High Level Disinfection (HLD) and Sterilization

...Journey towards High Reliability and Zero Harm

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Overview

• Introduction
• High Level Disinfection (HLD) & Zero Harm
• Personal Protective Equipment (PPE)
• Autoclave Sterilization & Zero Harm
• Questions
The Struggle is real…!

Hospitals and device makers still struggle to rid medical scopes of infectious bacteria

By CHAD TERLING | WRITER APRIL 23, 2018 | 5 AM

KASSER HEALTH NEWS

In an ominous sign for patient safety, 71% of reusable medical scopes deemed ready for use on patients tested positive for bacteria at three major U.S. hospitals, according to a new study.
The Struggle is real…!

More infections from dirty scopes, Sen. Murray investigation finds

Originally published January 12, 2016 at 9:00 pm | Updated January 13, 2016 at 10:24 am

At least 250 people, mostly in the U.S., have contracted potentially deadly infections spread by contaminated medical scopes in the past three years, according to a new report commissioned by Sen. Patty Murray.

By JoNel Aleccia

Seattle Times health reporter

The toll of potentially deadly infections tied to contaminated medical scopes — like those that sickened dozens at Seattle’s Virginia Mason Medical Center — is far higher than federal investigators previously estimated, according to a U.S. Senate committee report being released early Wednesday.
The Struggle is real…!

Los Angeles Times

Scope maker Olympus sought price hike amid superbug outbreak

By CHAD TERHUNE, MELODY PETERSEN
MARCH 25, 2016 | 3 AM

Soon after doctors at UCLA’s Ronald Reagan Medical Center traced deadly infections to tainted medical scopes last year, they pressed the device maker to lend them replacements.

BUSINESS

New lawsuits filed against scope maker in deadly UCLA superbug outbreak

Dr. Zachary Rubin, medical director of clinical epidemiology at UCLA’s Ronald Reagan Medical Center, left, and Dr. Robert Cherry, chief medical and quality officer for UCLA Health System, take questions last month about a superbug outbreak. (Damian Dovarganes/Associated Press)
What is it?

• Someone tells you to **CLEAN** the table, what do you do?
  • Cleaning is removing what we can see

• Someone tells you to **DISINFECT**, what do you do?
  • Disinfecting is removing the micro-organisms that we cannot see
    • Using an approved disinfecting wipe or detergent

• Someone tells you to **STERILIZE**, what do you do?
  • Sterilization is eradicating all micro-organisms through heat, steam, pressure, and time
The Spaulding Classification defines the minimum levels of disinfection (or sterilization) that should be employed according to the infection risk associated with a medical device.

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PPE - Personal Protective Equipment

• Wear proper PPE to protect skin and clothing during procedures or activities where contact with blood, body fluids or chemical exposure is anticipated

• Proper PPE includes an appropriate gown, gloves, mask with face shield or goggles, hair bonnet and shoe covering

• Wear PPE properly

• Dispose of PPE into approved receptacles after use to avoid cross contamination
PPE - Personal Protective Equipment

• Assure sufficient and appropriate PPE is available and readily accessible
What is High Level Disinfection?

• If I cannot properly sterilize medical grade equipment, what other options do I have?

• High Level Disinfection (HLD)
  • Higher level of disinfecting equipment through the use of concentrated chemicals (i.e. glutaraldehyde or hydrogen peroxide)
  • Controlled through the use of time and targeted temperature
  • Examples at UCLA Health:
    • Cidex OPA
    • Trophons
How does HLD contribute to Zero Harm?

• Zero Harm – goal of having no harm caused to patients or staff

• In HLD & Sterilization we are working with instruments and devices & harmful chemicals.
  • Goal is to avoid spreading infectious matter
  • Prevent cross-contamination of bodily fluids to other surfaces or individuals

• How do we achieve our goals?
  • Assessments
  • Training
  • Competency

Adhere to recommended preventative maintenance for all machines
What is Autoclave Sterilization?

• Process that uses time, temperature, and pressure to destroy all microorganisms through the use of machines.
How does Autoclave Sterilization contribute to Zero Harm?

• Multi-step process that we use to ensure that the end result of autoclave sterilization is successful:
  
  • Transport and storage of soiled instruments
  • Cleaning Process
  • Indicators
  • Wrapping
  • Monitoring of Autoclave
  • Storing

This helps us achieve Zero Harm because our instruments are now decontaminated.
HLD and Sterilization Highlights

• Importance of maintaining documentation
• Importance of competency with staff
• Importance of equipment monitors and maintenance
• Speaking up when a cycle or load fail
• Importance of validating chemical indicators prior to use
• Protocol for notification of exposures involving instruments that touch a patient without proper HLD or sterilization
• Proper storage post HLD and sterilization

These processes help us achieve a goal of Zero Harm
Example Service Lines

• Ob/Gyn
• Urology
• Head and Neck
• DERM
• Gastro Intestine
• Labor & Delivery
• Surgery
Zero Harm in Ambulatory Clinics

An Interprofessional Approach to Improving High Level Disinfection/Sterilization (HLDS) Practices
Across 100 Ambulatory Care Clinics
UCLA Ambulatory Nursing Department
Quanna Batiste, DNP, HCSM, RN, NEA-BC; Lorenda Barber, CST; Toyin Lawal, MSN, RN, CCCTM; and Jennifer Zanotti, MS, RN

Background

Patients undergoing a medical procedure in an ambulatory setting have the expectation that the instruments will be clean. Over the past several years, patient notification events across the United States have demonstrated that providers have failed to meet these basic expectations, putting patients at risk of serious infection from devices that were not adequately reprocessed. UCLA healthcare system recognized the need to standardize HLDS practices across 100 Ambulatory Clinics in order to decrease errors identified during reprocessing and eliminate device associated infections.

Methods

Ambulatory Chief Nursing Officer partnered with Medical Director of Epidemiology to inventory areas where medical device reprocessing was performed. An interprofessional team assembled to evaluate each of the areas for compliance with precluding, cleaning, packaging, sterilization, and storage processes of reusable instruments. Overall the group recognized 546 findings and categorized those findings. Over the course of 18 months, clinic specific action plans were implemented to mitigate identified risks in order to increase adherence to Instructions for Use (IFU). Work spaces were redesigned, and staff members completed training on HLDS processes. Committee members also developed a resource rich HLDS Tool kit that was made available to staff. Executive leaders on the committee were able to develop the business case to create a role for new Ambulatory Clinic Reprocessing Specialist that assumed this responsibility.

Results

Ten members were able to validate competency for over 200 clinical staff involved with HLDS. The Patient Safety group was able to partner with the clinic department leaders to resolve 97% of the issues identified. The health system reduced the number of Ambulatory Care HLDS locations from 78 to 27 consolidating services when possible.

Conclusions

Through these efforts, our health system has been able to increase staff competency, work space compliance with AAMI/ANSI standards and improve the consistency of instrument reprocessing across the network of UCLA Health Clinics. While this level of complex system change is challenging, reducing errors in HLDS is possible, and our success was recognized during the most recent JC accreditation survey.
Zero Harm HLD/Sterilization Toolkit
Questions & Answers