Colonoscopy Quality Measures and Reimbursement Issues

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Disclosures

• Patent holder
  – ApopTx, LLC
Why you should care about quality

- **Effective**
  - Detection and prevention of CRC
  - Reduce missed CRC
- **Safe**
  - Reducing complications
- **Reimbursement**
  - Physician quality reporting system
  - High value practice
- **Patient satisfaction**
Quality Indicators of colonoscopy

- Completion rate
- Adenoma detection rate
- Withdrawal time
- Perforation rate
- Photo documentation of cecum
- Prep quality documentation
- Appropriate surveillance interval for Ulcerative Colitis
- Appropriate indication
- Appropriate screening interval
- Appropriate surveillance interval


ASGE practice guideline: Measuring the Quality of Endoscopy. Gastrointest Endosc 2006;58:S1-S38; Rex et al. GIE 2015; 81: 31-53
Completion rate

- Multi Society Task Force target for cecal intubation
  - 90% in all cases
  - 95% in screening cases

Rex et al. GIE 2015; 81: 31-53
Completion rate and Interval cancers

- Identified cancers diagnosed 3 years after a colonoscopy
- 34312 CRC
- 3.7% interval cancers

<table>
<thead>
<tr>
<th>Completion rate</th>
<th>&lt;80%</th>
<th>80-84%</th>
<th>85-89%</th>
<th>90-94%</th>
<th>95%+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proximal Interval CRC OR (95%CI)</td>
<td>1.00</td>
<td>1.16 (0.86-1.56)</td>
<td>0.69 (0.51-0.93)</td>
<td>0.69 (0.50-0.87)</td>
<td>0.69 (0.53-0.97)</td>
</tr>
</tbody>
</table>

Adenoma detection rate

- ADR during screening colonoscopies in average risk men and women over age 50
  
  # of COL where at least 1 adenoma is found  
  Total # of COL performed
  
  In a given time period per endoscopist
- Higher ADR = higher quality exam = fewer missed cancers
- Goal was:
  - ≥25% for men ≥50 yrs
  - ≥15% for women ≥50 yrs

In 2015:
- 30% for men
- 20% for women


ASGE practice guideline: Measuring the Quality of Endoscopy. Gastrointest Endosc 2006;58:S1-S38 Gastrointest Endosc 2006;58:S1-S38
Rex DK et al. GIE 2015; 81: 31-53
ADR and interval CRC

Cumulative Hazard Rate

- ADR <11.0%
- ADR 11.0–14.9%
- ADR 15.0–19.9%
- ADR ≥20.0%

Months

0 12 24 36 48 60
Results

- 316,334 COL, 716 Interval CRC
- Lower ADR associated with higher Interval CRC

<table>
<thead>
<tr>
<th>Physician ADR</th>
<th>Hazard Ratios for Interval CRC</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;20.3%</td>
<td>1.74 (1.36, 2.24)</td>
</tr>
<tr>
<td>20.3%-25.2%</td>
<td>1.52 (1.14, 2.04)</td>
</tr>
<tr>
<td>25.3%-32.0%</td>
<td>1.31 (1.00, 1.73)</td>
</tr>
<tr>
<td>&gt;32.0%</td>
<td>1.00</td>
</tr>
</tbody>
</table>

- No difference by right or left location
- No difference by patient sex
Factors associated with higher ADR

- **Patient level:** Age, gender and family history
- **Procedure level:**
  - Preparation quality
  - Completion rate
  - Withdrawal time
  - Withdrawal technique
- **Physician level:**
  - Training/skill/specialty of endoscopist
  - Central gaze pattern

Almansa et al. AJG 2011;106:1070–1074
Withdrawal time

• **Withdrawal time:**
• Should be at least 6 minutes in colonoscopies without biopsy or polypectomy
• **Withdrawal technique:**
  – Adequate distention
  – Washing and clean up
  – Looking behind folds
  – Segmental inspection and subjective timing

ASGE practice guideline: Measuring the Quality of Endoscopy. Gastrointest Endosc 2006;58:S1-S38
Rex DK. Colonoscopic Withdrawal technique is associated with adenoma miss rate. Gastrointest Endosc 2000;51:33-6
Withdrawal Time alone

- Mandating longer WD time does not increase PDR

Sawhney MS et al Gastro 2008;135;1892
WT and ADR are correlated

Estimated slope 2.5% per min, 95% CI 1.9 to 3.1; p < 0.0001

ADR and Interval cancers

WT and Interval cancer

Physicians’ average annual withdrawal times were inversely associated with interval cancers ($p < 0.0001$)
### Table 1: Insertion Time Quartile by Advanced Adenomas per Patient

<table>
<thead>
<tr>
<th>Insertion Time Quartile</th>
<th>Q1 (&lt; 3.5 min)</th>
<th>Q2 (3.5 - 5.3 min)</th>
<th>Q3 (5.3 - 8.1 min)</th>
<th>Q4 (&gt; 8.1 min)</th>
<th>P trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adv. adenomas per patient, mean</td>
<td>0.15 (n = 256)</td>
<td>0.13 (n = 257)</td>
<td>0.08 (n = 268)</td>
<td>0.06 (n = 262)</td>
<td>.013</td>
</tr>
<tr>
<td>Adv. ADR</td>
<td>12.9%</td>
<td>10.9%</td>
<td>6.0%</td>
<td>5.0%</td>
<td>-</td>
</tr>
<tr>
<td>Adjusted OR (95% CI)</td>
<td>1.00 (reference)</td>
<td>0.90 (0.52-1.56)</td>
<td>0.48 (0.26-0.92)</td>
<td>0.40 (0.20-0.82)</td>
<td>.001</td>
</tr>
</tbody>
</table>
What is master level ADR detection?

- Master level ADR is 47-48% plus
- Proven gains in cancer protection up to about 35%
- Minimum threshold is 25% in mixed gender population
- Should be discomfort with any ADR below 35%
- No need to adjust for population factor other than gender
Disease spectrum

Conventional adenomas

Serrated class
What are master detectors doing during withdrawal?

- Know disease spectrum
- Technique:
  - Look behind folds (obsessively)
  - Clean up debris
  - Distend the colon
Retroflexion: Bottom line

- Examine the right colon twice sometimes:
  - First exam shows polyps
  - Older age, male gender
  - Lynch syndrome

- A second exam in the forward view is as good as a second exam in retroflexion
Position change: bottom line

- Hard to do with propofol; may not be safe
- Should be able to distend the colon without position change
  - Use CO₂
  - Prevent gas from escaping the colon
  - If still unable to fill segment use water
Priority Quality Indicator: Cecal Intubation (with Photograph)

- 2011: 69.91%
- 2012: 78.60%
- 2013: 85.47%
- 2014: 90.68%
- 2015: 93.83%

GIQuIC

ACG 2016
Follow-Up Recommendations:
Screening Procedure, Age 50 and older
Adequate Preps, Average Risk,
No Pathology Findings

<table>
<thead>
<tr>
<th>Duration</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>3 years</td>
<td>10%</td>
</tr>
<tr>
<td>5 years</td>
<td>17%</td>
</tr>
<tr>
<td>10 years</td>
<td>73%</td>
</tr>
<tr>
<td>Other</td>
<td>4%</td>
</tr>
<tr>
<td>None</td>
<td>4%</td>
</tr>
</tbody>
</table>