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HEALTHCARE PURCHASING NEWS

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Increased Temporal Scanner Hospital Use Increases Medicare Reimbursement

Temporal Artery Scanner Only Method Satisfying 100% of Patients in Overnight Hospital Stays Says Exergen Corporation

A new national survey was recently conducted to explore methods of thermometry used in hospitals, patients' thermometry preferences and a possible correlation between the way patients had their temperatures taken and satisfaction with their hospital experience. The survey indicates that findings among patients ages 65+ have strong implications for Medicare reimbursement and hospital reputation. The survey was conducted among adults who had spent one or more nights in the hospital over the past 24 months, and answers were based on their most recent stay.

A disproportionally large number of older patients are going to hospitals that use the Temporal*Scanner*. Patients ages 65+ reported that Temporal*Scanner* was the method used most frequently to take their temperature. Notably, 68% of that group said that they would recommend that hospital to family and friends.

"Today, virtually all (92%) adults who are 65 years of age or older are enrolled in Medicare," said Francesco Pompei, Ph.D., CEO of Exergen Corporation. "They have tremendous power in determining the outcomes of Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) surveys that link directly to Medicare reimbursement for the hospital. With more than two thirds of patients 65+ saying they would recommend the hospital which used the TemporalScanner, hospitals should take note and make sure they are listening to those individuals."

Patients reported a variety of methods hospitals used to take temperatures, but Temporal*Scanner* alone satisfied 100% of respondents of all ages. Every other method included individuals who were "not at all satisfied." No other method satisfied all the respondents.

"The 100% satisfaction with forehead thermometry (temporal artery thermometers) is not surprising, and it is significant," said Dr. Pompei. "The Temporal thermometer is preferred by medical professionals because its accuracy has been proven in more than 70 clinical studies. It's the patients' choice because it is noninvasive. Anything hospitals can do to improve the patient experience is crucial for the hospital to make a positive impression on the patient."

Of the 1,000 people surveyed, 23% had an overnight stay in the hospital within the past 24 months. Recall of how they had their temperature taken was very high, with 85% indicating that they recalled how it was taken.

"The fact that so many people remembered how their temperature was taken indicates that temperature taking has a great impact on them," added Dr. Pompei.

The online survey was fielded by Researchscape International from April 8 to 9, 2019 with 1,000 respondents and a modeled margin of error of +/- 4%. Results were weighted by age, gender, region, Hispanicity, ethnicity, and education.

Exergen manufactures and markets two series of the Temporal*Scanner* thermometer: a professional version for hospitals and clinics, and a Consumer Temporal*Scanner* version sold in major retailers nationwide. More than two billion temperatures are taken each year with Temporal*Scanners*. Used in thousands of hospitals and clinics across the country as well as in millions of homes, Temporal*Scanners* are the #1 preference of pediatricians, #1 preference of nurses and #1 selling retail thermometer.

The Exergen Temporal*Scanner's* accuracy is supported by more than 70 peer-reviewed published studies covering all ages from preterm infants to geriatrics and care areas from hospitals to homes.

Dr. Francesco Pompei is founder and CEO of Exergen Corporation, and holds nearly 100 patents in non-invasive thermometry for medical and industrial applications. Earning BS and MS degrees from MIT, and SM and PhD degrees from Harvard, Pompei also served as Research Scholar in the Department of Physics at Harvard in cancer research for 15 years.

Exergen Corporation
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For more information, please call 617-923-9900 x6234, email: medical@exergen.com, or visit: www.exergen.com

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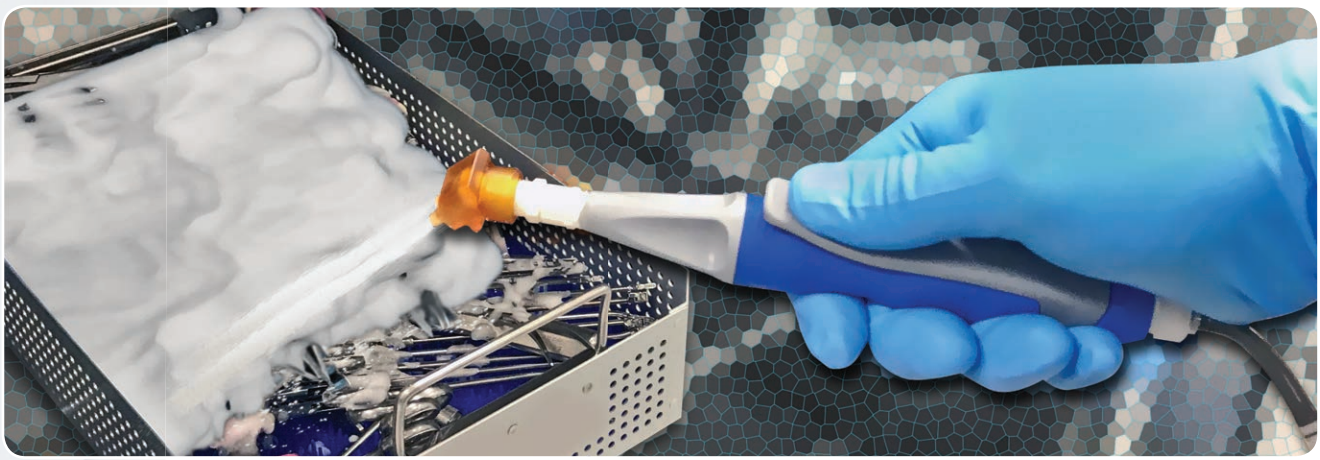

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Reel-to-Real Life

In the 2014-2018 television series, "The Last Ship" (based on William Brinkley's 1988 novel of the same name), some type of global viral pandemic dubbed the "red flu" wipes out a significant portion of the world's population. As commanding officer of the Naval destroyer U.S.S. Nathan James, Capt. Tom Chandler (played by actor Eric Dane, a k a Dr. McSteamy from "Grey's Anatomy") leads his intrepid crew around the oceans and seaways as they develop and deliver a cure.

By the fifth and final season, now Admiral Chandler had defeated and deposed several despots in the New World Order as well as the emergence of man-made viral offshoots.

For the last 20 years we seem to have learned enough about virulent pathogens and epi/pandemics that Hollywood can conjure up fictional drills (e.g., "The Last Ship," "Contagion," "Outbreak" and "Pandemic," perhaps inspired by the granddaddy of them all, the late Michael Crichton's "The Andromeda Strain") for Washington to mine for tips, tools and tricks.

With COVID-19 as the branded coronavirus and the Sixth Man (lame basketball reference against the backdrop of the onset of March Madness) to follow the Big 5 of the 21st century so far (SARS in 2003, H1N1 influenza "swine flu" in 2009, H5N1 and H7N9 "bird flu" siblings, MERS and Ebola), we still have miles to go while we bleet.

Overall, the response to COVID-19 by "authorities" has been, shall we say, curious. Nations scurrying to track and trace victims; regulators and researchers fumbling over who to test where, when and why; media outlets showing video of hazmat-suited drones spraying public areas with disinfectant as people milled about; the unwashed masses hording masks and hand sanitizers; the Surgeon General tweeting in exasperation, "Seriously people - STOP BUYING MASKS!"

Back in the 20th century you could argue with some logic that you couldn't make this stuff up.

But amid the seemingly endless verbal and visual warnings about hand-washing, covering your mouth when you cough or sneeze, not touching your face, etc., have we not already become desensitized before we become sanitized?

In today's fast-paced society where we over-promise capabilities, over-extend responsibilities and tasks and over-tax our psyches, it's hard to overlay regimented personal discipline on impulse planning. Honestly, you don't realize how many times you touch your face in a given day. Or how many times you're rushing somewhere and touch a doorknob, your mobile phone or a keyboard – all havens of not-yet dormant COVID-19 particles just looking for a new living host on which to land and breed.

Unfortunately, the world of "WALL-E" where humans drape themselves in electronic-media-equipped floating bubble chairs is not realistic because those citizens started succumbing to obesity and osteoporosis. Slathering ourselves with hand sanitizer like we apply suntan lotion and wrapping ourselves in airbag packaging seems perpetually inconvenient and uncomfortable.

Is there no way out (1987 film reference for you cinephiles) from stocking up and staying in?

Save for "Fantastic Voyage" and "Ant-Man," the microbes regularly appear to win. Case in point: "The War of the Worlds." One wonders how these respiratory viruses would fare in Aquaman's undersea kingdom?

To keep you on your toes, check out a list of "mythbuster" items issued by the World Health Organization back in February: https://www.hpnonline.com/infection-prevention/article/21125594/who-publishes-some-mythbusters-for-coronavirus

So what do we do? Stay calm. Slow down. Modify behaviors. Maintain awareness. Increase education. Encourage others. These six steps represent our Sixth Sense, our Six Degrees of Separation from the sixth viral outbreak this century. If we don't remain mindful and vigilant of these six we'll likely see too many of our fellow man deep-sixed.

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FAST STATS

COVID-19

has been characterized as a pandemic by the World Health Organization (WHO)

40%

increases are needed in the manufacturing rates of personal protective equipment to meet demand as a result of COVID-19

1.6 MILLION

goggles, 89 million masks and 76 million gloves are needed each month, so healthcare workers globally can treat patients with COVID-19

500 MILLION

is the number of N95 respirators that the Department of Health and Human Services plans to buy over the next 18 months for the Strategic National Stockpile

22,000

tests per day is the estimate of current U.S. testing capacity by The American Enterprise Institute

2.2

people (R_0) is the number one person can spread Covid-19 to as compared to Spanish Flu, which had an R-naught of 1.8. "R_0 or R naught" is a mathematical term that indicates how contagious an infectious disease is.

440 MILLION+

U.S. dollars have now been pledged to WHO's Strategic Preparedness and Response Plan

1 YEAR TO 1.5 YEARS

is the amount of time to produce a novel coronavirus vaccine

78%

of companies in China report that there is not enough staff to resume work

Sources include: WHO International, CDC, Reslinc, and The American Enterprise Institute.

NEWSWIRE

Studies analyze how long COVID-19 lives on surfaces

Two studies say that Coronavirus can persist on inanimate surfaces - they vary however, in how long they say the virus can live on metal, glass or plastic. A study in the *Journal of Hospital Infection* said it can live up to nine days on surfaces.

The second study published in the preprint database medRxiv, said the virus can remain viable in the air for up to three hours, on copper for up to four hours, on cardboard up to 24 hours and on plastic and stainless steel up to two to three days.

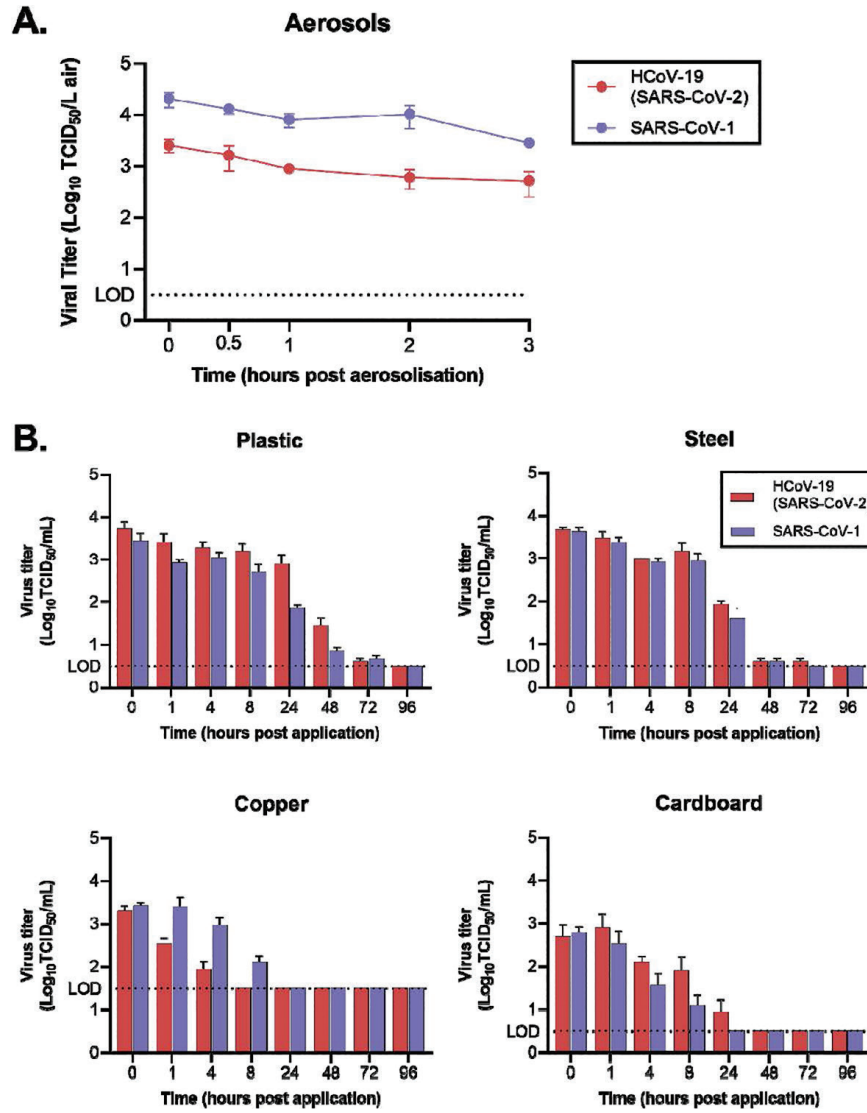
Both studies agreed that the virus can be efficiently inactivated by surface disinfection procedures with 62–71% ethanol, 0.5% hydrogen peroxide or 0.1% sodium hypochlorite within one minute.

In the medRxiv study, researchers analyzed the aerosol and surface stability of COVID-19 (HCoV-19) and compared it with SARS-CoV-1 (See the figure below), the most closely related human coronavirus. They evaluated the stability of COVID-19 and SARS-CoV-1 in aerosols and on different surfaces and estimated their decay rates using a Bayesian regression model.

The results indicate that the greater transmissibility observed for COVID-19 is unlikely to be due to greater environmental viability of this virus compared to SARS-CoV-1. Instead, there are a number of potential factors which could account for the epidemiological differences between the two viruses.

There have been early indications that individuals infected with COVID-19 may shed and transmit the virus while pre-symptomatic or asymptomatic. This reduces the efficacy of quarantine and contact tracing as control measures relative to SARS-CoV-1.

Other factors likely to play a role include the infectious dose required to establish an infection, the stability of virus in mucus, and environmental factors such as temperature and relative humidity.



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20%
of clinicians surveyed have experienced skin reactions from gloves[2]

* Made without chemical acclerators known to cause contact dermatitis: Dithiocarbamate (DTC), Diphenyl thiourea (DPTU), Diphenylguanidine (DPG), Zinc mercaptobenzothiazole (ZMBT), Thiurams.[1]

Find out more at www.molnlycke.us

References: **1.** Final Design Verification Report. Mölnlycke Health Care. Data on File. **2.** Global Surgeon and Nurse Survey Conducted by Sermo 2020. Data on File.

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NEWSWIRE

In ongoing experiments, they are studying virus viability in different matrices, such as nasal secretion, sputum and fecal matter, and while varying environmental conditions, such as temperature and relative humidity.

The epidemiology of SARS-CoV-1 was dominated by nosocomial transmission and SARS-CoV was detected on variety of surfaces and objects in healthcare settings. COVID-19 transmission is also occurring in hospital settings, with over 3,000 reported cases of hospital-acquired infections.

These cases highlight the vulnerability of healthcare settings for introduction and spread of COVID-19. However, in contrast to SARS-CoV-1, most secondary transmission has been reported outside healthcare settings and widespread transmission in the community is being seen in several settings, such as households, workplace and group gatherings.

A notable feature of SARS-CoV-1 was super-spreading events, in which a single infected individual was responsible for a large number of secondary cases, well above the average number denoted by the reproduction number R_0.

A tendency toward such super-spreading events has two important consequences for the epidemiology of emerging infections: it makes any given introduction of infection more likely to die out by chance, but when outbreaks do occur they are explosive and can overwhelm hospital and public health capacity. A number of hypothesized super-spreading events have been reported for COVID-19.

Given that SARS-CoV-1 super-spreading events were linked to aerosol and fomite transmission, finding that COVID-19 has viability in the environment comparable to that of SARS CoV-1 lends credence to the hypothesis that it too may be associated with super spreading.

Researchers found that the half-life of COVID-19 on cardboard is longer than the half-life of SARS-CoV-1. Taken together, the results indicate that aerosol and fomite transmission of COVID-19 are plausible, as the virus can remain viable in aerosols for multiple hours and on surfaces up to days.

The medRxiv research was supported by the Intramural Research Program of the National Institute of Allergy and Infectious Diseases, National Institutes of Health. JOL-S and AG were supported by the Defense Advanced Research Projects Agency, and JOL-S was supported by the U.S. National Science Foundation and the Strategic Environmental Research and Development Program of the U.S. Department of Defense. Study link https://www.medrxiv.org/content/10.1101/2020.03.09.20033217v2

AHRMM recommendations on COVID-19 for healthcare supply chain

The American Hospital Association continues to report on the novel coronavirus (COVID-19) and monitor updates from the Centers for Disease Control and Prevention (CDC) and World Health Organization (WHO). First identified in Wuhan, China, in December 2019, the virus has spread globally with more than 6,000 associated deaths.

AHRMM is engaged with numerous healthcare leaders, associations, and regulatory agencies in an effort to keep their members up-to-date on the latest activities surrounding COVID-19. They are working very closely with Strategic Marketplace Initiative (SMI) and Health Industry Distributors Association (HIDA) as well as AHA professional membership groups to support healthcare supply chain's preparation and response to COVID-19. A few items to note in light of this public health concern:

- Blood supplies were tight prior to the outbreak. Supply chain professionals should work closely with their clinical and laboratory staff in the conservation and management of blood products post outbreak.
- Review and implement CDC recommended guidance for the extended use and limited reuse of N95 filtering face piece respirators in healthcare settings.
- Strategic National Stockpile is the nation's largest supply of potentially life-saving pharmaceuticals and medical supplies for use in a public health emergency severe enough to cause local supplies to run out. For further questions or information about the Strategic National Stockpile (SNS), email sns.ops@cdc.gov.
- Those who also oversee environmental services should review the Association for the Health Care Environment's (AHE) COVID-19 advisory.
- Review the EPA's approved list of disinfectants that meet EPA's criteria for use against SARS-CoV-2, the cause of COVID-19.

Only through ongoing collaboration and communication efforts with suppliers and other resources, understanding product shortages and allocations, and identifying and implementing conservation measures can the industry hope to minimize supply disruptions and ensure uninterrupted patient care.

AHRMM Connect (http://connect.ahrmm.org/home, online member-only community) is the ideal place to pose questions or update other healthcare supply chain professionals on how an organization is handling this threat. HPN

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SPECIAL FOCUS

Throwing darts at the art of carts

What's needed: More charts, parts or smarts?

by Rick Dana Barlow

One of the hallmarks of stock car racing during the days of yore – way back in the mid-20th century – was a simple premise: "Race on Sunday – Sell on Monday." Another version was "what wins on Sunday sells on Monday."

The idea behind the mantras was simple. When Lee Petty won the inaugural Daytona 500 in 1959, driving his No. 42 Oldsmobile Super 88, fans the next day could storm the Oldsmobile dealerships to pick out a version of the same car Petty drove so well. In short, because cars were stock they largely were commodities.

Some affix that classification to mobile and stationary carts used for storing products – be they exchange carts, PAR carts, open and closed automated storage cabinets or any number of clinically dedicated storage vehicles.

Clinicians and administrators readily can take for granted these fundamental tools used for storage and tracking. Are they akin to kitchen cabinets (differentiated by interior design preferences) or mobile tool cabinets in mechanics' and pit crew garages (differentiated by access convenience and utility)?

In the high-demand, high-traffic areas of the hospital, not unlike that of a pit crew garage during the big race, access convenience to product and ease of utility remain paramount – certainly when clinicians need something in a pinch or an emergency.

How do you engender respect for the skeleton of a clinical supply chain operation? How might you improve on something so pivotal to patient care delivery? Add electronics (including waist belt-worn/pocket sensors?) for remote control mobility? Install configurable pull-out shelves for convenient loading? Larger cubbies and spaces? More custom-configurable options? Corrosion-protection/rust-proofing? Hydraulics? Hot Wheels-style casters?

These may be viable options to consider as you contemplate the vroomy goodness of carts available now as well as how you might "resto-mod" or redesign any useful element of your preferred cart for the future.

What do customers want?

To generate sales and success product manufacturers, by and large, need to have their fingers on the pulse of customer demands – both current and potential with an eye to what's emerging.

For Claudia Tuttle, Marketing Manager, Accuride International, the overarching theme is obvious: "Future-proof design.

"Every generation of cart – or any piece of hardware for that matter – is more technologically complex and more informationally connected than the previous one," Tuttle noted. "Those attributes mean greater cost and, thus, greater investment from manufacturer and customer alike. A next-generation medical cart must have a forward-thinking design to make the most of investments by manufacturer and customer alike."

Tuttle emphasizes four elements of preferred design:

1. Understands practicality
2. Maximizes versatility
3. Addresses security and accountability
4. And uses modular elements for quick future upgrades

"A couple of these sound obvious, but you would be surprised how many manufacturers overlook something like practicality," Tuttle observed. "For example, far too many medical carts have drawers that roll out as the carts are pushed around. That's just a nuisance, you might think. Sure, it's a nuisance [until] that opened drawer strikes a patient, or prescription narcotics fall out and into the hands of passersby. These things happen, but they don't have to. Simply using ball bearing slides with heavy-duty hold-in strength will keep compartments closed."

Claudia Russell

Just like internal house design, open concept might be the name of the game looking ahead, as well as flexibility, hinted Claudia Russell – Vice President, U.S. Marketing & Commercial Effectiveness, BD Medication Management Solutions.

"Historically, supply inventory management has consisted of secure cabinets that are very stationary," Russell indicated. "And while security is a critical attribute, as we look ahead to the mobile supply cart of the future, workflow flexibility and mobility may be of more importance.

"In general, our acute care facilities are looking for supply automation with more accessible, open storage solutions," she continued. "Supply inventory optimization solutions that are mobile can help maintain flexibility; particularly with items that may be low value, but still need to be managed to ultimately save money and allow caretakers to interact more with their patients. Mobility can be incredibly beneficial for the end user."

Scott Miller, Product Manager, Healthcare Carts, InterMetro Industries, homes in on flexibility.

Scott Miller

"Storage flexibility seems to be the most important attribute for cart storage today," Miller noted. "Customers want to pack as many supplies and equipment onto or into their cart as possible, so they need flexible and efficient storage options as well as the ability to accept multiple accessories so their cart is configured exactly the way they want."

Ease of use matters heavily, emphasizes Chris Stegura, Business Development Manager, Quantum Medical.

"Ease of use will always be at the forefront," he said. "That cart may take on a variety of forms based on the way it is being used and the functions it is being used for. Because of the variety of needs a hospital has, the perfect cart may exist five different ways and have five different looks because each area using the cart has different needs."

Automation and interoperability will offer desired convenience, too, according to Russell.

"In addition, layering in a Radiofrequency Identification (RFID) component to carts has the potential to provide additional convenience for clinicians and provides the opportunity for their workflow to remain in line with their normal care practices. This also allows information to be easily shared with the supply chain to ensure

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they're delivering the right product on time for the clinicians to best serve the patient," she said.

"This all connects to a popular trend in healthcare today: Interoperability," Russell noted. "Connecting solutions, including carts, can optimize effective supply chain management and help to achieve the goals of safe, efficient and cost-effective practices across the health system. Providers are interested in data-driven insights that help clinicians move between products more naturally, while improving workflows and providing alternate ways to capture patient, medication, billing and supply information, with the ultimate goal of producing the best outcomes for the patient."

But Joe Grabowski, Channel Manager, Capsa Healthcare, points to something more fundamental.


Joe Grabowski

"Reliability. It just needs to work how it is specified to work without failure," he said.

"At its foundation, storage carts have a simple job: Organize and store supplies, lock, and unlock," Grabowski continued. "When used, they need to open quickly to allow healthcare providers access to what they need to provide patient care. When not in use, secure the inventory of the cart.

"It doesn't matter what color the cart is, or if it features a breakaway seal lock, simple key lock or sophisticated electronic lock," he insisted. "If a clinician can't get the drawer open, we have failed the clinician and the patient. Healthcare providers have a tough job. Every minute they have to spend wrestling with a jammed drawer or finnicky lock is less time they have for care with their patients. This is even more important with Emergency Carts as those few seconds may be the difference between life and death. For storage carts, the old adage, 'you get what you pay for' holds very true. If you have ever pulled the drawer open on an inexpensive or basic cart, you can feel it. You know it's not going to last or be reliable down the road."

Customers hold fast to a simple equation, according to Ian Loper, Vice President, DSI: Time + organization = optimization.


Ian Loper

"Time is everything, and how a department saves time is better organization of the goods being used so the primary objective for a storage system or cart is optimizing a department's organization of supplies," Loper told *Healthcare Purchasing News*. "An organized cart will enable the staff to quickly find the supplies when needed. Time is money as the saying goes, but more importantly, time within a healthcare setting is enhanced patient care, and in some cases time savings could lead to saving lives. An organized cart will save the hospital space as well, which leads to better organization and work flow. When a cart is configured to be highly space efficient, the bi-product of space savings is quicker retrieval of supplies. Optimizing space equals elevated levels of organization, enhanced work flow, quicker retrieval and ultimately, better patient care."

The secret to optimization is space efficiency, according to Loper, which he links to a well-known video game.

"Think Tetris. When compartments within each linear shelf space is cubically maximized, whether it's a traditional wire cart with plastic bins or a high-density basket system, there will be no wasted space, which translates into more supplies within a smaller footprint, assuming the PAR levels have been paired down and are optimal to fulfill operations between replenishment," Loper explained.

He cites this example with a domino effect: "By consolidating two carts into one cart, space will be recovered. When space is recovered, the nursing staff will need to move their body less by walking less and search less, freeing up time. Instead of supplies being stored in two different rooms they can store the supplies in one room. Instead of supplies being stored in 2,000 square feet, the supplies can be consolidated into 1,000 square feet, reducing the walk time of covering the extra 1,000 square feet, which adds up on a per pick/put-away basis."


Len Hom

Len Hom, Director of Product Marketing, Point of Use, Omnicell Inc., stresses a key concern to his company based on customer preference.

"Safety is paramount to our customers," Hom noted. "The Omnicell XT Automated Dispensing Systems (ADS) feature metal locking drawers and single-dose dispensing for added medication safety and security. The XT systems' biometric authentication for entry also adds to the security of the automated dispensing systems, limiting access to medications based on the clinician's role within the health system. It's very important that medications are secure in an environment of drug shortages and diversion. Medications need to be available for proper patient medication therapy." Hom further noted that Omnicell no longer develops mobile carts for medication administration as its Savvy Mobile Medication System "became End of Life in 2017."

What to deliver?

Knowing or anticipating what customers want may be half the battle as manufacturers then have to respond with providing the right products or services to satisfy those demands. Yet that means being able to forecast ways to improve carts in the areas of design, functionality, structure or utility.

During this decade, cart manufacturer experts believe they have it covered.

"Without a doubt, I would make electronic access control (EAC) an essential part of cart design," assured Accuride's Tuttle. "Medical carts carry sensitive contents: Medications, medical records and special equipment. These carts must combine the security of those contents with quick accessibility so as not to stifle operations. EAC systems make this combination possible.

"In the case of [Accuride's] Senseon One, you have compact, yet robust, electronic locks integrated onto ball bearing slides," Tuttle continued. "These locks serve as part of a seamless and modular system built within the cart. A swipe or tap of an RFID card (or access tool of choice) means authorized staff can unlock and open a compartment quickly.

"But modern, cart-level EAC, like Senseon Plus, can go further than that. A system manager can determine who can access what with an audit trail for accountability and operational data insights. Cloud-based audit software underpin these systems, allowing managers to access that information anytime and from anywhere. A manager can even set up auto-relock to activate after a certain length of time to ensure a compartment is secured in case staff forget," Tuttle added.

Capsa Healthcare's Grabowski embraces secure interoperability as the utilitarian driving force.

"One improvement would be to align the use of technology to synchronize the medical support equipment across users and different areas of care," he said. "Make access easier, but with greater accountability. There are plenty of solutions out there to utilize individual user codes or proximity cards with basic reports of user access. They seem to work great right after implementation, but maintaining credentials and user groups becomes complicated, and access and/or reliability

may become an issue. Managing the user database becomes even more difficult with contract staff and frequent personnel changes. This can become a barrier to optimizing the proper application of storage carts. Features like this may also add to the IT department's workload."

Within the next decade carts most likely will have to "plug in" to the organization, according to Grabowski.

"As the Internet of Things continues to develop, storage carts will work in conjunction with the hospital security systems instead of a standalone department application," he predicted. "Facilities will only need to complete one New User Registration instead of multiple ones in multiple systems. When a new nurse starts, his or her ID Badge will have the right level of access for everything they need to perform their duties – access to computer applications, electronic health records, entry doors, automated medication dispensing cabinets and storage carts. Facilities can use this information to analyze and better understand movement and position of both personnel and capital assets in order to improve their workflows and level of patient care."

Quantum Medical's Stegura concurs.

"I think having all carts being WiFi-enabled to be able to integrate it with an inventory system throughout the hospital – not just in certain rooms – is where things are going to move towards, possibly sooner rather than later," he said.

One extension of flexibility is customizable modularity, observed InterMetro's Miller.

"A modular, customizable accessory mounting system with optional integrated power delivery would be an ideal improvement," he said. "This would allow customers to easily add standard as well as custom accessories, and also be able to power computers, scanners, monitors, diagnostic equipment, etc. without wires getting in the way."

Omnicell continually strives to advance the XT Series ADS technology to make it more patient-centric, Hom insists.

"In the next decade, enhanced data intelligence will be one of the most important functionality improvements for our customers – analytics that provide actionable insights to better understand medication usage and improve pharmacy supply chain management," Hom said. "The XT ADS is integrated with Omnicell's Intelligence solution, Omnicell One, to utilize the rich data that is generated from the automation.

"Today, all Omnicell systems together currently monitor over 400TB of data, and 75 million integration messages between systems, specific to medication management," he continued. "This is going to continue to grow and become more complex in the future. The ability to leverage all of this data to achieve greater insight into an organization's medication and clinical needs and to recommend and deliver [actionable] workflow improvements will greatly enhance the efficiency and safety of pharmacy operations."

Yet what if … carts didn't exist anymore? DSI's Loper takes possibilities to another level.

"In a perfect world scenario 10 years from now, all carts will be become obsolete," Loper posited. "Supplies will be immediately in the hands of the nurse seconds before the products are being used on the patient. Will this require magic? Is it a just-in-time (JIT) storage system? How we get there, I don't know. The products on the market today have not changed much over the course of the last decade, so I wouldn't forecast anything game-changing in the future.

"But what has changed are the processes," he continued. "Process and system methodologies, such as Lean, 2-bin Kanban, 5-S, Six Sigma, Tear-Free, Value Stream Analysis, are all process

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changes that Supply Chain, SPD and OR employees have adopted throughout their daily operations. Actual storage cart innovations, functionality and features have not evolved. There have been some incremental improvements and small innovations along the way with RFID, Scope Cabinets, High-Density Instrument Set Storage, etc., but nothing ground-breaking. Is this a market prime for innovation and disruption? Yes, but the market has yet to witness a needle-moving product that changes the way the game has been played for the previous 10 years [and] that doesn't mean history repeats itself in the world of healthcare storage equipment."

Short of magic, Loper doesn't believe "supply-on-demand" capabilities through 3-D printing of sterile and non-sterile products are feasible.

"I'm not sure of the benefits of 3-D printing, etc., but implementing Lean processes throughout a department is mission critical," he insisted. "Knowing the two biggest costs in a hospital are the employees and the inventory in the building, process changes like Lean and 2-bin Kanban can have a huge fundamental impact on a department's overall operating cost with the intent to help drive costs down. Efficient storage equipment is a part of the process improvement that plays into the equation. Efficient space-saving carts backed by any sort of brains and/or software technology behind it are very expensive, hard to justify the investment, and are barely in the proof-of-concept stage as we've noticed with RFID concepts. If the inventory is high in value, it's easier to justify the investment into a smart cart to help manage and secure the expensive inventory, but on a per-cart basis it's much more cost-effective to store less-expensive disposables in a less-expensive cart and vice versa." **HPN**

References

1. Work, Mitch. "Automating the OR supply chain at Memorial Hermann Healthcare System." *Healthcare financial management: journal of the Healthcare Financial Management Association* vol. 64,10 (2010): 100-4.

2. Roper, Kathy O., Arya Sedehi, and Baabak Ashuri. "A Cost-Benefit Case for RFID Implementation in Hospitals: Adapting to Industry Reform." *Facilities* 33, no. 5/6 (2015): 367–88. https://doi.org/10.1108/f-05-2013-0041.

Taking a peek at 'concept cart' ideas

Healthcare Purchasing News asked a handful of cart manufacturer executives to predict how carts for storage – by 2030 – might function, look and be used differently? Here's what the experts shared.

"Just as autonomy and automation are playing a bigger role in transportation, I see autonomy and automation going hand-in-hand with the medical carts of tomorrow. I see autonomous carts delivering medications to patients on a schedule and a pre-planned route within a facility. People will remain in a managerial role, programming those routes and which medications go to which patients.

"Electronic access control systems will be crucial. These systems will track sensitive contents, such as prescription narcotics, at every stage of their journey. That means you'll have a data trail from the first delivery of those contents to their storage, retrieval by staff, and administering to patients. This would result in automatic compliance with industry standards and requirements.

"The most routine and repetitive tasks become automated. What's great about this is that it frees up human personnel to focus on more personalized care for patients."

Claudia Tuttle, Accuride International

"By 2030, it is reasonable to believe that storage carts and automated dispensing cabinets will begin to blend into one unit. Healthcare systems are continually looking to cut costs and eliminate waste. Medications have a much higher unit cost, so it is easier to achieve return-on-investment by gaining better inventory control of meds first. As the technology continues to improve, it will make it easier to control the supplies as well. Carts will work more effectively than simply granting access via ID badge or biometric credentialing. They will record that a medication or supply item has been removed without users having to actively log each item that was taken. The carts may then automatically generate reports to help ensure PAR levels are maintained. Inventory checks, resupply and audits for use and billing will be wholly automated. With each cart reporting on its inventory, Supply Chain gains a greater understanding of the facility's overall inventory and how and where it is being used. This will allow adjustments to the needs of each cart in each unit, minimize the losses associated with expiring stock and remove unnecessary or less common items to lower overall cost.

"It's also possible we will see storage carts become more versatile [by] combining storage, computer, and medical devices. It is likely computer and medical devices will continue to become smaller and more efficient. There are situations today where you may see clinicians pushing a cart and pulling another device behind them. In the future, storage carts may offer more versatile power options and more versatile integration with medical devices and accessories, streamlining the care delivery process into one cart workstation.

"Looking forward to 2030, with an aging clinical staff, an aging Baby Boomer population and greater focus on workflows and asset management, it's feasible to foresee a move toward automated robotic storage carts that come to the clinical procedure on demand. This sounds fun, and technology is great but the human factor is what truly makes the difference in the care delivery process. Imagine that a better patient experience starts with the clinician entering the room without a storage cart or related technology and calmly engages the patient. Once the patient feels comfortable, the cart automatically moves into the room, and the patient care experience continues pleasantly, and without interruption."

Joe Grabowski, Capsa Healthcare

"Omnicell's XT ADS' are expanding beyond a single point solution. Omnicell is now developing and implementing a platform of products and services that support the autonomous pharmacy – a roadmap designed to develop a zero-error, fully-automated medication management infrastructure that integrates a comprehensive set of solutions – including automation, intelligence and expert services, powered by a cloud data platform – to support improved efficiency, regulatory compliance, and patient outcomes.

"As part of the larger autonomous pharmacy roadmap, Omnicell XT ADS' are often the data-rich automation foundation that helps clinicians deliver the safest, most efficient care possible. Clinicians will leverage data from the XT ADS solutions to optimize inventory, identify potential diversion, and gain access to actionable insights that enhance pharmacy performance."

Len Hom, Omnicell Inc.

"By 2030, miniaturized electronics can be more highly integrated into storage carts that would allow faster and more efficient inventory management, charge capture and security access measures. The importance of patient-caretaker interaction will drive more automation to reduce the administrative burden on caretakers."

Scott Miller, InterMetro Industries

"Carts are always going to evolve and change, but the basic form and function will stay close to where it is now, but have better bells and whistles. We work very closely with our customers to stay on top of the changing needs they have and have products that fill those needs. Lighter, stronger materials will emerge, but carts will adapt to the items/materials they are carrying and the functions they are being used for in a facility."

Chris Stegura, Quantum Medical

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How and why SPD, IP can work so well together

Janet Pate, JD, MHA, R.N., Director, Environment of Care, Infection Prevention, University of Alabama Health Services Foundation, knows and understands the synergy between Infection Prevention and Sterile Processing.

She's experienced it.

During the first 12 years of her employment when she served as Director of Employee Health, Safety, and Infection Prevention, SPD reported to the OR Director even as Pate developed a very close relationship with the SPD employees, she recalled.

"They were extremely knowledgeable and willing to work collaboratively with me," she said. "They also respected me and my position and what I could do, in turn, for them.

"In 2008, the decision was made by our facility to close the operating room and move it to the outpatient department at the hospital," Pate continued. "The ambulatory facility was so large that it was necessary to keep the SPD in the facility. My relationship with the SPD employees had grown so close that they went to administration and voiced that they wanted to report to me. I considered that an honor. The department was given to me, and I became their director. It was decided by my facility that there was no need to change my title [and] that it would fall under Infection Prevention.

"A few years later, with the changes in The Joint Commission standards and chapter titles, my title was changed to the Director of Employee Health and Environment of Care, which would encompass all of the responsibilities. Almost 10 years later, the departments and responsibilities became so large that the decision was made to combine some of my responsibilities with the hospital and assign a director for each service. I chose to keep the Environment of Care and Infection Prevention departments. Last summer, we combined the hospital Infection Prevention department with the ambulatory department. I chose to keep the Environment of Care and Safety responsibilities. I remain at the organization and I am still very involved with the IP functions because IP and EOC are so tightly woven."

Pate continues to value her professional relationship with SPD.

"The opportunity to work with SPD and IP allowed me to learn so much about the regulatory standards related to both departments and enabled me to lead the departments to meet the standards," she said. "During my responsibilities at that time, we received no IP or SPD recommendations from TJC or CMS when we were surveyed, and the SPD department was highly praised by the surveyors. I could give you several positive examples from this experience. Many times I don't think the leaders of IP and SPD really understand how valuable this relationship can be."

INFECTION PREVENTION

IP + SPD: Why shouldn't we mark the twain?

Forming a united front against bacteria, viruses, infections makes so much sense

by Rick Dana Barlow

Whether the healthcare industry wants to admit it, regardless of likability or education and training, sterile processing is not about supply chain – although one could argue successfully it can be a service tethered to that department via the org chart.

Unfortunately, it's also not even about the operating room – although it can be a grafted-in surgical service with a similar tether to that department via the org chart.

Sterile processing, above all else, technically concentrates on one thing – or maybe something like a coin with two similar sides – infection control and prevention.

And yet, of the three areas mentioned above, no two other than the last two remain the farthest apart. So what can and should be done to remedy that? And how much logical sense – realistically – does it make for healthcare organizations to solidify this bond through a dedicated department as posited as late as two years ago in "Infection Prevention's C-Suite-spot?" Click here for the mind-tingling concept: https://www.hpnonline.com/sterile-processing/article/13001147/infection-preventions-csuite-spot.

In examining the professional relationships between Infection Preventionists and SPD and in exploring how to bring the two areas closer together for the benefit of clinical operations and overall patient care quality, experts admit and acknowledge the inherent value of the two working just short of symbiotically. But they also spy some of the needless challenges and hurdles complicating the journey.

Balancing the load

Infection prevention (IP) professionals simply are pulled in so many different directions that they can be overwhelmed with the task of infection prevention for an entire organization, which may include many departments and a plethora of off-site locations overseen within a system, according to Cheron Rojo, AA, CRCST, CIS, CER, CFER, CHL, Clinical Educator Coordinator, SPD, Healthmark Industries.

There is typically one IP to one hospital, but there has been a shift to have more IPs within an organization because of the high volume of managing data and attention needed for each department, Rojo observed. With such an expansive reach, IPs tend to "shy away from SPD" because IPs may not be as educated or understanding of SPD's processes and practices, she added.

Rojo also alludes to time as an inherent challenge for IP that blocks progress between IP and SPD professionals working together. "The best way to start is scheduling an appointment with IP for a good amount of time to provide a tour of your department, educate the IP on the process of SPD, and allot time to sit down and discuss the issues you are faced with and how IP can help champion these issues," Rojo advised. "Scheduling continuous meetings either monthly or quarterly to discuss the progress of the issues currently pending [resolution], remaining issues not started, or new issues that have arisen in the department can be effective in keeping to your goals with IP."

Further, Rojo urges those facilities that provide SPD certification courses to invite IP pros to attend courses, familiarize themselves with chapters or even become certified themselves as they increase their education on the SPD area and its surrounding issues.

Janet Pate, JD, MHA, R.N., Director, Environment of Care, Infection Prevention, University of Alabama Health Services Foundation, promotes the value of IP and SPD working together but laments the lack of a connection.

Janet Pate

"Although there are many benefits from collaboration of infection preventionists and SPD professionals, often this relationship is never cultivated," Pate told *HPN*. "Perhaps there is a general lack of understanding from both departments of how beneficial collaboration would be if it indeed did occur. Often, especially in large institutions,

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the IPs and the SPD professionals don't even know each other or they may serve on a committee or team with each other but don't have the opportunity to get to know each other on a personal or working relationship basis. The departments may be physically located in separate buildings or on the other side of the campus, hindering interactions between the two."

Pate frequently lectures on behalf of Ruhof Corp. as an educator in the areas of sterile processing and infection prevention.

"It is easy to become focused on individual departments and it is often forgotten that if the synergistic approach is utilized, it would be beneficial to meet the overall goals of effective cleaning and sterilization of instruments and scopes for the institution," she said.

Ed Gruhlke, Senior Professional Consultant, Professional Services Group, STERIS Corp., concurred that Infection Prevention's overarching view may take precedence and be more prevalent. "Both functions are focused on patient care and quality of care," he noted. "That said, more work could be done by IP and SPD staff to educate each other on how they achieve that goal. IP focuses broadly on the whole healthcare facility. The SPD is one element of their work.


Ed Gruhlke

Friction may exist between the two departments as well, observed Larry Slattery, Senior Consultant, Professional Services Group, STERIS Corp.


Larry Slattery

"The culture in many healthcare systems has promoted an environment of animosity between Infection Control and Sterile Processing," he indicated. "For reasons unknown there seems to be a prevailing belief that Infection Control and Sterile Processing have inconsistent motives and different end goals.

"Healthcare systems often view Infection Control and Sterile Processing as separate entities with different responsibilities," Slattery continued. "We know that strong collaboration, coordination and communication will help drive performance. Training and education is key – for both departments. Staff will better understand the 'big picture' if they understand how different departments can impact the same outcome or goal."

"Often, Infection Control is not entirely familiar with the actual processing steps of the instrumentation," Slattery continued. "They are aware of the requirements of the process outcomes and conditions within the physical processing area. Demonstration of the processes and understanding the requirements of the staff helps [them] to better understand the bigger picture."

Administrative order can complicate communication and influence, according to Alice Brewer, MPH, CIC, Director, Clinical Affairs, Tru-D. But Brewer can see the mutual benefits when both collaborate in some way.

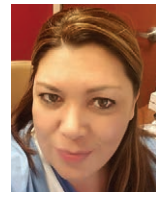

Alice Brewer

"Infection Prevention and Sterile Processing don't traditionally work together because they usually report under different departments," Brewer noted. "IP is usually under Nursing or Quality, and SPD is almost always under Surgical Services. IP rarely gets involved in what SPD does for the hospital, with the exception of checking that their processes around validation are appropriate and ready for regulatory inspection."

Brewer acknowledges that increased collaboration between departments in hospitals would allow for more partnerships between IP and SPD, but she encouraged IP to be partnering with every department in the hospital to ensure a safe environment and high quality of patient care.

Battling for priority

Anita Cassell, Director, Sterile Processing, Robert Wood Johnson University Hospital, questions whether access to appropriate resources may be slowing progress between the two areas working together. This can create a knowledge barrier about SPD functions that goes beyond simple awareness, she indicated. "IP and [the] C-suite know what SPD does but [may] not fully understand the complexity of our area," she noted.


Anita Cassell

Cassell also believes a resource gap persists between nursing and support services in a hospital, which may play a key role. "I don't necessarily think all SPDs are shortchanged on resources due to being a support unit, but I do believe in many hospitals resources are more focused on nursing units with direct patient care," she added.

IP may not fully understand SPD because they've rarely or never interacted with them or even stepped into the department, according to Tony Thurmond, CRCST, CIS, CHL, Manager, Central Services, The Christ Hospital, and 2019-2020 IAHCSMM President. He quickly posits that it's not necessarily their intent. "It is just not in their daily or weekly focus to think about us," he clarified. "Basically, they don't lie awake at night wondering if everything in SPD is going good as they may with a high rate of flu patients in the hospital."


Tony Thurmond

At facilities where he has worked, IP may have access to generated reports that show sterilization loads, particularly failed loads and the pass/fail rate of sterilizer loads, but "unless there is an issue or a finding there is no further discussion," he said.

Thurmond notices the difference and sees the value when IP and SPD actually do work together.

"I will say that if there is an issue or a surgical patient develops a [surgical site infection], IP is contacted, and we participate by tracking the trays used, and tracking the sterilization process of those trays to assure they were sterilized properly," Thurmond said. "We have worked together with IP, OR and surgeons to track those cases and seek to identify commonalities [to determine] a root cause. We were an integral part of that effort. I truly feel a big part of [the] team when called upon."

Marcia Frieze, CEO, Case Medical, recognizes the broader and wider scope and span of IP pros and cuts them some slack. She lauds SPD pros for being dedicated to their complex specialty.


Marcia Frieze

"The Infection Prevention function has such a broad mandate — preventing infections of all types across all environments within the healthcare facility or multiple facilities — that their attention is naturally divided," Frieze told *Healthcare Purchasing News*. "On the other hand, the Sterile Processing department is a group of specialists immersed in a complex and dynamic system day in and day out. The difficulty is aligning priorities and the timing to come together and collaborate.

"Ideally, the departments would be aligned by a common reporting structure with aligned objectives and improvement projects," Frieze continued. "From a practical standpoint, a reliable and sustainable first step is to establish a formal cadence of communication between the two departments. Such an open channel will provide two major benefits: It will serve as an early warning system for potential issues and it is an opportunity to identify intersecting initiatives where working together may save effort or enhance outcomes, helping both departments meet their goals."

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Can IP, SPD work together? Yes, they can

Healthcare Purchasing News asked Infection Prevention and Sterile Processing experts to share examples of professional working relationships that were successful.

"I have had numerous successful collaborative relationships with IP professionals in my career and have continued relationships with them still. There have been a lot of success stories with IP professionals as SPD champions.

"One that stands out is an SPD department given an additional opportunity [to handle] patient care equipment. At the time there were only 3 FTEs, and those FTEs had to clean, disinfect, and distribute patient care equipment to the whole facility, a 300-bed children's hospital in California.

"We knew that the IFUs (instructions for use) were not being followed or updated, some patient care equipment was outdated and needed to be replaced, and there were not enough FTEs to meet the demand of requests and turnarounds. This was a daunting task that the SPD leadership could not take on by themselves.

"We reached out to our IP professionals at our facility, scheduled tours and meetings and developed a task force. IP helped with IFUs that were vague, collaborated on best practice and helped replace outdated equipment and expand the equipment inventory, finding the funds to do so, as well as justifying [the need] for additional FTEs to meet demand.

"I would like to recognize Melinda C. Kerns, R.N., CIC, CPN, Infection Preventionist, Integris Baptist Medical Center, for championing the above story, her dedication to patient safety and her ongoing support to the SPD professionals."

Cheron M Rojo, Healthmark Industries

"In one hospital that was affiliated with a number of satellite surgery centers, the SPD manager discovered inconsistencies about how satellite locations were processing certain surgical items. The SPD manager engaged the Infection Control leader to collaborate on an assessment, understand current practices and design a program to ensure consistent care and handling of reprocessed items. Together the team implemented changes, including additional training for staff and centralizing certain responsibilities, bringing all reprocessing into alignment with IFUs, system policies and best practices."

Marcia Frieze, Case Medical

"Melissa G. Morgan, R.N., CIC, CSPDT, FAPIC, Senior System-wide Director for Infection Prevention & Sterile Processing for Moses H. Cone Health, was aware of gaps in terminal cleaning for the Sterile Processing Department. She presented a business case to executive leadership who approved the funds following a successful pilot.

Moses H. Cone purchased Tru-D following the trial and currently uses the device in Sterile Processing, ensuring one of the most contaminated areas of the hospital is as clean and germ-free as possible."

Alice Brewer, Tru-D

"I have a great relationship with our infection prevention team and it has definitely benefitted both sides. I remember when I was trying to push for moving to take apart kerrisons due to the difficulty in cleaning and could not get the final okay to move forward. A few months went by and I still could not get the surgeons to give final approval, so I reached out to our Infection Prevention team and explained the situation and showed pictures. They set up a meeting within a week and got it approved to move forward by discussing it from an infection standpoint. I could have taken offense to the fact that they didn't listen to me when I first stated it, but I realized that I did not have the same kind of relationship with the surgeons that the Infection Prevention team had. The end result was that we got to change out the kerrisons, which made it safer for our patients because they are easier to clean.

Another time I was asked to sterilize something that was a strange request and did not have supporting IFU. I informed the surgeon who did not understand why I could not do it and insisted on needing it. I reached out to our Infection Prevention team that explained it further to the surgeon as well as gave an alternative method on what could be done, so I felt this was a win-win situation for all involved."

Anita Cassell, Robert Wood Johnson University Hospital

"When we had our Infection Preventionists come to visit, we toured the whole department. There were questions about some structural designs in our decontamination room. It was identified that we had an inside wall that had gotten moist from our cart washer. It was starting to develop a mold. Together, we triggered the alarm to have the situation addressed immediately, and we replaced the wall and eliminated the chance for moisture to get there again. If not for the pull of the Infection Preventionists, it could have been a much longer process.

"We reached out to facilities that brought in a team to do air studies, walled off the area, and started the demo of the wall. Basically, it was identified as an emergency and it was addressed immediately. We have a great relationship with our IP team, and we feel the mutual respect. We feel they are more of a partner, and the partnership is mutually respected."

Tony Thurmond, The Christ Hospital

"As the Director of Infection Prevention in a large ambulatory facility, I quickly became aware that it was imperative that I develop a personal and working relationship with the SPD professionals. I was able to learn the challenges the department faced on a daily basis and learn the meticulous recordkeeping processes required for SPD. The SPD professionals were able to show me how they performed their job, and I was able to explain how important the way they performed was to our patients. After working together closely for 12 years, I ultimately became the Director of SPD, as well as the Director of Infection Prevention. The relationship became stronger, and a strong team was evident. If SPD was asked to perform cleaning, disinfection or sterilization that didn't meet standards, it was reported immediately to me, and I was able to go to the source and educate them on the proper guidelines. This prevented SPD from having to spend their valuable time on addressing these issues, and I was able to ensure the regulations were followed. I also had the authority to implement any needed measures. I have personally been able to see the benefits from a collaborative working relationship between SPD and Infection Prevention."

Janet Pate, University of Alabama Health Services Foundation

"Tray turnaround time from the OR perspective. Many times when a tray may be needed for various reasons – not enough inventory, planning not completed due to scheduling conflicts and so on – the expectation from the OR seems to be that SPD can receive the trays and completely reprocess [them] in a time frame that cannot be achieved. With the help from Infection Prevention, we were able to meet and present the facts using the instrument manufacturers' instructions for use (IFUs) along with other regulatory agency recommendations, AAMI and AORN. When presented, OR leadership had a much better understanding and [updated] expectations for the actual time using required standards to reprocess trays."

Ed Gruhlke, STERIS Corp.

"While working with a large teaching hospital on a two-year Process Improvement Project it became immediately evident that there was discord between the ORs, Sterile Processing and Infection Control. In order to generate a successful outcome it was imperative that the three groups be aligned in their goals. During an initial meeting with leadership from all three areas I stated that the foundation for success required a minimum of three strong pillars. Those were Infection Control, Sterile Processing and the ORs. The common primary goal, first and foremost, is patient safety. All of the leadership in the room agreed immediately; they shared that same primary goal of patient safety. Once we could agree on that, conversation turned and continued on how the different groups could support one another.

"This meeting, early in the Process Improvement effort, was a key moment in the ultimate success of the project as a whole. [Here] is an excerpt from a recent communication with the Infection Control Manager at the example hospital: 'I can tell you that Larry was a miracle worker while he was here, and even better, his changes have been maintained.'"

Larry Slattery, Senior Consultant, Professional Services Group, STERIS Corp.

Playing matchmaker

In any kind of nascent relationship or budding partnership, who makes the first move can make a difference, particularly with two groups immersed in the science of biology, chemistry, microbiology, bacteriology and virology. Should IP approach SPD or vice versa? Opinions remain mixed.

"SPD should spark the relationship with IP professionals since the IP professionals tend to shy away from the SPD department and may continue to avoid the relationship," insisted Healthmark's Rojo. "You will find the IP professionals are very willing to learn about the SPD arena and not only build a relationship with the SPD professional but also continue to maintain it as well."

Case Medical's Frieze maintains an optimistically open mind.

"Yes, yes, and yes some more," Frieze responded to the key question of approach. "SPD should approach Infection Prevention. Infection Prevention should approach SPD. And any and all healthcare executives should approach both departments the value of cross-function collaboration at the leadership support that they will be happy to provide. Leadership support is critical to any long-term initiative to help sustain and protect the time allocated for these activities."

Much depends on communication, according to Tru-D's Brewer who feels almost equally as sanguine.

"Hospitals vary on communication styles between sterile professing and infection prevention. The bottom line is that a two-way relationship is critical for success. In addition, the environmental services team should always feel valued," she noted.

Robert Wood Johnson University Hospital's Cassell encourages SPD to break the ice right away.

"Speaking for myself, I think if you do not have the connection already in your SPD it is important to reach out and connect," she said. "Sometimes it may be viewed as you didn't need help or support if you never brought it up or reached out. And again, people don't know what they don't know, so Infection Prevention may have never thought they were needed in your area. Now that SPD is more in the forefront of things with [The Joint Commission] and CMS it is finally being looked at by Infection Preventionists as a vital department."

STERIS' Gruhlke recommends any proposed partnership between the two areas should originate from the SPD leadership.

"IP has so many responsibilities throughout the hospital that they could easily overlook SPD," he said. "Also, developing the relationship will be beneficial to both areas in that when developing new policy and procedures, having everyone on board will only help in ensuring any required regulatory standards from both SPD and IP agencies are included."

Extending hands need not be mutually exclusive, according to STERIS' Slattery.

"Sterile Processing need not wait for others to make the first move toward reconciliation," he advised. "Nor should Infection Control. But things will move forward more quickly if someone takes that first step. So, regardless of the group you are in, make that first step. Infection Control and Sterile Processing are much stronger and more effective when allied than when contrary."

The Christ Hospital's Thurmond likens this issue to a scenario that may be familiar with some.

"The situation feels like the shy boy and the shy girl at a school dance," he observed. "Neither wants to make the first move, but when it happens, there is so much more to explore. It could be initiated by either party. I have invited our IP group to come and visit and spend a day or half of a day with us. They were more than willing, and it was an eye-opening experience for them. Although they interact with the whole facility, they refer to Sterile Processing as the professionals in sterilization and high-level disinfection and have relied upon us to help build processes and train departments who handle instrumentation.

"We have worked together to build policies and practices for clinics, floors and other areas of need," Thurmond continued. "While demonstrating the process of receiving, cleaning, inspecting and prepping a robotic instrument, they were amazed that our technicians knew each step and could explain the process and what to look for as possible patient safety issues. So, likewise, we have to be open to having an outsider coming into our department and offering suggestions based upon their knowledge. Another set of eyes is never a bad thing and can often give suggestions or areas of improvement."

UAB's Pate approaches it from the other side. "Infection Prevention should initiate a working relationship/partnership with SPD," she insisted. "The SPD professionals may not feel comfortable with initiating this relationship. Some of the Infection Preventionists may be viewed as upper-level management, and there may not be a comfort level with the SPD professionals to take on the responsibility for this relationship. It may be difficult to schedule a meeting, or they may not even know with whom to schedule the meeting. Compliance with infection prevention regulatory standards falls under the responsibility of the Infection Prevention department. The department should make an opportunity to collaborate with SPD. As they work together, setting goals and developing/implementing processes that will meet the standards, ultimately patient safety is increased."

Sharing the wealth

One of the benefits of an active, working partnership is that each side educates and learns from the other. SPD learns from IP; IP learns from SPD. From that mutual sharing, patient care quality theoretically should increase.

Specifically, how and what does either grow?

"SPD professionals can benefit from IP professionals' expertise in numerous areas of SPD," said Healthmark's Rojo. "One of them is soiled and clean transport where the IP professional can help with compliance of the end-user for pre-treatment of soiled instrumentation in the surgical department, in-house clinic and off-site clinics and nursing floors. IP professionals can benefit from the SPD expertise in the areas of sterilization, sterile storage and endoscopy processes if applicable in your SPD department."

Case Medical's Frieze concurs.

"The staff in SPD has experience with the hands-on processes critical to effective instrument reprocessing," she noted. "They also observe challenges with new employee training, process steps where staff are more prone to errors, workflow bottlenecks and inefficiencies, and so much more. They can be a source of quality control and risk identification to collaborate with the Infection Prevention group to source new equipment, redesign a workflow, or standardize a process to remove the opportunity for human error.

Tru-D's Brewer assigns SPD an important role that befits their responsibilities of cleaning, prepping, processing, storing and issuing medical/surgical supplies and equipment for patient care in patient rooms and operating rooms and can gain much knowledge from infection preventionists for enhanced strategies.

"Sterile processing is the first link in the infection prevention chain," she said. "Improperly or inadequately cleaned, disinfected and sterilized instruments can introduce pathogens into the operating room, increasing the risk of a patient getting a surgical-site infection (SSI)."

United front, voice

Robert Wood Johnson University's Cassell sees value in SPD and IP collaborating for a common cause.

"SPD can benefit from having the backing of Infection Preventionists when it comes to push back from the operating room or other units that may be wanting you to do something that you know is not quite right but keeps pushing back," she noted. "They can help with the regulatory aspect of processes and communicating that to surgeons and other hospital staff that also do not have knowledge of SPD's vital role."

That's why it's critical for SPD to build a relationship with IP so that either sees the other as experts in their areas. "Once the relationship is established they may now reach out to you for questions regarding surgical patients who have presented with an infection to discuss if loaner trays were used or any [immediate-use steam sterilization] on that particular case," Cassell continued. "They may even reach out when they are on the nursing units to get your expertise on storage of instruments or peel packs. Infection Preventionists can help be the voice you need if you feel no one is listening."

Cassell believes that managers and directors in all facilities should be raising awareness by holding educational forums, attending meetings and committees – especially Infection Prevention committee meetings, doing quality abstracts and newsletters and reporting out at monthly operating room committee meetings.

SPD and IP could collaborate in a number of key areas, according to The Christ Hospital's Thurmond, including policy writing, capital equipment planning, workflow design and an overall understanding of the effects their interactions have on patient safety.

UAB's Pate stresses that when IP and SPD collaborate, head knowledge translates to hands-on experiences.

"The Infection Preventionists have an extreme amount of knowledge related to bacteria, the chain of infection, ways to prevent the spread of infection and regulatory standards," she said. "Although they have this immense amount of knowledge, they may not have the personal 'hands-on' work experience and knowledge of the SPD processes of cleaning, disinfection and sterilization. Working with SPD, they could actually see how processing is done and be able to quickly identify how their expertise could be beneficial to the department."

But that's not all as the relationship broadens and deepens.

"In the last several years, regulatory agencies have trained their professionals in topics related to infection prevention, therefore, standard compliance is monitored much closer," Pate continued. "With outbreaks of infections and the spread of pathogens through cross contamination, hospitals and healthcare organizations have an increased awareness of the urgency for standard compliance. The SPD professionals could significantly increase their knowledge of the 'why' it is so important to follow the guidelines and standards, and the potential adverse outcomes if they are not followed. The Infection Preventionists could provide expertise and support to the SPD.

"The SPD professionals have excessive knowledge [involving] the processes and standards related to cleaning, disinfection and sterilization," Pate said. "Their knowledge and expertise in pre-cleaning and cleaning instruments is invaluable. SPD professionals are highly trained and may be certified in their jobs, and have extreme knowledge regarding recordkeeping and technical information with the equipment. They are familiar with new products and processes related to cleaning, disinfection, and sterilization."

Essentially, when each shares their expertise with the other, process effectiveness and compliance increases, according to Pate. HPN

FDA addresses shortages of surgical masks and gowns

The U.S. Food and Drug Administration (FDA) is aware of personal protective equipment (PPE) shortages and guidance for healthcare organizations in the wake of the COVID-19 pandemic in a FAQ on their website.

The supply chain for these devices will continue to be stressed if demand exceeds available supplies.The FDA has received information from healthcare organizations that some distributors have placed certain types of PPE on allocation, basing the quantity available to the healthcare organization on previous usage, not projected use. Increased use may exceed the available supply of PPE, resulting in shortages at some healthcare organizations.

The FDA recommends conservation strategies for use by healthcare organizations and personnel–categorized for a range of clinical needs and supply levels–intended to assist healthcare organizations in determining conservation procedures during this time period. The FDA's recommendations are intended to augment, and not intended to replace, specific controls and procedures developed by healthcare organizations.

Q. How can manufacturers of PPE who may be considering increasing availability of these products to the market engage with the FDA?

To help alleviate supply pressures, the FDA may consider expedited review of manufacturing site changes or premarket submissions–manufacturers of PPE (particularly surgical masks and surgical or isolation gowns) may contact FDA regarding plans to increase availability of these products to the U.S. market.

Q. Which gowns are FDA-cleared? Which surgical masks are FDA-cleared?

To identify FDA-cleared products, search the 510(k) Premarket Notification database using the product codes for gowns (FYA, FYB, FYC) and surgical masks (FXX, OUK, OXZ).

Q. Can we use expired gowns and surgical masks? Do they offer the protection needed?

These products were designed to serve as protective barriers and thus FDA believes they may still offer some protection even when they are used beyond the manufacturer's designated shelf life or expiration date. The user should visibly inspect the product prior to use and if there are concerns (such as degraded materials or visible tears) the product should be discarded. Expired products may be used for training and demonstration purposes where barrier protection is not needed.

Q. Can reusable cloth gowns be used in a shortage?

FDA- cleared or -approved reusable cloth gowns can be used. Adequate laundering can reduce the level of pathogen contamination to a negligible level and lower the overall risk of disease. The gown should be used at the barrier protection level indicated in the labeling. Coated or laminated fabrics should be checked to ensure they retain resistance to liquid and microbial penetration following decontamination, cleaning and/or sterilization.

https://www.fda.gov/medical-devices/personal-protective-equipment-infection-control/faqs-shortages-surgical-masks-and-gowns?

OPERATING ROOM

Keeping on the cutting edge

Successful surgical suite innovations take time, space, cost and use into consideration

by Kara Nadeau

Surgical suites are some of the most advanced areas of healthcare, with health systems and hospitals investing significant resources to support growing volumes of more advanced surgeries. In this article, *HPN* highlights the products, services and technologies shaping and upgrading patient care delivery in the operating room (OR) to make it safe, efficient and staff-friendly.

Surgical suite design

Building a new surgical suite, or renovating an existing one, can be a complex and costly endeavor. Every choice – from the layout of the space to the medical equipment, lighting and connectivity – has an impact on patient care, workflow, clinical satisfaction and safety.

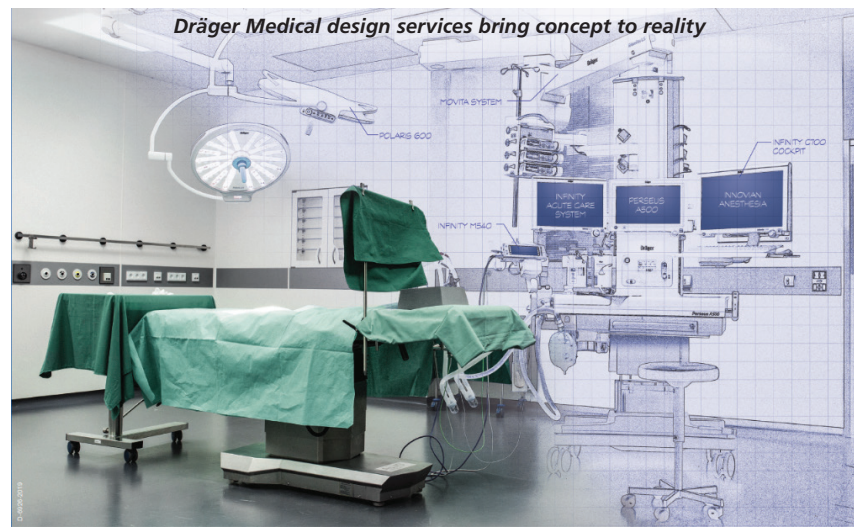
"Providing a good quality of care is the primary objective of any healthcare facility," said David Schicht, Senior Marketing Manager, Workplace Infrastructure, Dräger. "Quality of care issues in hospitals have been linked to many aspects of design: From poor room design, a lack of ergonomics, high noise levels or long distances from nursing units to patient rooms. A well-designed healthcare workplace and environment can result in considerable improvements in clinical outcomes, economic performance and productivity, as well as patient and staff satisfaction."

Dräger's Healthcare Design Center in Telford, PA, features a mini-hospital – including an emergency department, OR, intensive care units, neonatal care unit, and long-term acuity care unit – where hospital planners, clinicians and other stakeholders can create an ideal workspace, and experience it first-hand.

Working with the Dräger design team, the healthcare facility's multi-disciplinary team (e.g. medical users, planners, architects) capture their ideas for the new or redesigned care area, which the Dräger team uses to design a virtual space with a 3D modeling tool. Within this tool, they can test out different possibilities and make changes.

Once an optimal design is established, the Dräger team physically builds out the space with the selected equipment, so the healthcare facility's team members can touch/feel it and make modifications.

"When designing a new surgical suite, a facility should plan for more space than it initially believes it needs because technology is continuously evolving," said Schicht. "Trends such as medical robotics, mixed reality should be considered during the planning stages, not just to accommodate their use but also to plan for workflow, infection prevention and patient outcome considerations related to these emerging technologies."



Dräger Medical design services bring concept to reality

Designing the hybrid OR

Designing a hybrid OR presents its own unique challenges in terms of space and workflow with the integration of imaging technologies to support minimally-invasive procedures. Healthcare facilities allocate significant resources in these spaces, so they want to ensure they get the most out of their investments.

"Hospitals are doing a much better job of maximizing their return on investment in their hybrid ORs by making sure they are building them to be capable of a wide range of both open and minimally-invasive procedures," said Joe Riley, VP of Interventional Radiology and Cardiology at Siemens Healthineers North America.

Riley points to a hospital in Houston with multiple hybrid ORs that are designed to treat trauma patients in emergent situations, such as internal bleeding in the head or abdomen. Rather than having to send the patient to a separate area for diagnostic imaging to assess the location and severity of the bleed, and then to an OR for surgery, everything can now be performed in a single hybrid OR.

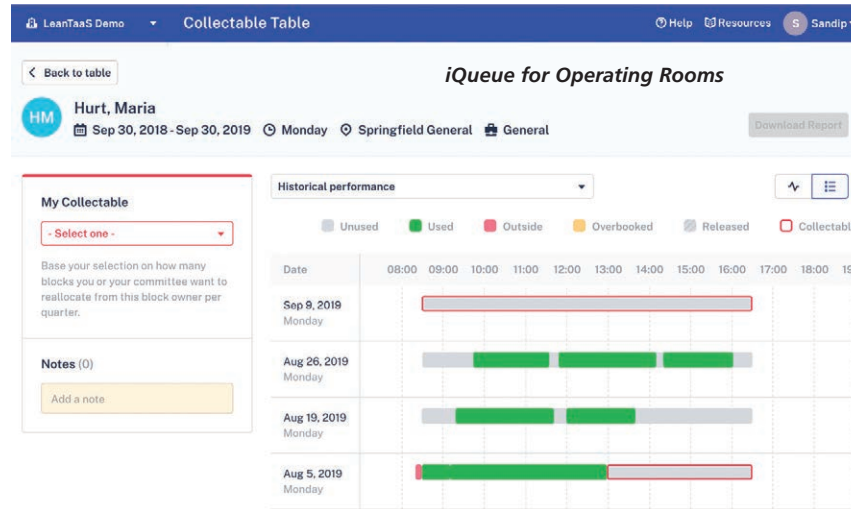
"Being able to treat trauma patients all in one suite drives high-level care," said Riley. "As soon as the patient presents, the clinicians can diagnose and treat that patient instantly in the hybrid OR with access to open or minimally invasive techniques because they have advanced imaging in the room along with full surgical capabilities."

Riley explains that the challenge in this case is having fixed imaging technology that allows for effective clinical workflow in the limited hybrid OR space. Traditional C-arms are either ceiling mounted, which move over the patient's sterile field, or floor mounted, which take up valuable space.

The ARTIS pheno, a robotic C-arm angiography system from Siemens Healthineers, is designed specifically to maximize capabilities and efficiency in the hybrid OR. The robotic ARTIS pheno can be unobtrusively moved into and out of the surgical area. This allows optimal patient access across patient types—from pediatric to bariatric—while providing the access surgical and anesthesia teams need to make complex interventions easier.

With seamless covers, antimicrobial surfaces, sealed tableside modules, and an uninterrupted airflow due to no ceiling-mounted components, the ARTIS pheno makes system cleaning easier, which can reduce the risk of infection and improve safety for patients.

"If you are designing an innovative surgical suite where you want hybrid capabilities, the ARTIS pheno offers great flexibility in terms of procedural workflow, table options and advanced imaging capabilities," said Riley.



Maximizing surgical suite utilization

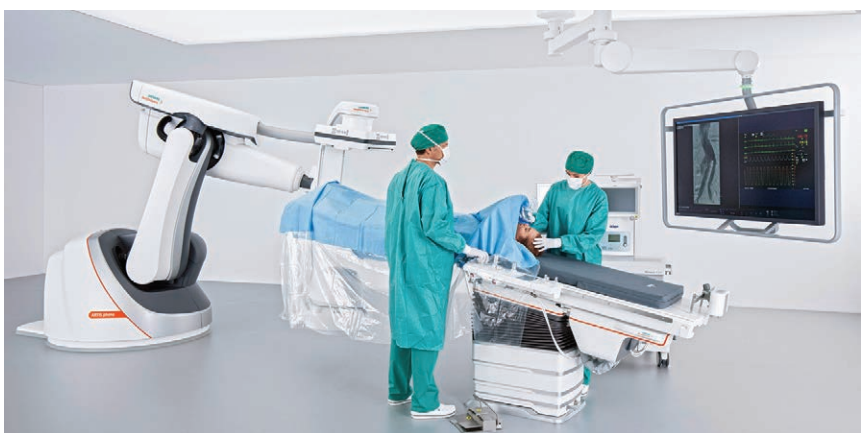
Surgical services are a main revenue driver for healthcare facilities; therefore, it is critical to maximize this asset to its fullest potential. Ashley Walsh, Senior Director, Client Services for LeanTaaS, says leading surgical suites across the nation are adopting a data-driven approach to unlock OR capacity so that more cases can be performed in the same number of ORs without extending business hours.

"Using predictive analytics, machine learning, and web and mobile technologies, perioperative leaders can engage surgeons with credible performance metrics, and collect and make available the right set of underutilized blocks to surgeons needing more time or to attract new surgeons," said Walsh.

The LeanTaaS iQueue for Operating Rooms solution digitally transforms core operational processes in ORs through three modules:

- ***Exchange*** identifies and exposes the available inventory of open time through an "OpenTable"-like tool. Surgeons and clinics can easily discover and request time with a single click from any mobile or desktop browser.
- ***Collect*** mines OR usage data by block owner, surgeon and service line to identify repurposable chunks of time. With this actionable guidance, perioperative leaders can redistribute underutilized blocks to new or existing surgeons without impacting existing case volume.
- ***Analyze*** monitors OR performance and helps surgeons and administrators be more proactive and productive by sending timely mobile alerts about OR volumes, efficiency metrics and opportunities for improvement to help increase the speed in which decisions are made to improve efficiencies.

"A 1 percent improvement in OR utilization can mean as much as $500,000(+) in additional revenue per year per OR," said Walsh. "Our customers typically see from 3-6 percent improvement in OR utilization system-wide. The solution also increases patient access to the OR: Duke Health has been able to complete eight additional elective cases during each business day."



The ARTIS pheno robotic C-arm angiography system from Siemens Healthineers

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OPERATING ROOM

Taking a portable approach

In most healthcare facilities, the surgical suite is used for a wide variety of procedures, resulting in competition for this valuable, but typically limited space. As Richard Shaul, Vice President of Marketing, Orthoscan, explains, transcatheter aortic valve replacement (TAVR) procedures are usually performed in a Cath lab near OR space with a specific OR room allocated to these procedures to accommodate emergency issues resulting from TAVR.

"When this OR space goes unused, it can cost the hospital thousands of dollars per day in lost revenue," said Shaul.

Orthoscan has partnered with Ziehm Imaging to reshape the TAVR landscape by integrating Orthoscan's portable lab within the surgical suite.

"Today we work with facilities to implement our solution, a portable Cath lab, within the OR space itself," said Shaul. "With detail imaging and lower dose, we can outperform all other hybrids. By having a truly portable solution, we are in the OR space for TAVR but if there is an issue and further action needs to be taken, our system simply and quickly moves completely out of the way, allowing physicians to access the patient immediately. The cost effectiveness of our solution coupled with ease of use allows Ziehm to begin to shape the space surrounding TAVR and endovascular aneurysm repair (EVAR) for hospitals of any size."

Orthoscan product line for hybrid OR/Cath lab

Engaging a virtual team

As surgical procedures become more complex, they require the engagement of multiple clinical stakeholders, adding to the challenge of limited OR space. In most cases, today's surgical suites simply can't accommodate the number of people who may be called upon to provide their expertise during a case.

For example, Kelly Fitzgerald, Marketing Director, Systems Integration and Infrastructure, Medical Systems Group, Olympus Corporation of the Americas, notes the growing trend toward imaging-heavy, minimally-invasive, multi-disciplinary procedures performed by a team of surgeons, cardiologists, anesthesiologists, nurses, radiology technologists and surgical scrub techs.

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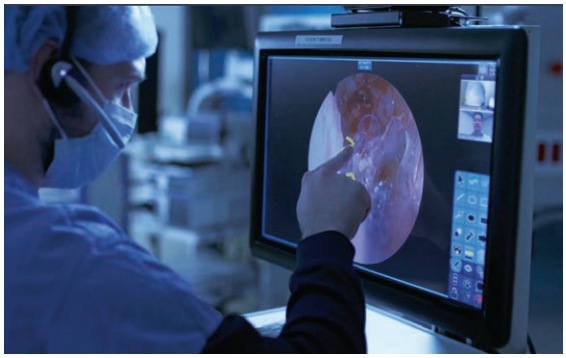
"These types of surgeries require more complex systems and equipment in the OR and often lead to manufacturer's reps and/or a Biomed in the procedure room to help train or assist staff in the proper use of the new equipment," said Fitzgerald. "When you add students and residents in the procedure room space to observe and learn, and then the ad-hoc intraoperative consults with a senior clinician or specialist, the room quickly becomes overcrowded with additional concerns regarding the security of sterile areas, strict infection control and protecting the patient's privacy. Surgical site infections (SSIs) contribute the most to the overall costs of healthcare acquired infections (HAIs).[1,2]



MedPresence from Olympus

To address this issue, Olympus has developed the MedPresence immersive medical virtual presence solution, which enables teams to bring needed expertise quickly – specialists, senior clinicians, technical experts, application trainers or manufacturer's representatives – into a procedure space from across the organization, around the world, and at any time – virtually. The solution incorporates not only the standard sources of collaboration today (e.g. chat and audio), but also specialized views – room view, customizable task views (e.g. the surgeon's hands), access to web-based applications, and, most importantly, access to a variety of live clinical imaging sources.

"By leveraging virtual experts, MedPresence can first and foremost help elevate the care team's expertise," said Fitzgerald. "However, there are additional benefits, including protecting the patient care environment by reducing room crowding, eliminating security and access concerns and lowering a patient's infection risk."

"Another is helping students be immersed virtually in surgery to understand the level of communication competency required to be part of a high-functioning team collaborating clearly with physicians, nurses and specialists," Fitzgerald added.

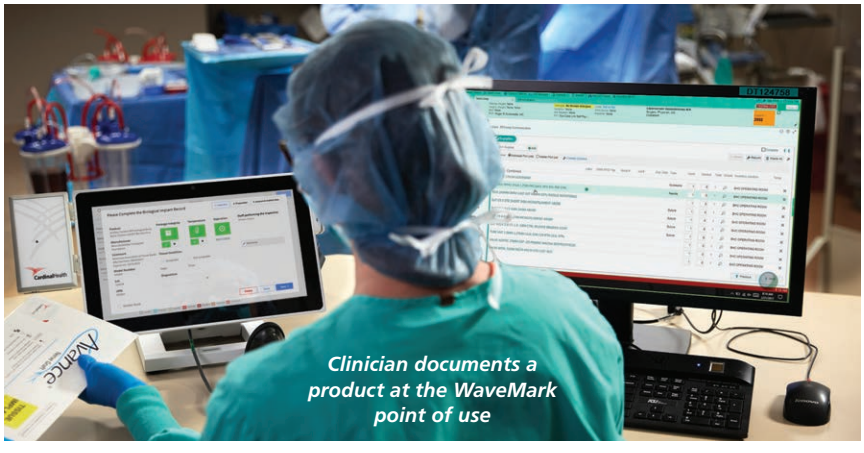
Streamlining supply management

According to Jeff Porubcansky, VP of Customer Operations, WaveMark Supply Management & Workflow Solutions, Cardinal Health, Meaningful Use criteria are driving hospitals to adopt and grow their technology footprint at a rapid rate. As a result, clinicians are experiencing burnout as they strive to use disparate systems to accurately document data for patient records.

"More than ever, clinicians need support to streamline and optimize their workflows and documentation in the operating room," said Porubcansky. "Because of this, surgical suites are beginning to leverage supply automation technology that integrates with their existing IT and electronic health record (EHR) systems. This new technology allows clinicians to capture product usage data quickly and accurately, helping them to get back to what matters most – taking care of their patients."

Cardinal Health's WaveMark Supply Management & Workflow Solutions optimize clinician workflows by eliminating manual data entry during clinical documentation. WaveMark reduces the time it takes to manage and retrieve products by telling clinicians exactly where to find the product they need. The solution supports Meaningful Use documentation requirements via optimized workflows at the point of use, automatically collecting and distributing product usage details to all interfaced systems and patient records.

"WaveMark helps clinical teams focus on patient care because there are fewer redundancies and opportunity for error," said Porubcansky. "By automating clinical documentation tasks, WaveMark eliminates the need for manual data entry – reducing clinical burnout and freeing up staff time. The increased operational efficiency supports improved clinical outcomes by giving caregivers more time, allowing them to work at the top of their licensure and spend more time focusing on their patients."



Clinician documents a product at the WaveMark point of use

Improving the efficiency and safety of electrosurgical procedures

"2020, 'The year of the Nurse and Midwife' affectionately named in honor of the 200th birthday of Florence Nightingale,[3] is also proving to be the year of electrosurgery, robotics, artificial intelligence and minimally-invasive surgery," said Michelle Lemmons, Operating Room Clinical Educator, Key Surgical. "Recent research is revealing that minimally-invasive surgery is reducing cost (versus open surgery), reducing complications after surgery, reducing risk of readmission, and reducing the time it takes for patients to return to work and normal activities. More facilities are installing robotic surgical equipment (1.8% to 15.1% from 2012 to 2018)[4] and research is quickly building to further optimize these minimally-invasive interventions."

Electro Lube, OR accessory from Key Surgical

One of Key Surgical's newest products is a surgical accessory called Electro Lube, which is designed for use in electrosurgical procedures (when cauterization is performed). Electro Lube is a patented, FDA-approved, anti-stick solution that helps ease the burden of removing char and build-up from instrument tips intraoperatively, as well as helps improve the decontamination process of the instrument in the sterile processing department. Electro Lube is a non-toxic phospholipid solution that has been proven in clinical research studies to help reduce hand-backs and operative time.[5,6,7] It is packaged sterile and ready-to-use.

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The HEINE Reusable Laryngoscope System

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Keeping surgical equipment safe and effective

As surgical procedures become more advanced, the medical devices used to perform them become more complex. Devices featuring lumens are particularly challenging to clean and inspect for internal damage. To effectively reprocess these instruments, central sterile/sterile processing departments (CS/SPD) professionals need advanced technologies of their own that allow them to visually validate that they are both clean and intact before they reach the surgical suite.

The STERIS IMS VerifEye Video Borescope is designed to inspect the full length of each lumen inside equipment. It is a two-piece design, with an insertion tube and body that are separate from the control unit, designed for cost-effective support and maintenance. The VerifEye Video Borescope does not require a computer; it can connect to a display monitor via HDMI. The Inspection Unit is waterproof, validated to IPx7 and is also validated compatible with STERIS V-PRO maX/maX2 Low Temp Sterilization System and STERIS SYSTEM 1E Liquid Chemical Sterilant System. STERIS IMS offers a list of accessories for the VerifEye Video Borescope that tailor specifically to the needs of the department.

The VerifEye Video Borescope

"The VerifEye Video Borescope provides the ability to visually validate internal damage and cleanliness of lumens," said Matt Ofenloch, CSPDT, Device Implementation and Business Development Manager, STERIS Instrument Management Services. "When damage and/or residual bioburden is identified, corrective action can be taken before the next procedure ensuring patient safety. The VerifEye Video Borescope can identify damage before it becomes severe, which prevents damaged equipment from being used on a patient. The VerifEye Video Borescope provides the opportunity to validate cleanliness of lumens reducing undesirable outcomes in facilities." HPN

References

1. Priscilla Perez, Julia Holloway, Lucy Ehrenfeld, Susan Cohen MT(ASCP)SM, Linda Cunningham RN, Gerald B. Miley MD, Brian L. Hollenbeck MD, Door openings in the operating room are associated with increased environmental contamination.

2. Zimlichman E, Henderson D, Tamir O, et al. Health Care-Associated Infections: A Meta-analysis of Costs and Financial Impact on the US Health Care System. JAMA Intern Med. 2013;173(22):2039–2046. DOI:10.1001/jamainternmed.2013.9763 | https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/1733452

3. https://ilc-congress.eu/activities/2020-year-of-the-nurse/

4. Sheetz, Kyle H. "Trends in the Adoption of Robotic Surgery for Common Surgical Procedures." *JAMA Network Open*, American Medical Association, 10 Jan. 2020, jamanetwork.com/journals/jamanetworkopen/fullarticle/2758472.

5. Baker, Jeffrey C, and Hassan H Ramadan. "The Effects of an Antistick Phospholipid Solution on Pediatric Electrocautery Adenoidectomy." *ENT Journal*, vol. 91, no. 1, Jan. 2012, http://www.electrolubesurgical.com/wp-content/uploads/eagle_surgical_litterature.pdf.

6. Brill, Andrew I. "Electrosurgery: Principles and Practice to Reduce Risk and Maximize Efficacy." Obstetrics and Gynecology Clinics of North America, vol. 38, no. 4, 2011, pp. 687–702., doi:10.1016/j.ogc.2011.09.005.

7. Roy, Sudeep, et al. "The Effects of an Antistick Phospholipid Solution on Bipolar Electrocautery Efficacy in Rhytidectomy." The *American Journal of Cosmetic Surgery*, vol. 34, no. 3, 2017, pp. 156–160., doi:10.1177/0748806817698291.

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OR BUYERS GUIDE

What's in your toolbox?

Revolutionizing surgical care and performance

by Ebony Smith

Surgical care continues to elevate to new heights with advanced instruments, supplies and technology. Today, many innovations raise the level of accuracy, speed and safety of procedures that help save lives and improve health of patients. In this article, we look at the latest trends and products in surgical practice.

Advancing surgical technology

Equipping surgeons and surgical teams with innovative tools that enhance visibility, technique and outcomes continues to remain at the forefront of the industry. According to the "4 Advancements in Surgical Technology Improving Patient Care" [1] article online at Staff Care, an AMN Healthcare company, top technology in use today includes:

1. "A six-year collaboration between NASA and the Skull Base Institute has resulted in the creation of a 3-D high definition endoscope with a rotating tip that they've dubbed MARVEL (Multi-Angle Rear-Viewing Endoscopic tool). The tiny camera will allow surgeons to get a very precise 3-D view of a tumor when performing a resection.
2. Smart glasses have been around since 2012 but continue to be refined in how they can be applied in the operating room. Smart glasses are essentially small computers, which include a head-mounted monitor and video camera and can be connected to the internet or other computers. They can be used for remote observation of surgeries by video streaming, and to provide important images to surgeons during a procedure.
3. The da Vinci surgical robot was invented more than 15 years ago. Since that time, inventors have continued to develop surgical robots that can perform increasingly precise movements. In this "second wave" of surgical robots, experts suggest that we will see more influence of artificial intelligence (AI), where these new robots are able to collect and analyze data.
4. While robotics and telemedicine are nothing new, remote surgery is taking these concepts a few steps further. Surgeons may soon be employing the use of robots to assist with surgery from a remote location, which could help expand surgery options for patients living in remote or underserved areas. As an example, The Mayo Clinic is embarking upon a clinical study to examine the possibilities of robot-assisted percutaneous coronary intervention (PCI), a process dubbed "telestenting.""

In Rob Surgical's "Top 5 Trends in the Robotic Surgery Market" [2] online post, robotics will continue to expand in care. They state, "Patients, surgeons, and hospitals have benefited from high-precision, minimally invasive robotic surgery (MIRS) and are increasingly adopting it, leading to a double-digit annual growth rate over the past five years. There are currently 1 million MIRS procedures worldwide that will more than double by 2025.The market size is over $3 billion and, with an estimated growth rate of 20%, will reach a value of $13 billion by 2025, with a worldwide installed surgical robot base in the range of 10,000 units."

Clear visibility

One critical need for surgeons is excellence in viewing instruments, patients and procedures. Nissan Elimelech, Augmedics, points to their new xvision Spine System for image guidance cleared by the U.S. Food and Drug Administration (FDA) in December 2019.

"It is the first augmented reality guidance system for surgery. We have successfully incorporated all the components of an image guidance system into a lightweight headset, which allows surgeons to visualize the patient's spine as if they have "x-ray" vision. This is unique because our transparent AR display is a retinal projection, which allows us to show a 3D image of the patient's spine, aligned directly on the patient, along with the 2D axial and sagittal navigational views.

The system's design is intended to provide greater surgeon focus and performance, Elimelech reported. "In cadaver testing, we have proven 98.9% spinal implant placement accuracy, which is so important in surgery in an area as critical as the spine. The surgeons we work with find the technology to be intuitive and unobtrusive. They comment that the system allows them to perform surgery how they were trained, and not have to look at a distant screen to navigate their instruments. By keeping focus on the patient, the surgeon will have less distractions and can align their eyes and hands during the procedure."

Headset, Augmedics xvision Spine System

The 32HL710S (31.5-inch) 4K surgical monitor is the latest member of LG Electronics' family of 27" Full-HD and 4K products. LG surgical monitors seamlessly interface with endoscopic cameras to provide crystal clear images with vibrant colors, noted Thomas Impellizeri, Senior Account Manager, ID B2B Division, LG Electronics.

32HL710S (31.5-inch 4K) surgical monitor from LG Electronics

He elaborated, "The 4K high-resolution monitor provides accuracy and reliability for precise surgery. Advanced electronics engineering provides low latency from video source to display, and remarkably smooth and accurate upscaling of Full-HD video. The monitors also include backlight brightness monitoring and control to reduce eye fatigue with virtually flicker-free stable image consistency. What's more, the monitors were designed with easy-to-clean, scratch-resistant protective glass, lightweight, sleek and fanless construction, as well as quick, accessible, user-friendly menu controls."

Preventing patient infections

Even as devices and procedures advance, there is an ongoing eye toward cutting down and preventing complications and infections related to surgeries, post-op care and hospital stays. The "New Methods to Preventing Surgical Site Infections" [3] article online at the American Association of Surgical Physician Assistants states, "Preventing surgical site infections (SSIs) is a key consideration for providers caring for patients who have undergone surgery. But while almost 300,000 SSIs occur annually in the United States (Richter, 2017), research indicates that, in many instances, these SSIs may be prevent-

able. In particular, SSIs can pose a unique cost burden due to surprising and prolonged hospitalizations and readmissions, as well as ancillary and additional procedures and nursing care (Berrios-Torres, 2017)…While it is clear that more randomized clinical trials need to be done in this area, advances in SSI treatment may be available in the near future that will allow practitioners to provide even better care to their patients."

Surgical incision protection

Proper dressing, barrier and monitoring of surgical incisions are vital for warding off SSIs. Maria T. Kotula, MSN-Ed, BSN, BA, RN, CWON, Clinical Operations Manager, Wound Management, Cardinal Health calls out their AMD portfolio of antimicrobial dressings for care and safety.

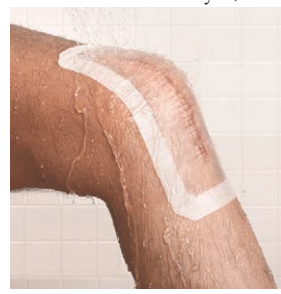
"The AMD antimicrobial dressings are impregnated with polyhexamethylene biguanide, or PHMB. PHMB is a bacteria-killing polymer that has been clinically proven to inhibit bacterial growth, which can be a pivotal benefit in preventing surgical site infections, or SSIs. It kills bacteria but does not negatively impact epithelialization or slow the healing process, making it safe to use on most patients. Best of all, there is no known resistance and no known allergies or sensitivities have been reported. It is not cytotoxic like some other antiseptics and is effective at lower concentrations than CHG or silver," explained Kotula.

The dressings' various types, ease of use and bacteria-fighting properties have the potential to decrease patient infections and costs of care without complicating the process, added Kotula.

"AMD dressings come in roll gauze, foams, foam discs, non-adherent dressings, drain and IV sponges, packing strips – which means you can apply AMD to many different types of wounds. Clinicians can experience the benefits of AMD without needing to change protocols. These dressings provide the same benefits as standard clean or sterile dressings with the added benefit of an antimicrobial. Our dressings reduce SSIs and SSI-related treatment costs."

The ReliaTect Post-Op Dressing with CHG by Eloquest Healthcare is another option for care and infection prevention, spotlights Matt Stahl RN, Clinical Marketing & Brand Director, Eloquest Healthcare.

"ReliaTect delivers CHG (chlorhexidine gluconate) – the same trusted antiseptic used during pre-op bathing and skin antisepsis to the incision and peri-incision, providing protection when the incision is most susceptible to contamination – the hours and days immediately following surgery. ReliaTect can absorb light-to-moderate amounts of moisture and exudate into its adhesive layer, transforming into a soft gel," Stahl shared.



ReliaTect Post-Op Dressing with CHG from Eloquest Healthcare

Stahl relayed the dressings' transparency, size and longevity have helped improve patient engagement, comfort, healing and protection.

"Transparency allows clinicians to assess the wound without exposing it to contamination and reduces cost and waste associated with unnecessary dressing changes. The window allows them (patients) to compare their incision to their discharge instructions and take appropriate action. Today, most patients have access to a smartphone and are able to send an image to their provider, possibly avoiding the burden of an unplanned doctor visit. ReliaTect is waterproof and can be worn for up to 7 days; this allows the patient to take that coveted "hot shower" when they return home while still protecting the incision. The slim profile allows ReliaTect to conform easily to challenging anatomical areas like skin folds and crevices – many patients will forget it's on!"

Kerecis has two fish-skin products: Kerecis Omega3 Wound and Kerecis Omega3 Burn that support surgical, wound and burn protection and healing.

"After surgical excision of traumatic, burn or chronic wounds, Kerecis Omega3 Wound is used to manage the tissue-regeneration process and provide a bacterial barrier for the open wound. The product has been especially useful for deeper tissue defects where the fish-skin graft provides a thick structure for cell ingrowth. Because of its full structure of proteins and fatty acids similar to human skin, Kerecis Omega3 Burn typically incorporates into the body within 7-10 days while providing a much needed bacterial barrier to protect the wound bed. By speeding up the healing process, patients are prepared for additional tissue building and/or moving directly to split thickness skin grafting in record time," explains Gudmundur Fertram Sigurjonsson, founder and CEO of Kerecis.

The biological properties of the graph aid in storage, care and patient comfort and safety, according to Sigurjonsson.

Telfa AMD Island Dressing by Cardinal Health

"In clinical studies on wounds, the Kerecis fish-skin graft has been shown to heal wounds faster and reduce infections better than alternative products. The Kerecis products can be stored at room temperature for three years, making them very convenient in the OR. There is no need to special order a perishable product "just in time." The preparation is simple; the product just needs to be rehydrated in saline water. This allows the surgeon to focus on preparing the wound, not the product."

Kerecis fish-skin graft

Mobility in monitoring

Monitoring equipment also plays an essential role in post-op treatment and recovery. Alex Veloz, Global Manager, Medical Affairs, Cardinal Health, points to their Kendall DL single-patient-use ECG cable and lead wire system that stays with patients throughout care and helps protect against infections.

"The standard reusable lead wires are one of the last items in hospital rooms and ORs that continue to come in contact with patients. Kendall DL can be first used in the OR and then follow the patient on to the PACU or other recovery units, enabling faster OR turn-over by eliminating the need to clean reusable wires in the OR after each procedure. Kendall DL has a unique, patented push-button design that will stay firmly attached to patients' electrodes. Initially all leads are attached together allowing each lead to peel-off to the required length without having unnecessary wire dangling or entangling. Kendall DL is monitor-agnostic, with a variety of adapters available. As the original manufacturer, we can collect and reprocess the lead wires to their original specifications," Veloz explained.

The system's portability and technology have improved staff workflow and satisfaction, enhanced patient safety, decreased

Kendall DL single-patient-use ECG cable and lead wire system by Cardinal Health

Page 32

readmissions and saved hospital costs, he added.

"Alarm fatigue poses great burden on nurses and the care team, and it is also a critical patient-safety issue. Kendall DL is associated with a reduction in false or unactionable alarms.[4] While replacing reusable equipment with single-patient-use solutions requires facilities to make upfront investments, Kendall DL in particular may result in significant savings as a result of lower costs associated with shorter hospital stays and fewer hospital readmissions.[5] Researchers found that the use of Kendall DL delivered a per-patient cost savings of $450, and estimated that Kendall DL can save the Medicare system up to $40 million dollars per year.[5] A study published in the *American Journal of Infection Control* analyzed over 27,000 Medicare claims, focusing on the use of Kendall DL in clinical practice, found a 25% reduction in surgical site infections at 90 days after coronary artery bypass graft (CABG) surgery."[6]

Hands-on care

Protective hand-wear for surgeons maintains a high priority in care. Latrice Johnson, Director, Protexis Surgical Gloves, Cardinal Health suggests their Protexis PI Textured surgical gloves, which launched this past January in the U.S., as a fit for surgeons.

"We're excited to introduce a polyisoprene, textured glove into our current surgical gloves portfolio. PI Textured has a textured finish that ensures exceptional grip under dry and damp procedural conditions. This glove features specific textured zones, which means the texture of the glove is focused on the fingertips, thumb and palm in order to maintain a smooth glide between the fingers. PI Textured has a water-based hydrogel coating for second skin feel and an interlocking beaded cuff design to help reduce roll-down," Johnson shared.

Johnson called out the portfolio's customized design for strength and safety.

"PI Textured was specifically created based on feedback from clinicians that a textured glove with an improved grip and tactile sensation is needed and important for high-fluid procedures or where a strong grip is crucial."

Protexis PI Textured Surgical Glove by Cardinal Health

Reducing rates of readmissions

Other main goals for hospitals are to prevent adverse health events, longer hospital stays and hospital readmissions. Older patients are a focus in "Readmission risk after an operation increases for elderly patients who have certain geriatric-specific characteristics," an online news release from the American College of Surgeons. "Elderly individuals – those age 65 years or older – make up 43 percent of Americans undergoing an inpatient operation and are more likely than younger patients to have postoperative complications, results of multiple studies show. More than one in 10 of the elderly patients in the new study had an unexpected readmission, according to the authors."

The release continued, "Readmissions are stressful and expensive and Medicare reduces payments to hospitals with excess readmissions," said R. Scott Jones, MD, MS, FACS, a study coauthor and emeritus professor and chair of the University of Virginia's surgery department. "We want to anticipate and hopefully prevent the reasons that contribute to unplanned readmission after an operation."

Online support

A key step for creating a culture of safety for facilities, staff and patient care is providing

access to information and resources. The oneSOURCE online database provides a one-stop, digital shop with Instructions for Use (IFUs) and Preventative Maintenance (PM) Service Manuals, says Heather Thomas, CMO & Vice President of Sales, oneSOURCE.

"Our current offerings include Surgical Instruments and Equipment, Tissues/Implants, BioMed, Dental and Facilities Maintenance. The implants and devices include human tissue allografts, cardiac pacemakers, stents, vascular grafts, repair meshes and slings, devices, orthopedic joints, among more," Thomas explained.

The round-the-clock access to content and database specialist support have contributed to a reduction in patient HAIs and facility cost-savings, Thomas stated.

"Subscribers truly benefit from having an experienced one SOURCE point person to help organize and customize the database to meet the Joint Commission's active list requirements as well as handle specific document requests directly from the manufacturer. We're also equipped to load and house any proprietary documents and integrate with all the CMMS software companies. One of the best benefits is that it is available 24/7 on a variety of devices including desktop, tablet and mobile. We feel incredibly proud to report that more than 80 percent of the healthcare facilities in the U.S. subscribe to one or more of our document services. By utilizing our service, each department is empowered to have the necessary tools to decrease healthcare acquired infections for patients as well as increase infection prevention measures. Additionally, by keeping up on preventative service maintenance for medical equipment, healthcare techs are proactively keeping patients safe and comfortable."

Connected care

Showing surgical teams the steps and progress of procedures helps produce a centralized and transparent work environment. Kelly Fitzgerald, Olympus, calls out their EasySuite 4K for displaying a visual picture of patient information and care.

"EasySuite 4K is an OR integration system that enables surgical and interventional clinicians to connect with the native and uncompressed visual insights derived from legacy, HD, ultra-high-definition (UHD) and 4K/3D medical sources to streamline pre-, intra-, and post-operative clinician workflows. By understanding the dynamic context of a surgical team's experience, EasySuite 4K has the power to use the data it routinely gathers during surgical procedures from the audio, video and surgical device sources in the room to improve efficiency not only during the surgery but throughout the entire continuum of care," Fitzgerald described.

EasySuite 4K system from Olympus

Fitzgerald specified the system's easy access and view of images for helping generate greater time and concentration for patient care and safety.

"EasySuite 4K helps surgeons and OR staff to be more productive. We understand that a large part of a surgeon's success depends on how well she can see the surgical field. Quicker access to the right patient images at the highest quality can mean the efficiency that allows patients to get the care they deserve faster and allows for the input of multiple specialists." HPN

References online at https://hpnonline.com/21129401.

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2020 CS/SPD Salary Survey

Job security strong, salaries stagnate

by Kara Nadeau

The average central sterile/sterile processing department (CS/SPD) professional's salary is down 5 percent (from $63,344 in 2019 to $60,465 in 2020), fewer are expecting bonuses this year (down 10 percent) and job security has taken a slight dip (down 11 percent) according to the results of the 2020 *Healthcare Purchasing News* CS/SPD Salary Survey. While salaries have increased within some CS/SPD positions, they have decreased in others.

- **OR Liaisons see greatest gains:** OR Liaisons saw the largest salary gain, increasing 26 percent from $47,500 in 2019 to $60,000 in 2020.
- **Surgical Instrument Technicians continue steady pay increases:** CS/SPD professionals in this category experienced an average salary increase for the third year in a row, from $37,500 in 2017 to $38,611 in 2018, to $42,045 in 2019, and now to $50,955 in 2020 - a 21 percent increase from last year to this year.
- **CS/SPD Directors still on top but average salary is down:** CS/SPD Directors are still at the top in terms of pay – at $97,630 in 2020 – but the average annual salary in this category is down 14 percent compared with last year.
- **CS/SPD Supervisors, CS/SPD Managers and Lead CS/SPD Technicians all experienced modest gains:** All three categories reported an increase in average salary from 2019 to 2020, with CS/SPD Supervisor salaries growing 7 percent ($51,125 to $54,783), CS/SPD Managers growing 4 percent (from $78,617 to $81,602) and Lead CS/SPD Technicians growing 2 percent (from $43,929 to $44,828).
- **Educator salaries are down after two years of significant gains:** After salary jumps of 20+ percent from 2017 to 2018 and again from 2018 to 2019, Educator salaries took a dip this year, down 6 percent – from $67,917 in 2019 to $63,846 in 2020.
- **CS/SPD Technician/Coordinator salaries remain steady, plus new category for this year:** The average annual salary for CS/SPD Technician/Coordinators changed little since last year, from $40,852 in 2019 to $40,336 in 2020. *HPN* added a new CS/SPD function to its survey this year, Certified Medical Device Reprocessing Technician (CMDRT), with those within this category reporting an average annual salary of $35,833.


Veronica Holder

Veronica Holder, a Sterile Processing Technician II based in Clayton, NC, has these thoughts on the CS/SPD profession and salary:

"I feel the SPD department in some facilities is looked at as an afterthought like they're not important as the operating room (OR). I think they tend to forget that we are an important part of any case that goes on in the OR. Compensation does not add up and I guess that depends upon the facility in which you work."


Jesse Jenson

"Compensation is fair at entry but becomes less-so as you grow in the profession," said Jesse Jenson, Manager, Materials Management, Mille Lacs Health System, Onamia, MN.

"There isn't adequate compensation as you develop into the role. Salaries have gotten slightly better but not as well as other fields."

"I would not say that compensation has gotten worse, but it hasn't improved in many facilities," said Tony Thurmond, CRCST, CIS, CHL, International Association of Healthcare

AVERAGE ANNUAL BASE SALARY: $60,465

INCREASE OF BASE SALARY SINCE LAST YEAR?

57%	Yes, it increased
39%	It remained the same
4%	No, it decreased

2019 AVERAGE ANNUAL BASE SALARY: $63,344

PERCENTAGE INCREASE OVER LAST YEAR

7%	Less than 1%	0%	6 - 6.99%
14%	1 - 1.99%	0%	7 - 7.99%
26%	2 - 2.99%	0%	8 - 8.99%
14%	3 - 3.99%	0%	9-9.99%
2%	4 - 4.99%	1%	Over 10%
1%	5 - 5.99%	34%	No Change

EXPECTING A BONUS THIS YEAR?

82%	No
10%	Yes
6%	Don't know
2%	Did not respond

2010 AVERAGE ANNUAL BASE SALARY: $54,227


Tony Thurmond

Central Service Materiel Management (IAHCSMM) President, and Central Service Manager for The Christ Health Network in Cincinnati. "The complexity of the job is much different than the days of old and the compensation should reflect that increased responsibility and job knowledge."

Damien Berg, BA, BS, CRCST, Regional Manager Sterile Processing at UCHealth, and IAHCSMM's Immediate Past-President, feels CS/SPD salaries have gotten better in recent years, but they are not keeping pace with the rest of healthcare or equivalent professions. He states:


Damien Berg

"When you compare the U.S. labor statistics with sterile processing and other jobs that have stress and deal with complicated issues and risks, it does appear sterile processing is keeping up more today than in the past."

"The salary question is more complex than just measuring increases and decreases," said Hank Balch, Founder and President, Beyond Clean. "What is just as important, if not more so, is to look at competitive industry salaries which rely on the same potential workforce as CS departments. In a world where the cost of living and health insurance is constantly on the rise, our departments must be ahead of the compensation curve if we intend to keep the best and brightest employees on our team. Otherwise, many of them will have to make the hard choice of leaving the profession in order to pay the bills. This is not a choice they should have to make."


Hank Balch

As in past years, education level, facility type and geographic region all impact average CS/SPD salaries. Once again, those with post-graduate degrees earn the most; with an average annual salary of $96,438, up 6 percent over 2019, while those with high school diplomas alone earn the least, with an average annual salary of $50,570 (down 5 percent).

CS/SPD professionals working for an HMO/IPO/insurance provider reported the highest average annual salary at $92,500, followed by those in IDN/alliance/multi-group facilities at $73,250, and teaching hospitals at $71,467. Those working in group practice facilities reported the lowest average annual pay at $37,500.

As in past years, those CS/SPD professionals working in urban areas earn the most, with an average annual salary of $71,003 in 2020. The average annual pay of those working in suburban facilities dropped nearly 15 percent since last year – from $64,172 to $54,718 – bringing salaries closer to those in rural facilities, which had an average annual salary of $54,451.

This year, the Northeast won out as the highest region for pay, with CS/SPD professionals in this geographic area reporting an average annual salary of $64,202, beating out the Pacific region, with an average annual salary of $63,871 (down from $72,617 in 2019).

"Compensation levels in our industry are one of the central challenges facing recruiting and retention across the entire country, from frontline sterile processing technicians all the way up to the associate vice president positions," said Balch. "Human resource departments conduct their own localized 'market surveys' to determine current salary ranges for CS departments, but they rarely have the courage to break out of the status-quo compensation model to actually effect positive trends regarding pay. Technicians in these markets are effectively stuck in a financial rut that can only be escaped by leaving the region or leaving the industry. It's a no-win situation, but it's playing itself out again and again around the country."

Job security lower, but CS/SPD remains a secure profession overall

CS/SPD professionals reporting to feel "very secure" or "somewhat secure" in their profession is down from 92 percent in 2019 to 82 percent in 2020. But in speaking with those in the industry, it is a secure profession for better or worse depending upon to whom you are speaking. Furthermore, high turnover continues to be a challenge.

"Job security is excellent for experienced, conscientious and well-trained SPD personnel," said Nancy Chobin, RN, AAS, ACSP, CSPM, CFER, President, Sterile Processing University. "One good way to secure your position is to become certified and continue your education to remain current with standards and guidelines. Even if a facility closes or merges with another facility or system, the top performing SPD personnel will likely be retained."


Nancy Chobin

"As medical devices continue to become more complex, so does the need for experienced and qualified sterile processing personnel," said Angela Jensen, CSPDS, CFER, Vice President, Board of Trustees, Co-Chair CEU Committee, CBSPD. "I believe the key to job security is to become an invaluable asset to the team. Whether you begin your career with on the job training, formal education or a sterile processing course, you will be on your way to a secure future if you always demand excellence from yourself and inspire excellence in others by being the kind of team player that is willing to go the extra mile.


Angela Jensen

"Education is essential to job security but so is dedication, ethical behavior and a desire to be the best you can be," Jensen

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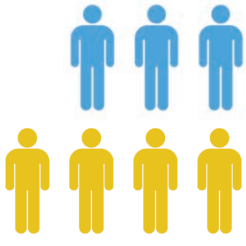
SALARY BY TYPE OF FACILITY

Hospital, Standalone	$55,941
Hospital, Teaching Facility	$71,467
IDN/Alliance/Multi-group	$73,250
Surgi-Center/Ambulatory Center	$49,017
Group Practice	$37,500
HMO/PPO/IPO/Insurance	$92,500
Long Term Care Facility/Home Healthcare	$42,500



SALARY BY TITLE

CS/SPD Director	$97,630
CS/SPD Manager	$81,602
Educator	$63,846
OR Liaison	$60,000
CS/SPD Supervisor	$54,783
Surgical Instrument Technician	$50,955
Lead CS/SPD Technician	$44,828
CS/SPD Technician/Coordinator	$40,336
CMDRT - Cert. Medical Device Reprocessing Tech	$35,833


URBAN
$71,003


SUBURBAN
$54,718


RURAL
$54,451

added. "I believe you play the biggest role in your job security by the decisions you make every day…so make each one count for you!"

"There is probably more security in the modern sterile processing profession today than I've seen over my 27-year career," said Berg. "With the increased focus on patient outcomes and the increased scrutiny to our profession, I've found that if you perform well and are a valued member of the healthcare team, you'll set yourself apart and have great opportunities. Committing to education, training and certification will help keep that job security very strong."

According to Balch, even if current CS/SPD positions are not being eliminated, new position requests are often being denied and vacant positions are being closed prior to rehire. He states:

"While it is true that surgical volume is still on the rise, hospitals are continuing to feel the squeeze on their profit margins, forcing many to look for cost savings in departments such as sterile processing. While scary, this is a reality for a growing number of departments around the U.S. The end result is that some regional markets have an excess of job seekers, but a shrinking number of roles that need to be filled."

Jenson, who has worked in both sterile processing and materials management during his career, points out a negative side to CS/SPD job security. When asked what job security is like in the profession, he stated:

"Better than it should be. Lots of departments are putting up with poor performers due to fears of worker shortage."

Mary K. Lane, MHA, CSPDM, CSPDS, CSPDT, MK Lane SPD Consulting, says while job security is "good" it is retention of employees that challenges the profession. She states:

Mary K. Lane

"There are many factors that play into employee retention; such as, pay, competition from other hospitals, failure to pass certification in the required amount of time, lack of advancement potential, and disciplinary actions just to name a few. If an employee has the drive to excel in SPD, the 'sky is the limit' for them. There are many opportunities for SPD professionals at all levels; however, many either don't seek them out or they simply don't have the drive due to personal reasons or the level of compensation they'll receive when taking on a bigger role."

Certification holds steady but has little impact on compensation

The number of survey respondents who are certified or in the process of becoming certified was the same as last year, at 94 percent. The number of respondents stating that certification is a requirement at their facility was down slightly, at 62 percent in 2020, compared with 67 percent in 2019.

"There are those who will say certification is not required to do the job we do," said Thurmond. "They feel certification is only taking a test and that it does not always equate to a good sterile processing technician. I disagree. Certification, in any profession, is an attempt to challenge and elevate the test takers based on their knowledge and ability to demonstrate a task with efficiency."

"This should bring recognition and elevation of the profession, as it demonstrates a desire for technicians who have proven they can rise to the occasion and complete necessary tasks to deliver quality service and promote patient safety," Thurmond added. "Even after certification is attained, it is essential to challenge and test those professionals; this is what makes certification a long-term benefit for the professional and the department."

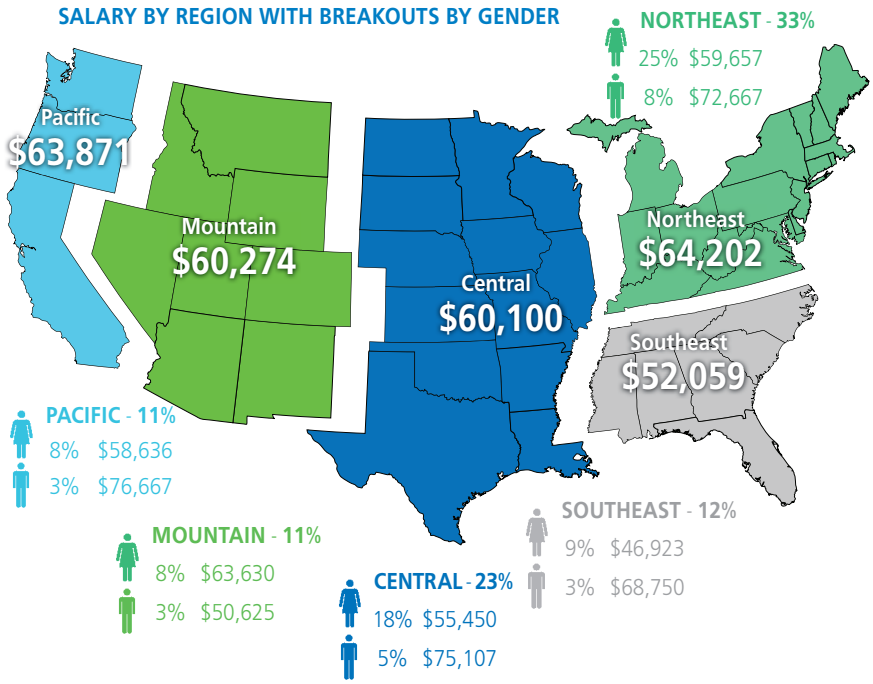
When asked if earned certification education units/points equate to a higher level of compensation at their facilities, fewer respondents said "yes" – only 10 percent compared with 16 percent in 2019.

"Do barbers and bus drivers need to be certified? Yes. Have these certifications improved their salaries and brought them greater recognition? I'm not convinced they have," said Balch. "Nor am I convinced that certification alone is the silver bullet that will pull the sterile processing industry out of the basement and into the board room. Is it a part of the solution? Potentially. But we've had certification available to our technicians for almost 50 years, and yet we are still struggling with the same systemic challenges of recognition and compensation that we were in 1971. At some point we have to start looking at additional avenues for advancing our cause and changing these dynamics."

Jenson says basic certification - Certified Registered Central Service Technician (CRCST) increases pay only slightly at his facility, with raises roughly $0.50-$1. He adds that additional certifications, such as Certified Instrumentation Specialist (CIS), Certified in Healthcare Leadership Strategies (CHL) and Flexible Endoscope Reprocessor (CFER), "do nothing to improve pay."

"Certification recognition is largely based upon department leadership making it a priority and something to be celebrated," Jenson adds.

"At my hospital, once you become a certified processing technician your pay is about $15 an hour with no experience but if you're certified and have experience it is two dollars more, which is $17 an hour," said Holder. "I am trying to earn the CIS and CHL certifications but that will not change my pay at the hospital where I am now."



Education continues to be a priority

CS/SPD professionals continue to seek out educational opportunities to advance their knowledge and careers. This year, 77 percent of survey respondents said they participate in 10 or more continuing education courses each year, with 34 percent participating in

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20 or more annually. Unfortunately, only 10 percent say their employer gives them higher levels of compensation when obtaining certified education units/points.

"While there is nothing wrong with online training, hands-on training has more of an impact," said Holder. "We need more training schools for this field in North Carolina like those in California and Pennsylvania where they have more on-site training opportunities."

With regards to higher education, over half of respondents (55 percent) hold an Associate's, Bachelor's or Post Graduate Degree. In Jenson's experience, his own degree has helped him advance in the CS/SPD profession, he states:

"I've benefitted from candidate selection/higher wages due to my degree. Though I know of people who are doing better than I am, despite not having a degree. I think this is situational but in the future you can expect to need a Bachelor's."

"Without a doubt, college degrees can help you unlock many of the bigger roles out there in the industry, whether that's as a manager, director or vice-president," said Balch. "Simply having a degree doesn't mean you are smarter or better equipped, but the reality is that many HR departments view a bachelor's degree as a prerequisite for any higher level position. The only way to change this model is for current department leaders to change their job description requirements and open these roles up to a broader swath of the industry who are qualified but do not hold a college degree. I think that needs to happen, but it's up to leaders in the trenches to actually make the change."

"I've seen a big change over the past several years as it relates to CS/SPD leadership education requirements, which has had a big impact on some tenured employees," said Lane. "It's becoming rare for a manager or director not to have at least a Bachelor's degree, which is limiting some tenured hospital employees from having/applying for a leadership role. I believe this is an extremely valuable shift for our profession as we continue to have more focus put on us and as our roles and responsibilities grow."

"Education always plays a key role in compensation and career advancement," said Berg. "When combined with experience, this is what the hospital leadership and HR compensation teams look at when evaluating the job and the individual. Sterile processing professionals are not destined to be low-wage earners. Even if they lack a degree, they can elevate their status through certification, continuing education and a demonstrated desire to advance their knowledge and skill sets."

"While employers look at years in service as a 'value add' because it shows commitment to the profession (which is valuable), it can be difficult to put a dollar figure on that alone," Berg added. "It's my belief that years in the profession coupled with education and certification are the perfect trifecta for driving higher compensation – and recognition. Constantly elevating yourself and your professional goals is what I look for in anyone I hire."

Roles and responsibilities

Those interviewed agreed that the roles and responsibilities of the CS/SPD have increased significantly in recent years and continue to increase.

Lane says the key reasons for the increase are "changing technologies, increased surgical volumes, certification, quicker turn around times in the OR and reduction of staff. "As the focus of surgical infections shifts more in the direction of CS/SPD and the role they play the roles and responsibilities will continue to increase," she added.

When asked what functions report directly to the CS/SPD head in their facility, not surprisingly sterile processing was the top response (95 percent), followed by decontamination (87 percent), case carts (59 percent), medical equipment cleaning/disinfection (45 percent) and GI/endoscopy (41 percent). Those naming GI/endoscopy in the CS/SPD reporting structure increased significantly last year – from 27 percent in 2019 to 41 percent in 2020 – perhaps pointing to the need for better cleaning and sterilization of endoscopes in response to infectious disease outbreaks.

"The job is getting too big for one profession," said Jenson. "I think we need to compartmentalize in order to succeed. It's getting too complex. C-Suite seems to see us as a group who are ignored until something goes wrong."

"The roles and responsibilities are increasing dramatically, but the department must also be open to accepting to them," said Berg. "We should openly embrace these roles and responsibilities, as long as we (and our team) get the support we need to meet these new or changing roles. Taking on more challenges provides value and helps brings the department to the table."

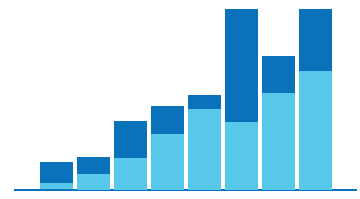
CS/SPD workflow and technology trends

Each year we ask survey respondents questions related to the latest technologies and trends they are seeing in the profession and industry. As Thurmond points out, the increasing complexity of surgical instrumentation continues to drive new processes and technologies to effectively and safely process them. He states:

"New and more sophisticated instrumentation continues to be introduced, with many steps required for the reprocessing of those new instruments. Gone are the days of cleaning, inspecting and prepping stainless steel instrumentation only. Today's instrumentation includes disassembly, flushing ports for timed periods, testing and reassembly of the instrumentation. As procedures become more complex and intriguing, the world of the sterile processing professional also becomes more complex and difficult. It is frustrating to see that this factor is often inadequately addressed in the decision making of the manufacturer and within our healthcare organizations."

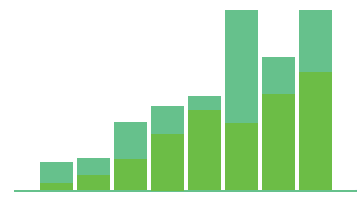
SALARY BY BEDS

0-25 beds	$51,000
26-49 beds	$48,736
50-99 beds	$60,769
100-199 beds	$55,365
200-299 beds	$61,489
300-399 beds	$69,000
400-499 beds	$64,818
500-749 beds	$71,534
750-999 beds	$77,792
over 1,000 beds	$77,917



SALARY BY TIME IN CS/SPD

Less than 2	$50,000
2 - 4	$43,611
5 - 9	$52,851
10 - 14	$57,077
15 - 19	$60,145
20 - 24	$70,171
more than 25	$69,773



SALARY BY TIME AT FACILITY

Less than 2	$66,139
2 - 4	$55,235
5 - 9	$66,363
10 - 14	$58,102
15 - 19	$59,786
20 - 24	$59,525
more than 25	$52,763

This year's survey found:

- **Track and trace systems are widespread:** The majority of those surveyed say their facilities either use such a system or are in the processing/planning stage (66 percent).
- **Emphasis on emerging disease safety:** Half of those surveyed (50 percent) have a safety training program in place for handling instruments for patients with suspected emerging diseases, while 6 percent are in the planning stages.
- **Increased adoption of sterile processing workflow management systems:** There was an increase in those reporting use of workflow management systems in their facilities, with 52 percent stating "yes," compared with 44 percent in 2019.
- **Fewer implementing new measures related to reprocessing related outbreaks:** This year, 45 percent of survey respondents reported that their facilities had put in place any new measures, compared with 56 percent in 2019.
- **Little change in IFU methodologies:** Only 22 percent of respondents said their facilities have changed their instruction for use (IFU) methodology, down slightly from 2019 (27 percent).
- **HLD versus sterilization:** For reprocessing of flexible and rigid scopes, the majority of those surveyed say they use sterilization (42 percent) over high-level disinfection (HLD), while for flexible scopes only, the majority report using HLD (31 percent). Of those that use sterilization, the vast majority use steam (76 percent), followed by ethylene oxide gas/EtO (9 percent), vaporized peracetic acid (6 percent) and ozone (3 percent).

Advice for climbing the CS/SPD career ladder

When asked what advice they would have to CS/SPD professionals on climbing the career ladder, those interviewed for this article provided these thoughts:

Balch: "Climbing the career ladder in the CS industry is not formulaic. It's not as simple as A + B = Career growth. While there are many things a person can do to better prepare themselves for advancement opportunities, technicians should never feel like there is only one way to grow. Pursing a mentorship relationship with someone who knows you personally and can help cultivate your individual strengths is one of the best decisions an eager employee can make."

Berg: "From someone who has been blessed to achieve so much in this profession, I have a unique vantage point of looking back and reflecting on what could I have done differently. I have held just about every job, including frontline technician, team lead, educator, supervisor and manager. I was even a scrub technician and GI technician at one point in my career.

"One thing that I have always believed in - besides the need to always commit to knowledge growth, professionalism and hard work - is being ready for anything and always lending a hand," he added. "Whenever someone said he or she needed help, I was the first to raise my hand, and whenever someone was talking or teaching, I was 100 percent engaged and listening. When it came time for me do the job, I gave it my all, every day and every time. In doing these things, I was ready when the opportunity arose, and I became a prime candidate when new positions opened. I've always been fond of this quote, which I believe applies here: 'If you're not at the table, you're on the menu!'"

Jensen: "Climbing the career ladder in CS/SPD begins with a desire to move up, but before you can move up you must start on the ground floor. The best advice I can give anyone is do not limit yourself, work hard, put in the time and work your way up the ranks. Learn everything you can about the sterile processing profession. Take an online sterile processing course or take a course at a local college and a sterile processing certification exam. Remember, you are not limited to only one certification you may hold additional certifications such as flexible endoscope reprocessor.

"Join a local chapter of CS/SPD professionals, become a member of other organization(s) on a state or national level, network with others as you build your career," she added. "Get involved by presenting educational programs to other groups, and attend outside seminars, workgroups, etc. Set goals for what you want to achieve, work towards them and never stop believing in yourself."

Jenson: "Attitude is everything. Be positive. Be upbeat. Focus on your work, not someone else's. Get an education outside of SPD as it will help you get into leadership roles."

Lane: "Knowledge is power. Seek out education and get involved in the profession at a local and national level. Certification is incredibly important, and the more people immerse themselves into the profession with additional certifications they will gain more insight into the profession and how important SPD is in providing safe patient care, and ultimately more respect for themselves."

Thurmond: "Build yourself within and develop the confidence and ability to take on deeper challenges. Step up when the opportunity is available and demonstrate yourself to be patient focused, safety focused and results driven. Preparing for future opportunities is important. If a job requires a particular certification, for example, it is best to already have that certification completed and under your belt when that job comes available; at that point, you will have set yourself up for meeting that requirement and will be more confident and prepared for the new role.

"Also, we often see people clowning around at work and not demonstrating that they are trustworthy or quality focused, but we should never let others stand in our way," he added. "A good manager or director will recognize positive traits and know a person is ready for growth, advancement and new opportunities." HPN

Sidebar: A personal story of climbing the CS/SPD career ladder online at hpnonline.com/21129516

SALARY BY EDUCATION

High-School	$50,570
Associate's Degree(s)	$63,381
Bachelor's Degree(s)	$66,911
Post-Graduate Degree(s)	$96,438

	FEMALE	MALE
High-School	$49,651	$54,674
Associate	$57,702	$80,053
Bachelor	$67,290	$66,667
Post-Grad	$85,591	$114,000

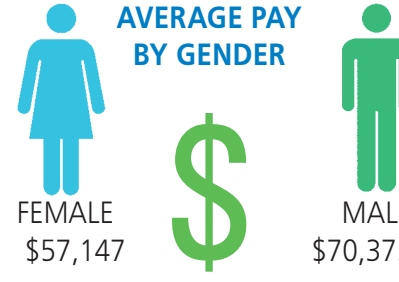
SALARY BY CERTIFICATION

Already certified	89%	$61,354
Considering certification	2%	$52,500
Not certified	6%	$52,833
Did not answer	2%	$64,167

DOES CERTIFICATION INCREASE COMPENSATION?

No	82%	$61,912
Yes	10%	$60,615
Don't know	6%	$48,594
Did not answer	2%	$39,167

AVERAGE PAY BY GENDER



5% of survey respondents chose not to disclose their gender

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April 2020

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For more information, direct any questions to *Healthcare Purchasing News* (941) 927-9345, ext. 202.

LEARNING OBJECTIVES

1. *Discuss how vaporized hydrogen peroxide sterilization works*
2. *Review the keys to successful vaporized hydrogen peroxide sterilization cycles*
3. *Explain the recommended quality control plan for vaporized hydrogen peroxide sterilization processes*

SELF-STUDY SERIES

Keys to success with vaporized hydrogen peroxide sterilization

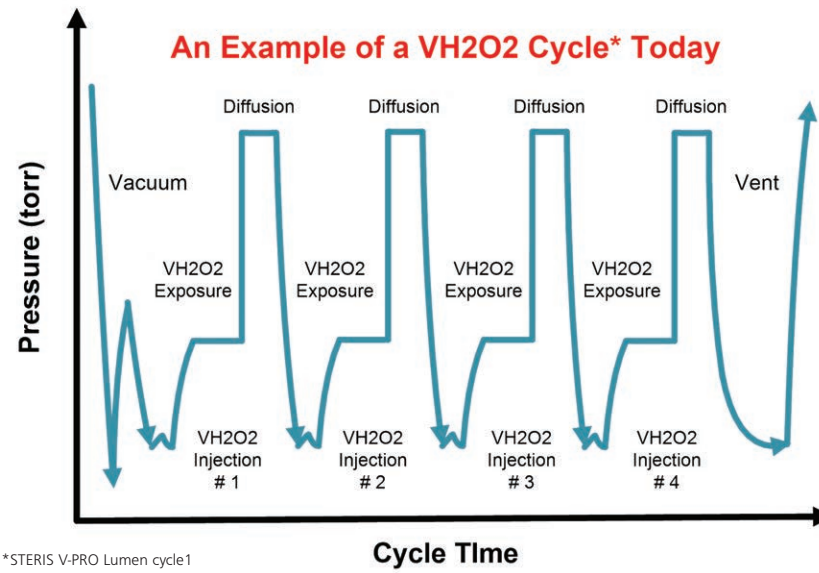
by Craig Wallace

Low temperature sterilization processes such as ethylene oxide and vaporized hydrogen peroxide play a critical role in sterile processing departments across the United States. More and more reusable medical devices are made of advanced materials and components that cannot withstand the high temperature and moisture present in steam sterilization processes. Vaporized hydrogen peroxide (VH2O2) is the most common low temperature sterilization process used today. While this technology is not new (the first VH2O2 sterilizers appeared in U.S. hospitals in 1993), it is very complex. Understanding this process and all the requirements for successful VH2O2 sterilization are critical for patient safety.

Hydrogen peroxide (H2O2) is a very effective biocidal agent, meaning that it kills all types of microorganisms when it comes into direct contact with them. Hydrogen peroxide is a strong oxidizing agent and kills microorganisms through this mechanism. The hydrogen peroxide molecule is by nature unstable, in that it will easily "fall apart" or dissociate into sub-components under ambient conditions. In addition, hydrogen peroxide sterilization processes use a vaporized form of hydrogen peroxide. A vapor is not the same as a true gas, in that a vapor will naturally condense on surfaces, like water vapor in the air condensing on the outside of a cold glass. Gasses, like ethylene oxide, do not condense. They are always in gas form in the temperatures and pressures found in sterilization processes. These points about hydrogen peroxide's oxidative properties, its molecular stability, and its vapor properties are extremely important attributes that have a significant impact on how VH2O2 sterilization processes work, and why certain procedures must be followed in the sterile processing department to assure the VH2O2 processes are safe and effective.

There are many different vaporized hydrogen peroxide sterilization processes used in the various commercial sterilizers available today, but all these processes follow a similar pattern. First, there is typically a very deep vacuum step to remove air and moisture from the chamber that

Figure 1 Example of a four-pulse vaporized hydrogen peroxide sterilization process



*STERIS V-PRO Lumen cycle1

could interfere with the process. Next, hydrogen peroxide vapor is injected into the chamber, where it will diffuse throughout a hold time. An air flush follows this hold time, then another deep vacuum is drawn to remove residual air and hydrogen peroxide. This process is considered one "pulse." These sterilization processes will use 2-4 pulses, depending on the sterilizer and the instruments to be processed in that cycle. At the end of the process the load is aerated (washed with air) to remove residual hydrogen peroxide, or, in some systems, the load is exposed to a gas plasma process to remove the residuals. An example of a four-pulse VH2O2 process is provided in Figure 1.

Factors that can affect the VH2O2 sterilization process

The chemical and physical properties of hydrogen peroxide discussed earlier (strong oxidizer, unstable molecule, vapor instead of gas) can lead to situations where a VH2O2 sterilization process is not as effective as expected. Let's take a closer look at how these properties could adversely affect a sterilization process.

1. VH2O2 sterilization processes inject a fixed amount of H2O2 vapor for each cycle type and for every load placed in the chamber. There are no make-ups or additions of sterilant during the sterilant exposure phase. Therefore, small loads and very large loads are exposed to the same amount of sterilant during the exposure phase. Load variation, plus the fact that the hydrogen peroxide molecule is relatively unstable and readily depletes during the exposure phase via several different chemical mechanisms [2,3,4] could lead to unexpected variation in the lethality of any given cycle.
2. Temperature is a critical process parameter for VH2O2 sterilization. This includes the temperature of the sterilizer chamber, the medical devices, packaging, and containers when they are placed into the chamber. If the load is too cool there can be excessive condensation of the fixed amount of hydrogen peroxide vapor.[5,6] This can have a negative impact on the process.
3. VH2O2 sterilizers are cleared by the U.S. FDA with a maximum weight limit for individual loads for each cycle type. The testing and validation supporting these clearances is completed with an understanding of the instability of the H2O2 molecule, and the H2O2 vapor behavior. Therefore, exceeding the weight limit for the load can result in cycles that are not effective.
4. "Materials compatibility" typically refers to the effects of a sterilant on the medical devices. This is important for VH2O2 sterilization, as hydrogen peroxide is an oxidizing chemical that can damage some materials. However, the phrase "materials compatibility" has an additional meaning when referring to VH2O2 processes. In this case, it can mean the materials' effect on the effectiveness of the process, because of interactions between the VH2O2 and the materials. We have noted that VH2O2 is an unstable molecule, which tends to break down into other compounds. Some materials can break down VH2O2 more quickly, resulting in a loss of process effectiveness. The user must be aware that some materials (e.g. some plastics and some metals) can have a dramatic effect on the available VH2O2 by absorbing, adsorbing or decomposing VH2O2 at a higher rate [2,3,4,7].
5. The use of extra (nonessential) materials in VH2O2 sterilization is another variable that is dependent on the user and can introduce significant variation to the VH2O2 sterilization process. For example, foam tray liners, polyethylene sheet tray liners, underneath guard liners, bubble wrap tray liners and tray protectors, rubber corner protectors, foam pocketed instrument protectors, CI indicator holders, transport trays, oversized disposable sterilization wrap, 600 and 650 weight disposable sterilization wrap, and preformed disposable wraps are all examples of extraneous or nonessential materials in use in healthcare facilities. As described above, because VH2O2 cycles use a fixed amount of sterilant, best practices would be to limit or eliminate the use of any extra materials that could absorb the fixed amount of available VH2O2 sterilant.

The Keys to Success

These factors - a fixed amount of sterilant, a relatively unstable molecule, temperature variations, materials compatibility and use of extra nonessential materials make VH2O2 processes "technique sensitive", that is, variability introduced by the sterile processing team regarding the composition, weight, and temperature of the load can dramatically affect the outcome of the VH2O2 sterilization process. In addition, there are many VH2O2 sterilizer cycles available in the U.S. that have different indications for use, different loading weight limits, different VH2O2 concentrations (mg/L), and different sterilant exposure times. Let's look at some key best practices that can help address this complicated situation by reducing variability and the potential for VH2O2 sterilization process failures.

Chamber Loading – Weight and Spacing

Good sterilizer chamber loading practices are critical for effective VH2O2 sterilization. Do not overload the chamber. Know the weight limit for your sterilizer and the sterilization cycle(s) programmed on your sterilizer. VH2O2 sterilizers and cycles are cleared by the FDA with a weight limit per cycle (with exception of the STERRAD 100S where the load weight limit is not defined)[8]. A good rule of thumb is to ensure there is a minimum of a hand's width space between packages and items in the chamber (estimate about 1" space between). Items should not be stacked, should lay flat on shelves, and not contact the chamber walls or electrodes (if applicable). This type of loading allows the H2O2 vapor to easily access all the packages and devices; resist the practice of adding "just one more item".

Chamber Loading – Materials Compatibility

It is good practice to "know what you are loading, and only load what you know". It is imperative that all operators of VH2O2 sterilizers understand the composition of each load (devices and packaging) they place in the sterilization chamber. Some basic questions for this best practice include:

- Are the devices labeled for their specific VH2O2 sterilizer model and cycle type?
- Is the total load weight below the validated and FDA-cleared weight limit?
- Is the packaging type acceptable for use in VH2O2 and is the device weight under the limit for the packaging type?
- Could the device be labeled for another sterilization method like steam?
- Are there any nonessential extraneous packaging items that could be avoided?
- What is the total material composition of the load? Is the load overly weighted with items that have a higher propensity to deplete the fixed amount of VH2O2?

Understanding these basic variables for each VH2O2 load will help the sterile processing team discern the effects these factors have on the process and will ultimately help assure consistent and successful process outcomes.

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

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Rigid Containers, Plastic Trays and Lids

Rigid containers are a very important element of VH2O2 sterilization. These containers have advantages and limitations. Their use can increase standardization of procedures and reduce waste, but they can also introduce unexpected variation over time in a VH2O2 process. Some facilities have found that rigid container surfaces and materials are designed differently e.g., some are anodized, some are not anodized, and some are expected to change in appearance over time when used in VH2O2. One manufacturer also warns against the use of soft water for the final rinse because subsequent processing in VH2O2 can cause corrosion. Containers that are not validated for VH2O2 or have worn surfaces can cause material compatibility issues with VH2O2 processes.

Plastic trays and lids are containment devices that require a sterilization wrap or pouch to maintain sterile integrity once the containment device and its contents are sterilized. Manufacturers of containment devices (including plastic trays and lids) and packaging/disposable wraps are responsible for validating that their products are compatible with VH2O2 sterilization. Plastic trays and lids must have written instructions for use and the manufacturer should provide validation data on request for the labeled sterilization modality. The Instructions for Use (IFUs) should contain the recommended maximum weight and load distribution of the containment device and its contents.

Standards and IFUs

Vaporized hydrogen peroxide sterilization processes are complex and technique-sensitive. Consequently, understanding and carefully following all IFUs from the sterilizer manufacturer, medical device manufacturer, and packaging manufacturer are critical to success. In addition, the Association for the Advancement of Medical Instrumentation (AAMI) provides additional guidance on VH2O2 processes in AAMI ST58, "*Chemical sterilization and high-level disinfection in health care facilities*".[9] This standard provides the following points to consider for the effective use of VH2O2 sterilization:

a. Follow device and sterilizer manufacturers' written IFUs
b. No cellulose-based products (towels, gauze, or paper)
c. Lumen sizes cleared by the FDA (based on model + cycle)
d. Devices should be thoroughly cleaned and dried
e. Hinged instruments should be opened
f. Use only trays and mats per IFU and cleared by the FDA
g. Ensure adequate sterilant contact, follow all loading recommendations
h. Chemical indicators and *Geobacillus stearothermophilis* biological indicators cleared by the FDA to monitor VH2O2 sterilizers

Quality Control

A robust quality control program is essential for VH2O2 processes. AAMI ST58[9] recommends the use of physical monitoring (cycle printout), chemical indicators, and biological indicators inside of Process Challenge Devices (PCDs), with the information from all three monitors combined to make a decision on the quality of the process and whether or not the devices are safe and ready for patient use. The standard provides the following guidance on the use of chemical indicators, and biological indicators in PCDs:

"A CI should be used on the outside of each package unless the internal indicator is visible"[9].

"An internal CI should be used inside each package, tray, containment device (rigid sterilization container system, instrument case, cassette, or organizing tray) to be sterilized"[9].

"A PCD with the appropriate BI should also be used at least daily, but preferably in every sterilization cycle (see 9.5.4.5). Each load containing implantable devices should be monitored and, whenever possible, quarantined until the results of the BI testing are available"[9]

The standard acknowledges that achieving the highest level of assurance for VH2O2 sterilization processes will require both consistent adherence to IFUs as well as use of a rigorous QC program:

"Most temperature sensors indicate temperature in the chamber, not at the center of packs. Improper load configuration or package composition can interfere with air evacuation and sterilant penetration, conditions that will not be revealed in the temperature recording. Therefore, physical monitoring and other indicators of sterilizer performance should never be considered a substitute for careful adherence to prescribed packaging and loading procedures."[9]

Final notes regarding biological indicators for VH2O2

Currently, there is no international standard that provides performance requirements for biological indicators for VH2O2 sterilization processes. VH2O2 biological indicators from different manufacturers may be designed and tested differently, and there may be variation in the performance of these biological indicators. Since an international standard does not yet exist, the global healthcare industry has no standardization on performance requirements for BIs used in VH2O2. In the U.S., the FDA regulates biological indicators used in healthcare facilities and has a set of testing requirements for the clearance of VH2O2 biological indicators in the U.S. market. The FDA is the highest authority in the U.S. (not the sterilizer manufacturer) on the final decision on which biological indicators are cleared as compatible (safe and effective) for use in vaporized hydrogen peroxide sterilizers for healthcare facilities.

In addition, the evolution of biological indicator technology has reduced incubation times on biological indicators used to monitor VH2O2 process to 30 minutes or less. These fast readout times can enable more frequent monitoring of VH202 processes without interfering with the timing of the flow of instruments through the sterile processing department.

Conclusion

Vaporized hydrogen peroxide sterilization is a complex and technique-sensitive process that requires strict adherence to IFUs from the sterilizer manufacturer, the instrument manufacturer, and the manufacturer of the packaging used in the load. In addition, a rigorous quality control program based on the use of physical sensors, chemical indicators, and biological indicators inside of PCDs is required. HPN

3M Health Care sponsored this article.

Craig Wallace, President of Wallace Sterilization Consulting, LLC, has over 26 years of experience in the field of medical device disinfection and sterilization. Craig is the Convenor of the ISO Biological Indicator Working Group (TC 198, Working Group 4), the ISO committee responsible for international biological indicator performance standards, as well as a U.S. Technical Expert for Chemical Indicators (ISO WG 6) and Moist Heat Sterilization (WG 3). He is also the Co-Chair of the United States (AAMI) Biological Indicator Working Group, and an active member of several other AAMI working groups including chemical indicators, vaporized hydrogen peroxide sterilization, and ethylene oxide sterilization.

References:

1. Technical Data Monograph STERIS V-PRO maX Document #10037127 Rev. C (M3635EN)
2. Block Seymour, Peroxygen Compounds. *Disinfection, Sterilization, and Preservation*, Seymour Block, 5th edition, 2001, Chapter 9.
3. U.S Patent 6,528,016 B1 March 4th, 2003 Kohler et al.
4. U.S Patent 6,875,399 B2 April 5th, 2005 McVey
5. FDA 510(k) K042116 _ STERRAD NX Sterilizer
6. FDA 510(k) K071385_ STERRAD 100NX Sterilizer
7. U.S Patent 5,830,409 November 3rd, 1998, Childers et al.
8. FDA 510(k) K111377 _ Summary ASP STERRAD 100NX STERILIZER DUO CYCLE
9. ANSI/AAMI ST58, *Chemical sterilization and high-level disinfection in health care facilities.* Association for the Advancement of Medical Instrumentation. 2013 (R2018).

CONTINUING EDUCATION TEST • APRIL 2020

Keys to success with vaporized hydrogen peroxide sterilization

Circle the one correct answer:

1. **"Technique sensitive" is a term to describe potential variability introduced by the sterile processing department personnel that can have a significant impact on the outcome of the VH2O2 sterilization process?**
   A. True B. False
2. **VH2O2 sterilization cycles and containers have loading weight limits?**
   A. True B. False
3. **Best practice is to limit the use of extra or nonessential materials in VH2O2 sterilization?**
   A. True B. False
4. **AAMI ST58 states: "A PCD with the appropriate BI should also be used at least daily, but preferably in every sterilization cycle"?**
   A. True B. False
5. **There is no requirement for a sterilizer manufacturer to validate nor endorse indicators designed to monitor their sterilizers?**
   A. True B. False
6. **Sterilizer manufacturers determine which biological indicators can be used to monitor their sterilizers.**
   A. True B. False
7. **AAMI ST58 provides recommended practices for VH2O2 sterilization.**
   A. True B. False
8. **All rigid containers have been validated to contain the same weight of instrumentation.**
   A. True B. False
9. **The FDA clears all indicators for use in monitoring VH2O2 sterilization processes.**
   A. True B. False
10. **Inappropriate loading may not be detected by the physical monitors of the sterilizer (cycle printout).**
    A. True B. False

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IAHCSMM VIEWPOINT

Investing in educators & focused SP training promote patient safety, better outcomes

by David Taylor, MSN, RN, CNOR

People are Sterile Processing (SP) leaders' number one asset. Without the right people, it is impossible to run a department effectively; however, it takes more than warm bodies to keep the department running smoothly and, above all, safely. Effective leaders must be knowledgeable of current evidence-based practices to effectively assess their staff members' abilities. Leaders must ask themselves: *Do all employees function at a high enough level to mitigate errors and consistently deliver top-quality instruments and services to meet their customers' needs?* Far too often, leaders find the answer to that question is **not** a resounding "Yes."

Staffing levels and other essential resources are often strained in many healthcare facilities, which impedes the department's ability to meet the needs of its customers at critical times. Minimizing errors is a key component to customer satisfaction and successful patient outcomes, but many Sterile Processing departments (SPDs) today lack a full team of well-trained staff members who can perform any and all aspects of the job well (and across all shifts).

The power of dedicated educators

The experience, comprehension and skill sets of SP professionals can be critical differentiators in the delivery of quality healthcare. Unfortunately, many healthcare facilities still fail to invest in developing their SP staff. Whatever training these professionals do receive is often from the person or people available on the shift they have been assigned. Those assigned to orient new staff may lack formal training as an educator and they may not have received training to validate they have the necessary knowledge and skills to serve as an effective preceptor. Over time, the information transferred from one employee to the next can become less objective and key steps and processes may not necessarily be covered or even understood.

Employees who learn on the job from existing staff members as opposed to a dedicated educator may pick up departmental processes and habits that may not be associated with best practices. Additionally, the lack of a dedicated orientation program limits new employees' understanding about the science behind their job responsibilities. Production pressures, the complexity of instruments and the unique design of today's instrumentation and devices used in invasive procedures make it all the more imperative that SP professionals understand the science and theory behind what they do, so they are better equipped to make critical, appropriate decisions throughout the day.

To avoid diluting the science and avoid task-oriented work, healthcare systems should strongly consider incorporating a full-time educator into their budget to work alongside the SP leadership team. An effective educator can help the SP team master skills more quickly and help them better understand the science behind sterilization. Understanding the "why" makes all the difference in quality outcomes. The cost of this full-time-equivalent (FTE) can be offset by reducing orientation time for new employees and helping prevent instrument tray errors and poor service-related behaviors. In addition, an educator can develop internal policies and procedures that are easily accessible, provide clear explanations, and include photos and checklists that explain the processes in easy-to-understand, step-by-step instructions for all tasks in which the SPD is responsible.

Evaluate to ensure program delivers value

A thorough evaluation of SP professionals' capabilities is an important component when establishing a targeted education program. Knowing employees' capabilities and grouping staff members with similar skill levels will help establish a state-of-the-art, evidence-based education program that is most efficient and cost effective.

Initial education is only the first step. Once a program is designed and in place, it is important to reevaluate frequently and make adjustments, as needed. Organizations could consider an ongoing educational program that engages staff at all levels. Leaders should invest in their employees through a broader educational program, such as through a competency-based training program, cross training initiatives, and regularly scheduled inservicing and education days. Additional approaches to consider include train-the-trainer programs and effective use of certified tenured staff as preceptors. Encouraging and promoting advanced SP-related certification, conference attendance (local, regional and/or national) and providing memberships in professional organizations can incentivize employees in ways that improve satisfaction and retention and reduce the risk of negative outcomes.

Conclusion

Far too often, healthcare facilities fail to invest in their staff members' education, and busy SPDs struggle to find time to adequately train and update personnel on the latest technological advances and best practices, and the high level of care needed in today's SP discipline. It is imperative that SPDs employ an experienced educator who is actively engaged in day-to-day operations and observing every aspect of the job.

As new regulations, standards and guidelines are rolled out, it is essential that SP professionals are well trained and capable of delivering the highest level of service. Without proper training and education, hospitals and health systems are at risk of experiencing negative outcomes that will cost them money, jeopardize the organization's reputation and, above all, place patients at risk. The SPD bears a great deal of responsibilities and hospital and health system executives need to understand that the department is just as important as the areas of the hospital it supports. HPN

David L. Taylor, MSN, RN, CNOR is an independent hospital and ambulatory surgery center consultant and the principal of Resolute Advisory Group LLC, in San Antonio, Texas.

SUBMIT YOUR QUESTIONS: **editor@hpnonline.com**

Adhering to IFUs; developing SP staff productivity standards

by Ray Taurasi, Principal, Healthcare CS Solutions

Q We have handpieces and the IFU states to sterilize them at 270 F for 15 minutes. We have Dynamic Air Removal but it does not use those exposure times and temps. I found a pouch but the IFU states it has been tested for double pouching in the Gravity cycle for 270 F/15 min. Even though the IFU for the handpieces does not state whether they go in a double pouch, can we still do this? I guess my question is, can any instrument be double pouched if the peel pouch IFU has been tested this way?

A If a pouch manufacturer has Validation for double pouching for the sterilization method and parameters you are using, then any device or instrument with an IFU stating the same sterilization requirements should be able to be double pouched.

It is essential that you follow the IFU including the sterilization requirements. In the March CS Solutions column, I addressed the topic of double pouching. To read it, visit https://hpnonline.com/21126087.

Q I am an RN and recently started a new position in the sterile processing department as the education and quality assurance specialist. The director requested that I establish productivity standards for staff output performance. I spoke to a QA specialist from another hospital within our health system, and she suggested I begin by gathering statistics related to patient days, bed capacity vs. ORs, average daily census and surgical case load. For the novice that I am it seems a bit overwhelming and like that information might not lead to what I need to get for sterile processing staff productivity. Where would you suggest I start? And what should I include from the list she suggested?

A In my many years in the profession, I have visited and consulted for many ORs and sterile processing departments, and one thing I have found is that as much as you think they are alike they are different. While they may share many commonalities the scope and span of their duties and responsibilities varies widely. Obviously, I know little about the specifics of your department to be able to give you detailed advice to get to where you may want to be. That said, one thing that seems to be a common thread amongst sterile processing departments is the responsibility of reprocessing surgical instruments.

In the suggested list your colleague provided, it appears to me that surgical case volume would likely be a key indicator for workload productivity for a sterile processing department. You must of course be mindful that surgical case volume itself does not take into consideration the difference in complexity of instrumentation required from one type of surgery to another. For example, one procedure may require one minor set containing noncomplex general instruments while another procedure may use eight sets of very complex, multi-part specialty instruments, implants and accessories totaling a few hundred pieces.

Case volume and the nature of a procedure could vary greatly from one day to the other, so you will need to factor this into the development of your statistical formula and adjust accordingly. Monitoring the number of trays processed daily would be a good index. Based on the complexity of sets you could categorize sets as A - for very complex, B - standard and C – simple. A representative number of staff at different skill levels would be accessed to determine the length of time it takes them to reprocess sets in each category. From this information, you could establish a standard of performance that would be utilized to determine actual daily workload output. There are software programs available that allow you to enter your information into the system for routine productivity monitoring. The information garnered can provide you with individual performance as well as allow you to determine needed resources such as staffing, instrumentation and processing equipment in order to proficiently meet customer needs. **HPN**

Ray Taurasi is Principal, Healthcare CS Solutions. His healthcare career spans over three decades as an Administrator, Educator, Technologist and Consultant. He is a member of AORN, AHA, SGNA, AAMI and a past president of IAHCSMM. Taurasi has been a faculty member of numerous colleges teaching in the divisions of business administration and health sciences.

How standards support supply continuity

by Karen Conway, Vice President, Healthcare Value, GHX

Significant disruptions in the healthcare supply chain, whether from natural disasters, major recalls, or more recently the impacts of COVID-19, are raising awareness about the importance of standardization, whether it be in how we identify products or locations, or how we report potential or actual supply continuity risks. In this month's issue of Standard Practices, we explore the role of standards through the collaborative work underway between the Strategic Marketplace Initiative (SMI) and the Health Industry Distributors Association (HIDA), as well as the AHRMM Learning UDI Community (LUC) UDIs in Recalls work group.

Even before the surgical gowns recall, the closure of sterilization facilities, and the impacts of COVID-19 became apparent, both SMI and HIDA had launched supply continuity and visibility initiatives. While still a work in progress, SMI consultant John Lebowitz says they are uncovering challenges associated with a lack of standards.

Standardizing essential product lists: The SMI Initiative team is seeking to standardize a list of the 100 or so essential products that a hospital would never want to operate without. Such lists are not new, but different healthcare systems often create their own lists in isolation and manage the inventory of those products independently. At a global level, the World Health Organization (WHO) has developed what it calls Priority Medical Products lists for "specific preventive, diagnostic, treatment or rehabilitation procedures carried out in most health care facilities." More on that to follow.

Standardizing supply risk reporting: Once a standardized essential product list is created, the SMI team plans to work with supply risk experts to create a tool to help providers assess upstream supply disruptions for those products based on their specific vendors and where their products are manufactured. One of the companies participating in the initiative, Resilinc, created a standardized template that manufacturers, across multiple industries, can use to report supply continuity data to their customers. CEO and founder Bindiya Vakil recognized, when she worked for CISCO, that completing different templates for individual customers was increasing costs for manufacturers, and was the impetus behind Resilinc.

A role for standard identifiers: Currently, the Resilinc tool uses whatever part numbers manufacturers and providers say they use to identify products in question. Conceivably, if both manufacturers and providers were to use an industry standard identifier, such as a unique device identifier (UDI-DI), it would be easier for all involved, from trading partners to technology companies, to manage the data. Identifying locations where products are produced could similarly be more easily managed with the use of an industry standard such as the GS1 Global Location Number (GLN) if shared across parties.

The value of visibility: Once they start monitoring supply risk, Vikal says many buying organizations often realize they only have the location for a vendor's corporate office and not where the products are actually produced. With better visibility, trading partners can proactively develop contingency plans based on identified risks. For example, if a devasting hurricane is headed toward a manufacturing location, such as when Maria hit the island of Puerto Rico, both buying and selling organizations could proactively identify which facilities and products may be at risk and start identifying alternate sources of supply should a disruption occur.

Classification is key: As part of its global efforts, especially for developing countries, the WHO is working on a new medical device nomenclature to help manage priority product supplies. WHO recognizes that there are numerous schemas in use for different purposes, e.g., procurement, accounting, stock keeping, regulatory affairs, adverse medical device event reporting, and customs operations. WHO is coordinating with those other systems, including the Global Medical Device Nomenclature (GMDN), which is part of the required data for the U.S. UDI rule, and the new European Medical Device Nomenclature being developed as part of the European Medical Device Regulation (MDR) that includes UDI requirements. The WHO nomenclature would be freely available to all stakeholders and exportable to healthcare information systems, making it easily used for tracking as an element associated with UDI-DIs. If a specific product on the priority list is in short supply, for whatever reason, a classification code linked to the UDI-DI for that product can help identify other products that could be purchased as alternatives.

Standard communications around supply continuity: Optimizing visibility around supply continuity is also enhanced by standardizing how backorders are communicated. In a 2013 best practices paper on communicating line order status on purchase order acknowledgements (POAs), GHX recommended suppliers use standardized codes to communicate various types of backorders, as follows:

Entire Line Item Backordered (opt: known delivery date)	
Status Used:	IB Item Backordered
Data Included:	Quantity, Expected Delivery Date (optional)
Partially Backordered Line Item	
Status Used:	BP Item Accepted – Partial Shipment, Balance Backordered
Data Included:	Quantity Backordered, Paired with Additional Segment with Accepted Status and Quantity
Item Backordered – Unknown Expected Ship Date	
Status Used:	SP Item Accepted – Schedule Date Pending
Data Included:	Quantity

STANDARD PRACTICES

Recall communications: In early discussions, the AHRMM LUC UDIs in Recalls workgroup noted how recall responses can be streamlined if manufacturers were to use UDIs in recall notices and if providers were to electronically capture UDIs for products purchased, held in stock and/or used in patient care electronically. Digitization combined with standardization across systems and organizations can improve response time and patient safety.

Shortage communication: Finally, FDA Commissioner Stephen Hahn has called on manufacturers and providers to voluntarily report supply shortages related to COVID-19. If those communications also included UDIs, think of how we could more easily identify alternate sources elsewhere in the system to meet the demand, either in the form of excess inventory at other hospitals, or by using classification systems to identify and locate substitutions. HPN

How are standards helping you respond to supply shortages? I'd love to hear from you. Kconway@ghx.com

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Predictable, transparent decision making a critical difference

by Dee Donatelli, R.N., MBA, CMRP, CVAHP

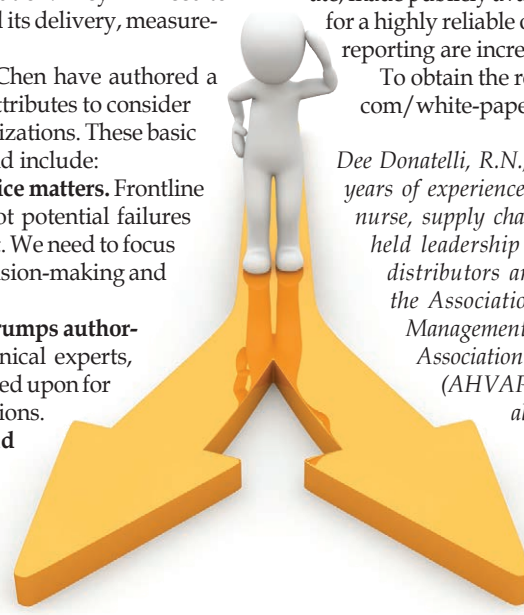
Today the advancements in healthcare technologies and patient care delivery occur faster and faster. Unfortunately, most organizations struggle to keep pace. In order to adapt, successful health systems need to focus on quality and process improvements that ensure improving both patient care and their bottom line.

Rather than becoming bogged down with cumbersome internal politics, more transparent decision-making processes must be embraced. The benefit is that everyone involved in the care delivery system is part of the process, which will result in cultural and moral improvement as well as patient satisfaction that extends well beyond the balance sheet. For those who haven't already done so, the logical place to begin is in the value analysis committee process. Advancing traditional value analysis beyond the historical supply chain focus is absolutely key to evidence-based performance improvement.

Despite advances in medical science and technology, our healthcare system doesn't always translate knowledge into practice; thus not all caregivers apply new technology safely and appropriately. All too often, this leaves healthcare providers questioning the key business decisions that impact patient care. We have all heard "who made that decision?" Often decisions are a result of inefficient and variable processes, not individuals. These shortcomings have financial ramifications that the advent of value-based medicine has emphasized. With reimbursement now closely tied to clinical outcomes, demonstrating measurable improvements in care is more critical than ever. Clinicians, specifically physicians, are an essential component of any solution. They will need to lead the reinvention of healthcare and its delivery, measurement and improvement.

Dr. Mark Kestner and Dr. Li Ern Chen have authored a white paper that points us towards attributes to consider as we formulate highly reliable organizations. These basic elements are key to future success and include:

1. **Sensitivity to operations; every voice matters.** Frontline staff are in the best position to spot potential failures and identify areas for improvement. We need to focus on clinical processes that guide decision-making and operational improvements.
2. **Deference to expertise; expertise trumps authority.** We depend upon experts. Clinical experts, more than executives, should be relied upon for decision making in high-risk situations.
3. **Preoccupation with failure; find trouble before it finds you.** Recognize that any deviation from expected results can escalate into disaster. All staff need to have a role in the identification of process breakdowns.
4. **Reluctance to simplify; don't keep it simple.** We need to reject simple diagnosis of problems. We should challenge long-standing beliefs about why a problem occurred. We examine data and conduct root cause analyses.
5. **Commitment to resilience; rapid operational response.** Healthcare organizations need to continually anticipate trouble spots, prepare for emergencies, identify errors and develop innovative solutions.



Select organizations have begun the journey to become much more transparent and predictable in their decision-making process. As we begin to see clinical effectiveness become the foundation upon which healthcare decisions are based, the expanded membership in these activities are including non-traditional members of the healthcare team, such as Supply Chain. Some key attributes that high-reliability organizations have embraced include standardization of process, a team focus and flexibility in a willingness to modify process with a focus on continuous improvement. When organizations realize that everyone has a role in achieving high reliability, those organizations begin to achieve much greater value not only for their own viability but for the highest outcomes for the people they serve.

As Kestner and Chen conclude, "There is no one-size-fits-all approach to quality improvement. What is true is that to promote movement toward zero patient harm, quality initiatives should focus on meeting patient needs. This requires measurement, transparency and accountability. Quality improvement metrics and KPIs must be identified, tracked, acted upon, and, when appropriate, made publicly available. This is more than just best practices for a highly reliable organization, as quality measurement and reporting are increasingly required for reimbursement."

To obtain the referenced white paper visit tractmanager.com/white-papers/. HPN

Dee Donatelli, R.N., MBA, CMRP, CVAHP has more than 40 years of experience in the healthcare industry as a registered nurse, supply chain executive and consultant. Donatelli has held leadership positions in hospitals, consulting firms, distributors and GPOs. Donatelli currently is Chair of the Association for Healthcare Resource and Materials Management (AHRMM) and is a past president of the Association of Healthcare Value Analysis Professionals (AHVAP). A Bellwether Class of 2015 inductee, she also serves on Bellwether League's Board of Directors. Donatelli currently serves as Vice President, Professional Services, at TractManager and as Principal, Dee Donatelli Consulting, LLC. She is a member of Healthcare Purchasing News' Editorial Advisory Board and can be reached at dee.donatelli@tractmanager.com.

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