



HUTCHINSON
REGIONAL HEALTHCARE SYSTEM

The Need for a Solution: Standardizing Ultrasound Probe HLD Hospital-wide

“We’ve standardized our HLD processes in all departments in which ultrasound probes are used at Hutchinson Regional. We are creating processes that will go on to become best practices, and we’re going to share these with the medical industry.”

Raleigh White, CRA, RT(R), MA, Director of Imaging Services



At Hutchinson Regional Health System (HRHS), patient safety is a top priority. HRHS started using high-level disinfection (HLD) with trophon technology in early 2017 when the hospital purchased its first trophon EPR system. Prior to this, the hospital used manual soaking methods for HLD. “Safety was the primary reason

for implementing high-level disinfection of endocavitory and surface probes as standard of care and we wanted to focus on making sure we got it right,” says Raleigh White, CRA, RT(R), MA, Director of Imaging Services.

In preparation for an upcoming Joint Commission survey, White partnered with Nanosonics to ensure Imaging Services was providing thorough HLD. The resulting report identified opportunities to place HLD units throughout the hospital to improve safety for patients and staff. In August 2018, Hutchinson Regional added four trophon2 systems bringing its total to five. Today, trophon2 units are used in ultrasound imaging, the OR, ED and the Outpatient Infusion, and trophon EPR is used in Interventional Radiology.

Startling Data Shows Lack of Adherence to Disinfection Standards in U.S.

A 2018 US-national survey of infection preventionists in the U.S. published in the American Journal of Infection Control highlighted startling results indicating a high degree of noncompliance with and breach of U.S. guidelines. Findings show that surface probes used in invasive procedures were not high-level disinfected or sterilized 15% (intraoperative) to 78% (peripheral line placements) of the time, and 20% of survey participants were aware of instances where an ultrasound probe was used but not correctly reprocessed.¹ The researchers also found “The rapid expansion in use of ultrasound has brought clinical benefit but may be exposing patients to preventable infection risk.”¹ In 2017, The Joint Commission (TJC) released a Quick Safety advisory on safety and quality issues stating that “In 2016, 74% of all immediate threat to life (ITLs) were related to improperly sterilized or HLD equipment.”²

An ultrasound probe can come into contact with intact or non-intact skin, mucous membranes, sterile tissue and the bloodstream. Proper disinfection is critical, yet the variation in ultrasound disinfection across the U.S. is alarming. It may undermine patient safety and suggests a lack of consistent application of The Spaulding Classification system, which specifies medical device reprocessing requirements based on a device’s intended use.

The 2018 survey, and the 2017 TJC alert, demonstrate the need for standardization of probe reprocessing. The U.S. Food and Drug Administration (FDA) requires that probes used in semi-critical applications minimally undergo HLD.³ A sterile sheath is also recommended, and the use of a sheath doesn't change the type of processing recommended.^{3,4} The Centers for Disease Control and Prevention (CDC) guidelines state critical probes can be covered with a sterile sheath to reduce the level of contamination and risk of infection, but the probes should be sterilized between each patient use. When sterilization is not possible, they can be high-level disinfected and covered with a sterile probe cover.⁴

The Need for HLD Hospital-wide Standardization

When healthcare leaders at Hutchinson Regional decided to implement HLD hospital-wide, they were committed to ensuring the highest standards. They met with department leaders to discuss introduction of new HLD processes and workflow backed by clinical evidence that demonstrated the need for proper disinfection of all semi-critical surface probes.

"We've been completing HLD for all critical and semi-critical procedures throughout the hospital system since December 2018 and we made sure that staff across all departments understood the essential importance of this," says Lindsay Turner, BS, RT(R), (M), RDMS, AB, OB/GYN, RVT, staff sonographer at HRHS. "We use trophon2 for high-level disinfection before and after the ultrasound is used on the patient because even though we're using a probe cover, it can be pierced by a needle and still spread blood borne pathogens."

Hutchinson Regional Health System completes more than 2,000 probe reprocessing cycles annually. Ultrasounds are used across the hospital system, in the OR, ED, Outpatient Infusion and in general imaging. In the ER, ultrasounds are used to perform fast exams for trauma patients, check the abdomen for free fluid, and for IV and central line starts. In surgery, ultrasound is used for central lines, IV starts and intraoperative exams. ICU nurses use ultrasound surface probes for central lines, and PICC nurses use ultrasound to find a vein and guiding the wire for the PICC line. In general imaging, it's used for endovaginal exams, testicular exams and any procedure using ultrasound guidance.

Follow-up Assessment with Nanosonics

As part of its commitment to patient safety, White engaged Nanosonics to do a follow-up assessment to validate that they were properly reprocessing critical and semi-critical surface probes for every patient to make sure no fluids or contamination is carried forward.

As a high reliability organization (HRO), it's Hutchinson Regional's goal to ensure processes support efficient workflow and patient health. "We always want to make sure that we're validating what we do, so the recheck with Nanosonics was confirmation that all of our processes are holding true," says White. **"I found Nanosonics to be very trustworthy. Their clinical subject matter experts showed us industry standards and data, demonstrating that their commitment went beyond making a sale to making sure that high-quality standards are maintained across healthcare."**

Tracking, Data and Efficiencies

Hutchinson Regional's staff have found the trophon2 system to be intuitive and easy to use. Nanosonics provided comprehensive training to a core group of Hutchinson Regional healthcare professionals who

then trained staff in their respective departments on proper procedure and protocol. **"The trophon2 is so easy for technologists to use," says Turner. "The documentation is easy to follow and reduces human error. We wouldn't ever consider going back to soaking."**

Since high-level disinfection using the trophon2 is less time intensive, staff have more face to face time with patients. "It's been calculated that our workflow now, as opposed to the soaking way of cleaning our probes, has an overall savings timewise of about 85%," explains White.

He adds, "I want to emphasize the fact that we can now be available for those emergent, critical studies versus trying to chase down the cleaning process. From a cost perspective, our equipment maintenance is a lot better as well."

The AcuTrace traceability solution on trophon2 captures information that enables Hutchinson Regional staff to create audit-ready disinfection records. It also reduces manual error, reduces disruptions to workflow, and has made documentation more efficient and easier to meet regulatory compliance. According to White, **"trophon2 provides a retraceable way of making sure that probes have been properly high level disinfected, which helps protect our patients."**

Standardization and Industry Best Practices

The Joint Commission surveyor's report at Hutchinson Regional had no findings specific to ultrasound. In March 2019, Hutchinson Regional Medical Center earned **The Joint Commission's Gold Seal of Approval.** White gives partial credit to Nanosonics for providing Hutchinson Regional with best practices supported by industry standards and evidenced-based data.

As part of Hutchinson Regional's commitment to standardizing HLD procedures and training across the hospital, they conduct random audits to ensure compliance, and they use a monthly compliance data

tracking tool to assess needs for onboarding new staff and re-training existing staff. All policies and standard operating procedures are reviewed and renewed annually. "We've standardized our HLD processes in all departments in which ultrasound probes are used at Hutchinson Regional," says White. "We are creating processes that will go on to become best practices and we're going to share these with the medical industry."

He adds, "It's an easy decision to make when we're doing the right thing for the patient. It may not always be an easy conversation, but the decision itself is easy to always advocate for the patient. I appreciate that there are industry leaders like Nanosonics that are so vested in making sure healthcare is being elevated to that next level."

References:

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