

Streamlining Video Capsule Endoscopies: A Quality Improvement Pilot Study

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Introduction

- Video capsule endoscopy (VCE) is a non-invasive technology that provides diagnostic imaging of the gastrointestinal (GI) tract. Prompt diagnosis and subsequent management of abnormal VCE findings is essential to providing expedited patient care.
- The VCE process encompasses capsule deployment/ingestion, image capture and download, and report generation by a team of faculty and staff.
- Any delay in above steps may postpone healthcare delivery and increased length of stay (LOS) and costs.
- We aimed to identify areas for improvement in VCE use and reporting; and thereby, implemented a quality improvement (QI) intervention using visual aids and staff education to deliver timely VCE processing and reporting.

Methods

- An intervention was implemented consisting of a nurse compiling a list of all deployed VCEs by the end of the deployment day.
- Using visual aids on our procedure board, a separate nurse was tasked to upload the VCE study by the following morning (Figure 1).
- The fellow and faculty were notified to finalize the report the following day.
- We compared the time difference between the stages of VCE processing pre and post-intervention (Figure 2).

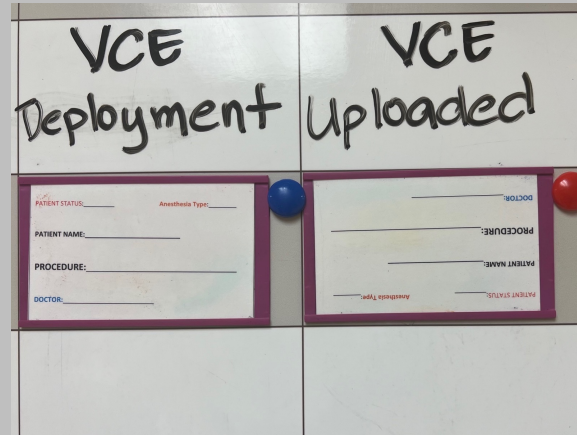


Figure 1: Our institutions procedure board reflecting deployed VCE's and uploaded VCE's.

	Before Intervention	After Intervention
Number of VCEs reviewed	50	9
Number of VCEs finalized the day after deployment	18	5
Percentage of VCEs finalized the day after deployment	36%	56%
Mean number of days between deployment and note finalization	4.58	1.78
Range (days)	1 to 34	1 to 5

Figure 2 : Comparison of VCE findings pre and post intervention

Results

- 59 admitted patients underwent inpatient VCE between 04/2020 and 06/2022.
- 50 patients were categorized into pre-intervention, and 9 were categorized into post-intervention (Figure 2).
- Pre-intervention, 18/50 (36%) VCEs were finalized one day after deployment, with a mean number of days from deployment to note finalization of 4.58 days.
- Post-intervention, 5/9 (56%) VCEs report finalization improved to 61% to a mean of 1.78 days ($p=0.4$)
- The difference from fellow to attending report finalization was improved. LOS minimally improved from 7.5 days to 6.78 days.

Discussion

- Video Capsule Endoscopy (VCE) is an invaluable tool for a practicing gastroenterologist; however, timely interpretation of the results is essential to improve patient care and decrease associated costs.
- This QI intervention targeting VCE readings successfully improved the turnover of VCE reads during an inpatient admission, which helped shorten hospital stay and help improve overall patient care.