

# Assuring Quality for Patients Undergoing ERCP and EUS

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## Purpose

Develop a quality monitoring program that effectively examines the infection prevention processes for cleaning and disinfection of endoscopes used during ERCP and EUS at three hospitals

Aurora St. Luke's Medical Center (ASLMC), Aurora St. Luke's South Shore Medical Center (ASLSS), and Aurora Sinai Medical Center (ASMC) make up Aurora Health Care Metro, Inc.

## Background

- Carbapenem-resistant Enterobacteriaceae (CRE) outbreaks in the nation were associated with ERCP. Consumers became more aware of infection transmission risk with endoscopy.
- Studies documented infections were linked to inadequate cleaning of endoscopes [1,2]
- Complexity of the cleaning process gives multiple opportunities for lapses/human error [3,4]
  - Aurora Health Care Metro, Inc. GI labs has a high volume of endoscopy procedures with over 25 caregivers performing High Level Disinfection (HLD)
- Cleaning steps include: Pre-Cleaning, Leak Testing, Manual Cleaning, Visual Inspection, High level disinfection, Drying, & Storage [5,6]
- Design of endoscopes (specifically duodenoscopes and endoscopic ultrasound scopes) increases the complexity involved with cleaning [2]
- Studies showed that surveillance such as culturing endoscopes can provide greater assurance of quality HLD [7]
- ECRI's Top 10 Health Technology Hazards listed Inadequate Cleaning of Flexible Endoscopes before Disinfection can spread deadly pathogens [8]
- FDA Safety Communication was released March 4, 2015 regarding new validated reprocessing instructions for duodenoscopes

## Aim

Establish a process to culture all ERCP and EUS endoscopes utilized in the Aurora Health Care Metro, Inc. GI labs

## Sampling & Collection Method

- Authors partnered with Infection Prevention providers to create a culturing process based on CDC evidence-based protocol
- Cultures obtained bi-weekly on all ERCP and EUS scopes. Infection Prevention RNs along with GI HLD staff partnered to obtain cultures taken with e-swabs. First sample taken from elevator and second sample taken from the distal portion of the biopsy channel
- Frequency of obtaining cultures increased to monthly at ASLMC and quarterly at ASLSS and ASMC following a consistent pattern of negative cultures.



## Data Analysis

- 195 cultures obtained over a 20 month period of time
- All cultures negative for CRE
- Caregivers take pride in the quality of their work
- Staff able to deliver the message to patients that endoscopes are free from CRE infections.

Site from which Cultures obtained	Total ERCP cases performed	Total EUS cases performed	Total Negative Culture Results/ Total Culture Results
ASLMC	891	1260	144/144
ASLSS	88	n/a*	22/22
ASMC	105	72	29/29

ASLMC= Aurora St. Luke's Medical Center  
ASLSS= Aurora St. Luke's South Shore  
ASMC= Aurora Sinai Medical Center  
\*does not perform EUS at this site

## Further Recommendations

- Continue partnership with Infection Prevention and hospital labs to perform cultures
- Continue annual competency testing for all HLD caregivers
- Maintain process of isolating and culturing endoscopes with known CRE patient
- Consider culturing reusable valves for quality assurance
- Begin utilizing monitoring tools to determine success of pre and manual cleaning prior to HLD
- Consider comparing different culturing techniques
- Consider publishing results

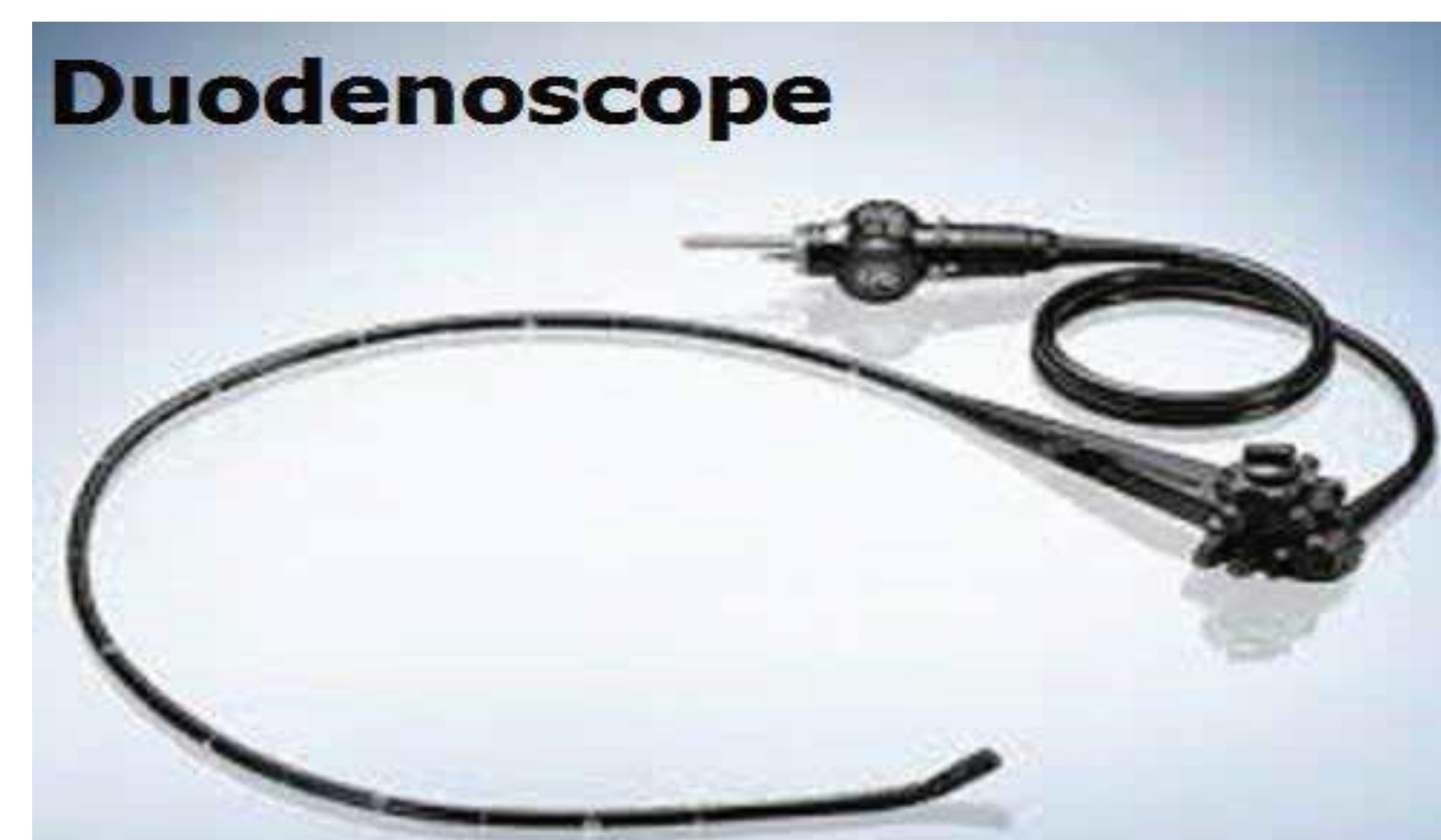


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## Interventions

- Discussed concerns, evidence, and action plan with Administration, Management, Infection Prevention, Quality Management, GI Physician leaders, and GI caregivers
- Leadership communicated with caregivers about CRE outbreaks/risks
- Provided staff with a scripted message to relay important aspects of infection concerns and institutions cleaning policies and culturing process.
- Repeat competency training completed with all caregivers performing HLD (Nurses, technicians, and nursing assistants)
- Partnered with vendors to provide additional in-servicing/training for caregivers
- Established an Aurora Healthcare Metro, Inc. GI Scope Reprocessing workgroup with members from all 3 hospitals. This group meets quarterly to discuss best practices of handling, labeling, and cleaning of endoscopes including annual competencies and quality/safety measures.



Retrieved March 24, 2017 from <https://fellowshipofminds.files.wordpress.com/2015/02/duodenoscope.jpg>

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