



Remote video auditing with feedback in an ambulatory endoscopy suite: impact on compliance with endoscope cleaning protocols

Background: Failure to correctly clean endoscopes has been associated with multiple cases of Carbapenamase-resistant Enterobacteriaceae (CRE) infection following endoscopic procedures. This is especially problematic with procedures involving elevator scopes, which contain many small working parts and lead to difficulty adhering to the manufacturer's multi-step manual cleaning guidelines. Breaks in cleaning protocols of regular endoscopes have also required multiple endoscopy units to send out letters to patients advising them about potential harmful exposures and recommending testing for transmissible pathogens. Even in the absence of significant clinical exposure, these events undermine patients' confidence in their physicians, the quality and cleanliness of the equipment being used, and could result in liability actions.

One method being investigated to increase compliance to cleaning protocols is remote video auditing (RVA) with near real-time feedback. We evaluated technician compliance with endoscope cleaning and sterilization protocol with the use of remote video auditing with and without feedback.

Methods: The study was conducted in an ambulatory endoscopy unit from June 2016 through November 2016. Cameras were set up with views of endoscope cleaning sinks; cleaning procedures for colonoscopes and elevator scopes were recorded and sent to third party off-site video auditors, (Arrowsight, Inc.). Auditors used a checklist based on endoscope IFU (instructions for use) to determine the number of steps that were performed correctly. Compliance rates were calculated based on the percentage of correctly performed steps. Daily to weekly performance reports were sent to the endoscopy managers and lead technician. Weekly meetings were held with the technicians to review inadequately performed steps in the cleaning protocol. We performed a retrospective review of compliance rates to cleaning protocols for endoscopes and time to complete cleaning prior to RVA with real time feedback and compared it to compliance rates after RVA with feedback was initiated.

Results: We examined the cleaning of 2,147 regular scopes and 50 elevator scopes. RVA increased compliance from 67% in the pre-feedback period to 93% in the post-feedback period with elevator scopes. Similarly, compliance increased from 70% in the pre-feedback period to 97% in the post-feedback period with regular scopes. Time to clean scopes was 11 minutes in the pre-feedback period for regular scopes and 12 minutes in the post feedback period. Time to clean elevator scopes was 17 minutes in the pre-feedback period and 17 minutes in the post feedback period.

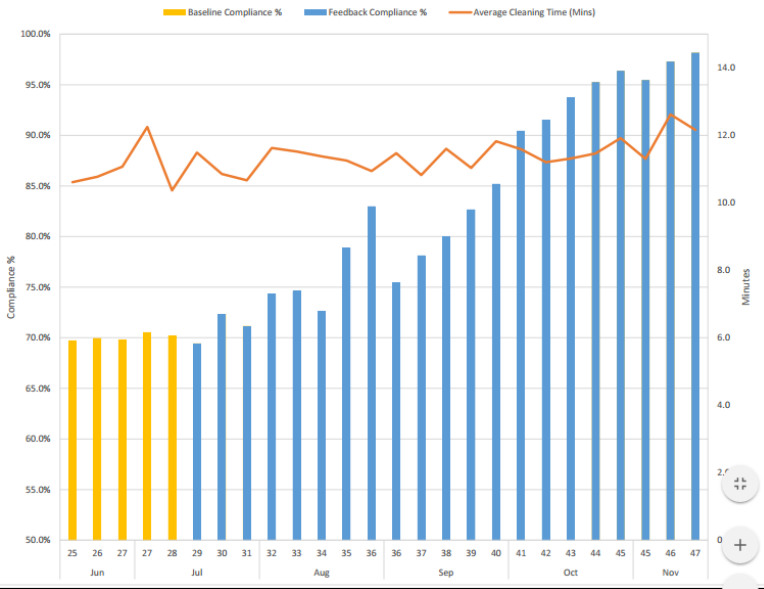
Conclusions: Our data indicate that remote video auditing combined with feedback is a useful tool that can increase compliance with endoscope cleaning protocols without significantly increasing the time required to clean these endoscopes.

East Side Endoscopy

Site: East Side Endoscopy
 Report: Regular Scope Cleaning
 Date Range From: 13-Jun-16
 To: 18-Nov-16

Confidential-Education Law 6527, Public Health Law 2805-JKLM

Row Labels	Average of Score	Average Cleaning Time (Mins)	Sum of Count
Jun	69.8%	10.8	584
25	69.7%	10.6	193
26	70.0%	10.8	220
27	69.8%	11.1	171
Jul	71.0%	10.9	742
27	70.6%	12.3	44
28	70.2%	10.4	166
29	69.4%	11.5	110
30	72.3%	10.9	210
31	71.2%	10.7	212
Aug	76.3%	11.4	234
32	74.3%	11.6	32
33	74.6%	11.5	56
34	72.6%	11.4	56
35	78.9%	11.3	56
36	83.0%	10.9	34
Sep	81.3%	11.4	217
36	75.4%	11.5	17
37	78.1%	10.8	34
38	80.0%	11.6	55
39	82.7%	11.0	59
40	85.2%	11.8	52
Oct	93.2%	11.4	210
41	90.5%	11.6	46
42	91.5%	11.2	39
43	93.7%	11.3	57
44	95.3%	11.5	56
45	96.4%	11.9	12
Nov	97.4%	12.2	160
45	95.5%	11.3	23
46	97.3%	12.6	69
47	98.2%	12.2	68



East Side Endoscopy

Site: East Side Endoscopy
 Report: Elevator Scope Cleaning
 Date Range From: 13-Jun-16
 To: 18-Nov-16

Confidential-Education Law 6527, Public Health Law 2805-JKLM

Row Labels	Average of Score	Average Clean Time (Mins)	Sum of Count
Jun	67.4%	17.3	9
25	65.5%	17.7	3
26	69.0%	16.8	4
27	67.2%	18.0	2
Jul	69.0%	16.5	6
28	60.3%	18.5	2
29	69.0%	16.5	2
30	96.6%	15.0	1
31	58.6%	14.0	1
Aug	72.7%	15.9	11
33	67.2%	15.3	4
34	73.6%	16.0	3
35	74.1%	14.0	2
36	81.0%	19.0	2
Sep	87.8%	18.4	8
36	77.6%	23.0	2
37	89.7%	17.0	1
38	92.0%	16.2	3
39	86.2%	21.0	1
40	82.8%	21.0	1
Oct	90.9%	19.1	14
41	89.0%	18.8	5
42	94.3%	18.3	3
44	93.1%	19.8	5
45	79.3%	20.0	1
Nov	93.1%	17.0	2
45	89.7%	20.0	1
47	96.6%	14.0	1

