$7.00

February 2022 • Vol. 46 No. 2

HEALTHCARE PURCHASING NEWS®

CLINICAL INTELLIGENCE FOR SUPPLY CHAIN LEADERSHIP

www.hpnonline.com

Sponsored Content

Green Cash Flow

Upgrade your Ear and Electronic Thermometers to Exergen TAT-5000 Temporal Artery Thermometers

Cost Benefits:

- $100 Upgrade Credit per Thermometer
- 100% Reduction in Operating Costs
- Less Than 1 Year Payback
- 100% Reduction in Waste
- Lifetime Warranty

Clinical Benefits:

- Highest Patient Satisfaction
- Highest Nursing Satisfaction
- Highest Biomed Satisfaction
- Use on All Ages and in All Clinical Settings
- More than 100 peer-reviewed published clinical studies supporting accuracy

See reverse side for offer details

Contact HPN:
email: hpn-subscriptions@endeavorb2b.com /phone: 941-927-9345 / fax: 941-927-9588

For more details: 617-923-9900 x6234
Email: medical@exergen.com
More info: www.exergen.com

Invented, designed, assembled, tested, and packaged in the U.S.A. by Exergen

Green Cash Flow Offer

Q: How does the $100 upgrade credit work?

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

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

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

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

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

Q: What does a 1 year payback mean?

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

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

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

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

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

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

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

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

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

For more details: 617-923-9900 x6234
Email: medical@exergen.com
More info: www.exergen.com

Invented, designed, assembled, tested, and packaged in the U.S.A. by Exergen

EXERGEN®
Accuracy Matters

$7.00

February 2022 • Vol. 46 No. 2

HEALTHCARE PURCHASING NEWS®

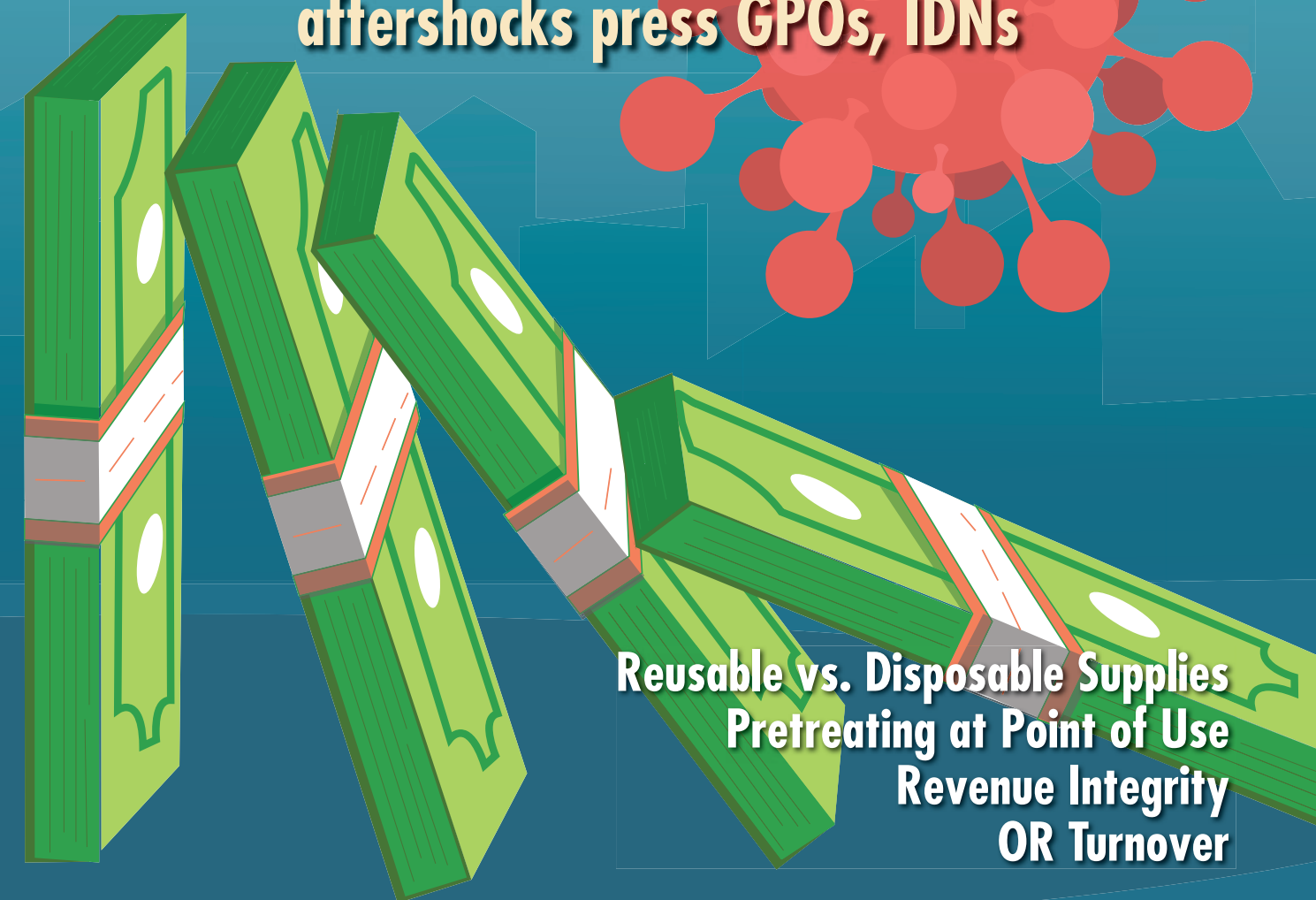
CLINICAL INTELLIGENCE FOR SUPPLY CHAIN LEADERSHIP

www.hpnonline.com

45 years

GPO & IDN Contracting

Ongoing pandemic, lingering supply chain aftershocks press GPOs, IDNs



Reusable vs. Disposable Supplies

Pretreating at Point of Use

Revenue Integrity

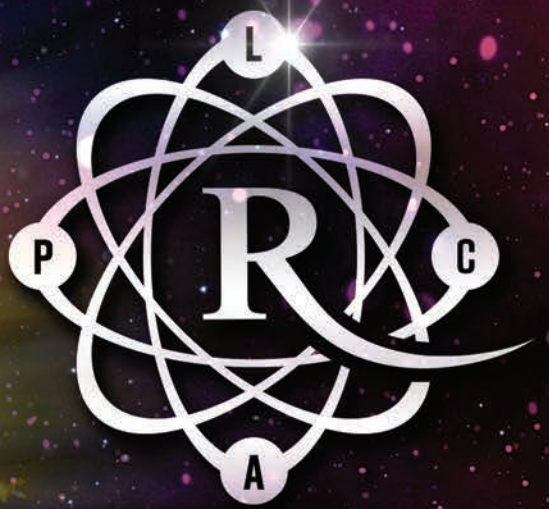
OR Turnover

A STAR IS BORN!

*FOR THE **EFFECTIVE DECONTAMINATION** OF SURGICAL INSTRUMENTS & ENDOSCOPES*

OPTIMIZED FOR SPEED & EFFICIENCY

*A POWERFUL PERFORMANCE WITH **4 NEW ENZYMES***



MANUAL CLEANING "AT THE SINK" ULTRASONIC

AUTOMATIC WASHERS

The two Elementum formulations were born from the fusion of 4 robust chemical forces in the form of **POWERFUL NEW ENZYMES.** These **ALL NEW** Protease, Amylase, Lipase, and Cellulase Enzymes are synergistically blended to produce two **BEST-IN-CLASS** formulations which rapidly break down tough-to-clean medical soils including the multi-layers of bioburden. Clinically tested for use in manual cleaning **AT-THE-SINK**, in Ultrasonic Machines and in Automatic Washers **ELEMENTUM HAS SIMPLY BEEN OPTIMIZED TO CLEAN BETTER*** Use it and experience **ELEMENTUM'S STAR POWER!**

****ELEMENTUM EXCLUSIVELY MEETS THE QUALIFYING CHARACTERISTICS OF AN OPTIMAL DETERGENT PER AORN, AAMI AND ASTM D8179 GUIDELINES.***

RUHOF

WWW.RUHOF.COM • 1-800-537-8463

AD 60 081420

IN THIS ISSUE...

February 2022 • Volume 46, No. 2

HEALTHCARE PURCHASING NEWS

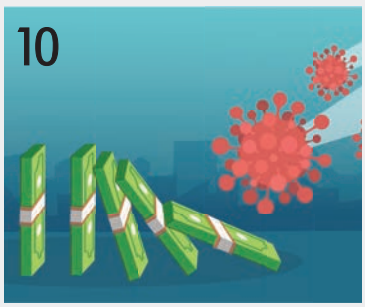


Photo credit: Feodora | stock.adobe.com

Photo credit: Gorodenkoff | stock.adobe.com

Photo credit: Kot63 | stock.adobe.com

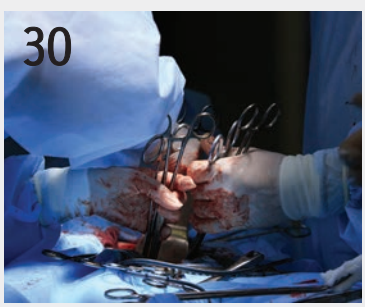


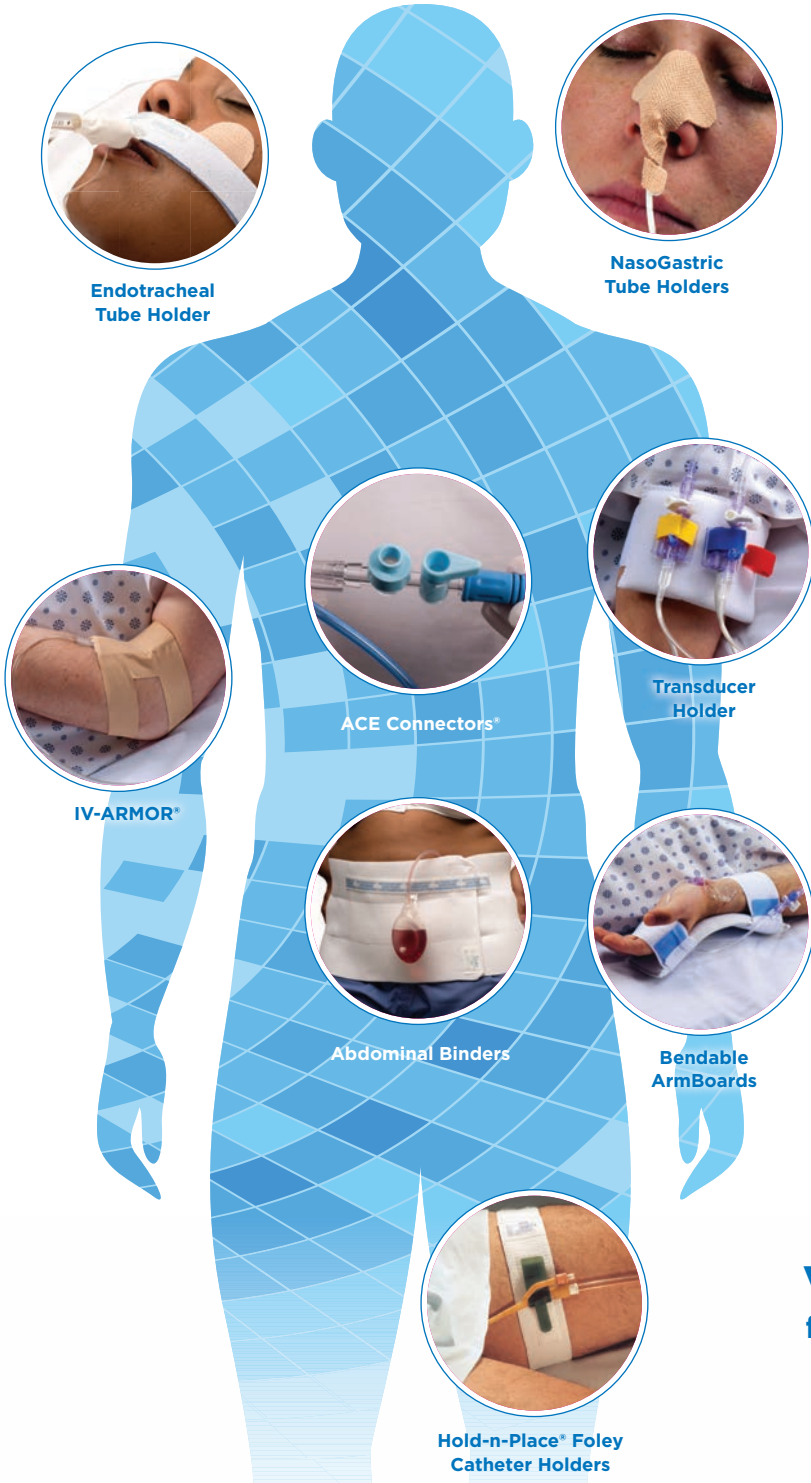
Photo credit: vzmaze | stock.adobe.com

Photo credit: kentoh | stock.adobe.com

Why Choose Dale?

Security You Can Count on

Always Better



Dale products have been providing security without compromise for more than 60 years. Dale offers a range of products to help you provide the best care for your patients.

ENTERAL

- NasoGastric Tube Holders
- ACE Connectors®

RESPIRATORY

- Tracheostomy Tube Holders
- Endotracheal Tube Holder

VASCULAR

- Bendable ArmBoards
- Transducer Holder
- IV-ARMOR®

UROLOGICAL

- Foley Catheter Tube Holders

POST SURGICAL

- Abdominal Binders
- Post Surgical Bras
- Nasal Dressing Holder

Visit www.dalemed.com
for more information on each product and to request evaluation samples

Dale®
Always Better

BUYLINE

Rick Dana Barlow
Senior Edior

Red sky in mourning ...

Last fall marked the 20-year anniversary of the 9/11 terrorist attacks on American soil, a somber milestone and stark remembrance that must never be forgotten – not only for the lives lost and sacrifices made, but also for the lessons learned.

One, in fact, can be applied to the global pandemic's impact on the supply chain.

The anniversary attracted its share of televised documentaries, historical recaps and points of view from multiple angles and directions – and rightly so.

One, however, titled, "9/11: Four Flights," resonated sharply. Commentary included keen insights from three persons whose acute perspectives could have been a rallying cry for crisis management in healthcare – particularly a global pandemic two decades later. The old adage, "red sky at night, sailor's delight; red sky in morning, sailor's warning," signifies a brewing storm and could not be a more apt metaphor.

"The thinking on 9/11 was that a terrorist is not going to board an airplane with a bomb because they might get hurt," Lynn Spencer, author, "Touching History," and National Transportation Safety Board (NTSB) accident investigator. Call this Red Flag No. 1.

"The idea of a suicide bomber, of a suicide pilot, had never been contemplated as a serious threat," followed Garrett Graff, author, "The Only Plane in the Sky." Call this Red Flag No. 2.

John Farmer, Senior Counsel, 9/11 Commission, wielded the soul-crushing blow, throwing down a gauntlet representing Red Flag No. 3: "There was a systemwide failure of imagination. After all the dollars we spent, there was nothing anyone could do. They all boarded the plane. They'd gone through everything, all the layers of security. They're now sitting in those seats, and at that point, it's just going to play out."

Farmer's initial seven words should reflect a sharp dagger puncturing the collective consciousness, a reverberating clarion call, a red alert for any prognosticating efforts.

A systemwide failure of imagination.

Put another way, those crazy ideas purported by some mid-level manager in the Crisis Management Team or the Resiliency Planning meeting maybe aren't so outlandish after all. Bottom line: If someone can conceive or think it, someone can do it.

This is not to condemn the far-reaching, wide-ranging efforts of crisis/disaster planning managers to date.

In fact, back in the 1990s, infection preventionists at the APIC conferences were sounding the alarm for vancomycin-resistant enterococci (VRE), a superbug unaffected by our last line of antibiotic defense. Meanwhile, supply chain executives, leaders and managers routinely were prepping responses to a wide variety of weather-related crises and disasters, punctuated by the World Trade Center parking garage bombing in 1993 and the Oklahoma City bombing in 1995.

Instead, however, this is more of an upbraid to us for not going far enough. To quote a pop culture refrain, this means to infinity and beyond. Truly open-minded thinking should not be a toy story.

For the first two decades of the 21st century, we've faced more than a dozen crises, disasters and medical maladies with COVID-19 representing a capstone, if not a harbinger. What's next?

Two years of a respiratory-spread global pandemic represents sufficient time to think big, think twice. THINK or sink.

Our supply chain, our society, depends on it.

EDITORIAL

Publisher/Executive Editor *Kristine Russell*
krussell@hpnonline.com
Senior Editor *Rick Dana Barlow*
rickdanabarlow@hpnonline.com
Contributing Editor *Kara Nadeau*
knadeau@hpnonline.com
Assistant Editor *Erin Brady*
ebrady@hpnonline.com
(941) 208-0197

ADVERTISING SALES

East Coast *Blake and Michelle Holton*
(407) 971-6286
Midwest *April Bruffy*
(713) 936-5076
West Coast *Blake and Michelle Holton*
(407) 971-6286

ADVERTISING & ART PRODUCTION

Ad Contracts Manager *Ray Porter (941) 202-3557*
Art Director *Tracy Arendt*
List Rentals *Laura Moulton (941) 259-0859*

SUBSCRIPTION RATES

Annual Subscriptions (prepaid only) — **Discounts:**
U.S.: $128.00 **Canada/Mexico:** $155.00 — 2 yrs: 10%
Foreign A/O: $221.00 **Digital Subscription**: $60.00 — 3 yrs: 15%
Current Issue
U.S.: $15.00 **Canada/Mexico/Foreign A/O:** $20.00
Back Issue
U.S.: $17.60 **Canada/Mexico/Foreign A/O:** $22.00

CHANGE OF ADDRESS

Subscribers: For change of address, send your old and new addresses to *Healthcare Purchasing News*, 2477 Stickney Point Road, Suite 315B, Sarasota, FL 34231. Fax: (941) 927-9588, Email: *hpn-subscriptions@endeavorb2b.com*. Allow 4 to 6 weeks for correction. All other inquiries, call Tiffany Coffman at (941) 259-0842.

CORPORATE TEAM

Healthcare Purchasing News (ISSN: 1098-3716) is published monthly by Endeavor Business Media, 2477 Stickney Point Road, Suite 315B, Sarasota, FL 34231, Phone: (941) 927-9345, Fax: (941) 927-9588,

ENDEAVOR BUSINESS MEDIA

CEO Chris Ferrell
President June Griffin | **CFO** Mark Zadell | **COO** Patrick Rains
Chief Administrative and Legal Officer Tracy Kane
EVP Special Projects Kristine Russell

www.hpnonline.com, Business hours: 8:00 a.m.-5:00 p.m. EST.

Office of publication: Periodicals Postage Paid at Nashville, TN 37209 and at additional mailing offices.

Postmaster: Send address changes to: *Omeda (Healthcare Purchasing News)*, PO Box 3257, Northbrook, IL 60065-3257.

VERIFIED AUDIT CIRCULATION

Printed in USA
Paper manufactured in USA
Soy ink made in USA

facebook.com/hpnonline
twitter.com/hpn_online
linkedin.com/company/healthcare-purchasing-news/

FACTORY-DIRECT QUICK SHIPMENTS

MANY ITEMS SHIP SAME-DAY

Despite the current chaos of global supply chain disruptions and container chokepoints, DETECTO continues to provide quick lead times on freight for most products from the company's centralized US factory. Proudly employing 280 American production and professional staff, DETECTO's Webb City, MO factory and headquarters is centrally located in our nation's heartland for freight distribution.

As a company ethos, DETECTO cares greatly about boosting our domestic economy, providing quick lead times, manufacturing quality products, and creating more American job opportunities. The US factory in a central location means that you get your products quicker when you need them, whether they are scales, medical carts, waste receptacles, glove box holders, or stadiometers. Many items ship the same day.

DON'T GET CAUGHT SHORT. BUY DETECTO.

DETECTO®

www.Detecto.com

DETECTO • 102 East Daugherty St. • Webb City, MO 64870 • (800) 641-2008 • detecto@cardet.com • www.Detecto.com

FAST STATS

The American Academy of Pediatrics and the Children's Hospital Association are collaborating to collect and share all publicly available data from states on child COVID-19 cases.

OVER 580,000

child COVID-19 cases were reported for the week ending January 6th, a 78% increase over the 325,000 cases reported the week ending December 30th and almost triple the case counts from the two weeks prior.

11%

of the nearly 8.5 million COVID-19 cases in children have been added between December 27, 2021 and January 10, 2022.

11,255

is the number of cases per 100,000 children in the population.

17.4%

of all COVID-19 cases are children.

1.7%-4.3%

of the total cumulated hospitalizations from 24 states and NYC were child COVID-19 cases.

0.1%-1.6%

of 24 states and NYC child COVID-19 cases resulted in hospitalization.

12%

is the increase in the cumulated number of child COVID-19 cases since the beginning of the pandemic over two weeks, 12/23/21-1/6/22

6,431

is the number of children who have contracted Multisystem Inflammatory Syndrom (MIS-C), as a complication to COVID-19

Source: The American Academy of Pediatrics and the Children's Hospital Association

https://www.aap.org/en/pages/2019-novel-coronavirus-covid-

Image by Pete Linforth from Pixabay

NEWSWIRE

IAHCSMM is now HSPA

The International Association of Healthcare Central Service Materiel Management (IAHCSMM), is now The Healthcare Sterile Processing Association (HSPA). The new name represents a clearer description of what the association stands for and healthcare Sterile Processing (SP) professionals worldwide. The switch from IAHCSMM to HSPA officially took effect January 1, 2022.

HSPA says that "Sterile Processing professionals are responsible for cleaning, decontaminating, sterilizing, and distributing medical and surgical instrumentation, and therefore they are among the most vital contributors to the delivery of safe, high-quality patient care. For more than 60 years, HSPA has been providing these professionals with the broadest range of certification and continuing education offerings available, along with the unsurpassed support that only a full-service membership organization can bring."

Last summer, members of the International Association of Healthcare Central Service Materiel Management (IAHCSMM) cast their votes regarding the proposed name change from IAHCSMM to the Healthcare Sterile Processing Association (HSPA), with a tagline of "Professionals Instrumental to Patient Safety."

The next HSPA annual meeting is scheduled to take place April 23rd - April 27th, 2022, at the Henry B. González Convention Center in San Antonio, Texas.

The new website is https://myhspa.org

Health insurance plans required to cover the cost of at-home COVID-19 tests

As part the Administration's efforts to expand Americans' access to free testing, insurance companies and group health plans will need to cover the cost of over-the-counter, at-home COVID-19 tests, so people with private health coverage can get them for free starting January 15th, announced in a release by the Centers for Medicare & Medicaid Services (CMS).

The new coverage requirement means that most consumers with private health coverage can go online or to a pharmacy or store, buy a test, and either get it paid for up front by their health plan, or get reimbursed for the cost by submitting a claim to their plan. This requirement incentivizes insurers to cover these costs up front and ensures individuals do not need an order from their healthcare provider to access these tests for free.

Beginning January 15, 2022, individuals with private health insurance coverage or covered by a group health plan who purchase an over-the-counter COVID-19 diagnostic test authorized, cleared, or approved by the U.S. Food and Drug Administration (FDA) will be able to have those test costs covered by their plan or insurance. Insurance companies and health plans are required to cover 8 free over-the-counter at-home tests per covered individual per month.

That means a family of four, all on the same plan, would be able to get up to 32 of these tests covered by their health plan per month. There is no limit on the number of tests, including at-home tests, that are covered if ordered or administered by a healthcare provider following an individualized clinical assessment, including for those who may need them due to underlying medical conditions.

Over-the-counter test purchases will be covered in the commercial market without the need for a healthcare provider's order or individualized clinical assessment, and without any cost-sharing requirements such as deductibles, co-payments or coinsurance, prior authorization, or other medical management requirements.

As part of the requirement, the Administration is incentivizing insurers and group health plans to set up programs that allow people to get the over-the-counter tests directly through preferred pharmacies, retailers or other entities with no out-of-pocket costs.

Insurers and plans would cover the costs upfront, eliminating the need for consumers to submit a claim for reimbursement. When plans and insurers make tests available for upfront coverage through preferred pharmacies or retailers, they are still required to reimburse tests purchased by consumers outside of that network, at a rate of up to $12 per individual test (or the cost of the test, if less than $12). For example, if an individual has a plan that offers direct coverage through their preferred pharmacy but that individual instead purchases tests through an online retailer, the plan is still required to reimburse them up to $12 per individual test.

ONC-HHS initiative aims for data standards for patient addresses in healthcare

A new initiative to create standards for specifications that could be used across the healthcare industry for patient addresses (mailing, physical, billing, etc.) to improve patient matching is being developed.

The U.S. Department of Health and Human Services' (HHS) Office of the National Coordinator for Health Information Technology (ONC), in collaboration with standards development organizations (SDOs) and health IT stakeholders, released

3 Simple Products for a Safer Environment in Radiology as COVID Cases Surge

Single-Patient Use • Disposable • Sanitary • Safe

R & L SPOT® Disposable X-Ray Markers for General Imaging

A sanitary alternative to permanent markers. Minimize the risk of carrying the virus room to room with cross contamination.

"The most important reason for using these markers is to cut down on any contamination or spread of the virus."

~Radiology Technologist, Lancaster, CA

iFIX Patient Stabilization System for CT and MRI

Alleviate hygiene concerns and reduce patient motion by utilizing a disposable fleece for patient stabilization.

"We need to be proactive and make sure we aren't spreading germs from patient to patient. There's no easy way to clean the vinyl straps - we had to send them out to get cleaned."

~Medical Imaging Manager, Urbana, IL

Bella Blankets® Protective Coverlets for Mammography

Provide an added layer of protection to offer patients peace of mind by offering a sanitary barrier between the patient and the equipment.

"Patients have indicated that they appreciate the added layer of protection between them and the detector when we explain that the blanket is a part of our infection control efforts."

~Manager, Breast Imaging Center, Nashville, TN

Help keep your staff and patients safe as COVID-19 cases surge.

Improve workflow and save time with many experiencing staff shortages.

Increase safety by offering one-time use, sanitary products as part of infection control efforts.

To order or learn more:
1.800.233.5539 • info@beekley.com • beekley.com

Manufactured by Beekley Corporation

Bristol, CT 06010 USA Tel: 1.800.233.5539 or +1.860.583.4700
Fax: 1.800.735.1234 beekley.com

Visit beekley.com for Related Product Safety Information

Beekley Medical®
when your diagnosis must be right®

REV: BM_AD-SAN-HPN_1221

the Project US@ ('Project USA') Technical Specification Final Version 1.0.

Patient matching and specifically how patient addresses are represented has long been viewed as a critical component of nationwide interoperability and the nation's health IT infrastructure. The availability of a unified, cross-SDO specification is a testament to the broad industry engagement behind this effort. Now that a specification exists, ONC encourages state and federal agencies, public health organizations, payers, health IT developers, research organizations, healthcare providers, and all other interested stakeholders to consider adopting and implementing the final specification.

Also available is the Project US@ Companion Guide developed by and in collaboration with the American Health Information Management Association (AHIMA). This resource provides operational best practices related to accurate and timely capture and management of patient addresses developed in Project US@ Technical Specification Final Version 1.0. Visit https://patientidnow.org/ for information.

Healthcare acquisitions in December 2021 and early 2022

• BD acquires Scanwell Health, Inc. to expand and scale digital at-home testing

BD (Becton, Dickinson and Company), announced it has completed the acquisition of privately held Scanwell Health Inc., a provider of smartphone-enabled at-home medical tests.

BD collaborated with Scanwell to develop the app used with the recently launched BD Veritor At-Home COVID-19 Test, the first at-home COVID-19 test that uses a smartphone camera and app to capture and interpret results, eliminating the human subjectivity in other visually read at-home antigen tests.

• BD announced it has acquired Tissuemed

BD (Becton, Dickinson and Company) announced it has acquired Tissuemed, Ltd. The company develops self-adhesive surgical sealant films. Tissuemed's lead product, Tissuepatch, is a proprietary sealant technology that bonds to tissue to help control internal bleeding or prevent leaks from surgical incisions.

• Getinge acquires Talis Clinical LLC.

Getinge has announced the acquisition of Talis Clinical LLC, a US-based high acuity cloud-based software solutions company. Talis Clinical's offer is designed to support and document care throughout the general and cardiac perioperative care process, but also through labor and delivery episodes and critical care support including ECMO Therapy a highly innovative and sophisticated platform called Advanced Clinical Guidance (ACG-Engine). The ACG-Engine comes with interfaces to a wide range of Point Of Care Devices as well as Patient Data Management Systems and includes high value functions that facilitate oversight and process improvements.

• Oracle announces agreement to acquire Cerner Corporation

Oracle Corporation and Cerner Corporation jointly announced an agreement for Oracle to acquire Cerner through an all-cash tender offer for $95.00 per share, or approximately $28.3 billion in equity value.

Oracle's mission expands to assume the responsibility to provide medical professionals with a new generation of easier-to-use digital tools that enable access to information via a hands-free voice interface to secure cloud applications. This new generation of medical information systems promises to lower the administrative workload burdening our medical professionals, improve patient privacy and outcomes, and lower overall healthcare costs. The transaction is expected to close in calendar year 2022.

• Owens & Minor, Inc. to acquire Apria, Inc.

Owens & Minor, Inc. and Apria, Inc. announced that the companies have entered into a definitive agreement pursuant to which Owens & Minor will acquire Apria for a transaction value of approximately $1.6 billion.

Apria is a provider of integrated home healthcare equipment and related services in the United States, offering a range of products and services for in-home care and delivery across three core service lines: 1) home respiratory therapy, 2) obstructive sleep apnea treatment, and 3) negative pressure wound therapy.

• Quidel Corporation to acquire Ortho Clinical Diagnostics

Quidel Corporation and Ortho Clinical Diagnostics Holdings plc announced that they have entered into a definitive agreement in which Quidel will acquire Ortho, one of the world's largest in vitro diagnostics companies, for approximately $6.0 billion. The transaction is expected to close during the first half of fiscal year 2022, subject to customary closing conditions.

The combined organization will unite technologies and platforms to benefit customers with expanded access to clinical chemistry, immunoassay, molecular diagnostics, immunohematology, donor screening, and point-of-care diagnostics offerings.

• Stryker announces agreement to acquire Vocera Communications

Stryker has announced a definitive merger agreement to acquire all of the issued and outstanding shares of common stock of Vocera Communications, Inc. for approximately $2.97 billion and a total enterprise value of approximately $3.09 billion.

Vocera provides a platform for digital care coordination and communication. The release notes that Vocera will bring a complementary portfolio to Stryker's Medical division that will address the increasing need for hospitals to connect caregivers and disparate data-generating medical devices, which will help drive efficiencies and improve safety and outcomes.

The acquisition is expected to close in the first quarter of 2022.

• Wassenburg Medical has purchased Custom Ultrasonics

Wassenburg Medical B.V. has announced that effective December 31, 2021, they have purchased the assets of Custom Ultrasonics.

Custom Ultrasonics Inc. (CUI) manufactures and distributes automated systems to clean and high-level disinfect complex devices including multi-channeled flexible endoscopes. The CUI staff will continue to serve the customers with their product portfolio. HPN

Clarification

It has come to our attention that AliMed's name and product information were misrepresented in our January issue. We would like to clarify that AliMed's AliBlue Gel Positioners are viscoelastic gel and aid in pressure redistribution but are not antimicrobial and do not reduce sliding as incorrectly stated previously.

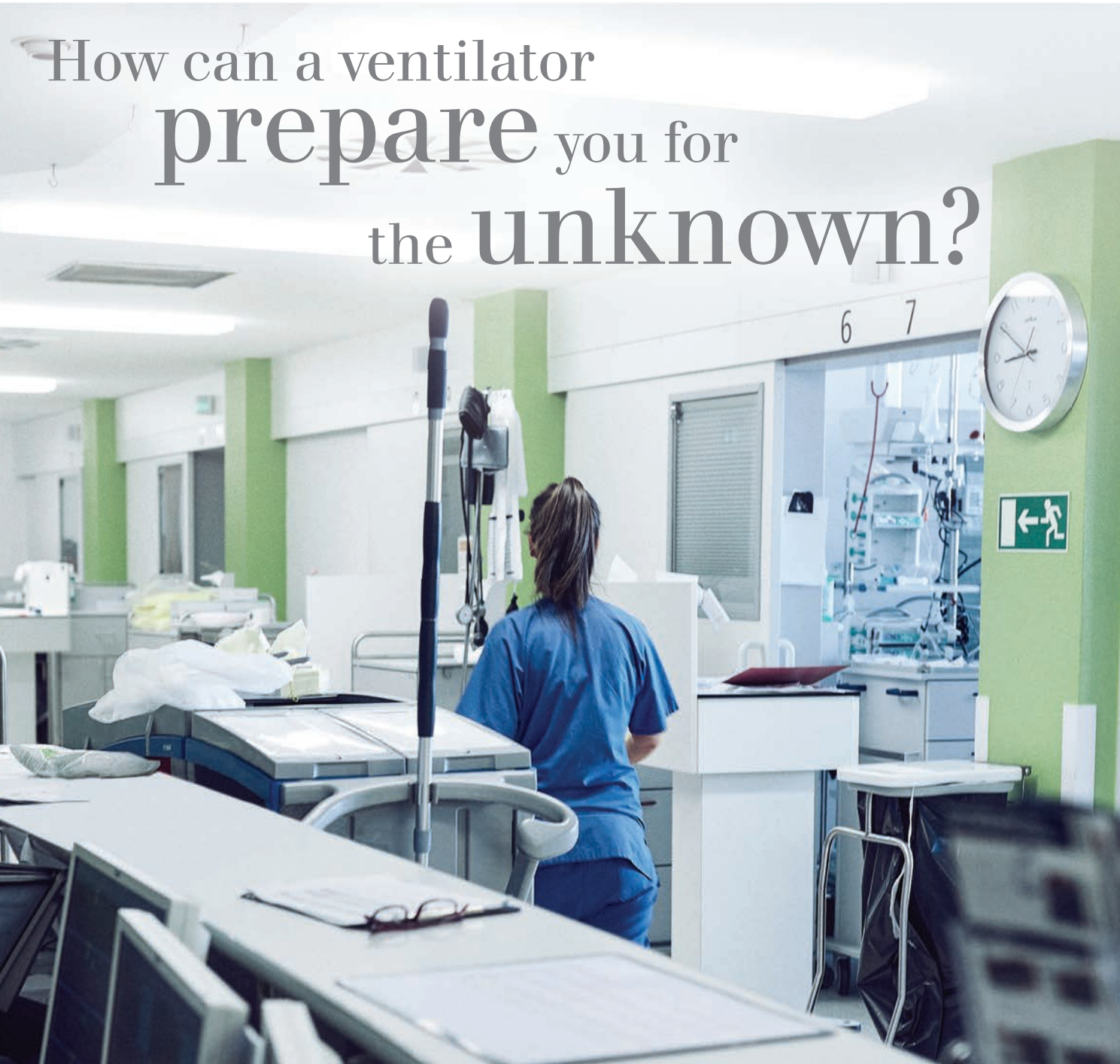
AliBlue Gel Positioners from AliMed

The corrected article has been updated online at https://www.hpnonline.com/surgical-critical-care/article/21249821/keeping-pressure-off-the-patient

It remains our mission to provide our readership with accurate and reliable information regarding products, solutions, and systems that affect the healthcare supply chain. We apologize for any confusion this has caused.

Dräger

How can a ventilator prepare you for the unknown?



By providing the level of support each patient needs with one device

The Dräger Evita® V500 Premium is a comprehensive ventilator solution designed to strengthen ICU preparedness by addressing the concerns of both clinicians and administrators. This one device supports various clinical needs, which simplifies workflow and helps improve patient outcomes while maintaining cost effectiveness. **That's why we are Your Specialist in Critical Care.**

Learn more by scanning the QR code to visit www.draeger.com/V500premium

Dräger. Technology for Life®

Ongoing pandemic, lingering supply chain aftershocks press GPOs, IDNs

by Rick Dana Barlow

Photo credit: Feodora | stock.adobe.com

Healthcare organizations – either providers or suppliers – maintain something of a love-hate relationship with group purchasing, regardless of who provides the service.

At core they acknowledge the appeal, efficacy and usefulness of the concept of "cooperative buying," the original name for this practice of multiple facilities bundling their collective buying volume to generate discounts that debuted in 1910.

But some express a distaste for how "cooperative buying" evolved into what we know as group purchasing today, homing in on the various financial and operational business models that really didn't exist seven decades ago when the nascent but developing industry segment was dominated by local (city and county) and state hospital associations rather than privately held and investor-owned corporations. This development, merely an extension of the service-mindedness and entrepreneurial spirit of William V.S. Thorne who launched the forerunning New York-based Hospital Bureau of Standards & Supplies Inc., spawned a bevy of entrepreneurial opportunists who redefined, if not stretched the definition of, the group purchasing concept into the variety of business models today. These models are practiced largely by eight independent "parent" group purchasing organizations (GPOs) and scores of integrated delivery networks (IDNs) that emerged during the mid-to-late 1990s.

While this blossoming industry segment would face pockets of reform measures from federal and state regulators throughout the 1960s and 1970s, ultimately culminating in a "managed care" victory for the payer industry in the early 1980s, it would face perhaps its toughest challenges during the Clinton Administration's considerable healthcare reform initiative in the 1990s. This initiative seemed to empower the investor-owned hospital companies that functioned as their own GPOs and ignited a fire under hospitals in general to coalesce in myriad smaller collectives known as integrated delivery networks (IDNs) as both a short-term defensive tactic as well as a long-term offensive strategy in the name of competition.

But the global COVID-19 pandemic, now entering its third year, perhaps provided the toughest challenge to date – a virus that expanded quickly and exponentially ignited product demand with such an intensity that it rapidly outpaced the ability to manufacture as well as distribute supplies.

Resiliency calls for multi-diversity

One of the lessons the pandemic has taught healthcare providers and suppliers is about the inherent and relative fragility of the supply chain. GPOs and IDNs may have established manufacturer and distributor contracts, but when demand outpaces supply to the point that backorders, diminished resources and shortages become routine, hospitals and other healthcare organizations simply have to make other arrangements. This may involve invoking force majeure clauses on existing contracts, but also sourcing from alternative suppliers. GPOs and IDNs both recognize this and pivoted as creatively and quickly as possible.

But the question remains as to how GPOs and IDNs will accommodate this new reality? And what infrastructure changes will need to be established bob and weave through some major crisis or disaster to come?

Margaret Steele, Senior Vice President, Med/Surg, Vizient, stresses the need for more collaboration and cooperation versus competition.

Margaret Steele

"Overall, the healthcare industry needs increased collaboration and a willingness for transparency," she said. "Supply chain resiliency and supply assurance cannot be achieved with participation from just one or two stakeholders. It requires alignment to data standards and a willingness for two-way transparency across providers, distributors and suppliers. GPOs can facilitate increased transparency, information sharing and enforce data standards."

Steele acknowledges that providers will pursue product wherever they can when demand spikes. But she argues that one element may surpass diversifying suppliers.

"Providers will always look for alternative suppliers during times of significant supply constraints; however, conservation strategies have certainly risen to the top of the list for mitigating disruption," she noted. "It's important that providers employ a strategy that diversifies manufacturing locations, which is not necessarily supplier diversification. Most providers aren't interested in having multiple suppliers for a particular product. The stress of change management and training is costly. In a crisis, supply availability certainly becomes the priority, but stress on the organization on top

of labor shortages must remain top of mind as well."

The supply chain needs to bend without breaking, according to Cory Turner, CMRP, Senior Director, Healthcare Strategy, Tecsys Inc.


Cory Turner

"The fragility of any supply chain lies in how flexible or inflexible it is," he observed. "If disruptions cause fractures, your supply chain needs to be reimagined, but if the disruptions cause stretch marks, it means you're doing something right.

"The most probable infrastructure changes among IDNs are that they simply accelerate the diversification strategies that they have already begun," Turner continued. "In what's likely a hybrid approach, IDNs ought to consider multiple GPOs combined with self-distribution. This will call for leadership and a maturation of internal sourcing strategy on the IDN side. By employing a diversified approach, IDNs design in more resiliency, which avoids drastic measures like force majeure."

Think local, Turner encourages.

"A focal point for strategic sourcing, both on the IDN and GPO side, should be to see where they can shorten their supply chains," he indicated. "That translates to business with more local manufacturers, and possibly investing in vertical integration for better control over certain goods. The fewer the links, the less opportunity for kinks in the chain."

It may be time to rethink what's been done before, not necessarily because it backfired during a crisis but that it may not have gone far enough, according to Tom Redding, Senior Managing Director, Healthcare Services, St. Onge Co.


Tom Redding

"Over the last decade, there has been a significant push across the industry to streamline the sourcing/contracting through the GPO, which has allowed the health systems to run 'lean' on internal teams while reaping the financial benefits," he observed. "I believe organizations will start to challenge their existing thinking on the use of a GPO and further develop the internal capability to ensure the organization is able to quickly adapt to backorders and supply chain disruptions. I anticipate greater pressure from the GPOs and IDNs on the manufacturers to provide better inventory visibility to ensure the organization has the appropriate amount of supply chain risk. GPOs and IDNs will need to think beyond the 'price only' and understand the complete supply chain picture to assess their risk."

This doesn't forecast the death of or doubts about GPOs, however.

"We anticipate there will be a slight uptick in 'inventory buffering' across health systems as they contend with not having inventory visibility and transparency from the manufacturers," Redding clarified. "With all of the state mandates on PPE, health systems are starting to understand that managing risk is part of their new reality. Prior to the pandemic, there was an inherent trust that manufacturers had their back and would be 'ready to serve' at a moment's notice.

"Creating a strategic supply chain master plan is critical to ensure the organization can proactively assess, plan, execute and improve the delivery of its services. We anticipate more attention will be spent to further integrate the entire supply chain from sourcing/contracting through to the delivery of supply chain services to the customers," he added.

GPOs must remain steadfast in their commitment and partnership with members and continuously innovate to meet goals, according to Jeff Ashkenase, Group Vice President, End-To-End Supply Chain, Nexera, a subsidiary of Premier, Inc.

"In a [crisis] situation like we've encountered over the last two years, when demand outpaces supply, GPOs can utilize many of their existing resources – and also must deploy innovative, creative strategies – to help members obtain products in short supply," Ashkenase said.

Diversifying supply sources is one. "GPOs can help safely accelerate new or alternative supplier entrants and products to the market and can provide these suppliers with information about specs and regulations they need to follow to ensure product quality meets a hospital's needs. In New York during the spring of 2020, we helped many suppliers ramp up production capabilities for PPE with product that met our members' needs," he noted.

Sharing vital information is another. This spans information on a supplier's current inventory, allocation, delivery plans and future capacity; product information; and conservation and conversion information/support, Ashkenase adds.

Harnessing the power of data is a third. "Underpinning a comprehensive transformational supply chain strategy is leveraging technology and data to better understand risk, provide greater visibility and support continuous operational transformation," he continued. "This allows healthcare providers the ability to better plan and allocate supplies, as well as fast-track critical products via expedited sourcing agreements.

"COVID-19 made it abundantly clear that we need greater diversity of manufacturing and suppliers, and that includes greater domestic production," Ashkenase observed. "Today, health system leaders are co-investing in domestic suppliers – and for product categories that lack adequate competition, geographic diversity or stable sources of contingency supply. Through collaborations with Prestige Ameritech, DeRoyal Industries Inc., Honeywell and Exela Pharma Sciences, Premier and its members are producing millions of domestically made PPE and pharmaceutical products. Additionally, innovative direct sourcing and e-commerce capabilities are serving as vital channels to access high-quality PPE and other healthcare supplies that are vetted for high-quality and fair pricing."

Ash Chawla, RPh, Chairman & CEO, PDM Healthcare, recognizes how COVID-19 has aimed a spotlight on "inherent discord and disruption" in the healthcare supply chain "unlike any other event in the past century.


Ash Chawla

"This supply chain weakness, coupled with changes in U.S. government and policies, has created an operational crisis for health systems and other healthcare providers," Chawla said. "Along with meeting the challenges of supply and demand, healthcare supply chains must renew focus on improving capacity and resilience."

Healthcare facilities must adapt to the new environment of supply chain disruptions, where at almost any given time their operations and workflow can be significantly impacted, according to Chawla. He counts supply chain optimization as one of most important priorities for any healthcare facility or IDN, after delivering quality patient care and that GPOs should assist in achieving these important objectives.

Chawla calls for infrastructure changes that may include creating systems and protocols to enable adaptability to the dynamically changing pandemic environment.

"Additionally, interoperability improvements can be made to allow for easy and efficient access to centralized, consumable, real-time data across a health system or IDN, thereby making inventory management easier by determining what products

are in stock and what products are needed, leading to a greater capability to forecast and meet future demands," he said.

"GPOs can assist health systems and IDNs in implementing such changes by providing their members with the processes and technologies to improve operability," Chawla continued. "Many health systems still continue to make purchasing decisions based on legacy systems, past histories or physician preference items in different departments. These practices can lead to 'scattered' purchasing, unnecessary purchases or inability to forecast and acquire the products that are truly needed to maintain operations and patient care in a COVID drive environment."

GPOs should be functioning as more than just contracting agents, Chawla insists.

"As aggregators of purchasing across their entire membership base, GPOs are able to analyze and forecast purchasing needs across facilities, down to minute details based on size, geographical region and patient base," he said. "Working with GPOs to forecast need as well as access management tools can enable health systems and IDNs to reduce waste and delayed procedures as well as high inventory and carrying costs."

Chawla recommends health systems and IDNs to work with GPOs that provide choice, flexibility and options in purchasing, particularly when specific manufacturers or wholesalers experience a product shortage, inability to supply or any other *force majeure* event.

Discontinuity frustrations

Hospitals and other healthcare organizations that belong to GPOs and IDNs rely on those entities, by and large, to handle all their contracting needs – from sourcing to negotiations – in effect, outsourcing those traditional supply chain functions to a third party. But when a crisis or disaster hampers, hinders or even prevents those services from being provided as expected, participating healthcare organizations – whether owners, members or affiliates – need to respond as effectively as possible.

Steele recognizes the conundrum that remains ongoing.

"We will never be able to end disruptions," she noted. "We should, however, be able to reduce the impact they have on operations. When key stakeholders work together quickly to do their part, it takes strain off of the entire value chain.

"At Vizient, we certainly see ourselves as an extension of our members' supply chain team," Steele continued. "Our responsibility is to provide supply assurance so Vizient members can count on business continuity. This is why real time supply data and information, alternative strategies, conservation methodologies, committed inventory and teams of subject matter experts are so important. Vizient is committed to providing insights, access, enablement and advocacy for our members to ensure they have all the resources to focus on delivering patient care."

Healthcare organizations and IDNs must stop placing all their eggs in the same basket, according to Turner, and embrace data standards.

"We have seen more and more hospitals and health systems turn to in-house programs that weave together strategic sourcing, GPOs and consolidated service centers to gain more control of their flow of goods," he said. "This is especially pertinent in times of crisis. In parallel, IDNs must gain better visibility into the goods that they do have on hand to make sure everything is being used in a timely and effective manner. Paired with point-of-use and central stores supply chain management, data standards can go a long way in improving inventory management, increased patient safety and driving better outcomes."

Redding calls for more transparency in the marketplace now more than ever.

"Creating transparency between the member hospitals and GPO or IDN will ensure the members have a clear understanding of what to expect during times of supply chain disruption," he said. "IDNs will need to take a more hands-on approach to managing the entire supply chain and integrating the supply chain operations teams into the conversation to ensure there is transparency on how supply chain risk is being mitigated. Too many times, the supply chain operations team is not clear on their options for product substitution which leads to delays and potential risk for the organization and patient.

"GPOs and IDNs will need to think more strategically on what products have the greatest organizational risk and develop a clear and transparent plan on how to mitigate the risk effectively," he added. "In some cases, it is building more inventory within their systems, other times, it is developing a sourcing strategy to mitigate a potential disruption."

Pandemic notwithstanding, hospitals and their supply chain teams know they must do more with less, according to Ashkenase.

"A true GPO partner will act as a vital extension of a member's internal team – bringing forward innovative strategies to mitigate disruptions as well as solutions that enable product access, efficiencies and value long-term. This allows supply chain teams and providers at large to focus on what they do best – deliver high-quality patient care," he said.

"Throughout the pandemic, members have looked to us to vet and identify new or alternative suppliers, and leverage scale and commitment to bolster domestic and diverse production," Ashkenase continued. "We've worked with members to share conservation guidance and review product specifications to ensure quality and safety. We're also equipping providers across the nation with more sophisticated product burn data, visibility into manufacturer inventory status and prospects."

One example involves Premier's syndromic surveillance technology that leverages [artificial intelligence] and machine learning to track disease symptoms and enable communities to predict hospital utilization, geographic surges and associated resources, according to Ashkenase. "We are working with coalitions of providers in various states to deploy this technology, which is critical to both our continued management of COVID-19 disease spread as well as streamlining the prior authorization process and improving health system performance overall," he added.

Ashkenase indicates that provider members are looking beyond contracting and product access strategies to collaborate on education and information/best practice sharing – both from Nexera and Premier experts and among their peers at healthcare organizations across the country.

"I, personally, never want to see another scenario where healthcare providers can't get access to the vital supplies needed to protect their workers and care for patients," he asserted. "A primary focus for us has, and will continue to be, innovative strategies and creative partnerships that lower barriers to entry and drive stable supply.

"And I believe Nexera's perspective is truly unique given our work over the last two years. Our GPO and embedded resources help members manage their supply chains on a on day-to-day basis," he added. "We have the manufacturing perspective through S25 Global and Premier's domestic investments alongside members. We worked with New York City officials to determine the appropriate strategy for their stockpiling of supplies. We're coordinating across the industry to help solve

INTRODUCING...

CoverAlls™ Ultrasound Probe Covers

From the makers of EcoVue® Ultrasound Gel

An Essential Addition to Your Infection Prevention Toolkit

CoverAlls™ Ultrasound Probe Covers provide a protective barrier to prevent cross-contamination and meet infection control guidelines. Featuring a telescopic-fold with a 3D box end, sonographers can easily apply gel and cover the transducer while maintaining a sterile field.

Interested in Samples? Reach out to speak with a member of our team who can answer questions and offer samples.

Why CoverAlls™?

- Available in 48” and 96” lengths
- Help protect and extend the life of your equipment
- Sterile EcoVue® HV Ultrasound Gel included in each kit
- Single use, sterile, ready to use

GET IN TOUCH!

inquiries@hrpharma.com
877-302-1110
CoverAllsProbe.com

the supply chain challenges presented by COVID-19, partnering with providers, GPOs, distributors, manufacturers and the government. Because of this, we've developed solutions to better prepare our members moving forward."

Chawla emphasizes that for healthcare facilities to remain viable, they must have access to products, services or technologies that continuously meet their needs without disruption. "Regardless of whether a facility is owned by a GPO or IDN, it must have oversight over its own purchasing needs and the ability to look outside its traditional ownership and protocol for other purchasing options if the status quo does is not able to meet its needs." HPN

What if GPOs could prep for their obsolescence ... but in perpetuity?

Imagine if group purchasing organizations (GPOs) could train their owned or affiliated members to not need their services in the future – a concept that likely would last indefinitely due to market dynamics – mergers and acquisitions and the formation of integrated delivery networks (IDNs) – and workforce turnovers?

Maybe it's something out of The Twilight Zone.

"The power of [GPO] membership cannot be overstated. We are all heavily reliant on one another for sharing best practices, securing dedicated inventory, supporting emerging technology and advocating for all types of health care delivery. The GPO role is to scale across a wide membership; however, today's GPO must go beyond just contracting — it must offer leading services around sustainability, diversity, supply assurance and price assurance. By clearly communicating what resources we have and how we plan to participate in the market, providers gain a clearer understanding of what responsibilities they should undertake. Providers should be able to engage with GPOs in the way that best fits their organization's goals and objectives, enabling them the power to choose.

"At the same time, GPOs must continue to expand the breadth and depth of expertise and consultative services as well as technology and data tools that allow members to address supply chain management. Vizient has employed a very comprehensive Supply Assurance program that addresses our members' needs in a multi-pronged approach that goes way beyond just contracting."

Margaret Steele, Senior Vice President, Med/Surg, Vizient

"[Former GE Chairman] Jack Welch's famous line comes to mind: 'If the rate of change on the outside exceeds the rate of change on the inside, the end is near.' In essence, IDNs are adapting to the wrinkles in the system by insourcing certain functions and diversifying to hedge against the limitations at any single GPO. The ball is in the GPO court to evolve their strategy to better complement a more strategic IDN leader. This may involve advisory services and an adaptation of the traditional GPO model, but the most potent value that GPOs can provide is to serve as a true strategic partner over a transactional one."

Cory Turner, CMRP, Senior Director, Healthcare Strategy, Tecsys Inc.

"Creating a culture of organizational leverage is paramount to the success of any organization and leveraging its assets more effectively. As GPOs and IDNs must continue to assess ways to remove the decision-making silos and think more strategically as an organization. As 'customer needs and wants' are shared more globally within the organization then the appropriate mechanisms and measures can be instituted to enable transparent success across the member organizations. It will reinforce the mindset and approach that we are more effective as a group than we are as individuals."

Tom Redding, Senior Managing Director, Healthcare Services, St. Onge Co.

"Members are now looking for Nexera and Premier to aid them in evolving the supply chain away from an isolated, transactional purchasing activity and toward a strategic and technology-enabled function capable of helping healthcare organizations deliver better care, improve outcomes, enable population health strategies and lower costs. The most effective partners have evolved beyond the traditional GPO model and are those that are providing innovative solutions that help set health systems apart in their local markets and enable them to be successful and sustainable into the future.

"Using robust data analytics, it's clear that we can increase transparency for providers to enable product access as well as identify savings and efficiency opportunities. It's also crucial that we stay on top of policy and regulatory developments and marketplace dynamics to help resolve drug shortages, mitigate supply disruptions and optimize purchased services spend, among other activities.

"Further, we are leading the value-based transition from the population health space into supply chain. As the market continues to incent healthcare providers to improve outcomes, suppliers are raising their hands to go at risk with hospitals and guarantee their products' performance. There is significant opportunity for GPOs to work with members to develop and deploy value-based contracting approaches that aligns with their priority needs and organizational goals.

"Hospitals and health systems across the nation are also leveraging supply chain and performance improvement technology to drive organizational decision-making, standardize care and eliminate variation. This technology is propelling supply chain automation as well, from vendor sourcing and contract management to e-payable capabilities, which are poised to create significant efficiencies and save providers millions.

"Alongside the continued evolution of healthcare, GPOs must also evolve into a service-oriented partner delivering cutting-edge solutions for members and enabling the transformation that drives the industry forward."

Jeff Ashkenase, Group Vice President, End-To-End Supply Chain, Nexera, a subsidiary of Premier Inc.

"With respect to obsolescence, any successful company – GPO or otherwise – should not be in a position to have the need to inform its customers that it is out-modeled, useless or can no longer meet their customers' needs. If member facilities are dealing with a GPO that is informing the membership of its obsolescence, those healthcare facilities should be evaluating options to partner with a different GPO.

"That being said, GPOs must maintain close working relationships and constant real-time communication with their membership, especially in the challenging times of COVID and supply chain disruption.

"GPOs must be continually innovative, bringing the membership tools needed to remain viable, including purchasing protocols, contract sourcing and flexibility, and services and technologies to improve operations. Besides just making these services available to the membership, GPOs need to take an active role in training, evaluating and analyzing members' use and efficiencies."

Ash Chawla, RPh, Chairman & CEO, PDM Healthcare

TRUST IN PERFORMANCE

Valleylab™ energy

Working as one — over 50 years of innovation that powers high performance energy platforms and electrosurgical devices to meet the needs of surgery. **It takes trust to advance together.**

For more information, visit www.medtronic.com/valleylab-energy

Medtronic

Cutting time without cutting quality

Best products, practices can cut turn-over time and amp up safety

by Kara Nadeau

Photo credit: Gorodenkoff | stock.adobe.com

For a New York City academic medical center, one minute of operating room (OR) time costs $150 according to a recent study.[1] While the cost may be lower or higher for other healthcare organizations based on size and geographic location, time is money and healthcare providers can't afford to waste it.

There are many factors that increase the time it takes to turnover an OR. There is the set-up and breakdown of equipment and medical supplies used in a procedure. Transitioning the patient out of the room at the end of the case takes staff time and effort. Then there is the time and labor necessary to clean and disinfect the wide range of potentially contaminated surfaces in the OR post-procedure.

Now more than ever, with health systems and hospitals attempting to recoup elective surgery revenue lost during the pandemic, OR teams need products and solutions to increase turnover efficiency in a safe and effective manner.

Education

Understanding what factors contribute to prolonged OR turnaround times is a first step in addressing them. Stephanie Nilan, Sr. Manager, Brand/Product Marketing, Healthcare Safety Solutions, Ansell, says the company recently introduced a new complimentary clinical program aimed at improving OR turnover efficiency and efficacy.

"AnsellAdvisOR is comprehensive, safety-focused program, conducted by experienced Ansell clinicians, including a baseline assessment of current practices, turnover time and cleaning effectiveness, a gap analysis against standards, and detailed recommendations for process improvements," said Nilan. "The program is completely customizable and is tailored to meet the needs of any facility."

COVID-19 pandemic challenges in staffing surgery centers and healthcare facilities may lead to the potential of suboptimal cleaning and disinfection of some ORs, according to Larinda Becker, Executive Director of Marketing - Infection Prevention, Diversey.

In response, the company has launched Diversey TurboTurn, a program to help OR teams improve the quality and efficiency of room turnover, for which Diversey has achieved the Association of periOperative Registered Nurses (AORN) Seal of Recognition. Becker describes how it works:

"The program begins with an assessment of goals and practices of the facility, then collaborates to optimize the selection of the right products, processes, etc. to address. We then work through a complete implementation plan to train and provide tools for success and validation. We have seen this not only reduce turnover time, but also improve the quality of cleaning and disinfection results."

Process standardization can both improve accuracy and efficiency. That is one of the drivers behind the Ecolab Operating Room (OR) Program, a complete offering that helps the standardization of environmental hygiene practices to decrease turnover time, improve high-touch object cleaning, enhance operational efficiencies and optimize OR utilization.

The program includes in-person and on-demand virtual training and Continuing Education Credits (CEUs) courses for staff members. Managers receive administrative dashboard training and work with Ecolab to customize reporting to best serve their needs and drive standardization. The training and cleaning processes in this program have been given AORN's Seal of Recognition.

Operating Room (OR) Program dashboard from Ecolab

Cleaning and disinfection

In an AORN special report, *AORN Guidelines in the Era of COVID-19*, the organization defines the OR environment as "the area surrounding the patient, the patient themself, as well as any equipment or devices that we use on the patient."[2]

"What can happen is when a healthcare worker touches that environment—in other words, the inanimate objects and the patient—then the pathogens are on their hands, and then their hands can transfer those pathogens to other surfaces or even to themselves (e.g., if they rub their eyes, nose, or mouth)," says Karen deKay, MSN, RN, CNOR, CIC, perioperative practice specialist and author of AORN's Guideline for environmental cleaning.

Cleaning and disinfecting the OR environment is a tremendous responsibility that takes considerable time and labor even

outside of a pandemic environment. Below are some ways equipment and supply manufacturers have innovated to boost productivity in this area.

Easy to clean surfaces

One way to reduce infection risk is to integrate ease of cleaning into the design of OR equipment. Smooth surfaces are far easier to disinfect versus those with edges, gaps and seams, which can harbor dangerous microbe, as cited by the Healthcare Surfaces Institute.[3]

A study published in the June 2020 edition of the *American Journal of Infection Control* compared an anesthesia machine with a conventional design (GE Aespire 7900) to one with a redesigned work surface (Dräger Perseus A500) for cleaning effectiveness.[4]

Both conventional and redesigned anesthesia machines were contaminated with fluorescent gel prior to set up and use in hip or knee surgeries. Following the cases, anesthesia residents cleaned the machine surfaces using disinfectant wipes in accordance with cleaning instructions provided to them. Researchers used fluorescence to compare cleaning effectiveness of both machine designs before and after set-up and use.

While the number of sites cleaned overall did not differ between the conventional and redesigned anesthesia machines, the redesigned work surface with smooth manual bag arm featured improved resident cleaning with surface disinfection wipes.

Cleaning between cases

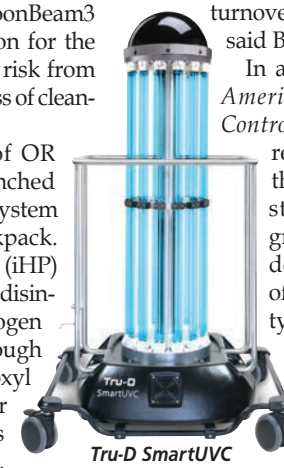
Pressured with cleaning ORs in a rapid manner between patient cases, staff members tasked with this responsibility sometimes miss or inadequately disinfect high-touch surfaces and equipment. For between-case cleaning assurance, Diversey offers its UV-C disinfection device, MoonBeam3.

Diversey MoonBeam3 UV-C disinfection device

Becker says MoonBeam3 is a portable, powerful solution that disinfects quickly, reliably and responsibly. She notes how it is cost-effective and designed for fast disinfection of public and high-risk areas. The system offers three individually-adjustable arms that can be positioned at almost any angle, optimizing disinfection energy to allow dosing of both horizontal and vertical surfaces, in just three minutes.

"Many facilities are using MoonBeam3 to provide the added disinfection for the staff and patients, to reduce the risk from variability and comprehensiveness of cleaning," she added.

To improve the efficiency of OR disinfection, SteraMist has launched SteraPak, a mobile disinfection system that the user wears like a backpack. The SteraPak contains SteraMist (iHP) technology which creates natural disinfection by using a low 7.8% hydrogen peroxide solution. It passes through a cold plasma arc creating hydroxyl radicals that penetrate the interior of pathogens to inactive viruses and kill bacteria spores on contact.



Tru-D SmartUVC

"Featuring a battery-powered, slim and compact design, the user can easily navigate from waiting rooms and patient rooms to operating rooms without wasting valuable time and the hassle of mixing hazardous solutions, wiping, and rinsing surfaces," explains Brittany Buchman, Vice President of Marketing, SteraMist.

"Providing a quick disinfection with no 'wet' contact time and classified as only an irritant, provides reassurance that SteraMist disinfection is far superior to toxic and damaging chemicals. It can be used on sensitive equipment, including electronics, without leaving any residue and byproducts behind," she added.

SteraMist SteraPak mobile disinfection system

SteraMist is the first EPA-registered hospital-healthcare disinfectant system and solution. It is registered and listed for pathogens such as *C. diff* spores, Norovirus, Ebola, Avian Flu, coronavirus and more.

Nightly terminal cleaning

As Alice Brewer, Director of Clinical Affairs, Tru-D SmartUVC, explains, the use of UVC light for end-of-night terminal cleaning helps ensure the OR is as germ-free as possible for the following day, without adding to turnover time between patients.

"It may not always be possible to disinfect with UVC light between OR patients. However, by reducing germs and pathogens each night at terminal clean, UVC disinfection provides an added layer of protection against bioburden that can linger in the OR for days or even weeks while not adding to the turnover time between patients," said Brewer.

In a study published in the *American Journal of Infection Control,* Tru-D was shown to reduce bioburden on anesthesia workstations. In the study, UVC disinfection greatly influenced bioburden reduction regardless of room size and exposure type. All trials, compared with the controls, exhibited a bioburden reduction of more than 99%. The research team went on to suggest that the Tru-D technology is an important supplement to the manual cleaning process.[5]

During terminal cleaning, it is important to not only reach every potentially contaminated surface in the OR, but also do so in a way that is safe for staff members and medical equipment, says Maryalice StClair, Chief Commercial Officer, Halosil International. She describes the benefits of Halosil's Halo Disinfection System:

"Halosil's touchless system saves labor, ensures no surface is left unreached as is often the case with manual or electrostatic

Halosil's Halo Disinfection System

spray methods, and does not expose staff to harsh chemicals. Hydrogen peroxide based HaloMist disinfectant is fogged using the HaloFogger to achieve an EPA registered sporicidal kill on all treated surfaces without wetting. So the no-wipe, no rinse residue free treatment has excellent compatibility with surfaces and sensitive electronic equipment in the OR."

Kits, packs and trays

Another solution to OR turnover challenges is to have everything needed, pre-packaged, all in one place. Ansell's STAT-PAC Room Turnover Kits help improve OR turnover efficiency by providing all of the items needed to set-up the OR for the next procedure including table linens, patient straps, positioners, bags, mops, wipes and more.

"Having these items conveniently packed together reduces the amount of time spent gathering supplies during room turnover," said Nilan. "The cost per OR minute ranges from $29 to $80,[6] so hospitals are always trying to find ways to reduce turnover time without compromising cleaning effectiveness."

Nilan notes how Ansell's STAT-BLOC disposable linens further enhance the OR turnover process by providing both complete barrier protection to help reduce the amount of strike-through contamination to the OR table, as well as antimicrobial protection to help ensure a clean patient surface is maintained.

"Studies show that even when using disposable, impervious linens, bacterial migration can occur from the OR table to the patient surface of the linens, however, with antimicrobial linens bacterial migration is prevented," said Nilan while citing the results of a bacterial migration study.[7] "Our STAT-BLOC linens with AMT Antimicrobial Technology are proven at least 99% effective against MRSA, E. coli, CRE and COVID-19."

HALYARD* offers the HALYARD PACT PROGRAM*, which includes Custom Procedure Trays (CPTs). The company describes it as a "true CPT partnership and programmatic approach differentiated by Americas-based manufacturing and supply chain."

HALYARD PACT PROGRAM
Custom Procedure Trays (CPTs)*

The program offers industry benchmark analytics and a turn-key conversion process supported by an expert clinical OR assessment team. Benefits include pack efficiency improvements and optimization, waste reduction and cost savings.

Owens & Minor's SurgiTrack is a comprehensive clinical supply delivery service that delivers ready-to-use custom surgery packs directly to the OR. SurgiTrack improves efficiencies and lowers costs, ultimately helping to reduce OR turnover time.

SurgiTrack features a 60-day implementation to identify expected increases in complex procedures, consolidate items by surgeon/procedure and build procedure-specific kits that best meet each facility's specific needs. SurgiTrack customers can select from over 350,000 products from more than 900 manufacturers to put in kits, ensuring each OR is able to obtain the necessary supplies to perform effectively.

Owens & Minor's SurgiTrack clinical supply delivery service

Ansell's STAT-PAC Room Turnover Kits

Fewer instruments in the room

One way to reduce the amount of time required for OR turnover is to reduce the number of instruments in a case. The greater the number of instruments and trays, the longer it takes OR staff to set up, count items (before and after the procedure) and prepare them for the Central Service/Sterile Processing & Distribution (CS/SPD) department (e.g., pre-treatment, safely storing items for transport, etc.).

STERIS and its partner OpFlow utilize proprietary technology and actual usage data to reduce the number of instruments in surgical trays. "Our customers typically experience a 20-30+% reduction in tray size," said Rob Avriett, Director, Clinical Services for STERIS Instrument Processing Solutions. "This reduction directly correlates to OR efficiency by reducing setup and count times at the beginning and end of the case by 20+%. This efficiency benefit also extends to the Sterile Processing Department, where time studies have shown an average reduction of 17.7 seconds per instrument for decontamination and assembly, each time they are processed."

Rob Avriett

STERIS removes over 3,000-5,000 instruments from active inventory for its typical customers in the first set of service lines at a hospital, which results in a substantial reduction in sterile processing burden and meaningful overall efficiency improvements.

For those instruments used in a case, rapid turnaround by the CS/SPD team is often reliant on proper pretreatment of soiled items by OR staff post-procedure. Delays in transporting soiled instruments from the OR to the CS/SPD department are not uncommon, and instrument sets may sit for hours before being decontaminated in a high-volume facility. Without pretreatment, bioburden is left to dry and harden on instruments, making it more difficult and time-consuming for CS/SPD staff to clean them.

To boost the effectiveness of pretreatment and help speed instrument cleaning, Medtrica Solutions has developed its Enzymatic Instrument Cleaning Gel, formulated using multi-tiered plant-based enzymes and natural surfactants to keeps instruments "wet" up to 72 hours, preventing debris from drying prior to processing. The easy rinse formula is eco-friendly , biodegradable, pH neutral and non-toxic.

Say goodbye to dried or baked on bioburden!

Medtrica®

Point Of Use Multi-Tiered Enzymatic Cleaning Gel

Superior moisture retention
Keeps instruments moist up to 72 hours preventing drying of bioburden during transport

Deep cleaning formulation
Combines highly concentrated multi-tiered plant based enzymes with natural surfactants

Safe on all instruments
Including rigid and flexible scopes and other sensitive instruments

Fast activation
Starts bioburden breakdown on contact and stays active until processing

Easy rinse formula
Is eco-friendly, biodegradable, pH neutral, odorless and non-toxic.

Fast Acting. Cost Effective. Easy to Use.

For more Information Call: 1.877.703.1079 or visit www.medtrica.com

Medtrica Solutions Enzymatic Instrument Cleaning Gel

"This highly concentrated enzymatic formula provides a thick layer of dry-resistant precleaning gel that effectively breaks down and lifts protein-based bioburden from all instruments, scopes and non-porous surfaces," comments David Willoughby, Vice President, Marketing & Business Development, Medtrica Solutions.

Patient transfer

When considering all of the factors that influence OR turnover time – the space, the equipment, instruments - efficiency often comes down to the human element – the OR team and their workflow. At the end of a procedure, OR staff members must transition the patient but do so in a manner that protects both the patient and the caregiver.

The Mölnlycke Tortoise Turning and Positioning System is designed to make it easier for staff to move patients safely into position with less physical exertion – and it's proven to reduce caregiver back injuries related to patient turning and repositioning. The Tortoise can be used to transfer hospitalized patients from the OR back to bed for those who will continue to use the Tortoise over the course of their hospital stay.

The Tortoise system includes a positioning mat with a low-pressure air chamber designed to adapt to the patient by positive air displacement. The low-friction mat is fitted with ergonomic handles on both sides, helping caregivers to maintain proper body mechanics as they turn the patient. The system is equipped with Mölnlycke Z-Flo Fluidized Positioners, which allows staff members to achieve and maintain the right therapeutic position for each individual patient.

Tortoise Turning and Positioning System from Mölnlycke

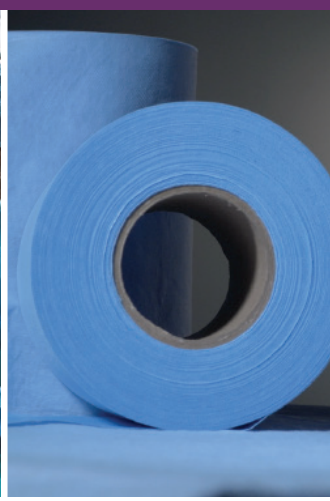
Conclusion

In today's value-based care environment, health systems and hospitals face the constant struggle of providing the best care and outcomes to the patient while maintaining a profit margin large enough to remain viable.

As the revenue-generating heart of any healthcare organization, the OR should be the target of initiatives aimed at boosting procedural volumes in a safe manner. OR teams, value-analysis committees, supply chain professionals and other stakeholders have an increasingly varied selection of choices when it comes to product and solutions to help in these efforts. HPN

References online at: https://hpnonline.com/21252732





Protection. Comfort. Performance. It all starts with Ahlstrom-Munksjö.

Ahlstrom-Munksjö fabrics are the essential component in the construction of nonwoven medical fabrics. These fabrics are used around the world to protect patients, health care and frontline workers.

face masks | **protective apparel** | **surgical gowns and drapes**

CONTACT US:

✉ medical@ahlstrom-munksjo.com

LEARN MORE:

www.ahlstrom-munksjo.com

Hand Biomechanics Lab

NEW ECTR Disposable Blade Assembly

A simple vendor update could save your facility $10,000 per year/per surgeon*

Our new drop-in replacement Blade Assembly is compatible with your:

- 3M Agee Inside Job ECTR System
- MicroAire SmartRelease ECTR System

How Much Are YOU Paying?

NEW Not Refurbished Disposable Blade Assembly

$545 per 6 pack

($90.83 each, not sold individually)

Made in USA

Increasing value doesn't get much easier.

- Safe and effective, proven quality
- No new capital equipment needed
- No new training or education required

** Among hand surgeons asked we've estimated an average of 100 procedures per year/per surgeon.*

** Public, published MicroAire pricing to the Department of Veteran's Affairs is $1,140.90 per 6-pack ($190.15 each)*

Compare the ROI of buying that reusable system you're currently borrowing.

What Will Your Savings Be?

	MicroAire $190.15 each	**Hand Biomechanics Lab NEW - not refurbished** $90.83 each	
Procedures	Cumulative Cost	Cumulative Cost	**SAVINGS**
1	$190	$91	$99
2	$380	$182	$199
3	$570	$273	$298
4	$761	$363	$397
5	$951	$454	$497
6	$1,141	$545	$596
7	$1,331	$636	$695
8	$1,521	$727	$795
9	$1,711	$818	$894
10	$1,902	$908	$993
*16	$3,042	$1,453	$1,589
50	$9,508	$4,542	$4,966
*62	11,789	$5,631	$6,158
99	$18,825	$8,992	$9,832
100	$19,015	$9,083	$9,932
101	$19,205	$9,174	$10,031
102	$19,395	$9,265	$10,130

TRANSPARENT SWAP:
Similar packaging, labeling, sterility, field of view, blade sharpness, stiffness, and indications for use.

Our NEW Blade Assemblies are made in the USA based on the original 3M Agee Inside Job, or MicroAire SmartRelease System that you're likely still using today.

** Based on public, published MicroAire pricing charged to the Department of Veteran's Affairs:*

- *At 16 procedures your savings would cover the purchase of the MicroAire hand piece of $1,503.52.*
- *At 62 procedures, your savings would cover the purchase of the MicroAire System of $6,124.62 each.*

WWW.HANDBIOLAB.COM

77 Scripps Drive, Suite 104 | Sacramento, CA 95825 | 916.923.5073

The marriage of use and re-use

Device manufacturers build in safety and convenience in both

by Kara Nadeau

Photo credit: Kot63 | stock.adobe.com

Healthcare delivery varies widely by location of care, condition, clinician, treatment and patient. There is no "one-size fits all" approach. This also applies to the type of medical equipment and supplies used in the course of care.

Pandemic-related supply chain clogs have re-ignited intense examination around the benefits and challenges of embracing reusable versus disposable items in the healthcare setting. In many cases, the choice between the two really comes down to the application.

Some manufacturers have taken a middle path and developed equipment that features both reusable and disposable components. Others offer the same product type in both reusable and disposable versions so customers can choose what works best for them.

Let's look at some different applications of reusable, disposable and hybrid products in the delivery of patient care, the rationale for taking various approaches and considerations for their safe and effective use.

The shift to single-use scopes

In June 2021, the U.S. Food and Drug Administration (FDA) issued new recommendations for healthcare providers on reprocessing bronchoscopes, stating:

"Consider using a single-use bronchoscope in situations where there is increased risk of spreading infection (for example, multidrug resistant microorganisms, immunocompromised patients, or patients with prion disease) or when there is no support for immediate reprocessing of the bronchoscope."[1]

Olympus launched its first single-use endoscope in 2021 with a line of premium single-use bronchoscopes, and the company is working hard to bring single-use products to the market where they make the most sense, explains Kenneth Daignault, VP, Single-use Strategy and Development, Olympus.

"Our leadership in endoscopy allows us the ability to develop a portfolio of endoscopes with the goal of providing the right scope, for the right patient, in the right situation," he says.

"Customers and potential customers have given Olympus a view into the most important attributes that an endoscope should have, which include reliability, maneuverability, ergonomics, workflow features and more," Daignault added. "Olympus has and will continue to align our offerings to these critical needs and best-in-class attributes to complement our reusable endoscope portfolio with solutions that can fit the need of every specific case. This is leading us to introduce more breadth and balanced portfolio offerings such as single-use endoscopes, which gives our customers access to the best tools for each procedure, site of care and individual patient needs."

Disposable valve improves endoscope cleaning efficacy

The current multi-society best practice guidelines for gastrointestinal (GI) endoscope reprocessing steps recommend standard manual cleaning followed by high-level disinfection (HLD) and note how "pre-cleaning should commence in the procedure room per protocol, which is typically done by the staff already in the room."[2]

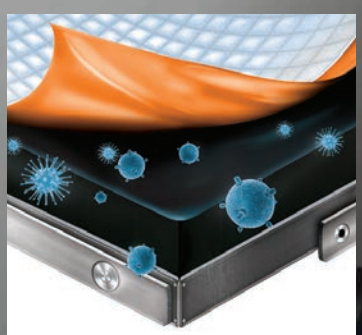
Olympus line of premium single-use bronchoscopes

Ansell

At least
99.98%
effective against MRSA, E. Coli and CRE*

DON'T GET STUCK IN THE PAST

THE FUTURE OF INFECTION CONTROL IS HERE



AMT™
Antimicrobial Technology

SANDEL®

Know the **DIFFERENCE**

The ONLY disposable linens with antimicrobial technology

STAT-BLOC™ linens combine three layers of protection that no other disposable linens can provide. The quilted patient layer wicks fluid away and helps prevent wrinkling to protect the patient's skin. The super-absorbent core provides maximum fluid control. And, the completely impervious, antimicrobial backing provides complete protection against bacterial migration and also kills 99% of COVID-19 which comes into contact.* Include STAT-BLOC™ linens in a turnover pack with a variety of other components to help improve turnover time and reduce the risk of cross-contamination in your O.R.

For more information or to receive a sample, visit www.ansell.com/STAT-BLOC or call 866-764-3327

** Data on file.*

An important step in the "pre-cleaning" process, or as the updated version of ANSI/AAMI ST91 now calls it, "pre-treatment," is for staff in the procedural area to flush the endoscope's air and water channels. There are two types of air/water cleaning adapters available to perform this flushing step - reusable and disposable. The choice comes down to what is specified in the endoscope manufacturer's instructions for use (IFU).

The authors of a June 2021 Infection Prevention in Practice (IPIP) article state, "re-usable valves (air/water and suction) used in endoscopes are multi-component, structurally complex devices; as such, cleaning and disinfection are extremely difficult."[3]

The Association for the Advancement of Medical Instrumentation (AAMI) and the American National Standards Institute (ANSI) have recommended using disposable adapters for this reason, as specified in ANSI/AAMI ST91:

"Processing of certain reusable endoscope components such as air/water and suction valves … require(s) the same level of inspection, cleaning and high-level disinfection or sterilization as the endoscopes themselves. Providers should therefore "consider the use of single-use, disposable valves."[4]

"With Ruhof's single-use adapter, you don't have to worry whether the adapter is sterile when used," said Noreen Costelloe, Director of Marketing, Ruhof Corporation. "And Ruhof rigorously tests its adapters to make sure you won't experience problems common in reusable adapters such as clogging, sticking and insufficient insufflation. This helps improve the consistency, control and efficiency of each procedure."

The Society of Gastroenterology Nurses and Associates (SGNA) points to literature that suggests "reusable buttons and valves be reprocessed and stored together with the endoscope as a unique set for tracking purposes."[5]

Ruhof's single-use, disposable Air/Water Cleaning Adapter

"The Ruhof adapter also eliminates the time-consuming chore of keeping adapters and endoscopes together throughout reprocessing and storing," Costelloe commented. "By eliminating the need to clean and track reusable adapters, Ruhof makes it easier for cleaning staff to follow reprocessing protocols and gives them more time to focus on each step."

Ruhof's adapter is specifically designed for use with Olympus GI endoscopes (excluding Olympus echo-endoscopes that utilize a balloon channel).

Reusable air-purifying respirator reduces PPE waste

As we experience another COVID-19 pandemic winter, and the emergence of the highly contagious Omicron coronavirus variant, clinicians, patients and the general public continue donning personal protective equipment (PPE), most notably face masks, in an attempt to stem virus spread.

The environmental impact of healthcare workers wearing disposable masks during the nearly two years of the pandemic is substantial. A study conducted by researchers from Massachusetts General Hospital, Brigham and Women's Hospital, the Massachusetts Institute of Technology (MIT) and Columbia University, modeled the impact of various healthcare worker mask usage patterns before and during the pandemic.

"According to their analysis, if every healthcare worker in the United States used a new N95 mask for each patient they encountered during the first six months of the pandemic, the total number of masks required would be about 7.4 billion, at a cost of $6.4 billion. This would lead to 84 million kilograms of waste (the equivalent of 252 Boeing 747 airplanes)."[6]

Reusable powered air-purifying respirators (PAPR) have been an option for healthcare worker protection during the pandemic, but they can be cumbersome to wear and operate. In response, Bullard introduced the SALUS-HC, a first-of-its-kind PAPR for workers in healthcare and public safety, which is designed to the NIOSH PAPR100-P standard for healthcare applications.

While traditional PAPRs are waist-mounted, the SALUS-HC features a shoulder-mounted design that enables healthcare professionals to experience a full range of motion. It also features sound-dampening motor technology, single button operation and a carriage release hook, which allows the carriage to be removed easily from the wearer's side and away from their breathing zone.

Bullard SALUS-HC reusable powered air-purifying respirators (PAPR)

The Bullard hood is constructed of DuPont Tychem 2000 – smooth glossy and easier and more effective to clean, and therefore reusable. To clean, thoroughly rinse the loose-fitting hood with clean, fresh water and allow to air-dry.

In addition to the waste reduction achieved by using reusable PAPRs versus disposable masks in a healthcare setting, Bullard also calls out the cost savings opportunity. According to the company's online "Cost in Use" calculator, a healthcare facility with 20 medical professionals requiring respiratory protection could save $109,200 annually by switching from disposable N-95 masks to the SALUS-HC PAPR.[7]

Two models of patient transfer system for differing needs

The balance between preventing infection and reducing waste is a typical challenge faced by hospitals when evaluating disposable versus reusable products. In some cases, it makes sense for a facility to have two versions of the same product for differing patient needs.

That's the case with AliMed's new PPS Glide Air-Assisted Lateral Transfer System, which is offered in both a reusable and disposable option for use anywhere in a facility. The transfer device uses circulating air to move patients with less effort, significantly reducing the amount of pull force required for safer patient transfers.

AESCULAP®

www.aesculapusa.com/aicon

Aesculap, Inc. - a B. Braun company

AliMed's new PPS Glide Air-Assisted Lateral Transfer System

"This allows for greater operational efficiency," said Christian Baker, Sr. Product Manager at AliMed. "Hospitals can stock both models and use the appropriate one depending on individual patient needs, such as length of stay or when specific protocols are assigned to different areas of the hospital."

The PPS Glide Single Patient Use is completely disposable and best for areas where faster cleanup and cross-contamination are a greater concern, such as in the operating room (OR) or emergency department (ED). The PPS Glide Reusable model is best for use on patient floors during longer-term stays where devices are less likely to be soiled and can be easily machine-washed between patients, reducing facility waste. Both options can remain with the patient for the duration of their stay for multiple transfers or as a repositioning aid for boosting, turning or proning.

Reusable PAP system with disposable components reduces cross-contamination risk

Because their bodies, specifically the lungs, are not fully developed, premature infants are at significant risk for respiratory issues, including apnea of prematurity, bronchopulmonary dysplasia (BPD) and respiratory distress syndrome (RDS). In the U.S., there are approximately 18,000 hospitalizations each year due to RDS at a cost of approximately $2.3 billion.[8]

While equipment for oxygen therapy in the neonatal intensive care unit (NICU) saves the lives of countless preemies, oxygen delivery via invasive mechanical ventilation (IMV) increases the risk for complications, including BPD. Studies have shown that Bubble Continuous Positive Airway Pressure (CPAP) technology, which facilitates oxygen delivery in a non-invasive manner via a mask and nasal prongs, reduces the need for IMV and the risk of BPD or death in preterm infants with RDS.[9]

Because premature infants are at such high risk for respiratory complications, it is important for neonatal intensive care unit (NICU) teams to do everything possible to reduce the risk for infection. A Bubble CPAP system that features single-use patient components is another way to safeguard these tiny, fragile patients by eliminating the risk for cross-contamination.

The Seattle Children's Research Institute developed the Seattle Positive Airway Pressure (PAP) plus system, which leverages Bubble CPAP technology and disposable components, including masks and prongs. Produced and marketed by Dräger, the Seattle PAP plus system received FDA clearance in August 2019. Its development was funded by the Bill and Melinda Gates Foundation.

Conclusion

Health systems and hospitals struggle to provide high quality and safe patient care in a cost-effective manner. Medical supplies and equipment represent a large portion of their budgets and play a central role in patient outcomes. Manufacturers recognize this challenge and continue to expand their product portfolios to offer more choices. By assessing infection risk, costs, functionality and patient impact, healthcare teams can select the right product options to meet their goals. HPN

References

1. Flexible Bronchoscopes and Updated Recommendations for Reprocessing Safety Communication, FDA, June 25, 2021, https://www.fda.gov/medical-devices/safety-communications/flexible-bronchoscopes-and-updated-recommendations-reprocessing-fda-safety-communication

2. Management of endoscopes, endoscope reprocessing, and storage areas during the COVID-19 Pandemic, American Society of Colon and Rectal Surgeons (ASCRS), accessed December 28, 2021, https://fascrs.org/getattachment/5ef92409-cade-4928-96cf-91ca53ebad93/GI-Society-management-of-endoscope-fleet.pdf?lang=en-US

3. Infection prevention in endoscopy practice: comparative evaluation of re-usable vs single-use endoscopic valves, Infection Prevention in Practice (IPIP), June 2021, https://www.sciencedirect.com/science/article/pii/S2590088921000111

4. ANSI/AAMI ST91: 2015 Flexible and semi-rigid endoscope processing in health care facilities

5. Standards of Infection Prevention in Reprocessing Flexible Gastrointestinal Endoscopes Webinar FAQ, SGNA, https://www.sgna.org/Portals/0/FAQ_Standards%20of%20Infection%20Prevention%20in%20Reprocessing%20Flexible%20Gastrointestinal%20Endoscopes.pdf#:~:text=Per%20the%20SGNA%20Standards%20of%20Infection%20Prevention%20in,facility%20must%20determine%20their%20individual%20practices%20and%20policies

6. The environmental toll of disposable masks, July 20, 2021, MIT News Office, https://news.mit.edu/2021/covid-masks-environment-0720

7. PAPR vs. N95 Cost in Use calculator, Bullard, https://www.bullard.com/papr-vs-n95

8. Breathing in America, American Thoracic Society, January 2010

9. Behnke J, Lemyre B, Czernik C, Zimmer KP, Ehrhardt H, Waitz M. Non-Invasive Ventilation in Neonatology. *Dtsch Arztebl Int*. 2019;116(11):177-183. doi:10.3238/arztebl.2019.0177

Hoping instrument jaws stay open during sterilization cycles may not be enough.

Achieve ✌ of mind with the Gator Instrument Clip.

Exposing instrument surface area during sterilization is critical in order to ensure sterility. Gator Instrument Clips from Cygnus Medical help to keep instrument jaws open during the sterilization cycle.

Peel pouch instruments must be sterilized on their side edges. In this position gravity pulls the instruments closed. Gator Instrument Clips prevent this from happening.

- Latex-Free
- Single-Use
- Multiple Sizes
- Radiopaque

Cygnus Medical
965 West Main Street, Branford, CT 06405
800.990.7489 www.cygnusmedical.com

The Gator™ Instrument Clip
PATENT PENDING

Pretreating is prerequisite

No more excuses not to clean at point-of-use

by Kara Nadeau

Photo credit: vzmaze | stock.adobe.com

Pretreating instruments and devices in the operating room (OR) and other procedural areas following their use and before they are sent to the Central Service/Sterile Processing & Distribution (CS/SPD) department is not only specified in manufacturers' instructions for use (IFU) but also provides significant benefits to all stakeholders.

Effective pretreatment post-procedure helps prevent bioburden from hardening on surfaces, which can improve decontamination/cleaning effectiveness, speed reprocessing times and protect instruments from damage. It is a win/win for OR and CS/SPD teams – streamlining workflows and improving patient safety.

So why are pretreatment compliance rates so low in some healthcare organizations and what can stakeholders do to increase compliance?

Barriers to pretreatment

While clinicians, CS/SPD professionals and other stakeholders (e.g., infection control/prevention) should be aligned in their goal to deliver effective and safe patient care, misconceptions, miscommunication and individual job pressures can derail their efforts.

That's not my job

When working with OR leaders and staff members, Mary K. Lane, MHA, CSPDM, CSPDS, CSPDT, MK Lane SPD Consulting, has come up against the belief that point of use (POU) pretreatment is not their responsibility.

Mary K. Lane

"It's almost as if it's beneath them to engage in any type of activity that they believe is related to the cleaning of surgical instruments," she said.

Lack of understanding for the importance of POU pretreatment among OR staff members is a prime reason why the practice is not done routinely, explains Seth Hendee, CRCST, CIS, CHL, CER, CSPDT, CFER, HSPA Approved Instructor, Clinical Education Coordinator, SPD, Healthmark Industries.

Seth Hendee

"Lack of understanding is the tough challenge because it has two factors of its own," said Hendee. "First is that 'precleaning' is not an OR staff member's job, though IFUs say different. Second is underestimating how difficult biofilms formation makes the rest of the process and how ineffective it can make disinfection and sterilization processes."

When healthcare organizations attempt to implement POU pretreatment policies, Key Surgical Clinical Educator Michelle Lemmons, RN, BSN, PHN, CNOR, CCSVP, says they often come up against resistance to change from the OR team, stating:

Michelle Lemmons

"Often, new workflows are 'communicated' by a general order such as an email stating, 'This is what you have to do now.' OR professionals are not given context or adequate information about the motivation for the changes. Compliance to the adding, deleting or changing the workflow of a large group of people requires more than an email or a 15-minute meeting. It requires education, conversation, time for questions and follow-up conversations."

With regards to the pretreatment of ultrasound probes at the POU, Ken Shaw, President of the Americas, Nanosonics, says the expanded use of ultrasound throughout clinical departments, such as emergency and burns units, presents challenges to compliance. The healthcare organization must reach all the various staff members preparing and using probes to educate them on why they need to perform pretreatment.

"Ensuring the probe is properly cleaned before sterilization or disinfection is essential, since the presence of gross soil may interfere with subsequent reprocessing steps. Most probes can be cleaned at the POU with a detergent wipe (do check probe IFUs)," commented Shaw.

I don't have the time

Leaders and staff in the OR face the same challenges as those in the CS/SPD, including labor shortages, pressures to work more efficiently and increasingly complex instrumentation, explains Sharon Hadley, Principal Consultant, STERIS. Therefore, lack of time is often cited as a reason for not performing POU pretreatment in the OR.

"Until recently, POU cleaning hasn't been a focus for OR staff. OR staff training (or lack thereof), coupled with the demand to decrease turnover times in the OR has led to instruments being delivered to SPD in less than acceptable conditions," said Hadley. "Excuses for noncompliance ('I don't have time') have been accepted. Even though both AORN [The Association of periOperative Nurses] and AAMI [The Association for the Advancement of Medical Instrumentation] has set a standard for how to care for instruments at the POU, accountability for compliance has been neglected."

Sharon Hadley

Products are hard to find/use

Mike Rischmiller, Lead Chemist, Ecolab, says another barrier cited by OR staff members for low pretreatment compliance is inability to find products to perform the job.

"They can't always find the prespray because it's not in their OR or available, and they won't spend time looking for a bottle if

Conveniently Transport Contaminated Instruments with the Disposable SST Tray System

Designed for post-procedure transportation of contaminated instruments from procedure areas to the decontamination area

---

- 25lb. Weight Capacity
- Manufactured from 100% Recycled Plastic
- Clear for Easy Identification
- Printed with Biohazard Symbol
- Reliable for Safe Transport

healthmark

INTELLIGENT SOLUTIONS FOR INSTRUMENT CARE & INFECTION CONTROL

HMARK.COM | 800.521.6224

For more of Healthmark's protection equipment solutions, including a full line of protective attire, visit

HMARK.COM

it's not right there," Rischmiller commented. "Having the prespray available all over the place makes it easier to follow the protocol and it's not an issue once staff gets in the habit of doing it."

Ali Shrader, Product Manager for Belimed's Protect line of consumables, commonly hears OR staff members complain that hand fatigue from the repeated spray trigger motion and weight of the pretreat bottles leads to poor or incomplete pretreatment practices.


Ali Shrader

"After getting feedback from many customers around common objections to consistent pretreat application, we saw the need for a better application method," said Shrader. "We recently launched the Belimed Protect Pretreatment Foamer, which ergonomically applies the product with triple the coverage in the same application time. We also completed an aerosolization study that shows product applied with the foamer does not aerosolize, making it safe to use in the OR."

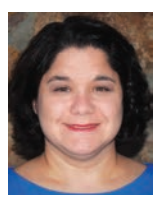
Tips to improve compliance

Pretreatment products should be implemented within the context of staff education and training, leadership support and policies and practices to promote accountability.

Call it what it is

With pushback from OR teams that instrument "cleaning" is not their job, change in terminology is one way the industry is fighting the battle for improved POU compliance.

"As an industry we have done a couple of things," explains Hendee. "The first has been to shift to using the term 'pretreatment' instead of 'precleaning'. The thought being that removing the 'cleaning' portion of the term will make those who feel precleaning is not a POU responsibility and should be done where the rest of the cleaning is done think differently."


Mary Ann Drosnock

Mary Ann Drosnock, MS, CIC, CFER, RM (NRCM), AAMIF, FAPIC, Director, Clinical Affairs, Healthmark Industries, is the former co-chair of AAMI ST/WG 84, the working group responsible for endoscope processing. The group recently published an updated version of ANSI/AAMI ST91, which takes the issue of terminology straight on.

"We have re-termed what was traditionally on the endoscopy side called 'precleaning' to 'point of use treatment' for a couple of reasons," said Drosnock. "To take out the connotation of cleaning because cleaning suggests using a cleaning brush and having to do all of the cleaning steps in the procedure room. We wanted to remove that connotation that the device is fully cleaned before it goes to processing."

Drosnock says the other reason for the change in terminology is standardization. ANSI/AAMI ST79: 2017 uses the term "point of use treatment" so use of this same term in ANSI/AAMI ST91 brings them both in alignment.

Start at the top

Hadley says compliance for performing POU tasks must come from OR leadership, stating:

"I don't think the advantages of having positive, collaborative meetings between OR and SPD staffs can be overstated. When the two departments understand their unique roles in instrument processing and work together to identify (and find solutions to) problems, accountability and compliance becomes a focus."

According to Lane, long-term POU treatment compliance requires OR leadership to continuously champion the practice beyond the initial push, and ongoing communication between OR and CS/SPD teams.

"It is imperative for the OR staff and SPD to have a great working relationship with open communication and support from leadership," said Lane. "Without these, we typically see the process being successful out the gate but waning when staff notices that leadership is not following through."

Enlist champions

To bridge the gap between the CS/SPD and clinical teams when it comes to POU pretreatment responsibilities and expectations, Shaw says a collaborative champion is key.

"It takes one person who understands the needs and is driven to improve patient and staff safety," he commented. "Whether you're from CS/SPD or other department, collaborating with your Infection Prevention department is a good place to start to understand the landscape of ultrasound use at your facility. Secondly, adopting products and processes designed for POU can help each department own their probe cleaning and disinfection practices, while meeting the compliance requirements of your organization."

As Hendee points out, CS/SPD staff have been trained to follow IFUs and understand that compliance to these documents is key to processing effectiveness. OR staff, on the other hand, typically do not receive this same level of direction and training on IFUs .

"In order for them (OR staff) to take the message to heart, it must come from a respected messenger who has received similar training and experience," said Hendee. "Infection Preventionists (IPs) would be able to bridge the gap between SPD and the OR to raise compliance."

In the case when an IFU is not readily available in the OR, such as when the surgical team uses a loaner tray, Leslie Kronstedt, CRCST, CHL, CIS, President Elect of the Western Wisconsin Chapter of the Healthcare Sterile Processing Association (HSPA), says the instrumentation manufacturer's surgical rep can help ensure OR staff perform the correct POU pretreatment post-procedure.


Leslie Kronstedt

"The surgical rep's intimate knowledge of their loaner instrumentation becomes a lifeline to surgical techs and a safety net in preventing sentinel events," she says. "The loaner rep is interested in maintaining their sets in the best shape and prolonging their life span on behalf of their company. In return, this keeps the customers happy and patients safe."

In the surgical suite, Kronstedt suggests that the OR teams asks the rep to advise them on instrument disassembly, such as "lumens to be flushed and parts to be unhoused from one another," which helps speed faster cleaning and quicker turnover of trays in the CS/SPD.

"This builds critical relationships between the staff in the surgical suite, sterile processing and the reps working together to streamline the cleaning process," said Kronstedt.

Provide education and training

Hendee said successful POU pretreatment compliance comes down to the OR team understanding why it is necessary. He recommends that healthcare organizations spread education on biofilms and their detrimental effects on the rest of the process.

"Studies have shown that biofilms make cleaning harder, hinder the effectiveness of disinfection and sterilization, and can proliferate when they become mature. If all of these can be stopped with a few simple steps, I believe compliance will rise."

Lemmons recommends cross-training between CS/SPD and OR teams so they can understand the impact of their actions on one another, stating:

"Having OR/ SPD champions and cross-training staff in both departments and using a checklist or training tool to ensure that they gain exposure to the 'real' workflow can be very effective. More research is coming out about the effectiveness of accountability and transparent workflows in motivating a change in practice."

Rischmiller has seen several facilities achieve good success by having the OR staff spend a day in the CS/SPD to shadow staff and see what it takes for them to process instruments effectively and safely for re-use.

"Once the doctors and nurses see the cleaning process, they have a whole new respect for the work that goes into preparing the instruments they need," he said. "Likewise, have CSD staff spend a day observing in the OR to understand the impact when an instrument needs to be sent back to CSD or the right instrument wasn't included. They get yelled at by OR when the carts aren't done right but seeing what that does to the OR schedule and patient helps them understand the importance of their work."

With ultrasound probe usage expanding into different departments and disciplines, Shaw says organizations should start by determining where ultrasound is routinely used in a facility. Scoping initiatives at the organizational level and collaboration with department heads and staff can help guide POU pretreatment training initiatives.

"Once the probe models being used are identified, cleaning practices can be surveyed and compared to federal guidelines, standards and the probe IFUs," said Shaw. "In some cases, a complex cleaning process requiring a centralized workflow could be replaced with a simpler detergent wipe cleaning at POU if clinically appropriate and the probe IFUs permit."

"For semi-critical and critical probes, coupling this with automated HLD and traceability technologies designed for POU in each department can also help meet compliance needs and streamline clinical workflows," he added.

Record and report it

In their IFUs, endoscope manufacturers state that if a scope sits for more than one hour after pretreatment before it is manually cleaned, the CS/SPD staff must perform delayed reprocessing procedures. Surgical scopes require an extended soak up to one hour, while GI scopes require up to 10 hours, as Drosnock explains.

The newly updated ANSI/AAMI ST91 features a recommendation intended to minimize this time and labor-intensive step, which can shorten a scope's lifespan. It recommends that OR staff document the time they perform POU pretreatment and convey this information to the CS/SPD team.

"It is really about having an objective measure of that time instead of guessing if they are within the one hour," said Drosnock. "This will help CS/SPD teams prioritize processing of incoming devices.

"There are a variety of ways OR teams can record and communicate time of pretreatment to the CS/SPD, such as a label on the container, tag on the scope, or an indicator with a chemical reaction that occurs at the one-hour mark," she added. "It is up to the facility to decide on the method that works best for them."

Hold staff accountable

As with any practice, maintaining POU pretreatment compliance in the OR requires consistent monitoring, ongoing measurement and leadership-backed intervention when compliance wanes.

"Both teams (CS/SPD and OR) must take ownership of the tasks for which they are responsible, and leadership must ensure there is a system for accountability put into place," said Shrader. "If the OR is called out for each tray that isn't pretreated, CS/SPD for incomplete sets and a tracking mechanism is established for each, this drastically improves compliance."

Rischmiller says simple practices, such as placing a checklist or repair list on the CS/SPD door for OR staff to record missing or broken instruments, can help boost pretreatment compliance, stating:

"One example I've heard is a checklist when the carts are dropped off at CSD so someone has to acknowledge that all the right steps were done, such as pretreatment and tagging broken instruments."

According to Lane, many of the organizations with which she has worked have implemented an audit tool to track compliance. Staff at the POU must also initial the audit tool prior to sending the soiled surgical instruments to the CS/SPD. She describes what happened next:

"Lack of compliance by POU staff or inadequate precleaning by POU staff resulted in OR leadership or infection prevention being notified and the staff involved were sent to SPD to clean their surgical instruments. Further the infraction was documented and if it continued it resulted in employee counseling."

Christy M. Newland, Director of Professional Services and Processing Standards, STERIS, points out how some healthcare systems have begun measuring POU pretreatment compliance and reporting it as part of their internal quality initiatives.

Christy Newland

"To be successful, this must be a collaborative effort between the OR and CS/SPD," Newland said. "The roles and responsibilities must be clearly defined from all parties involved. Audits for sustainability once the POU process has been educated/trained to staff is necessary. Unless someone is focused on sustainment, staff will fall back to old habits and momentum will be lost."

Lemmons explains how positive reinforcement is another way facilities can boost pretreatment compliance:

"Accountability and transparency can be very effective in the department setting. For example, highlighting ORs or individuals who consistently pretreat instruments at a joint OR/SPD meeting, providing feedback about which rooms are pretreating instruments and which aren't to gain insight into what barriers may be in place to performing this step without reprimand and embarrassment."

One system's success story

When POU pretreatment of instruments became an industry standard, NYU Langone Hospital—Long Island, "jumped on board immediately," said Robert B. Dybec, BSN, RN, MS, CNOR and Ruhof Clinical Specialist.

Robert B. Dybec

"When we started POU pretreatment maybe three or four years ago, it was with an enzymatic foam spray," he explained. "We have an extremely busy OR and central supply and we noticed that trays that were less of a priority could potentially be sitting for longer than 72 hours, particularly on weekends."

The OR team converted to Ruhof Prepclean Forever Wet, a neutral pH, non-aerosol humectant spray, which Dybec explains has a 72-hour life span. They also installed Ruhof ForeverPrep Pretreatment Sprayers, an automated application system for the Forever Wet spray, in every one of their ORs, including labor and delivery and ambulatory surgery centers.

They coupled the product introduction with a hospital-wide policy that OR staff perform pretreatment on every instrument tray, and education around why this practice was important to patient care and safety.

"We had to educate the OR team on why they were spraying," explained Dybec. "They needed to understand how it benefits Central Sterile, the OR and the patient. It has really become a success story for us so much to the point that the other hospitals in the NYU Langone Health, system started adopting the policy and products as well."

Central to the health system's success is the great collaboration between the Central Sterile and OR teams. They regularly perform audits of instrument trays to ensure they have been pretreated following procedures in compliance with the policy. Anytime Central Sterile staff find a tray that was not sprayed, they immediately notify the OR team. They use a tracking system to identify the case in which that tray was used and the staff who performed that case are held accountable.

"On the other end if we have issues in the OR and we open a tray and notice Central Sterile didn't do a good job cleaning we go back to them," explained Dybec. "It isn't a tit for tat, it is really all about making it the best for everybody. We want clean instruments, they want pretreatment." HPN

Investing in educators supports quality assurance

by Sarah B. Cruz, CSPDT, CRCST, CHL

Thanks to revolutionary technological advances in medicine, the healthcare industry has been saturated with innovation and cutting-edge resources. Unfortunately, these advances aren't always so readily seen in today's Sterile Processing departments (SPD), and that lack of attention and resources can have a significant and negative impact on patient outcomes.

Many facility decision-makers fail to realize that their SPDs are running on antiquated and outdated systems—and this is not just limited to processing equipment. These "outdated systems" can be seen in departments' standard operating procedures (SOPs), which can then translate to questionable practices from technicians. If a facility is to deliver the highest quality patient care, decision-makers must invest in the professional development of their sterile processing (SP) professionals who are tasked with delivering clean, sterile, well-functioning instrumentation.

Changing times call for revised practices

The realm of SP is not what it used to be. Notable differences from the early days of the discipline to today include more intricate and complex instrumentation; intensive and detailed instructions for use (IFU) or, conversely, vague or confusing IFU that can introduce ambiguity and dangerous guesswork into processing steps; skyrocketing surgical case volumes; increased instrument sets and the need for more instruments within a surgical set; and more.

SP leaders must ask whether their department has developed new standards of operation to match new challenges and demands. They must also reevaluate the department's onboarding protocols and ensure that their training models directly correlate to the successes (and failures) of SP professionals' standard practices. What's more, they should examine how the current state of their department has changed since the training practices were created. A few indicators that the onboarding and training process may be antiquated or in need of a revamp include differences in staff size, changes in accommodated surgical service lines, increases in defects specific to one or more areas, and high rate of professional fatigue, burnout and frustration.

SP leaders and the facility's senior leadership must understand that whenever clear steps and appropriate guidance are not provided, employees will perform based on their personal interpretation of the expectation. In such cases, those actions may not be rooted in best practices, despite those individuals' best efforts. A thorough assessment of the department's SOPs is an essential first step in implementing quantifiable and tangible SPD processes.

Quality educators lend vital support

When updated SOPs are needed in the SPD, the responsibility largely falls on an already inundated manager. Often, they are seeing the fallout of their departmental practices from numerous angles: their frustrated technicians, urgent requests from perioperative colleagues and, perhaps, even inquiries from facility executives who request change but often fail to lend adequate support to allow it to happen.

Facility leaders looking to create a culture for positive change must recognize that stating the need for change is not enough. SP managers often lack the bandwidth or support necessary to maintain day-to–day operations, manage daily challenges and develop better practices; they could greatly benefit from an SPD collaborator—a quality SPD educator.

An educator's primary role is to assess whether the processes in place achieve the facility's patient safety goals. By combining subject matter expertise with standards and scholastic industry references, educators can best identify opportunities for change. Change is then made permanent through the creation, implementation and management of new practices, followed by training. Through interdepartmental collaboration, SP educators can help create updated SOPs, quantifiable best practices and qualifiable indicators for managerial decision-making; identify areas of improvement; create curriculum for training; and ensure best practices and quality assurance (QA) are at the heart of formal training. Employing an SP educator allows the manager to better manage the department's daily operations, along with the expectations of their team, service lines and facility executives. Put simply, investing in a quality SPD educator provides a new way to invest in patient safety.

Every leader must ask whether "the way they've always done it" is adequate and rooted in standards and best practices. When goals aren't met, blame is often passed onto individual employees; however, attention must first be paid to the processes, practices and SOPs being implemented, and the training of those processes and procedures. If employees aren't performing well, the issue can often be traced to poor processes and training. An SP educator can assess and survey their department's workflow and pain points (as outlined by the manager) to evaluate improvement opportunities. This can be achieved through QA audits, electronic tracking system data collection, root cause analysis, direct observation, and evaluation and competencies. Educators can then create and implement a curriculum that teaches the practices necessary for quality and patient safety. From there, the manager can use the outlined standard work to address precise areas of deviation or improvement with the SP team. This information can prove helpful for managers during meetings with facility executives by allowing managers to share why issues arose—and a suitable plan for process improvement.

Conclusion

A dedicated SP educator is crucial for instilling lasting and positive change through the development of best practice-based SOPs, processes and training. When educators and managers work collaboratively, frontline technicians and senior-level executives will achieve the results they have always wanted: safe, high-quality patient care. HPN

Sarah B. Cruz, CSPDT, CRCST, CHL, serves as CS Education Coordinator for The Bone & Joint Institute at Hartford Hospital. She also serves as a columnist for the Healthcare Sterile Processing Association.

How long can sterilized instruments be stored in peel pouches?

by Stephen Kovach

Q Do you have any information that you can share with me concerning how long sterilized instruments in peel pouches can be stored, like in other departments? Also, are the terms 'dust covers' and 'sterility maintenance covers' the same term?

A By the type of question, I must assume you are looking for support for writing a policy on storage of peel pouches in any location.

To my knowledge, there are no specific standards/guidelines stating sterile items have to be reprocessed (annually or any other interval) if not stored in a controlled environment.

What you need to understand:

1. Look to the instructions for use (IFU) of the peel pouches you are using for directions on storage.
2. Research the various standards and guidelines concerning storage conditions.
3. Explore various articles and technical manuals (training) on the subject.

You will combine all this information to write your policy, then have it reviewed by the proper team members within your facility.

However, AORN does speak to conducting a multidisciplinary risk assessment in such cases to determine what "events" should trigger the reprocessing of the stored items. For example, the multidisciplinary team could decide to reprocess any sterile item stored outside controlled storage areas each year, but they just need show they followed their own policy. They could also include the use of a dust cover or sterility maintenance cover as an extra layer of protection. This segues into the second part of your question.

As a side note, remember to keep the instruments in an open position while in the peel pouch to allow for sterilant penetration and contact of the sterilant on all parts of the instrument. There are many excellent products on the market to accomplish this task.

Dust Cover or Sterility Maintenance Cover? Same or different?

In my view, they are the same term. You must remember that, in general, they provide a barrier against moisture and dust (i.e., environmental contaminants) and are not to provide a microbial barrier. Again, follow the IFU of the product you are using. The majority of this class of products are made of plastic and have very specific instructions on when and how to apply after a sterilization cycle.

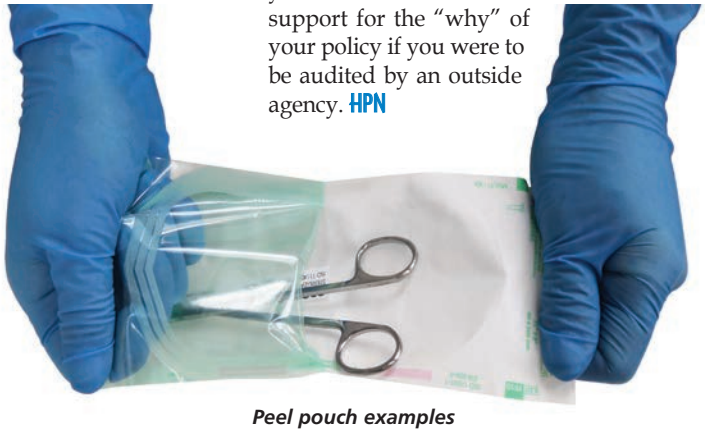
As a general reminder, no matter where peel pouches are stored (e.g., in a sterile supply area, emergency room cabinet, or a nursing unit storage room), always practice first-in, first-out (FIFO) inventory control.

As the department manager it is your role to ensure that any area having sterilized products from your department understand the correct way to store, handle, and open these items (in this discussion about peel pouches). Make it a point to provide in-service to all your users in every location. My other suggestion is do your own "milk run" of these various areas and audit their adherence to your facility policy. Use that information to provide feedback to your users. This can also help you develop your in-service program so that it is meaningful to the user.

For reference, here are some sections of standards and guidelines to investigate that will help you get started on forming a policy for use at your facility.

- AORN on sterile storage (section 4.3 - 4.3.8).
- ANSI/AAMI ST79 sections (9.7, 11.1 - 11.1.3).

In closing, when writing your policy, make sure to provide references for all your sources to back up the statements. This not only makes it easier to defend it to your staff but also to show support for the "why" of your policy if you were to be audited by an outside agency. HPN



Peel pouch examples
Photos courtesy Healthmark Industries

HEALTHCARE PURCHASING NEWS

February 2022

The self-study lesson on this central service topic was developed by 3M Health Care. The lessons are administered by Endeavor Healthcare Media.

Earn CEUs

After careful study of the lesson, complete the examination at the end of this section. Mail the completed test and scoring fee to *Healthcare Purchasing News* for grading. We will notify you if you have a passing score of 70% or higher, and you will receive a certificate of completion within 30 days. Previous lessons are available at www.hpnonline.com.

Certification

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

HSPA (Healthcare Sterile Processing Association) has pre-approved this in-service for 1.0 Continuing Education Credits for a period of three years, until January 14, 2025. The approval number for this lesson is **3M-HPN 221401**.

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

LEARNING OBJECTIVES

1. *Describe recommendations for adequate water quality for cleaning medical devices*
2. *Identify the impact of water quality on medical device reprocessing*
3. *Relate water quality to adverse events described in the scientific literature*

SELF-STUDY SERIES

Water for cleaning medical devices

by Jeane Aparecida Gonzalez Bronzatti and Rafael Queiroz de Souza

Cleaning is considered a fundamental step in the processing of healthcare products. It removes a variety of organic and inorganic dirt from instruments used in surgical procedures such as blood, proteins, lipids, bone, and ophthalmic viscosurgical devices, among others. In practice, medical devices are immersed, rinsed, or sprayed with water or solutions with surfactants to prevent the dirt from drying out. There are cases in which a pre-cleaning procedure in care areas needs to be carried out, for example, when there is a large amount of organic matter such as feces, blood, or other contaminants[1].

To make the removal of dirt to safe levels possible, it is necessary to use either manual or automated cleaning methods - or a combination of both. In all cases it is necessary to use water, which acts as a solvent, and is one of the essential elements of the Sinner's circle[2] along with four other factors: time, mechanical action, temperature, and chemical activity[3].

Considering water as an essential element, its use occurs in several stages of processing: displacement of dirt through spraying in thermo-disinfecting washers and cavitation in ultrasonic washers, dilution of cleaning solutions, and in rinsing of medical devices. Thus, water quality control is essential for the cleaning process to be effective. (See Table 1.)

Additionally, there are documents that supplement the AAMI TIR34:2014 with product-specific recommendations as well as local guidelines and regulations. These additional guidelines should be consulted in the instructions for use of each product. For example, the TIR34 provides different indications for rinsing after high-level disinfection, while the Gastroenterological Society of Australia – GESA[5] has specific and additional recommendations for the quality of water used in the processing of endoscopes (Tables 3 and 4).

In ophthalmology, there are specific recommendations due to the occurrence of acute inflammations of the anterior chamber, or segment, of the eye following cataract surgery characterized as TASS: Toxic Anterior Segment Syndrome. That said, the guidelines of the American Society of Cataract and Refractive Surgery (ASCRS), American Academy of Ophthalmology (AAO), and Ophthalmic Outpatient Surgery Society (OOSS) recommends the use of tap water only when specified by the product's instructions for use, the latest critical water rinse[6], as well as the Association periOperative Registered Nurses[7].

Although there are differences in terms of recommendations, it is important to establish a control and monitoring program aimed at reducing risks for the patient and for maintaining instruments and equipment.

Water Quality Impacts on the Sterile Processing Department

Detergent interactions

Chemical activity is a component of the Sinner's circle and is essential for efficient cleaning to be carried out[2]. Detergent formulations contain surfactants, whose function is to allow water-insoluble dirt to become soluble through its molecule that contains a hydrophilic and a hydrophobic portion, acting as a bridge between water and dirt[8].

Surfactants interact with water contaminants in the same way. During cleaning,

Table 1. Categories and recommended levels of water quality for medical device reprocessing

Specifications	Units	Utility water	Critical water
Hardness	mg/L	< 150	<1
Conductivity	µS/cm	< 500	<10
pH		6 - 9	5-7
Chlorides	mg/L	< 250	<1
Bacteria	cfu/mL	n/a (< 10)*	<10
Endotoxin	EU/mL	n/a (< 20)*	<10

*After high-level disinfection
Source: AAMI TIR34, 2014[4].

Table 3. Water quality for pre-cleaning, cleaning and rinsing (before disinfection)*

Substance or parameter	Before disinfection
Water hardness	< 150 mg/L
Chloride	< 120 mg/L

*Source: Gastroenterological Society of Australia, 2021[5].

Table 4. Water quality for automated flexible endoscope reprocessors final rinse water*

Substance or parameter	Before disinfection
Chemical purity	As per manufacturer's instructions
Total viable count	≤ 10 cfu/100 mL
Pseudomonas aeruginosa and atypical Mycobacterium species	Nil detected/100 mL
Endotoxin	≤30 EU/mL

*Source: Gastroenterological Society of Australia, 2021[5].

the use of hard water with a high concentration of calcium and magnesium ions reduces the surfactant available for cleaning medical devices because of the formation of insoluble and chemically inactive salts, compromising the cleaning efficiency[8,9].

Another important variable that can interfere with enzymatic activity is pH, especially in the cleaning steps when detergent is used, thus, the instructions for use of each solution must be considered so that the enzymatic activity is not compromised[4].

Instrument conservation

Surgical instruments are made of stainless steel; however, they are not indestructible. Stainless steel is composed of iron, carbon, chromium, nickel, manganese, silica, and other metals. Surgical instruments made of stainless steel undergo a process called passivation, which makes them less "reactive" and therefore less susceptible to corrosion[10,11].

The process of forming the passive layer can be carried out by treating the instrument's surfaces with substances that remove iron from the surface, but maintain the chromium, which is the metal responsible for the "passive" characteristic of the instrument. When broken, the passive layer can "regenerate" when exposed to air, however in the presence of dirt there will be no exposure to air and regeneration will not occur[11].

Certain chemicals and contaminants in the water used in reprocessing can also damage the passive layer, in addition to various stains on instruments and equipment. Table 5 summarizes the most common problems related to poor water quality and their potential causes.

In general, the investigation to determine the causes of stains involves the following activities (Table 6).

In the case of new surgical instruments, they must be removed from the plastic packaging as this material allows condensation which can cause rust. Additionally, they must undergo reprocessing to remove oils and other residues derived from the manufacturing process[10].

Adverse events

Adverse events resulting from contamination of the water used in the reprocessing of medical devices can be TASS, aseptic loss of implants, and pyrogenic reactions. Cases listed below will be described to illustrate the importance of using critical water for the last rinse, and also in the generation of steam as preventive measures.

Ophthalmology: The reported cases of TASS are associated with contamination of the instruments due to water. There are cases involving endotoxins[12] and inorganic contaminants[13]. One study evaluated the cytotoxicity of cannulas for hydrodissec-

Table 5. Examples of observed problems during device reprocessing that can be caused by poor water quality:

Problems	Potential causes
Residual dirt	Inefficient cleaning.
Instrument surface damage: Corrosion Pitting Rusting Stress fracture	• Drying of dirt on the surface • Exposure to some chemicals (e.g. saline solutions, chlorine, and low acidic or high alkaline chemistries) • Chlorinated water (especially when heated) or high/low pH water
Loss of color	• Exposure to some chemicals (e.g. chlorine solutions, and low acidic or high alkaline chemistries) • Chlorinated water (especially when heated) or high/low pH water
Discoloration	Excessive heating to stainless steel surfaces, combined with various water deposits
Gold-brown	
Orange-brown	Phosphate layer developing on surface (from poor water quality and even some phosphate-containing cleaning chemistries that are not rinsed correctly); often seen as orange-brown discoloration
"Rainbow"	Chromium oxide development observed as a "rainbow" stain that develops over time (and can include various blue-brown colors from the presence of copper and iron)
Black or purple staining (commonly observed after steam sterilization)	• High or low pH residuals remaining on the device following cleaning • Can be from water quality or insufficient rinsing (or neutralization) with low acidic or highly alkaline cleaning chemistries
White staining or deposits (observed following drying or steam sterilization)	• Water hardness • Combination with Other chemical contaminants (such as copper and iron) to give different colors • Other chemical residuals (e.g., residuals from inadequate rinsing of cleaning chemistries, other water contaminants such as silicon oxide)
White, chalky buildup in the water lines, lumens, and valves of an automated processor	High volume of water with high mineral content, resulting in mineral buildup
Biofilm (Slime development over time, often appearing as different colors)	• Ineffective maintenance of devices/equipment • Inadequate contact (during cleaning/ disinfection) and poor water draining (e.g., pooling)
Source: Adapted from AAMI, 2014[4].	

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

Table 6. Investigation of stains on surgical instruments: activities and verification items.

Activity	Items to be verified:
Audit the instrument processing steps	Point-of-use cleaning procedures, disassembly of surgical instruments for cleaning, bristles of cleaning brushes, dilution of chemical solutions, manual and automated cleaning procedures, drying, inspection, packing, instructions for use compliance.
Review cleaning and sterilization equipment maintenance	Maintenance and qualification of cleaning and sterilization equipment, steam generator, steam supply network and pipes, water treatment systems, instructions for use compliance.
Inspect and remove instruments with rust	Visible rust, corrosion, and pitting (rust may transfer and "seed" onto quality instruments.*)
Review storage conditions (*instruments stored wet are subject to rust)	Instrument and packaging humidity, ambient humidity within acceptable limits, furniture and surfaces clean and dry.
Test water quality used in the various stages of processing	Control and monitoring of water according to each stage of reprocessing and the conditions required by the TIR34 and other applicable documents.

*Seavey, 2015[10].

tion subjected to challenge contamination, including cleaning based on a validated standard operating procedure (SOP) and final rinsing in different water qualities, demonstrating the absence of cytotoxicity, regardless of the quality of water used in the last rinse. However, the authors highlighted that the data were obtained from new instruments, that is, in a good state of conservation[14]. Considering the importance of water for the conservation of instruments, the authors did not recommend the use of tap water, therefore, the TIR34 recommendations must be followed. Another relevant aspect observed by the authors is the importance of adherence to cleaning SOPs, due to the high level of cytotoxicity of dirty instruments, since the last rinse will not compensate for poor cleaning.

Orthopedics: Instruments for orthopedic surgeries present a high level of complexity, favoring the retention of dirt[15-18] and endotoxins after cleaning and rinsing with drinking water, especially intramedullary cutters and femur scrapes[19]. In the case of flexible cutters, the retention of dirt can be cumulative between the steel blades that make up the flexible body and the toxicity of the accumulated residual is unacceptable for use[20]. It's likely this problem can be accentuated with endotoxins coming from rinse water when not properly treated. Endotoxins may also be related to the aseptic loss of implants, with adherence to cleaning and final rinsing SOPs with critical water being essential[21,22].

Cardiac catheterization: The main adverse event reported is the pyrogenic reaction caused by endotoxins after cardiac catheterization, in which patients developed fever and chills, with or without hypotension[23, 24]. A literature review on cardiac catheter reprocessing identified three articles reporting cases of pyrogenic reactions with a potential common cause: inappropriate water quality[25]. In one of the studies, an increase in the amount of endotoxins and microorganisms was observed in distilled water stored by the hospital and used in the processing of catheters[23]. The results demonstrated that water storage can be one of the critical factors in controlling water quality. In the studies found in the review, interventions to contain the cases were limited to the use of endotoxin-free water, sanitization of water distribution systems, and sterilization of catheters on the same day of reprocessing (possibly, the catheters would be less exposed to residual moisture and consequent contamination). These results reinforce the need to use critical water to prevent pyrogenic reactions.

Conclusion

The quality of cleaning water must be controlled for the following reasons:

- Ensure the effectiveness of dirt removal, avoiding the reduction of detergent activity.
- Avoid recontamination of instruments with rinse water residues, including microorganisms and endotoxins.
- Preserve surgical instruments, preventing pitting, corrosion, and various stains.
- Maintain equipment efficiency, avoiding encrustations in pipes, chambers, and resistances.
- Ensure that medical devices are free from toxic waste capable of causing adverse events. HPN

***Jeane Aparecida Gonzalez Bronzatti**: Registered Nurse, Master and Doctor in Science. Management specialist in healthcare units. Healthcare consultant in Medical Device preparation and usage. National and International Speaker.*

***Rafael Queiroz Souza**: Registered Nurse, Master, Doctor and Post-Doctor in Sciences from the University of São Paulo; Specialist in teaching and production of knowledge related to safety in the reprocessing of medical devices*

References

1. Rutala WA, Weber DJ. Healthcare Infection Control Practices Advisory Committee. Guideline for disinfection and sterilization in healthcare facilities [internet]. Atlanta: Center for Diseases Control and Prevention. HICPAC; 2008. Available from: http://www.cdc.gov/ncidod/dhqp/pdf/guidelines/Disinfection_Nov_2008. Accessed January 11, 2022.

2. Sinner H. Über das Waschen mit Haushaltwaschmaschinen: In welchem Umfange erleichtern Hauchaltwaschmaschinen undgeräte das wäschehaben im Haushalt? Hamburg: Haus+Haim Verlag; 1959.

3. World Health Organization. Decontamination and reprocessing of medical devices for health-care facilities. World Health Organization. 2016. Available from: https://apps.who.int/iris/handle/10665/250232. Accessed January 11, 2022.

4. Association for the Advancement of Medical Instrumentation (AAMI). Water for the reprocessing of medical devices. Arlington: AAMI; 2014. (AAMI Technical information report 34. TIR34:2014).

5. Devereaux BM, Jones D, Wardle E, on behalf of the Infection Control in Endoscopy Committee. Infection Prevention and Control in Endoscopy 2021. Melbourne: Gastroenterological Society of Australia, 2021.

6. American Society of Cataract and Refractive Surgery, Ophthalmic Outpatient Surgery Society, American Academy of Ophthalmology. Guidelines for the Cleaning and Sterilization of Intraocular Surgical Instruments. 2018. Avaliable from: https://www.aao.org/clinical-statement/guidelines-cleaning-sterilization-intraocular#Approvals. Accessed January 11, 2022.

7. Association of PeriOperative Registered Nurses. Guideline Quick View: Instrument Cleaning. *AORN Journal* November 2020; 112 (5) 585-592. doi: http://doi.org/10.1002/aorn.13254.

8. Lyon S. Water quality and its impact on the decontamination process. Managing Infection Control. 2008; 82–97. Available from: http://www.surgerytheater.com/document/1325112596.pdf. Accessed January 11, 2022.

9. Panta G, Richardson AK, Shaw IC. Quality of water for reprocessing of medical devices in healthcare facilities in Nepal. *J Water Health* 1 August 2021; 19(4) 682–686. doi: https://doi.org/10.2166/wh.2021.071.

10. Seavey R. Nursing Lesson Plan: troubleshooting instrument stains. International association of Healthcare Central Service Materiel Management. 2015.

11. Kaiser HJ, Schwab P, Tirey JF. Spotting, Staining, and Corrosion of Surgical Instruments. Infection control today. 2000. Available from: https://www.infectioncontroltoday.com/view/spotting-staining-and-corrosion-surgical-instruments. Accessed January 11, 2022.

12. Holland SP, Mathias RG, Morck DW, Chiu J, Slade SG. Diffuse lamellar keratitis related to endotoxins released from sterilizer reservoir biofilms. *Ophthalmology*. 2000 Jul;107(7):1.227-33.

13. Hellinger WC, Hasan SA, Bacalis LP, Thornblom DM, Beckmann SC, Blackmore C, Forster TS, Tirey JF, Ross MJ, Nilson CD, Mamalis N, Crook JE, Bendel RE, Shetty R, Stewart MW, Bolling JP, Edelhauser HF. Outbreak of toxic anterior segment syndrome following cataract surgery associated with impurities in autoclave steam moisture. *Infect Control Hosp Epidemiol.* 2006 Mar;27(3):294-8.

14. Souza RQ, Gonçalves CR, Ikeda TI, Cruz AS, Graziano KU. The impact of the final rinse on the cytoxicity of critical products submitted for processing. *Rev Esc Enferm* USP · 2015; 49(Esp):86-91. doi: 10.1590/S0080-623420150000700013.

15. Blevins FT, Salgado J, Wascher DC, Koster F. Septic arthritis following arthroscopic meniscus repair: a cluster of three cases. *Arthroscopy*. 1999; 15(1):35-40. doi: 10.1053/ar.1999.v15.015003.

16. Parada SA, Grassbaugh JA, Devine JG, Arrington ED. Instrumentation-specific infection after anterior cruciate ligament reconstruction. *Sports Health*. 2009; 1(6):481-5. doi: 10.1177/1941738109347975.

17. Tosh PK, Disbot M, Duffy JM, Boom ML, Heseltine G, Srinivasan A, Gould CV, Berríos-Torres SI. Outbreak of Pseudomonas aeruginosa surgical site infections after arthroscopic procedures: Texas, 2009. *Infect Control Hosp Epidemiol*. 2011; 32(12):1179-86. doi: 10.1086/662712.

18. Lucas AD, Nagaraja S, Gordon EA, Hitchins VM. Evaluating Device Design and Cleanability of Orthopedic Device Models Contaminated with a Clinically Relevant Bone Test Soil. *Biomed Instrum Technol*. 2015 Sep-Oct;49(5):354-62. doi: 10.2345/0899-8205-49.5.354.

19. Goveia VR, Mendoza IYQ, Guimarães GL, Ercole FF, Couto BRGM, Leite EMM, et al. Endotoxins in surgical instruments of hip arthroplasty. *Rev Esc Enferm* USP. 2016;50(3):405-410. DOI: http://dx.doi.org/10.1590/S0080-623420160000400005.

20. Souza R, Bronzatti J, Laranjeira P, Mimica L, Silva C, Cruz A, Graziano K. Safety assessment of reprocessing of flexible intramedullary bone reamers for orthopedic surgery. *Revista SOBECC*. 2017; 22(1):17-22. doi: 10.5327/Z1414-4425201700010004.

21. Greenfield EM, Bi Y, Ragab AA, Goldberg VM, Nalepka JL, Seabold JM. Does endotoxin contribute to aseptic loosening of orthopedic implants? *J Biomed Mater Res B Appl Biomater.* 2005 Jan 15;72(1):179-85. doi: 10.1002/jbm.b.30150.

22. Wang G, Zhang P, Zhao J. Endotoxin Contributes to Artificial Loosening of Prostheses Induced by Titanium Particles. *Med Sci Monit*. 2018 Oct 2;24:7001-7006. doi: 10.12659/MSM.910039.

23. Reyes MP, Ganguly S, Fowler M, Brown WJ, Gatmaitan BG, Friedman C, Lerner AM. Pyrogenic reactions after inadvertent infusion of endotoxin during cardiac catheterizations. *Ann Intern Med*. 1980 Jul;93(1):32-5. doi: 10.7326/0003-4819-93-1-32. PMID: 7396310.

24. Kundsin RB, Walter CW. Detection of endotoxin on sterile catheters used for cardiac catheterization. *J Clin Microbiol*. 1980 Mar;11(3):209-12. doi: 10.1128/jcm.11.3.209-212.1980. PMID: 7380997; PMCID: PMC273364.

25. Ribeiro, SMCP et al. Reuse of cardiac catheters: a review. *Brazilian Journal of Cardiovascular Surgery.* 2006; 21(3):334-342. Available from: https://doi.org/10.1590/S0102-76382006000300014.

CONTINUING EDUCATION TEST • FEBRUARY 2022

Water for cleaning medical devices

Circle the one correct answer:

1. **Cleaning is a procedure used to remove organic and inorganic matter, except hemoglobin.**
   A. True B. False
2. **The Sinner cycle requires time, mechanical action, temperature, and chemical activity.**
   A. True B. False
3. **Utility water is mainly used for flushing, washing, rinsing, and steam generation.**
   A. True B. False
4. **Medical devices such as endoscopes and ophthalmic instruments may require additional guidance on pre-cleaning and water quality. That said, additional manufacturer guidelines must be followed.**
   A. True B. False
5. **Cleaning can be compromised by both the pH of the water and the hardness of the water.**
   A. True B. False
6. **The passive layer of surgical instruments is formed by the enrichment of surface iron, which takes place through the removal of chromium, providing corrosion resistance.**
   A. True B. False
7. **Excessive chlorine in the water is responsible for the formation of deposits on the instrument surface and the clogging of water pipes.**
   A. True B. False
8. **Pooling in automated cleaning equipment, generally due to drainage failure, can induce the formation of biofilm on the equipment.**
   A. True B. False
9. **Adverse events resulting from contamination of the water used in the reprocessing of medical devices can be TASS, aseptic loss of implants, and pyrogenic reactions.**
   A. True B. False
10. **Instrument rinsing water can become contaminated during storage; therefore, this is one of the critical points in water quality control.**
    A. True B. False

HSPA HEALTHCARE STERILE PROCESSING ASSOCIATION

The approval number for this lesson is **3M-HPN 221401**.

CBSPD

Request for Scoring

❑ *I have enclosed the scoring fee of $10 for EACH test taken —* ***Payable to Healthcare Purchasing News.*** *We regret that no refunds can be given. (It is not neccessary to submit multiple tests separately.)*

Detach exam and return to:
Continuing Education Division
Healthcare Purchasing News
2477 Stickney Point Road, Suite 315B
Sarasota, FL 34231
PH: 941-927-9345 Fax: 941-927-9588

Presented by
HEALTHCARE PURCHASING NEWS

Please print or type. Return this page only.	
Name	
Title	
Hospital Name	
Mailing Address	
Apt/Suite	
City, State, Zip	
Daytime Phone	
Email	

STRATEGIC SOURCING & LOGISTICS

Revenue integrity depends on data accuracy, CDM-IM connectivity

by Rick Dana Barlow

Photo credit: kentoh | stock.adobe.com

Like any decent recipe where the slightest ingredient deviation in amount/measurement or type can change the taste of the end product, so goes the accuracy and integrity of an organization's revenue stream with the inclusion of erroneous or missing data.

The oft-quoted refrain since the 1980s about automating "bad" data just means you're transmitting bad data faster still applies. Even now, four decades after those initial concerns were raised, serious fundamental questions about progress linger. Some 40 years ago, the internet was not widely accessible to the general public or industry at large, but it has developed into a ubiquitous part of everyday life now. Further, healthcare organizations are pursuing artificial intelligence, blockchain and robotic process automation (RPI) and other seemingly progressive solutions.

Whether we've learned anything from the advancement of technology outpacing the fundamental accuracy and integrity of the data themselves remains questionable – particularly involving the circumstances if the pursuit of basics fails to catch up.

From a supply chain perspective, revenue integrity has little to do with coding and instead hinges in part on collecting accurate data within financial and operational information systems based on what's in the item master (IM) as well as the charge data master (CDM). To some degree, how those two databases are linked or synchronized can make a difference, too. Yet not all healthcare organizations connect their IMs and CDMs, forging a necessary conduit between the expense and revenue sides of the balance sheet.

While industry experts and observers acknowledge that uniting these two databases can be integral to revenue integrity, they also concur that it's not as simple as flipping a switch or plugging in a software widget, which is why the notion faces resistance.

Data unplugged

Unfortunately, the connection complexity tends to center less on technology and more on the fundamentals.

The top three concerns about synchronizing the CDM with the IM, whether on separate or shared databases, that causes healthcare organizations to hesitate, postpone or reject implementation are unknown and unmanaged data sets, a lack of common identifiers and a lack of visibility, according to, Senior Vice President, Global Product Management, Global Healthcare Exchange (GHX).

Chris Luoma

"When merging the item master and chargemaster, it's important to note that these systems may not be in the best state," he lamented. "If either system is drawing from 'dirty' data, it can create unknown or unmatched data sets, resulting in errors that can be proliferated across multiple systems. This can become a particularly complex challenge when it comes to the item master. Because it supports so many internal processes, introducing bad data and spreading the wrong information can be extremely costly and time-consuming to fix."

Data standards can play a role, too.

"If the item master and chargemaster are not well managed, enriched with data from outside sources like supplier catalogs or the GUDID [Global Unique Device Identification Database] or fail to use common product identifiers, such as GTINs [Global Trade Item Number], aligning item data to help ensure revenue integrity is nearly impossible," he indicated.

Luoma adds that revenue integrity sometimes can be a "hidden" problem.

"Organizations may adopt an 'if it's not broken, don't fix it' mentality or even mask the issue by conducting item research after an issue has been discovered. One common scenario is failing to catalog supplies in the clinical documentation system and only discovering this during an audit when it is too late to capture the potential revenue," he said.

Any gap in item data, inconsistencies in the data or the lack of connectivity between operational systems like the enterprise resource planning system (ERP) and clinical systems like the electronic health record (EHR) will result inaccurate costing and lost revenue, emphasizes Marlin Doner,

Vice President, Data Analytics, Marketing & Product Strategy, Prodigo Solutions Inc.


Marlin Doner

Doner points to data completeness, accuracy and maintenance as three obstacles to linking/synchronizing IM and CDM datasets.

He starts with product identification. "The lack of adoption of data standards like Unique Device Identifiers makes it difficult to map item records across disparate data sets and presents challenges for clinicians documenting the use of supplies in the procedure," he noted. "Common item identifiers are the first step to enable data interoperability between disparate data across financial [ERP], clinical [EHR] and revenue cycle [CDM] systems so that health systems can improve the capture of supply costs."

Product categorization is next. "Ensuring items are classified to a granular level, such as commodity-level UNSPSC [United Nations Standard Products and Services Code], provides the detail needed to accurately assign expense codes," Doner continued. "The industry has largely standardized on UNSPSC as a global classification standard for items, which is a good thing. Product categorization ensures an item is mapped to the correct expense coding in the ERP Item Master which can then be used as a data point to inform decisions about how an item is consumed and costed into a procedural case."

Procedural coding also matters. "The HCPCS [Healthcare Common Procedure Coding System] procedural code is the final link between the item, its cost and the revenue reimbursed for the patient care event," he said. "All items in the item master that are used in a surgical procedure must have a charge code and revenue code assigned so that the correct reimbursement can be realized from the delivery of service to the patient."


John Freund

Still, John Freund, CEO, Jump Technologies, wonders whether healthcare organizations understand the nuances behind these connections and their inherent value.

"The concept of linking the ERP item master to the CDM is novel in its thought, but extremely difficult to do," he noted. "ERP item masters are designed for purchasing. CDMs are designed for charging. Although there is a tremendous amount of information that can be shared between them, the item master is set up by purchasing staff, while rev cycle staff builds items in the CDM. Rarely is there a situation where an item can be completely built in the CDM from data that exists in the item master. There will always be some sort of touch required by rev cycle to complete an item in the CDM such that it can be charged for properly.

Such tracking remains a necessary feat, he argues.

"It is important that a hospital has automated technology in place that is monitoring materials being consumed in cases and checking the data integrity to ensure that items consumed can be billed for properly and reimbursed quickly, without challenge from the payer," he said. "The typical hospital has data issues impacting 30% or more of the charges in a case. Having a system in place that can identify these issues in real-time can lead to improved cash flow for hospitals."

10 successful inklings for IM-CDM linkings

What do industry experts recommend as sure-fire tips for connecting the item master to the charge data master to ensure revenue integrity within a healthcare organization?

- **Tap into a data service:** Some healthcare providers estimate that 75% or more of the item data they need to run their operations exist outside their four walls. Given this and the fact that item data may churn up to 28% per year, organizations require a data service that can support both the item master and the chargemaster. It's important this service be able to curate data from multiple sources and integrate with the ERP and EMR to improve the accuracy of data flowing through the organization's systems.
- **Choose a source of truth**: Organizations that are succeeding with data management don't manage their item master and chargemaster separately. Instead, they deploy a modern data strategy in which the item master, backed by a data service, feeds the chargemaster to help ensure they have clean data off of which to base revenue integrity analyses.
- **Limit one-off PO requests**: Organizations that do not tightly manage the requisitioning and procurement process will find it impossible to align the item master and chargemaster. One-off or 'special' purchase requests introduce new, manually entered item data into an organization. This often misses critical item attributes that allow for alignment between the item master and charge master or at best creates after the fact item research demands for the organization. Either of these scenarios inhibit high levels of revenue integrity.
- **Think beyond the item master to the contract catalog**: The item master often contains 40,000-50,000 items that are in inventory or regularly purchased. Yet, an organization is often contracted for and using 400,000-500,000 items in a clinical setting. Acknowledging this fact and managing the contracted catalog as the item master is a necessary step in gain the level of insight required to advance revenue integrity.
- **Ensure data capture in the clinical setting**: Organizations can invest in linking the item master and chargemaster, but if data is not captured in the clinical setting (especially for high value items like implants) then they will achieve sub-optimal results in improving revenue integrity and building a clinically integrated supply chain.

Chris Luoma, Senior Vice President, Global Product Management, Global Healthcare Exchange (GHX)

- Ensure all clinical use items are enumerated with unique device identifiers [GTIN or UPC] so that package bar codes can be scanned at the point of service.
- Ensure all clinical use items are classified to a commodity-level UNSPSC so that expense/GL accounts are accurately assigned in the ERP.
- Ensure procedural codes [HCPCS] are consistently mapped between the product categorization, the general ledger (GL) expense coding and the charge master.
- Data accuracy is not a one-time effort; it's an ongoing investment. Keep the data synchronized across the ecosystem – financial, operational, clinical systems. GTINs change, UNSPSC versions change so overtime so your data becomes obsolete.
- Automate. In healthcare, there are too many items and prices to manually update data in the item master and the charge master. If you are not automating your data maintenance between a trusted source of truth and the downstream systems and workstreams then you will have revenue leaks from documentation gaps, costing errors, and reimbursement underreporting.

Marlin Doner, Vice President, Data Analytics, Marketing & Product Strategy, Prodigo Solutions Inc.

SOURCING & LOGISTICS

Scrubbed or redubbed?

With lingering concerns of merely speeding the transmission of "bad" data through linked IMs and CDMs, it seems logical that cleaning data should take precedence if not attract a higher priority. But then the question arises as to whether the potential revenue integrity results using clean data far outweigh the expense of continually cleaning the data in the IM and CDM ahead of time.

"On average, our experience shows item data churns approximately 28% annually," GHX's Luoma said. "With so much churn, it's important for organizations to continuously cleanse, validate and unify item master and chargemaster data at scale.

"Ongoing management of the item master and chargemaster is critical in reducing risk to patient safety, improving patient outcomes, decreasing supply expenses and clinically integrating the supply chain," he continued. "Organizations may view revenue integrity projects as simply closing existing holes, but this is short-sighted. A lack of proper data management will only reintroduce problems down the road. Forward-looking organizations are embracing the creation of a solid data foundation as a crucial part of cost optimization and care improvement initiatives.

Prodigo Solutions' Doner sums up the situation from a supply chain perspective in that revenue integrity comprises two components that are dependent on the quality of data in the IM and CDM datasets:

1. Complete capture of supplies used in a surgical procedure.
2. Accurate reimbursement for the patient supplies and services rendered.

"Incomplete documentation translates to lost revenue," he insisted. "As much as 30% of charges are not being captured because clinicians cannot easily [efficiently] identify and document supplies that are consumed during the delivery of care. Typically, this is the result of missing Device Identifiers or Universal Product Codes (UPC) on the item record, which represent the bar code(s) on the package. The ability to scan a bar code on a package should be your first test of data integrity in your supply chain and clinical ecosystem.

"Inaccurate expense and charge coding translate to lost revenue, too," he continued. "If items and services used in the patient care event are not accurately coded the reimbursements can be underreported. Additionally, cost conversions from the contract or purchase unit price to the unit of use costing must be accurate for the true cost of the procedure is be known." HPN

Nominate your Team for HPN's Supply Chain Department of the Year.

Get nomination details here: https://www.hpnonline.com/21074379/

ADVERTISER INDEX

Advertiser	Page	Web
Aesculap	27	www.aesculapusa.com/aicon
Ahlstrom Nonwovens	21	www.ahlstrom-munksjo.com
Ansell	25	www.ansell.com/stat-bloc
Beekley Medical	7	beekley.com
Cygnus Medical	29	cygnusmedical.com
Dale Medical	3	www.dalemed.com
Detecto	5	www.detecto.com
Draeger Inc.	9	www.draeger.com/V500premium
Exergen	FC	www.exergen.com
Hand Biomechanics Lab	22-23	www.handbiolab.com
Healthmark Industries	31	hmark.com
HR Pharmaceuticals	13	coverallsprobe.com
HSPA	42	www.myhspa.org
Liebherr USA	IBC	home.liebherr.com/lab
Medela	BC	medelahealthcare.us
Medtrica	19	www.medtrica.com
Medtronic	15	www.medtronic.com/valleylab-energy
Ruhof Corporation	IFC	www.ruhof.com
Ruhof Corporation	1	www.ruhof.com
Steramist by TOMI	20	tomimist.com
Uline	28	uline.com

This index is provided as a service. The publisher does not assume liability for errors or omissions.

HEALTHCARE PURCHASING NEWS
CLINICAL INTELLIGENCE FOR SUPPLY CHAIN LEADERSHIP

How to contact us

Kristine S. Russell, Publisher, Executive Editor
Healthcare Purchasing News
2477 Stickney Point Road, Suite 315B
Sarasota, FL 34231
Phone: (941) 259-0854
Fax: (941) 927-9588
Email: *krussell@hpnonline.com*

SEND EDITORIAL INQUIRIES & MATERIALS TO

Erin Brady, Assistant Editor
Healthcare Purchasing News
2477 Stickney Point Road, Suite 315B
Sarasota, FL 34231
Phone: (941) 208-0197
Fax: (941) 927-9588
Email: *ebrady@hpnonline.com*

SEND ADVERTISING MATERIALS TO

Ramon Porter
Healthcare Purchasing News
2477 Stickney Point Road, Suite 315B
Sarasota, FL 34231
Phone: (941) 202-3557
Fax: (941) 927-9588
Email: *rporter@hpnonline.com*

EAST COAST SALES

Blake Holton
Email: *bholton@hpnonline.com*
Michelle Holton
Email: *mholton@hpnonline.com*
724 Long Lake Drive
Oviedo, FL 32765
Phone: (407) 971-6286
Fax: (407) 971-8598

MIDWEST SALES

April Bruffy
24310 Soapstone Lane
Spring, Texas 77373
Phone: (713) 936-5076
Cell: (713) 992-0381
Email: *abruffy@hpnonline.com*

WEST COAST SALES

Blake Holton
Email: *bholton@hpnonline.com*
Michelle Holton
Email: *mholton@hpnonline.com*
724 Long Lake Drive
Oviedo, FL 32765
Phone: (407) 971-6286
Fax: (407) 971-8598

WEB/CLASSIFIED/RECRUITMENT ADS

Ramon Porter
Healthcare Purchasing News
2477 Stickney Point Road, Suite 315B
Sarasota, FL 34231
Phone: (941) 202-3557
Fax: (941) 927-9588
Email: *rporter@hpnonline.com*

SUBSCRIPTIONS

Please visit our website or send all subscription requests to:
Healthcare Purchasing News
2477 Stickney Point Road, Suite 315B
Sarasota, FL 34231
Phone: (941) 927-9345 Fax: (941) 927-9588
Email: *hpn-subscriptions@endeavorb2b.com*
Visit *www.hpnonline.com/subscribe*

Why regulation may not be enough for standards adoption

by Karen Conway, Vice President, Healthcare Value, GHX

Those who have followed this column for more than a few years know that many of the articles have focused on the adoption of product data standards, including unique device identifiers (UDIs). In this month's column, we return to that perennial subject, this time informed by new insights from the trade association SMI. In late November, SMI specifically asked about the barriers and drivers to greater provider adoption of product data standards. Unfortunately, the responses were not drastically different from what we have seen and heard before, and in some cases, they may signal a continued lack of common understanding and/or communication between trading partners on the topic.

Interestingly, while the survey focused on how to advance provider adoption of the standards, the hospital and health system respondents were far more likely than their supplier/industry partners to consider standards adoption critical to advancing supply chain performance. This could have something to do with the fact that the provider SMI members are responsible for supply chain operations, while the supplier/industry respondents are more commercially focused.

There were a number of other disconnects between the respondent types, but one area of consistent agreement was around the role of regulation, with many saying that nothing short of a government mandate would move the needle. I have always found this longstanding argument a bit of a paradox. Both providers and suppliers are generally regulation resistant, and yet those supporting standards adoption frequently call on the government to do more in this area. Based on some early research I conducted for a Masters in the Science of Healthcare Delivery, there are some other questions about the impact of regulation. In highly regulated environment, while compliance is essential, some research suggests it can lead to prioritizing "checking the regulatory box" over achieving value beyond compliance.

This prioritization of compliance over value is something the U.S. FDA did not anticipate. In fact, according to Jay Crowley, who helped write the UDI regulation, the FDA expected the industry to self-organize around building a system for using UDIs using the regulation as the cornerstone. That, he says, has not happened. And to my point earlier, it may be why there are disconnects between the provider and supplier responses, including the perennial finger-pointing as to which party is the hold-up.

There is one common value point being discussed by both parties that has been relatively ignored in the past: the value of the product data standards for demand planning. In the SMI survey, providers overwhelming ranked the lack of a good demand signal as the biggest challenge faced by suppliers as the result of low provider product data standards adoption. I did ask manufacturers about the value of UDI for demand planning in 2017, for a Capstone research project for the U.S. FDA. At the time, nearly one-third listed improved demand planning/inventory management as a benefit of UDIs. But when you split the respondents based on whether they conferred with hospitals about how they would use UDI, the percentage among those who engaged with customers jumps to more than 61 percent, compared to just over 15 percent for those who had not discussed the use of UDI with their customers. Of some concern is that only one-third of those who engaged with customers on UDI said their companies had incorporated UDI into their demand planning/inventory management systems. Providers, too, struggle with technology limitations in their pursuit of greater UDI adoption, and this could be a topic for trading partners to collaborate. For those interested in learning more about the role of standards for demand planning, check out prior issues of *Value. Delivered.* in the April 2020, September 2020 and December 2021 issues of HPN (available online).

Photo credit: TarikVision | stock.adobe.com

The pandemic has elevated the stature of demand planning/inventory management, and based on the SMI survey, both providers and suppliers already recognize the positive role UDI can play. One way to get the conversation going is by asking some of the questions envisioned by the FDA, as well as those in the SMI Survey:

- "Who needs what to make the system work?"
- "What are the obstacles to meeting those needs?"
- "How can we work together to overcome those obstacles?"
- And most importantly, "How can we build the business case by demonstrating value for multiple stakeholders and purposes?"

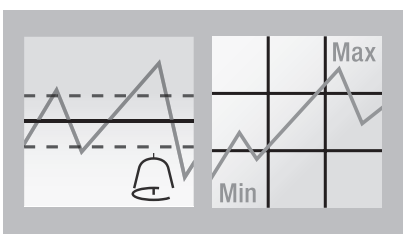
Some of these questions have already been answered (at least in part) by researchers and organizations like the AHRMM Learning UDI Community. But clearly those communications are not happening at a broad enough level to overcome perceived, let alone, real obstacles. Given all that healthcare has been through during the pandemic, especially the proven ability of organizations, even competitors, to come together in record time to achieve a common goal, I am more confident than ever that we have the ability to make UDI adoption and value realization a reality. HPN

Ultra-Low Temperature Freezers: Reliability when you need it most.

Trust the experts when it comes to safely storing sensitive samples. With innovative ultra-low temperature freezers (ULTs) that reach extreme temperatures spanning from –40 to –86 °C, Liebherr is setting a new standard in the scientific and health care sector. Liebherr ULTs are capable of holding up to 700 liters and were released during the second half of 2020. We invite you to learn more about our new range of appliances.

Secured access to samples

Fast-acting alarm systems in case of emergencies, to keep valuable materials safe



Minimal temperature fluctuations to preserve the quality of samples

Reliable and safe long-term storage of valuable and sensitive samples.

Depending on their size, our new ULTs have storage capacities of almost 30,000 to over 40,000 samples. Assuming an average value of $10 per sample, this results in a storage value of over $300,000, and even more for longer research projects and rare materials. Consequently, this makes safety of the utmost importance. Several integrated safety features ensure the highest level of reliability and make it easy to choose and trust the new Liebherr ULTs.

A Wide Range of Applications:

-40 °C to -60 °C: Low Temperature Tests of Materials, Mid-term storage Reagents/ Vaccines

-60 °C to -86 °C: Long-Term Storage of Biological Products, Chemical Reagents, Vaccines, Bacteria

The safest long-term storage with the lowest energy consumption.

High energy input is required to reach low temperatures that go down to -86 °C. Liebherr's ULTs differ significantly from standard commercial freezers in regards to both insulation and energy consumption because we use highly-efficient systems with cascade cooling and KW refrigerant, in combination with a vacuum/foam sandwich construction.

home.liebherr.com/lab

LIEBHERR

medela

THE SCIENCE OF CARE™

Rewriting the rules on NPWT device management

The traditional NPWT rental model is full of abnormal administrative work and hidden costs which burden staff and decrease operational efficiency. Medela makes it easy with a payment model similar to your other reusable equipment.

Medela's innovative risk-share payment model provides:

- **Predictable spend**: Tailored billing based on your provided therapy days, regardless of utilization fluctuations
- **Optimized workflow**: No tracking devices, logging therapy hours, or reconciling invoices
- **Simplified inventory management**: No specialized pump reprocessing

We make NPWT easier.

Learn more at medelahealthcare.us