

## Welcome to the 2011 NTSGNA-MDMC Hands-On Course!

- ◆ 0700-0745 Sign-In, Breakfast
- ◆ 0745-0845 Presentation
- ◆ 0900-1215 Hands-On Course (GI Lab)
- ◆ \*\*Please put your email address on your evaluation if you want NTSGNA updates and scheduled events



## The Top Ten Things...

*Your Scope Doesn't Want to See!*



David Hambrick, BSN, RN, CGRN  
Methodist Dallas Medical Center  
Dallas, TX



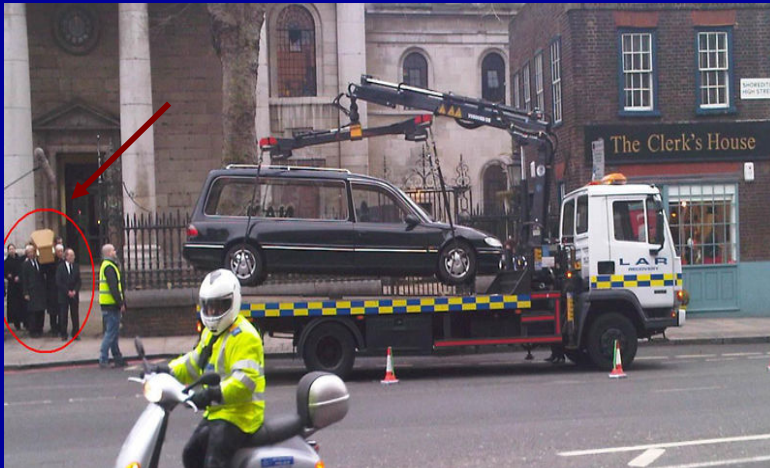
## Objectives

- ◆ Identify all the steps required for high-level disinfection of endoscopes
- ◆ Identify common errors in reprocessing endoscopes
- ◆ Identify consequences of improper endoscope processing



3

## Some things you just don't do



## Why do we need to clean scopes?

- ◆ Body Fluid (including fecal matter) movement over and through the endoscope
- ◆ Prevent Biofilm formation
- ◆ Distinct possibility probability of cross-contamination of patients with improperly processed scopes



5

## Top ten errors (part one)

1. Failure to pre-clean in the room
2. Failing to properly leak-test
3. Reusing wash water/enzymatic cleaner & rinse water
4. Reusing disposable supplies
5. Using worn or wrong size brushes



## Top ten errors (part two)

6. Using wrong flush adapters
7. Not flushing, rinsing enough
8. Not drying the scope before HLD
9. Not testing HLD before each load
10. Improper storage



## It's not easy being HLD'ed

- ◆ A failure of any part of the cleaning and HLD process means the entire process is compromised, and the scope ***IS NOT*** safe for patient use
- ◆ The process requires competent staff dedicated to doing it 100% correct, 100% of the time
- ◆ Repetition, lack of training (and re-training) creates bad habits



## Must follow HLD manufacturer directions

- ◆ MEC must be tested and results logged prior to each cycle or use
- ◆ Solution must be discarded at end of Reuse Life regardless of MEC (usually 14-28 days)
- ◆ Must dispose if MEC fails regardless of Reuse Life



9

## Staff competencies

- ◆ All steps must be completed every time to ensure a safe endoscope for every patient
- ◆ Staff must be competent, and must be held to the standard, every time
- ◆ Appropriate training to competency and regular re-validation crucial to successful program
- ◆ Competencies checked annually, or with new equipment, scopes, processors



10

## Aren't staff Cleaning and HLDing scopes?

- ◆ Misunderstanding on when cleaning starts and stops and HLD begins
- ◆ Pressures for increased throughput, shorter TAT
- ◆ More “Tech” turn-over, lowest paying job
- ◆ Some Techs are treated as just “Scope washers”



11

## High Level Disinfection versus Sterilization

- ◆ Sterilization is the state of being free from all living organisms
- ◆ High-level disinfection (HLD) is the state being free from all viruses, vegetative bacteria, fungi, mycobacterium and some, but not all, bacterial spores (Rutala, 1996)



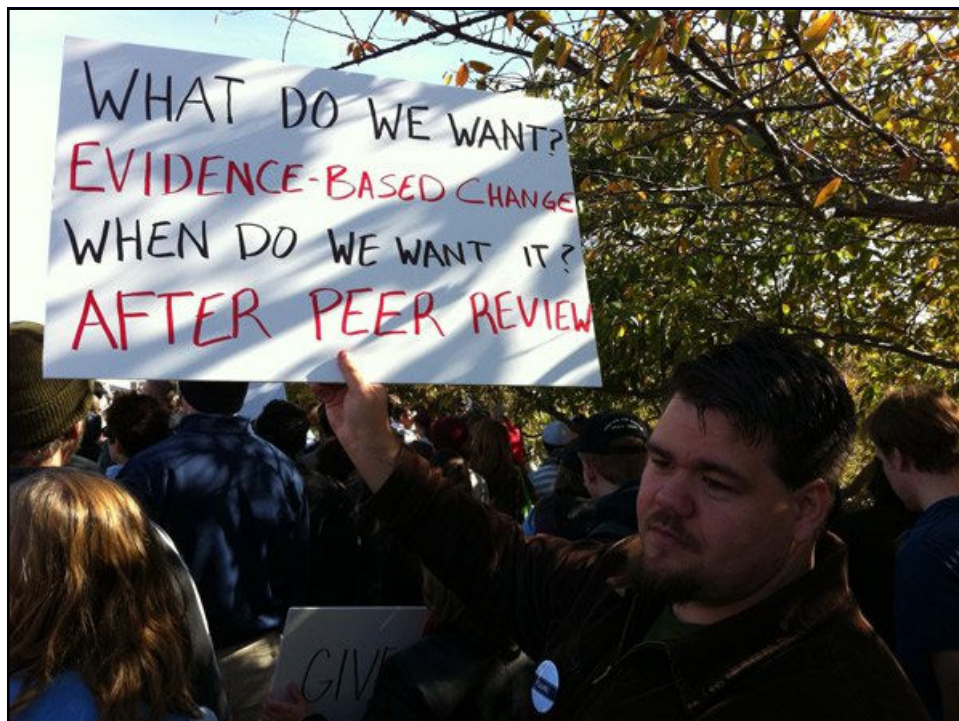
12

## Automated versus Manual Processing

- ◆ Manual processing has greater scope to scope variance
- ◆ AERs allow consistent, repeatable results
- ◆ Minimal Effective Concentration (MEC) must be checked prior to each use or AER cycle
- ◆ Exposure time is determined by specific HLD solution (~5 min - ~20 min)



13



## The Key to Success in 4 letters

R  
T  
F  
M



## Specific steps must be followed

- ◆ 1. Cleaning
- ◆ 2. Rinsing
- ◆ 3. Disinfection
- ◆ 4. Rinsing
- ◆ 5. Drying
- ◆ 6. Storage



## The process begins...

- ◆ When the scope comes out of the patient!
- ◆ The “suck through and wipe down” must take place immediately in order to prevent bioburden and effluent from hardening
- ◆ A fresh sponge or lint free cloth must be used for each scope



17

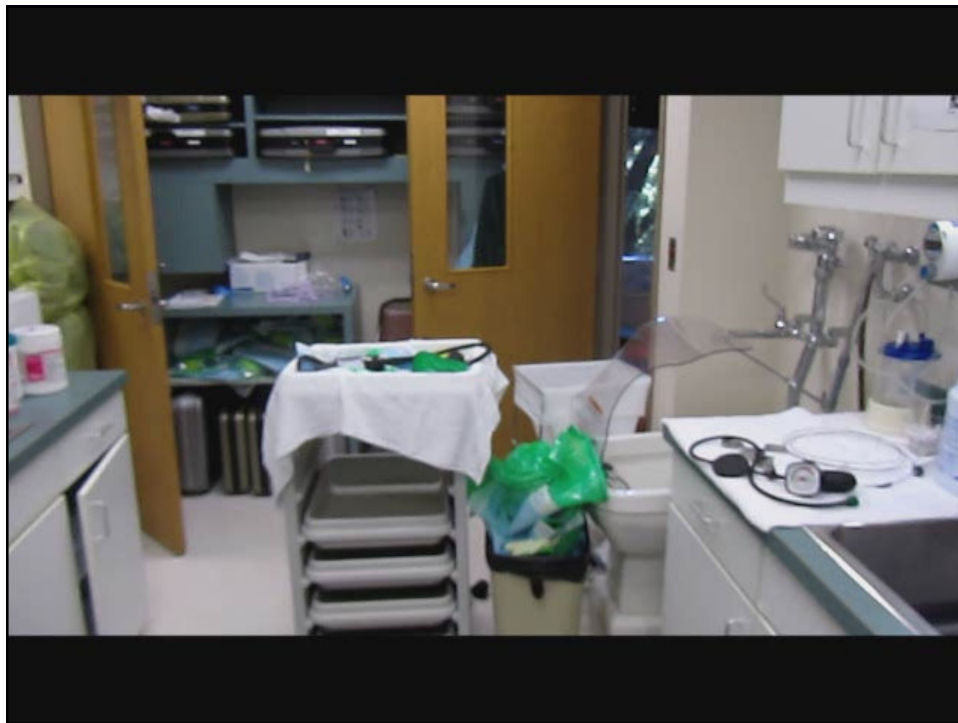


## Effective bedside wipe down/suck-through

- ◆ There must be fresh enzymatic cleaner for each scope
- ◆ Sufficient volume to suction through the scope until it runs clear
- ◆ Pulse the suction between cleaner and air to help break up debris



19



## Next steps

- ◆ Leak testing is key to minimizing scope damage, bioburden transfer
  - ◆ Compromised channels can lead to effluent inside the scope, transferred between patients
  - ◆ Bending rubber repair: ~\$200 Flooded rebuild: ~\$7,500
- ◆ Dry or wet testing, must manipulate the distal end of the scope to release folds



21



## Manual Mechanical Cleaning

- ◆ Keep the scope immersed throughout cleaning process to minimize aerosolization
- ◆ Disassemble scope according to manufacturer's instructions, including buttons, biopsy valves
  - Use small brush to clean all valves
- ◆ Brush all channels with correct size brush until clean, rinsing after each pass
  - Reusable brush to be cleaned and HLD between uses



23



## Don't skimp/use excess on water or detergent

- ◆ Fresh water and detergent or enzymatic cleaner must be used for each scope
- ◆ Detergent must be mixed per manufacturer instructions, including water temperature
- ◆ The scope must soak for the time per the manufacturer's instructions, ~2-5 minutes



25

## Pre-cleaning is imperative for HLD

- ◆ Thorough mechanical cleaning is the most important step in scope processing
- ◆ All steps must be followed every time to ensure a properly processed scope
- ◆ A scope with biofilm is difficult or impossible to HLD



26

## Flush all channels with cleaning solution

- ◆ Attach scope specific cleaning adapters
  - Specific restrictors may be required
  - The duodenoscope elevator must be manually reprocessed using 2-5cc syringe
- ◆ Flush all channels to remove debris
  - Automated flushing devices may be used
- ◆ If using enzymatic cleaner, soak endoscope according to instructions



27

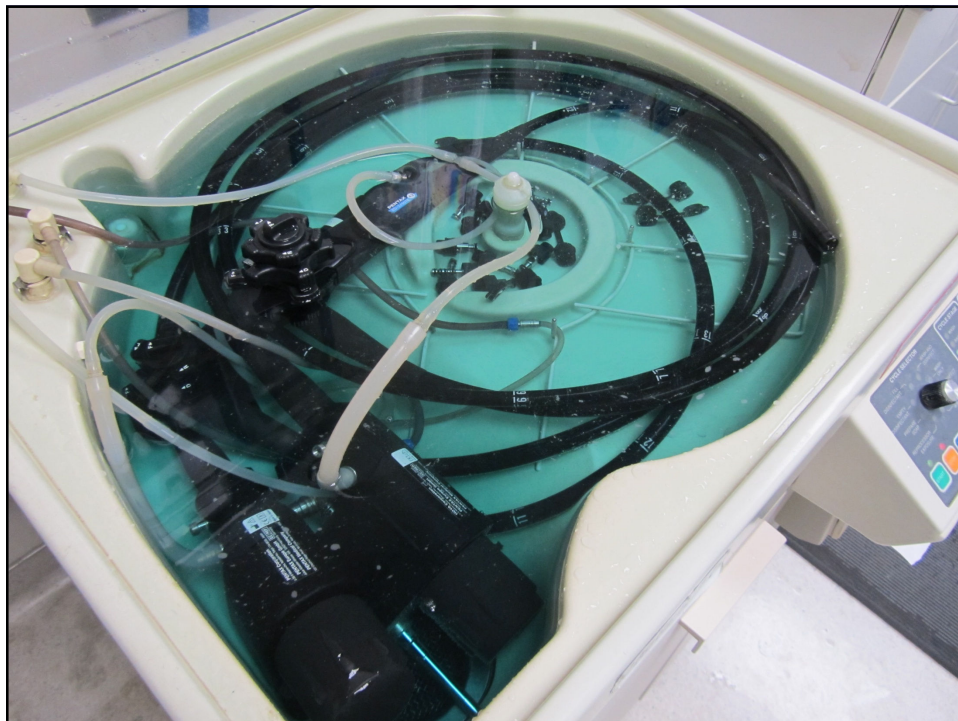


## Post-Cleaning Rinse

- ◆ Rinse endoscope and parts to completely remove detergent and debris
- ◆ Purge water from all channels using forced air or automated pump
  - Do not use unregulated air source
- ◆ Dry the exterior of the scope to help prevent dilution of HLD solution



29





## Soaking the scope in disinfectant

- ◆ Connect scope to AER adapters according to manufacturer's instructions
  - Modification of connectors invalidate process
  - Using wrong adapter invalidates process
- ◆ Scope must be placed into AER properly to be completely submerged with HLD flowing through all channels

## Drying the scope

- ◆ Purge all scope channels with regulated forced air until dry
- ◆ Wet channels create environment for bacteria growth
- ◆ Water may contain potentially harmful bacteria such as *Pseudomonas aeruginosa*



33

## Alcohol Flush

- ◆ Flush all channels with 70% isopropyl alcohol until it comes through distal end
  - Acts as a drying agent to help eliminate residual moisture in scope channels
  - Alcohol flush required even if rinsed with "sterile" water



34



## Final Drying and Storage

- ◆ Purge all channels with regulated forced air until no fluid exits scope
- ◆ Remove all cleaning adapters
- ◆ Dry scope with clean, lint free cloth
- ◆ Store scope hanging with distal tip off ground, with all buttons removed

## Storage and Reprocessing

- ◆ No recommendation from SGNA or ASGE to reprocess scopes within a given time period
- ◆ New SHEA multi-organizational statement does not make a recommendation
- ◆ ERCP scopes do not need to be processed immediately before use



37

## Can't just teach them once

- ◆ Managers/educators must continuously monitor actions throughout the HLD process
- ◆ Leadership involvement helps demonstrate the importance of the procedure
- ◆ Managers must be competent, staff will know if you're not



## Don't learn them wrong

- ◆ Trainer, institution or OEM must be competent, able to teach
- ◆ Encourage use of OEM resources; clinical and equipment
- ◆ Company reps **MUST** follow the OEM *written* guidance, not “shoot from the hip”



## Resources must be available

- ◆ All owner manuals, operating instructions
- ◆ Other guidance facility or OEM relies upon
  - ◆ If SGNA is referenced, SGNA guidelines should be available
- ◆ *Any communications from OEM must be communicated to the staff in a way they comprehend and follow recommended practice(s)*



## So what happens if...?

- ◆ Documented infection with HBV, HCV and pseudomonas
- ◆ Loss of trust with patients, physicians, institution, public
- ◆ Possible liability and litigation, especially if accepted standards are known but not followed



## Keys to Safe & Effective Scope Processing

- ◆ Know, train, and enforce the standard
- ◆ Do not allow bad habits to transfer to new staff
- ◆ Involve all techs and nurses in the process as much as possible
  - ◆ Expect the manager to demonstrate competence
- ◆ Do not allow time pressures to compromise the process
- ◆ **We owe it to our patients**





**Yellow Lab**



**Black Lab**



**Chocolate Lab**



**Meth Lab**

