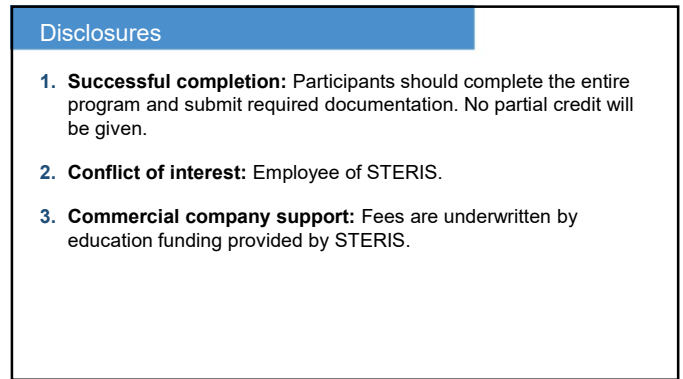
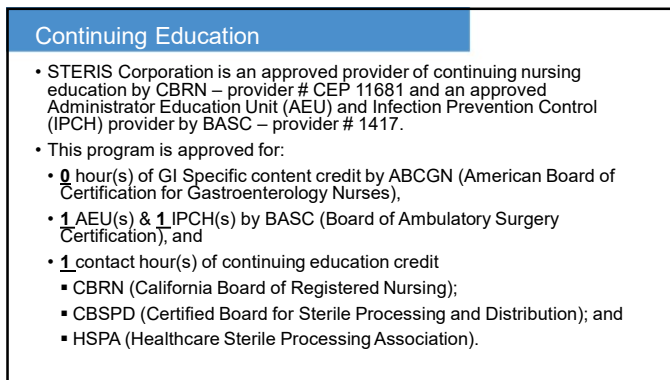




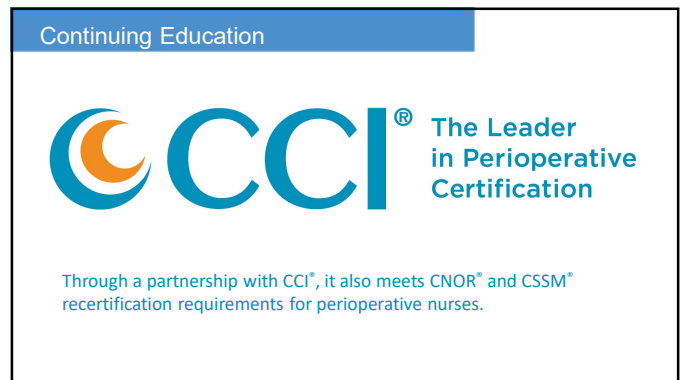
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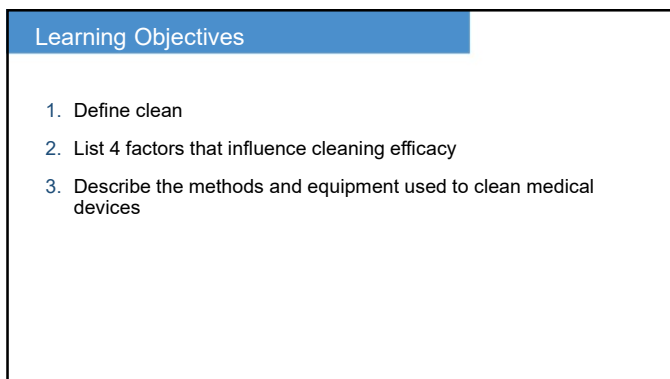
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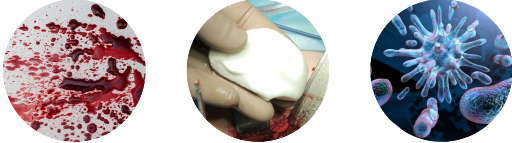


6

Cleaning

"Removal of contamination from an item to the extent necessary for further processing or for the intended use"

ANSI/AAMI ST79 Definitions



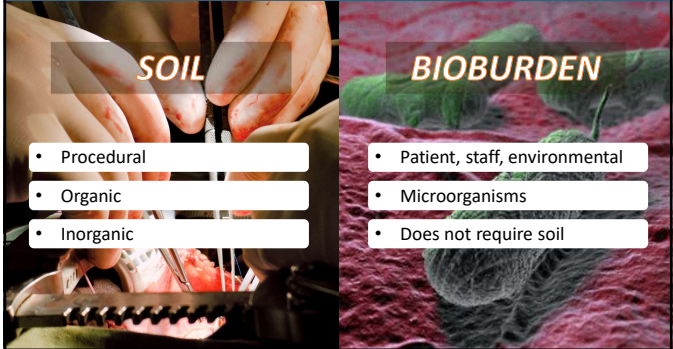
7

SOIL

- Procedural
- Organic
- Inorganic

BIOBURDEN

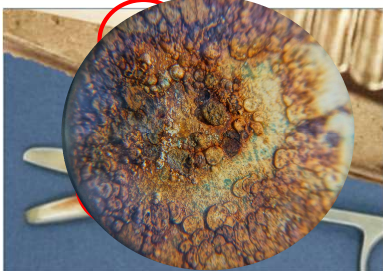
- Patient, staff, environmental
- Microorganisms
- Does not require soil



8

Why Is Cleaning Important?

- Residual soils
- Device damage
- Prevent disinfection and sterilization
- Biofilms



9

Biofilms

- Fortified communities of microorganisms
- Resistant to disinfectants and sterilization
- Cleaning, in a timely fashion, is the most effective way to control biofilm



10

Transmissible Proteins



Allergens

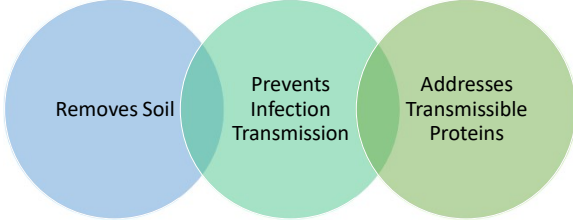
Endotoxins

Prions

Toxins

11

Cleaning Is Important



12

Personal Protective Equipment (PPE) – Ports Of Entry

Entry Spots:

- Eyes
- Ears
- Nose
- Anus
- Mouth
- Genitalia

Breaks in the SKIN

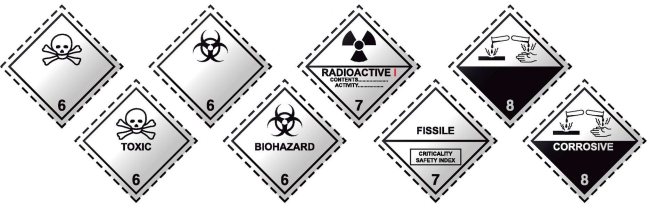
Entry Method:

- Contact
- Splashes
- Aerosolization
- Ingestion



13

Personal Protective Equipment (PPE) – Chemical



14

How Does Personal Protective Equipment Protect?



15

How Does Personal Protective Equipment Protect?

PPE	Protects Against
Scrubs, shoe covers, and hair covers	Airborne contaminants
Face Mask	Aerosols
Face Shield	Splashes and chemicals
Fluid resistant gown	Splashes and chemicals
Chemical resistant gloves	Contact contamination and chemicals



16

What Happens Before Cleaning?

Pretreatment

- Remove gross soil during the procedure
- Maintain moisture

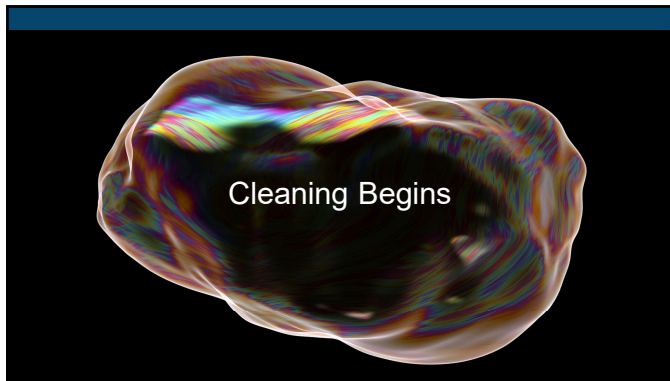


17

The Clock Is Ticking



18



19

Cleaning Begins

- Cold water rinse**
 - Prevent coagulation
 - Removes pretreatment chemistries
- Soaking**
 - Follow the manufacturer's IFU



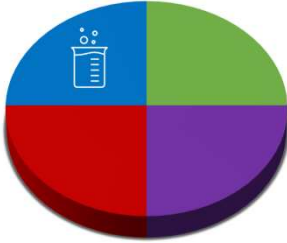
20

Cleaning Steps

Clean	Rinse	Dry	Inspections
 Dislodge soils	 Remove • Suspended soils • Cleaning chemistries	 Remove moisture	 Detect • Damage • Residual soils • Residual moisture

21

4 Factors of Soil Removal

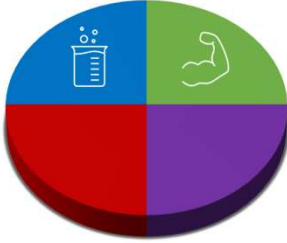


- Chemistry

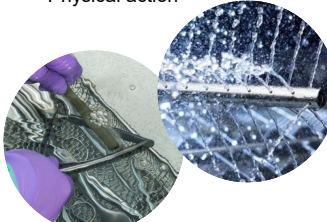


22

4 Factors of Soil Removal

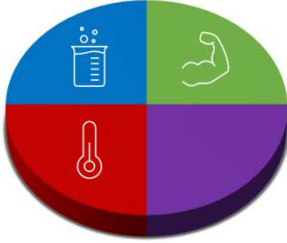


- Chemistry
- Physical action



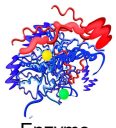
23

4 Factors of Soil Removal



- Chemistry
- Physical action
- Temperature

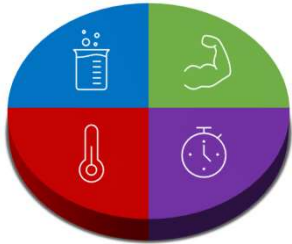
Fast
↑
Slow



Enzyme
Temperature Specific

24

4 Factors of Soil Removal

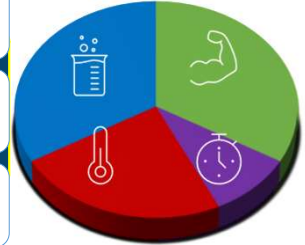


- Chemistry
- Physical action
- Temperature
- Time

25

4 Factors of Soil Removal

- Less force
- Same temp
- Same cleaning solution
- More force
- Same temp
- Same cleaning solution
- More force
- Same temp
- Better cleaning solution



26



27

The Sink



28

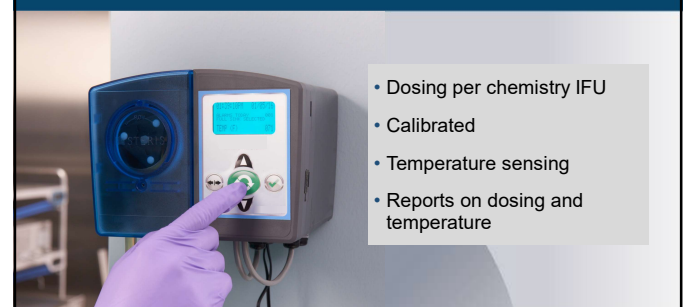
Cleaning Chemistry

- Neutral pH detergent with or without enzymes
- Low foaming
- Suspend soils
- Manage hard water and other ions
- Compatible
- Nonabrasive
- Free rinsing



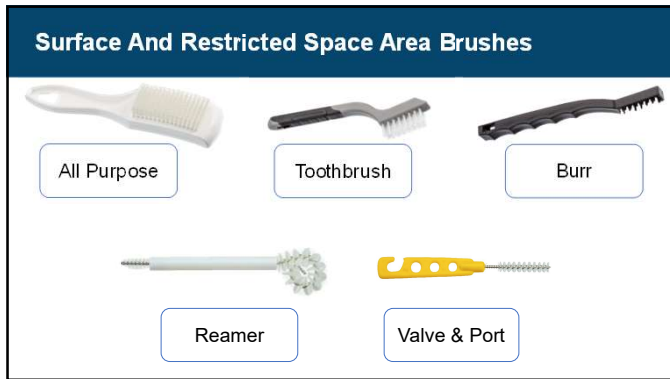
29

Chemistry Dispensing

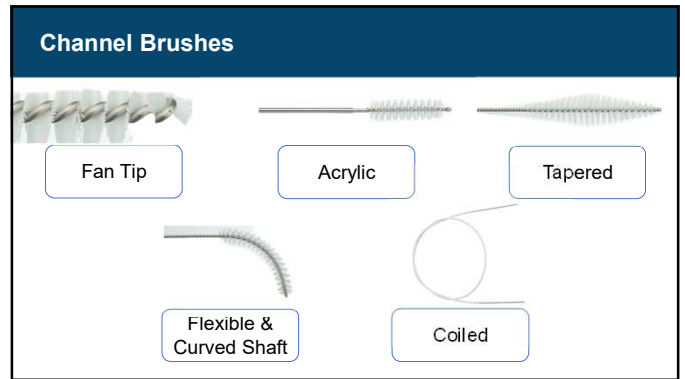


- Dosing per chemistry IFU
- Calibrated
- Temperature sensing
- Reports on dosing and temperature

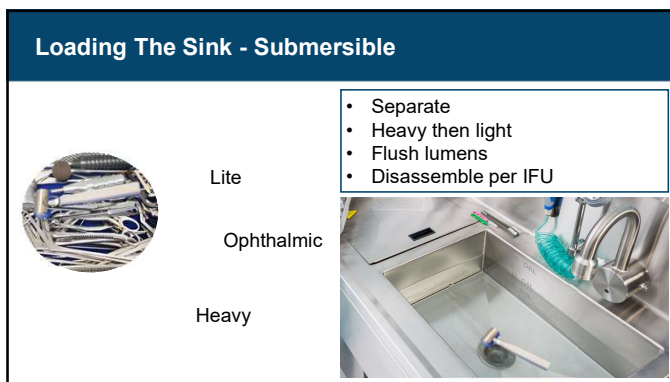
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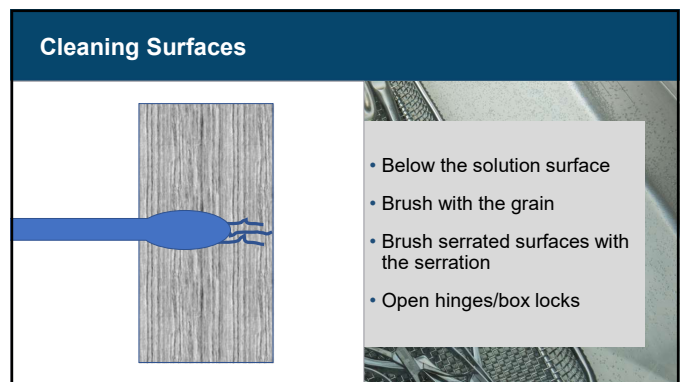
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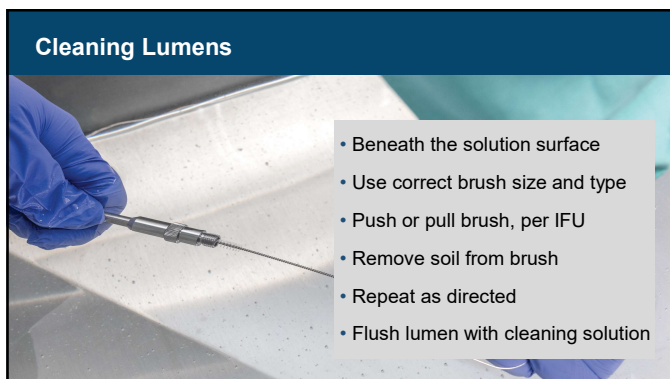
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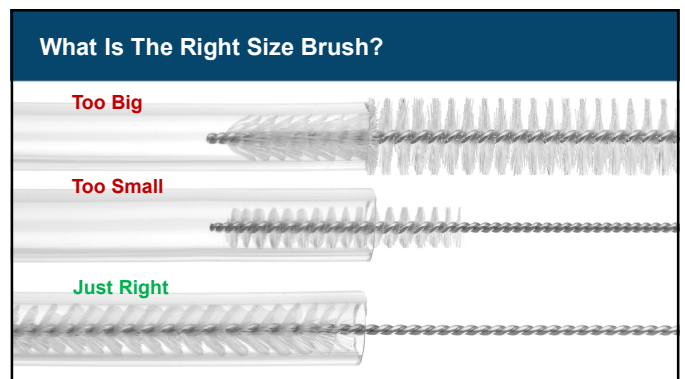
33



34



35



36

Rinsing

- Follow the cleaning chemistry and instrument IFU
- Change basins and rinse sinks with each use
- Flush air through lumens between each rinse
- Critical water final rinse
- ANSI/AAMI TIR 34: Water for the reprocessing of medical devices

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Critical Parameters To Monitor – Manual Cleaning



Cleaning
Chemistry Dosing



Temperature



Water Quality

38

Inspection

- Lighted magnifying glass
- Borescope



39

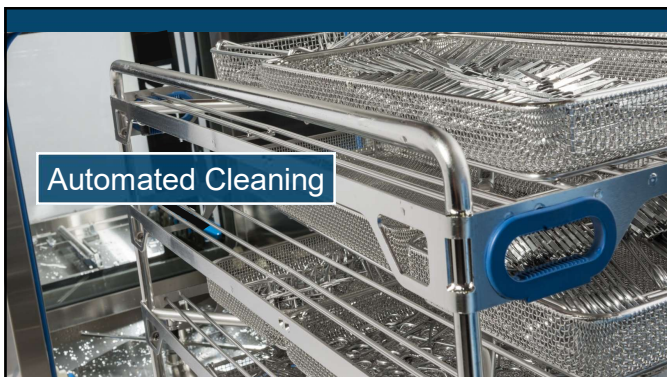
Dry

- Lint free cloth
- Instrument air
- Drying cabinets



40

Automated Cleaning

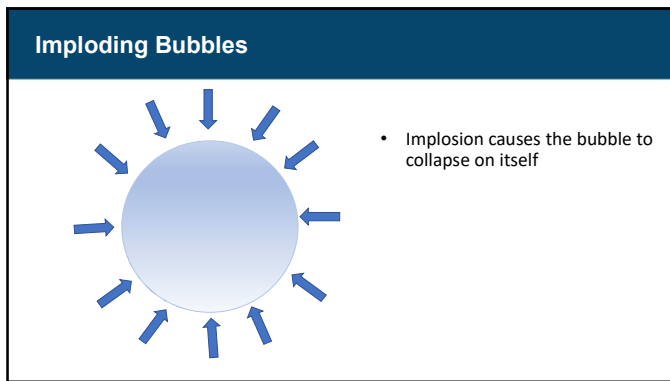


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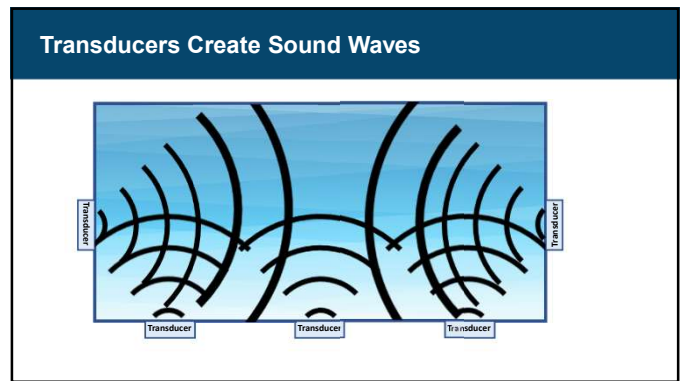
Ultrasonic Cleaners



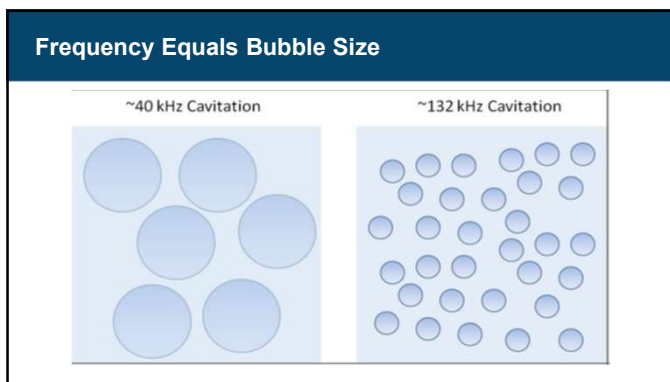
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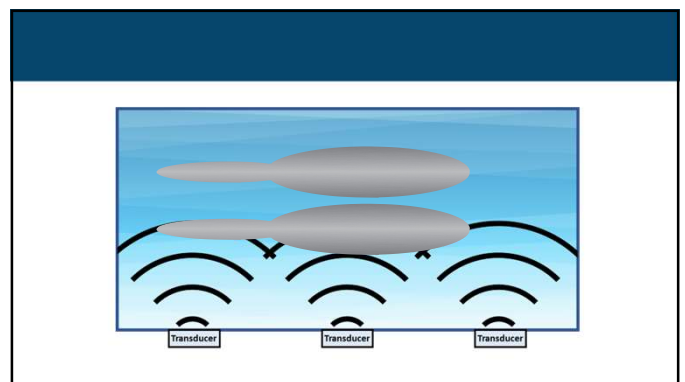
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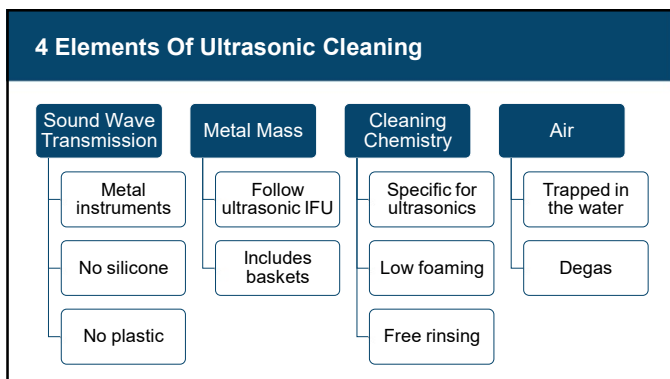
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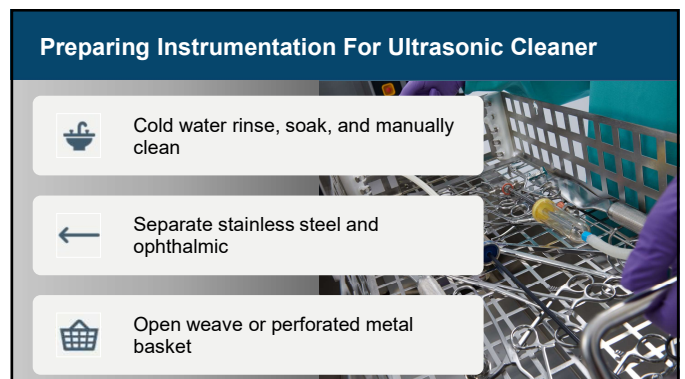
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46

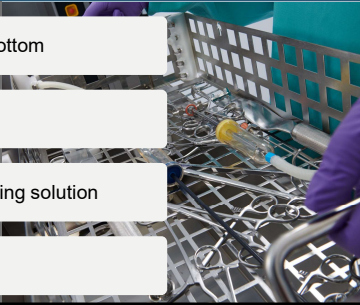


47



48

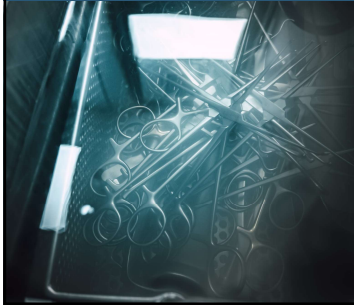
Loading Ultrasonic Cleaner



- Heavy instruments on bottom
- Open position
- Flush lumens with cleaning solution
- Connect irrigators

49

Ultrasonic Cleaner Cycle – Follow IFU



- Set time, temperature, and frequency
- Instrument
- Cleaning chemistry
- Ultrasonic cleaner

50

3 Levels Of Ultrasonic Cleaner Function

Single Function	Double Function	Triple Function
Clean	- Clean - Rinse	- Clean - Rinse - Thermal disinfection

51

Rinsing Instruments

Manual rinse

- Devices have residuals
- Use existing gloves

Automated rinse

- Devices are clean
- Use fresh, clean gloves



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Washer Disinfectors



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How Washer Disinfectors Clean

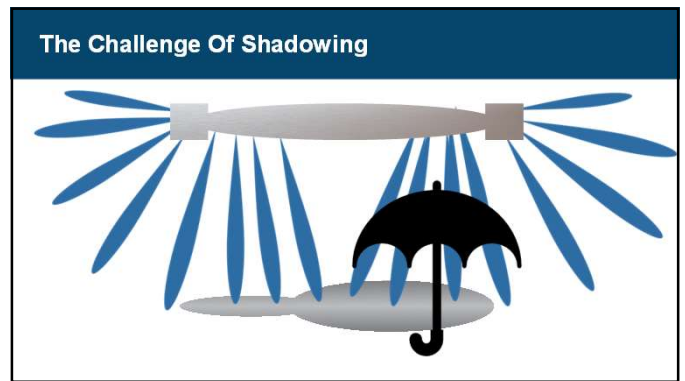


- Impingement
- Solution under pressure
- Spray arms
- Irrigator connections

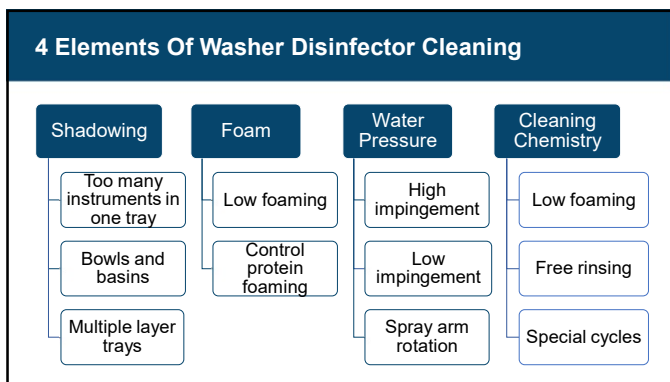
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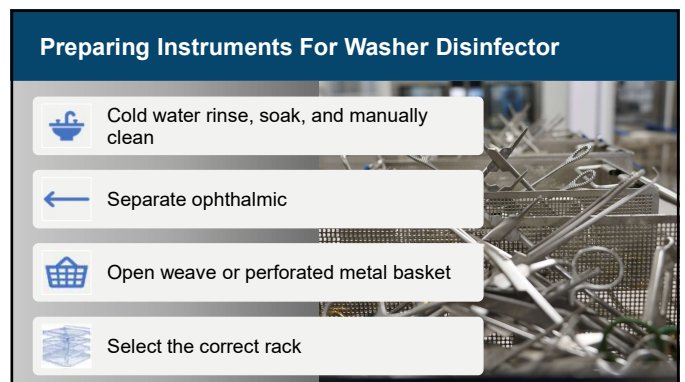
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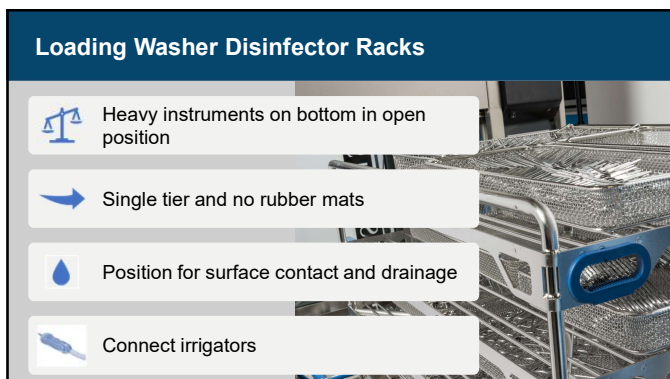
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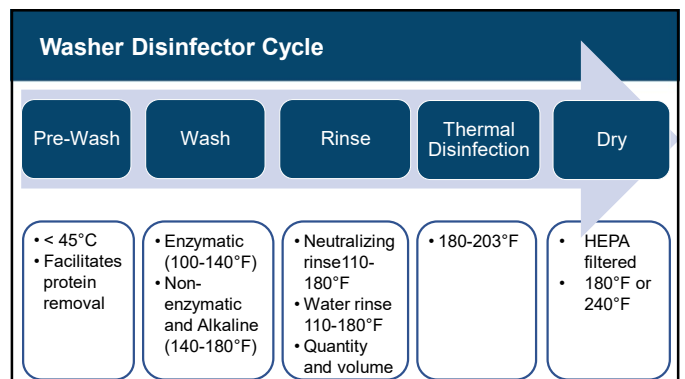
57



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Cart Washer



61

Cart Washers Are Giant Washer Disinfectors!

Physical force = impingement

Choice of cleaning chemistries

Thermal disinfection

The difference is the CART



62

Multiple Uses



63

Quality Control

- Equipment calibration
- Equipment preventative and routine maintenance
- Cleaning indicators
- Staff competency
- Verification of the cleaning process

64

Where To Find The Information



65

Action Items

- Review personal protective equipment
- Compare all manufacturer IFU against your current process
- Gauge your loading practices against best practices



66

References

- Alfa, M. J., & Nemes, R. (2004). *Manual versus automated methods for cleaning reusable accessory devices used for minimally invasive surgical procedures*. Journal of Hospital Infection, 58(1), 50-58.
- Association for the Advancement of Medical Instrumentation. (2017). *ANSI/TIR34:2014/(R)2017 Water for reprocessing of medical devices*. Arlington, VA: Author
- Association for the Advancement of Medical Instrumentation. (2017). *ANSI/AAMI ST79:2017 Comprehensive guide to steam sterilization and sterility assurance in health care facilities*. Arlington, VA: Author
- International Association of Healthcare Central Service and Materiel Management (2016). *Central Service Technical Manual*. (8 edition). International Association of Healthcare Central Service and Materiel Management

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Questions?

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Revision History

Date	Revisions	Revised By:	Notes
1/13/2022	• New	H. Ames, C. Seymour, P. Carter, and D. O'Connell	New
2/25/2022	• Revised notes for clarification and swapped glove image • Formatted for instructor led program	Clinical Team	Clinical Team Review following webinar presentation.

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