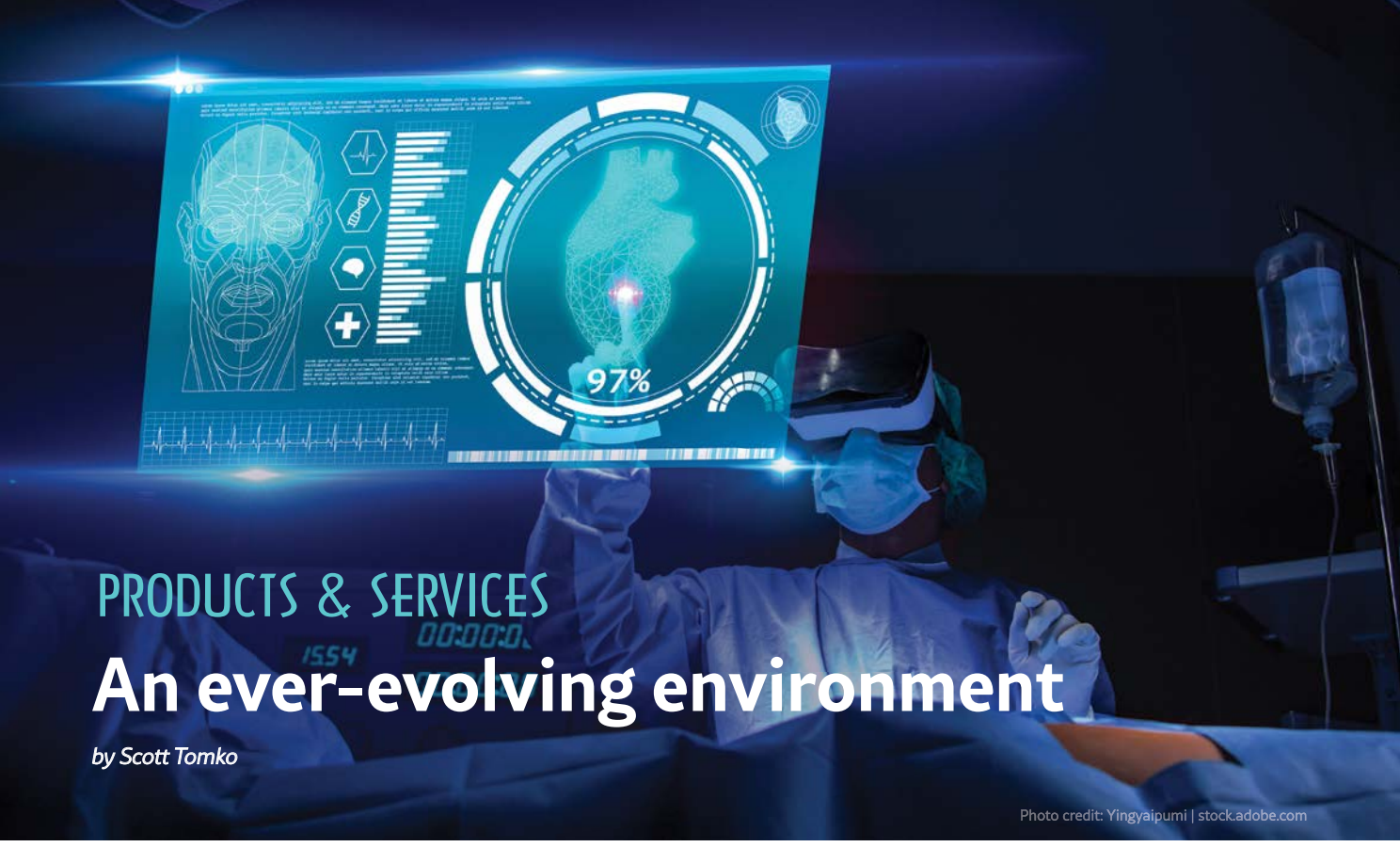

PRODUCTS & SERVICES

An ever-evolving environment

by Scott Tomko

Photo credit: Yingyaipumi | stock.adobe.com

The Operating Room is the center of it all. Compare it to the main stage. Or the cockpit. Or home plate. It is, rightly so, the most heavily focused upon environment within the medical arena.

In 2023, this center of operations is continually evolving, combining the latest devices and products from leading healthcare companies, all of whom are motivated by a similar desire to have their products play a crucial role within this vital scene.

However, it is the human element which still lays at the very core of successful operations in the OR, and it is important to lay emphasis on the modern OR as an evolution of the best means and methods in which many people, crammed into a tight space and on a tight schedule, can efficiently and safely perform surgical procedures. Thus, it is inherently critical to ensure the optimal performance and safety of a wide-ranging personnel in order to provide the best service to the patient.

In addition, as Ash Crowe, Senior Project Manager at St. Onge reminds us, a successful OR is a space that has been specifically optimized to fit the exact needs of the patient.

"One of the biggest advances of the modern OR is not what technology is used specifically, but how the technology and information about each patient is used. Between the EHR's information about the patient and, once truly captured, information about the equipment, supplies, and instruments typically used by the surgeon in cases, OR preparation can and will get smarter about making sure all the right items (and just the right items) are available for the surgery. This will lead to the ability to plan better and more predictively," stated Crowe.

Keep it clean

As ORs are a potential breeding ground for spreading infections, it is integral to keep the entire environment as clean as possible.

UltraViolet Devices, Inc (UVDI) is a company that specializes in disinfecting the OR, particularly through the application of UV technologies.

"Elective surgeries are returning post-pandemic, yet staffing shortages persist. For OR cleaning and surface disinfection, there is an increased need for speed – both between surgeries and for terminal disinfection at the end of the day," stated Kristine Steely, Vice President of Global Sales, UVDI.

"To perform, UV room disinfection devices should have independently verified ability to disinfect large Operating Rooms quickly to fit into – versus disrupt – workflow. The UVDI-360 Room Sanitizer is independently proven in 18 published hospital and lab studies and independently tested 99.99% inactivation of 35 microorganisms in only 5 minutes at 8 feet – and SARS-CoV-2 at 12 feet. Proven – and fast - efficacy at a 16-foot diameter is key to ensuring the modern Operating Room keeps moving with extra surface protection."

Protect the robot

According to Craig Ford, Founder of SterileBits, "Our focus is on improving products/processes that have been around for a long time. For example, robotic surgery has been in existence for decades and sterilizing the instruments was accomplished by placing multiple instruments into one sterilizable tray. But with the limited use/sterilization cycles imposed by manufacturers on their disposable instruments, the practice has evolved into peel packing single instruments instead.

Every sterilization cycle of a limited use instrument has a monetary value and we

SterileBits Robotic Arm Instrument Protector

saw an opportunity to protect that value. Our new Robotic Arm Instrument Protector protects the instrument during sterilization, storage, transport and delivery onto the sterile field. Our product is like an insurance policy against loss; the loss of a valuable/quantifiable use, or the loss of the instrument itself due to damage. We feel our contribution to robotic surgery plays an important part to enhancing patient care."

Positioning is key

Safely and efficiently moving patients in the OR is critical to patient health, not to mention vital to the successful manipulation of all processes involved in a surgery. Companies such as D. A. Surgical and HoverTech International make it their chief business to ensure that patients are moved about and positioned in the most effective way possible.

D. A. Surgical's new TrenGuard Dynamic Patient Support Frame uniquely enables OR staff to prevent slides in the Trendelenburg position when using air-assisted transfer (and other under-body devices like those used for warming/cooling).

An enhancement of the TrenGuard Trendelenburg Patient Restraint, this dynamic frame allows 4-way movement of the positioning device, simplifying patient repositioning in conjunction with under-body devices.

"When locked into place, the TrenGuard frame together with the patented TrenGuard trapezius bolster, prevent patient sliding in steep Trendelenburg without the use of shoulder braces or chest straps – protecting patients up to 450 pounds from positioning-related post-operative pain or injury," stated Dan Allen, President of D. A. Surgical.

D. A. Surgical TrenGuard

HoverTech HoverMatt T-burg

Designed to improve OR efficiencies, TrenGuard is quick and easy to use, reduces repositioning time, improves OR throughput, is competitively priced, requires less storage space, and contributes less waste than commonly used alternatives.

Shosha Beal, MSN, RN, CNOR is Clinical Education Specialist at HoverTech International.

"Patient positioning in the OR must be precise to prevent patient injuries. The use of modern positioning devices like the HoverMatt T-burg (Trendelenburg Patient Stabilization & Air Transfer Mattress) allow the OR team to reposition an unconscious patient safely with the use of air. The Hovermatt T-burg can be used to place a patient close to the anesthesia care team during induction and then with the use of air, reposition the patient for the surgical procedure.

The use of air assisted devices such as the HoverMatt T-burg provides the patient with dignity in a stressful time. A surgical procedure causes many stressors for a patient- they are cold, hungry and stressed about their surgical procedure. The use of a HoverMatt T-burg allows the patient to be moved with minimal assistance from the patient stretcher onto the OR table. At the end of the procedure the surgical team can transfer the patient onto the stretcher to be moved to the recovery area. Air-assisted devices eliminates the use of a transfer board which can be uncomfortable to a patient after a surgical procedure. It also eliminates the risk of pulling and shearing injuries to the patient."

Keep it cool

It is important to highlight the fact that the OR is a high-stress, fast-paced environment, which has the potential to be a source of clinician burnout and injury. In response to this, Cardinal Health partnered with an OR clinician to create the CoolSource Cooling System, which can help eliminate the distraction of heat stress and give OR teams more comfort and freedom.

According to Kendra Strother, Director, U.S. Product Marketing, "Efficiency and safety are paramount in the OR. Cardinal Health brought to market the CoolSource Cooling System that can help eliminate the distraction of heat stress and give OR teams more comfort and freedom."

In addition, Cardinal Health continues to set market trends in terms of designing and developing surgical gloves.

Cardinal Health Protexis PI Blue underglove paired with Protexis PI Textured surgical glove

Strother continued, "As a market leader in synthetic gloves, made with polyisoprene and neoprene, we continue to educate clinicians on the best demonstrated practice of double-gloving to greatly reduce awareness time and risks associated with sharps injuries. Our Protexis PI Blue underglove with NEU-THERA paired with our Protexis PI Textured surgical glove, balances tactile sensitivity with protection, offering an enhanced grip and lessened hand fatigue."

It's all about the space

The effective use of space within the OR could not be of more importance to the successful operations that go on within it, especially considering the large numbers of people who all have specific and essential duties to complete in a finite amount of time.

Tom Hillebrand, Vice President of Sales and Marketing of Pedigo, USA, spoke of how his company's solutions aim to make best use of the available space within the OR.

"Pedigo Products offers an innovative solution to help hospitals minimize their OR costs with our adjustable two-tier back table, known as the Pedigo Space Station, and our custom-fitted drape. The two-tier table is used in more than 10,000 ORs for all surgical cases, though great benefits are seen in large surgical cases like orthopedics and neurosurgery. It helps with these cost diminishing benefits, such as:

- Reduces OR turnover time by at least 6 minutes
- Increases instrument visibility and reduces staff movement in the OR
- Standardizes the draping system and eliminates the need for double draping

Pedigo's Space Station and disposable drape are a standalone system that provides ORs with the same capabilities that two back tables do using double draping, but in less setup time, lower cost and a number of other notable benefits. "

Pedigo Space Station

The 'cart' of success

Capsa Healthcare and Metro are two companies that have dedicated themselves to the advancement of medical carts utilized in an OR environment.

Capsa Healthcare's Tryten monitor and tablet carts and Avalo medical carts are designed to provide medical professionals convenience, flexibility, and ease of use in the operating room.

"Tryten carts offer mobility, with a small, sturdy base requiring minimal floor space. The modular construction and variety of accessories and peripherals make Tryten carts suitable for various medical devices, including scopes, ultrasounds, vital sign monitors, and secondary monitors. The same cart can be used for telehealth services when consultation or observation is required. This flexibility allows surgeons to incorporate multiple devices into the OR without added clutter," stated Ben Stewart, Director of Marketing, Capsa Healthcare.

Capsa Avalo medical cart

"Avalo medical carts are constructed of HDPE for durability and easy cleaning. Their smooth, round edges eliminate sharp metal points that can catch and damage gloves or sensitive surgical equipment. Designed for flexibility, Avalo carts can be tailored to specific procedural needs including general anesthesia, difficult airway, or nerve block. Options for secure storage and tracking of meds and narcotics are available to ensure a safe OR environment," added Joe Grabowski, Channel Sales Manager, Capsa Healthcare.

Tryten monitor and tablet carts and Avalo medical carts are a valuable addition to any operating room, optimizing

workflow and creating a streamlined environment for medical professionals.

Metro, a company that specializes in developing a wide variety of carts for the healthcare environment, recently launched their latest line of carts, CaseVue, which are designed to enhance productivity in the modern operating room.

According to Dave Salus, the Metro HC manager, "CaseVue features a flag system that helps staff save valuable time by distinguishing between carts that are in need of a supply, ready for the case, or ready for return. For larger carts that support more invasive cases, CaseVue offers easy rolling casters along with 5th wheel steering, wide grip handles, and a height-adjustable handle; all of these features help to reduce the amount of effort exerted while moving and controlling these cart."

5th wheel actuation is very intuitive, allowing OR staff to quickly and easily toggle between transport control and positioning control of the cart.

The range in sizes of the CaseVue carts also provide an invaluable tool in the OR. Whereas the short CaseVue's worksurface can negate the need for a back table, the taller CaseVue cart can offer similar storage capacity but occupy less floor space.

To help maintain cleanliness standards and the CaseVue cart line is designed to make the most common touchpoint as clean as possible. The cool-touch corner handles are embedded with Microban antimicrobial protection to keep the handles cleaner between cleaning.

Metro CaseVue medical carts

A safe cut

In terms of ensuring safety, it is important to remember the proper and careful usage of often-used tools used within the OR, such as scalpels.

Sam Kumar is the Founder and Chief Executive Officer of MYCO Medical.

"MYCO Medical offers the Qlicksmart range of single-handed scalpel blade removers which are a necessary addition to all operating rooms to ensure OSHA compliance. They were developed by two Australian clinicians who recognized the need for an Engineering Control which would prevent scalpel injuries in ORs.

The Qlicksmart range of sterile scalpel blade removers were designed to meet the needs of OR personnel and enhance safety for surgical and downstream staff. These safety-engineered devices utilize patented technology for safe and efficient sharps removal, containment, counting, and disposal.

For use outside the OR, MYCO Medical offers both the RELI-CUT retractable safety scalpel and the REDI-CUT sheathed disposable safety scalpels. Both designs offer a final lock for added safety." HPN

Myco Medical Qlicksmart safety family

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healthcaresolutions-us.fujifilm.com

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VALUE. DELIVERED.

What delivers the "Value" in Value Analysis?

by Karen Conway, Vice President, Healthcare Value, GHX

Value analysis is not new; the concept has been around since World War II, when some General Electric engineers were forced to find alternatives for materials that they could no longer source. In the process, they discovered substitute products that were often of better quality and/or lowered total costs. The driver was necessity (not unlike what we faced during the pandemic), and the objectives have remained relatively the same through the years: sourcing and selecting products based on price and efficacy. But even that is starting to change.

In January, I had the opportunity to host an exploratory discussion on the broadening requirements for Value Analysis, as hospitals face increasing societal demands, such as the impact of products and purchasing decisions on health equity and the environment, among others. Joining me were three of the most forward-thinking professionals in our industry:

- Liz Eisenberg, RN, director of Clinical Value Analysis at Scripps Health and president of the Association of Value Analysis Professionals (AHVAP)
- Tom Lubotsky, Vice President, Supply Chain, Allina Health
- Mary Larsen, former Sustainability Director, Advocate Health and advisor, MindClick

The question I posed to all three of them (and to the audience) is whether Value Analysis professionals will need to expand the factors they consider, such as:

- The ability of a vendor to supply, including willingness to share information on potential disruptions and if products are produced domestically
- The environmental impact of products (including packaging, transportation, etc.)
- The availability of certified, diverse and local suppliers to support economic development in disadvantaged communities
- Whether a product has been produced by forced labor

See a larger list (although not exhaustive) of potential factors in the chart on this page.

Not surprisingly in the wake of the pandemic, nearly 90 percent of the audience said they already consider risk mitigation/ability to supply, while more than 56 percent want to know if a product is produced domestically. Mary Larsen was pleased to see that nearly half of the online audience was also including the environmental impact of products in their deliberations. Just as with transparency about supply continuity, Larsen said providers are dependent upon their vendors to share information on the embodied carbon resulting from the full product lifecycle of their products and what they are doing to reduce carbon emissions, chemicals of concern and other negative environmental impacts.

For Liz Eisenberg, it's important to get clinicians involved in these broader discussions. With the American Medical Association and more than 200 medical journals calling climate change a public heath emergency, clinicians can be important partners in meeting sustainability objectives.

The challenge she and the other panelists noted was how best to include an increasing number of factors in their analysis, and how much weight to give each. From our discussions, that depends on the overall objectives of the healthcare organization and the role of the products or services under consideration. While cost and efficacy will always be paramount, the ability to support an institution's journey to net zero carbon emissions or its efforts to support employment in locally distressed neighborhoods may shift a decision in favor of one product or vendor over another.

As Tom Lubotsky noted, what were once seemingly simple decisions, even about commodity products, are no longer, as you need to consider the role of a variety of factors at the system level. In his work to support Allina's population health mission, Lubotsky says it comes down to a question of what contributes to value and the ability to produce a unit of care at a lower overall cost. For him, there are lots of levers that can be pulled, from finding a domestic supplier, a product with a lower carbon footprint, or even changing how often products are ordered, thereby reducing the number of shipments, not to mention supply chain labor costs.

Larsen added that addressing these larger societal issues can also address the biggest immediate challenge facing most healthcare organizations, labor shortages. While it is more complex, by considering these critical issues – from the economic well-being of communities served to reducing the carbon footprint of healthcare operations – healthcare systems can boost employee morale, while attracting and retaining staff committed to delivering that cannot only be measured but also experienced.

All three panelists will join me again on May 11 at the GHX Summit in Chicago for a repeat of this panel discussion. Join us if you can. HPN

Current and increasing factors under consideration by value analysis and strategic sourcing professionals (sample list)

Acquisition Price	Efficacy Data	Clinical equivalent products
Alternative vendors for similar products	Current physician preference and utilization	Total cost of ownership
Vendor willingness to share data on ability to supply	Environmental impact of products	Vendor ability to mitigate upstream supply disruption risks
Vendors' upstream diverse spend	Availability of local, diverse sources	Where products are manufactured
Vendor's social commitment (diversity, equity, environment, etc.)	Assurance that no forced labor involved	Level of reimbursement

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