Cleaning and drying flexible endoscopes

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This presentation covers:

- Pre-cleaning flexible endoscopes
- Manual cleaning endoscopes
- Chemicals used for cleaning
- Suitable area for manual cleaning
- Post decontamination drying and storage
- Endoscope transport systems
Pre-cleaning

- Normally consists of a wipe, flush and rinse
- Follow endoscope manufacturers instructions
- The cleaning agent may be enzymatic
- Endoscope must be left damp for transport (can be placed in lined tray)
- If endoscopes are transported with liquid left in the lumen there is a danger of a spill
Manual cleaning chemicals

- The choice of cleaning fluid is wide, wise to use those recommended by EWD manufacturer and are Type Tested.
- Enzymatic detergents are useful if given time and temperature, about 30°C+ for at least 10min.
- Staff can react to enzymatic solutions, there are fewer staff reactions using chemical detergents.
- Neutral detergents can be rapid in soil removal and less sensitive to temperature than enzymatic solutions, but warmer = quicker cleaning.
Difficult to clean instruments
Difficult to clean instruments
Distal tip of Duodenoscope
EUS Scope with bridge
Suitable cleaning area - 1

- At least 2 adjustable sinks per work station necessary. Difficult to arrange the correct height for each worker.
- Area around sink must not be cluttered
- Brief instructions available for each type of endoscope cleaned
- Separate ‘clean’ from ‘dirty’ area with no possibility of crossover
Possible layout of low throughput endoscopy decontamination unit

- Double sink unit
- Storage
- Traceability system
- Waste bins
- PPE Storage
- Ventilated endoscope storage
- Water Filtration units
- Table
- Clean dispatch
- Dirty returns and staff
Suitable cleaning area - 2

- Large draining area for dismantling endoscopes
- Convenient access to EWD
- Controlled access by staff
- Adequate storage facilities for chemicals and materials
Endoscope drying & storage

- Endoscope storage cabinets not suitable for short term storage – less than 4 hours
- Maximum storage time determined by manufacturers Type Test results
- Important that addition of a new endoscope does not contaminate existing equipment
- Endoscopes stored for over 4 hours, with effective drying, are likely to have a lower bioburden when used than when they were placed in store.
Example of storage cabinets
Transport of endoscopes to dryer or use

- Suitable trollies and trays should be available
- Placing endoscopes in a plastic bag and evacuation is an option
- Care in handling endoscopes from EWD to dryer is important
- Use of uncontrolled storage facilities require reprocessing of endoscope before use
Vacuum packed endoscope in carrying case
A bacteriological air count can be conducted within a dryer after allowance for stabilization (+/- 15 minutes)

The interpretation of results varies:
- HTM2025 – max. 35 cfu/m³
- HTM03-01 – max 10 cfu/m³
- Preliminary EN document – max 25 cfu over 12 hours with 5 days incubation
Summary

- Pre-cleaning & transport to the decontamination area discussed
- Cleaning agents suitable for manual cleaning covered
- Design of endoscope decontamination unit, particularly manual cleaning, discussed
- Post decontamination drying & storage of endoscopes included, with a reliance on manufacturers Type Test data
- Many option now available to transport endoscopes