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ACG 2022
OCTOBER 21–26, 2022 | CHARLOTTE, NC

REGISTRATION IS OPEN!

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Participating in the Webinar

All attendees will be muted and will remain in Listen Only Mode.

Type your questions here so that the moderator can see them. Not all questions will be answered but we will get to as many as possible.

How to Receive CME and MOC Points

LIVE VIRTUAL GRAND ROUNDS WEBINAR
ACG will send a link to a CME & MOC evaluation to all attendees on the live webinar.

ABIM Board Certified physicians need to complete their MOC activities by December 31, 2022 in order for the MOC points to count toward any MOC requirements that are due by the end of the year. No MOC credit may be awarded after March 1, 2023 for this activity.
MOC QUESTION

If you plan to claim MOC Points for this activity, you will be asked to: Please list specific changes you will make in your practice as a result of the information you received from this activity.

Include specific strategies or changes that you plan to implement. THESE ANSWERS WILL BE REVIEWED.

ACG Virtual Grand Rounds

Join us for upcoming Virtual Grand Rounds!

Week 37 – Thursday, September 15, 2022
Pancreatic Cancer Palliation
Faculty: Nalini Guda, MD, FACG
Moderator: Prabhleen Chahal, MD, FACG
Thursday, September 15, 2022 at Noon Eastern and NEW! 8pm Eastern!

Week 38 – September 22, 2022
Therapeutic Drug Monitoring in IBD: Why, When and How?
Faculty: Andres J. Yanur, MD, FACG
Moderator: Ryan C. Ungaro, MD, MS
Thursday, September 22, 2022 at Noon Eastern and NEW! 8pm Eastern!

Visit gi.org/ACGVGR to Register
Disclosures

Nikiya O. Asamoah, MD
No relevant financial relationships with ineligible companies

Keith L. Obstein, MD, FACP
Virgo Surgical Video Solutions, Inc: Advisory Board

Mohammad Bilal, MD
No relevant financial relationships with ineligible companies

Paula G. Adamson, MD
No relevant financial relationships with ineligible companies

Judy A. Trieu, MD, MPH
No relevant financial relationships with ineligible companies
How to Teach Endoscopy

Nikiya Asamoah, MD
Associate Program Director
Medstar Georgetown University Hospital
Department of Gastroenterology

Background

• Current Limitations
  – Apprentice based model
    o Variable instruction
  – No standardization
  – No instructor-specific training

GOAL:
Discuss key aspects of effectively teaching endoscopy
Objectives

• Training tools

• Ergonomics in Endoscopy

• Teaching Endoscopy
  – Pre-procedure assessment
  – During the procedure
  – Post Procedure feedback and review

• Fellow evaluation

Training Tools:
Before the endoscopy suite

• Endoscopy courses
  – ASGE 1st Year Endoscopy course

• Endoscopy simulation
  – 1st year fellows: first 3 months especially
    o Mechanics:
      • Dial manipulation
      • Hand-eye coordination

• Online Videos
  – ASGE Core Curriculum
  – ASGE GiLeap app
Ergonomics in Endoscopy

• Prevalence of endoscopy related injuries as high 89%\(^3\)
  – Survey of 684 ASGE members - 53% experienced injury definitely or probably related to endoscopy\(^5\)
  – Risk factors:
    o Mechanical: endoscopist/patient positioning
    o Procedure volume
    o Hours/week endoscopy
    o Total years spent
    o Other: community vs. academic

• Goal of ergonomics: injury prevention

Ergonomics in Endoscopy

• Important aspects
  – Adjustable bed
  – Adjustable monitor
  – Floor cushioning
  – Patient position
  – Equipment location
  – Endoscopist stance

©2019 Amandeep Shergill. GIE. Ergonomics in Endoscopy
Teaching Endoscopy: Pre-procedure

• Pre-procedure evaluation
  – Indication
  – Patient assessment
    o Anticoagulants
    o Pacemaker/defibrillator, metal, etc
  – Anticipate interventions

• Set expectations:
  – 1st year: cecal intubation
  – 2nd year: identify pathology
  – 3rd year: independent complex polypectomy

• Set the tone:
  – Calm demeanor
  – Active involvement- gown/glove

Teaching Endoscopy: During the procedure

• Clear concise instructions
  – Helpful: Torque clockwise, Tip up, small dial right
  – Not Helpful: “Find the Lumen!”

• Location-based instructions:
  – Navigate sigmoid colon – water immersion
  – Navigate flexures
  – TI intubation

• Technical instruction
  – Loop prevention & reduction
  – Retroflexion
  – 1-hand vs. 2-hand technique
  – Polypectomy
  – Mucosal injection

• Prioritize patient safety
Endoscopic technique: Post-procedure

- Immediate Feedback
  - High quality: immediate, constructive
  - Tips for improvement

- Confirm findings & plan
  - Guidelines
  - Follow up recommendations

- Review post-procedure documentation

Evaluation

- ACGME Gastroenterology Milestones (2020)
  - Core competency: Patient Care –Technical/Procedure
    o ASGE form: Assessment of Competency in Endoscopy (ACE)
      • Periodic evaluation of cognitive and motor skills in endoscopy
      • Personalized feedback
      • Goal setting
      • Track progress over time
Summary

• Several limitations to apprentice model for teaching endoscopy
• Training programs require standardized curriculum for learning endoscopy
  – Key features:
    o Utilizing available non-patient related tools prior to endoscopy
    o Emphasize ergonomics of endoscopy early
    o Focus teaching pre-, intra-, post-procedure techniques
    o High quality feedback
    o Utilize validated evaluation tools to meet ACGME core competency for GI

References

Assessing the endoscopic skill of trainees

Keith L. Obstein, MD, MPH, FACG
Professor of Medicine
Vanderbilt University Medical Center
Nashville, TN USA

Introduction

• Endoscopy is a complex procedure that requires training and experience
  • Adverse events
  • Missed pathology
  • Inadequate resections / therapeutics
  • Efficiency
Introduction

• Supervision
  • Direct, oversee, guide, make sure that expected standards are met

• Instruction
  • Direction, order, telling how something should be done, operated, assembled

There is a need to assess skill to ensure safe proficient endoscopic exams

• Letters of reference
• Verification of subspecialty training
• Board certification

***May not be adequate substitutes for independent quantitative direct evaluation of skill and expertise***
Introduction

• Numbers alone are not likely sufficient
• Variability in requirements: 25 to over 200 “competency”
• Faculty endorsement alone is not likely sufficient

Adult learning

• Adults need to know ______ they are going to learn
  • What?
  • Why?
  • How?
Adult learning

“You are going to need to be able to differentiate between sessile and pedunculated polyps (What)....because you will see them during your screening colonoscopies (Why).....when you see a polyp today, let me know what you think and we will discuss it after the case (How).”

Adult learning

• Feedback
  • Timely
  • Focused
  • Direct
  • Actionable
Endoscopic assessment

- Objective
- Standardized
- Measurable
- Quantitative
- Transparent
- Valid
- Generalizable

Endoscopic assessment

- Need to assess....

Technical Skill

Cognitive Skill
Endoscopic assessment

- Variety of instruments available
- ACGME GI Milestones 2.0
- ASGE Assessment of Competency in Endoscopy (ACE)
- Global Assessment of GI Endoscopic Skills (GAGES)
- Novel/experimental
  - Kinematic
  - Eye tracking

### GI Milestones 2.0 (PC 3: Cognitive)

<table>
<thead>
<tr>
<th>Patient Care 3: Procedures Cognitive Components</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 1</strong></td>
</tr>
<tr>
<td>Selects clinically indicated procedure(s), with significant assistance</td>
</tr>
<tr>
<td>Recognizes normal and abnormal procedural findings</td>
</tr>
<tr>
<td>Identifies immediate interventions and subsequent plan of care, with significant assistance</td>
</tr>
</tbody>
</table>

**Comments:**

- Critical Deficiencies
- Not Yet Assessable

American College of Gastroenterology
### Patient Care 3: Procedures: Cognitive Components

<table>
<thead>
<tr>
<th>Level</th>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Selects clinically indicated procedure(s) with significant assistance.</td>
</tr>
<tr>
<td></td>
<td><em>Works with supervising attending to determine whether proceed or unsupervised colonoscopy is indicated.</em></td>
</tr>
<tr>
<td></td>
<td>Recognizes normal and abnormal procedural findings.</td>
</tr>
<tr>
<td></td>
<td>Identifies immediate interventions and subsequent plan of care, with significant assistance.</td>
</tr>
<tr>
<td></td>
<td><em>Recognizes normal landmarks and can distinguish the intestinal phase from a tumor.</em></td>
</tr>
<tr>
<td></td>
<td>Identifies abnormal mucosa such as polyps or colitis.</td>
</tr>
<tr>
<td></td>
<td>Identifies bleeding ulcer and recognizes need for interventions but needs assistance from the attending to determine therapeutic modality and to initiate postprocedural medical therapy after endoscopic control of bleeding.</td>
</tr>
<tr>
<td>2</td>
<td>Selects clinically indicated procedure(s) with moderate assistance.</td>
</tr>
<tr>
<td></td>
<td>Identifies and interprets abnormal procedural findings, with moderate assistance.</td>
</tr>
<tr>
<td></td>
<td>Recognizes and selects immediate interventions and subsequent plan of care, with moderate assistance.</td>
</tr>
<tr>
<td></td>
<td><em>Works with supervising attending to determine urgency of the indicated procedure.</em></td>
</tr>
<tr>
<td></td>
<td>List a differential for the finding of abnormal mucosa but requires assistance to prioritize the list.</td>
</tr>
<tr>
<td></td>
<td>Lists options for endoscopic control of bleeding and periprocedural medical therapy.</td>
</tr>
<tr>
<td>3</td>
<td>Selects clinically indicated procedure(s) with minimal assistance.</td>
</tr>
<tr>
<td></td>
<td>Identifies and interprets abnormal procedural findings, with minimal assistance.</td>
</tr>
<tr>
<td></td>
<td>Recognizes that a colonoscopy is indicated for a patient presenting with melena and a positive upper endoscopy.</td>
</tr>
<tr>
<td></td>
<td>Determines the most likely cause(s) of abnormal mucosa.</td>
</tr>
<tr>
<td></td>
<td>Recognizes that advanced imaging techniques can be used to predict histology of a colonic polyp.</td>
</tr>
<tr>
<td></td>
<td>Determines best option for endoscopic control of bleeding and initiates postprocedural medical therapy.</td>
</tr>
<tr>
<td>4</td>
<td>Independently selects clinically indicated procedure(s) based on assessment and indications, including capabilities and limitations of the procedure, resources, and equipment available for the patient.</td>
</tr>
<tr>
<td></td>
<td><em>In a patient who presents, reviews and orders based on presentation for a colonoscopy in anticipation that an upper endoscopy may be negative.</em></td>
</tr>
</tbody>
</table>

### GI Milestones 2.0 (PC 3: Cognitive)

- Independently identifies and interprets abnormal procedural findings.
- Independently selects appropriate immediate interventions and subsequent plan of care, with recognition of personal limitations.
- Recognizes ischemia as the most likely cause of abnormal mucosa and appropriately aborts the procedure to prevent complications.
- Consistently uses advanced imaging techniques to assist in endoscopic management.
- Recognizes a large bleeding vessel that is not amenable to endoscopic therapy and consults interventional radiology and surgery.
- Recognizes the role of new modalities such as endoscopic procedures and therapies appropriately.
- Identifies characteristics of primary neoplastic lesions versus metastatic lesions.
- Recognizes an endoscopically resected neoplasia found during screening colonoscopy.
- Recognizes that some perforations can be managed endoscopically and refers for advanced clipping and suturing procedures.
- Controls bleeding.
- Endoscopy assessment tool.
- Quality outcomes.
- Skill assessment.

#### Curriculum Mapping

### GI Milestones 2.0 (PC 4: Technical)

**Patient Care 4: Procedures: Technical Components**

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performs peri-procedural assessment, including required diagnostic evaluation and selection of equipment, with moderate assistance</td>
<td>Performs peri-procedural assessment, including required diagnostic evaluation and selection of equipment, with minimal assistance</td>
<td>Independently performs peri-procedural assessment, including required diagnostic evaluation and selection of equipment in standard cases</td>
<td>Independently performs peri-procedural assessment, including required diagnostic evaluation and selection of equipment in complex cases</td>
<td>Efficiently performs the complete procedure to intended extent, including thorough visualization/examination, in complex cases</td>
</tr>
<tr>
<td>Performs portions of the procedure, with significant assistance</td>
<td>Performs significant portions of the procedure, with moderate assistance</td>
<td>Performs the complete procedure to intended extent, including thorough visualization/examination, with minimal assistance</td>
<td>Independently performs the complete procedure to intended extent, including thorough visualization/examination</td>
<td>Efficiently performs all therapeutic interventions</td>
</tr>
<tr>
<td>Independently performs peri-procedural assessment, including required diagnostic evaluation and selection of equipment in standard cases</td>
<td>Performs most standard therapeutic interventions, with minimal assistance</td>
<td>Independently performs standard therapeutic interventions</td>
<td>Efficiently performs complex therapeutic interventions</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

- **Patient Care**
  - The fellow is demonstrating satisfactory development of the knowledge, skill, and attitudes/behaviors needed to advance in the training program.
  - The fellow is demonstrating a learning trajectory that anticipates the achievement of competency for unsupervised practice that includes the delivery of safe, effective, patient-centered, timely, efficient, and equitable care.
  - ____ Yes ____ No _____ Conditional on Improvement
  - Critical Deficiencies: _____ Not Yet Assessable: _____

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**American College of Gastroenterology**

9/14/2022
GI Milestones 2.0 (PC 4: Technical)

- Identifies when to defer a procedure due to patient instability
- Switches to a pediatric colonoscope if unable to get past a stricture
- Performs complete colonoscopy independently and meets established quality metrics
- Performs an angulated dilation with appropriate selection of starting and concluding diameter
- Stays on time during a busy endoscopy day while performing all required interventions
- Independently removes polyps larger than 2 cm with bi-polar technique
- Direct observation
- Procedures keep with colon intubation time and percentage of independence
- Simulation

Notes/Resources

ASGE ACE EGD and Colonoscopy

ASGE's assessment of competency in endoscopy evaluation tools for colonoscopy and EGD

INTRODUCTION

Over the past decade, an increasing emphasis has been placed on quality metrics and competency assessment in GI endoscopy. In response to this, the American Society for Gastrointestinal Endoscopy (ASGE) has developed a new evaluation tool: the ASGE Colonoscopy and EGD Checklist. The tool is designed to measure the competency of endoscopists and ensure that they meet the standards set forth by the ASGE. The tool takes into account various aspects of the endoscopy procedure, including the technical skills required, the patient's comfort, and the endoscopist's ability to communicate effectively. The ASGE Colonoscopy and EGD Checklist is intended to provide a comprehensive assessment of a physician's performance in these areas.

In contrast, the ASGE Endoscopy Notebook Assessment Tool (ENAT) is a more comprehensive assessment tool that covers a wider range of endoscopy-related tasks. The ENAT is designed to evaluate the endoscopist's ability to perform various tasks, including setting up the endoscope, performing the procedure, and providing post-procedure care. The ENAT is intended to provide a more holistic assessment of the endoscopist's performance.

The ASGE Colonoscopy and EGD Checklist is intended to be used in conjunction with the ENAT to provide a complete assessment of a physician's performance in GI endoscopy. The tool is designed to be used by endoscopy laboratories and training programs to help ensure that physicians meet the highest standards of care.
# ASGE ACE EGD and Colonoscopy

## Motor skills
- Effective use of air, water, and suction
- Scope steering technique
- Fine tip control
- Loop reduction techniques
- Depth of independent scope advancement
- Visualization of mucosa
- Ability to apply therapeutic tools
- Overall motor skills

## Cognitive skills
- Knowledge of indication and medical issues
- Management of patient discomfort
- Pathology identification and interpretation
- Overall cognitive skills

## Depth of independent scope advancement
- Scope tip control/advancement techniques
- Visualization of mucosa during withdrawal (including retroflexion)
- Ability to apply therapeutic tools
- Overall motor skills

## Knowledge of indication and medical issues
- Management of patient discomfort
- Pathology identification and interpretation
- Overall cognitive skills
ASGE ACE EGD

Overall Competence Scores by Procedural Experience

- Average ACE Overall Scores (1-4)
- 0 50 100 150 200 250 300 350 400 450
- Motor Competence: $P < .0001$
- Cognitive Competence: $P < .0001$

Procedure Times by Experience

- Total Time $P < .001$
- Insertion Time $P < .001$
- Withdrawal Time $P < .283$

Independent O2 Intubation rate: $\geq 95\%$
- O2 Intubation time: $\leq 3.75$ minutes
- Total procedure time: $\leq 12.9$ minutes
- Each ACE-E skill: average score: $\geq 3.5$

O2: Second portion of the duodenum; ACE-E: Assessment of Competency in Endoscopy–Oesophagogastroduodenoscopy.

ASGE ACE Colon

Average Competence Scores by Experience

- Average Score (1-4)
- 0 50 100 150 200 250 300 350 400 410
- Motor Competence: $P < .001$
- Cognitive Competence: $P < .001$

Procedure Time by Experience

- Total Time $P < .001$
- Insertion Time $P < .001$
- Withdrawal Time $P < .001$

Independent cecal intubation rate: $\geq 90\%$
- Cecal intubation time: $\leq 14$ min
- Each ACE skill: average score: $\geq 3.5$
- Polyp detection rate: $\geq 50\%$
- Polyp miss rate: $\leq 25\%$

ACE, Assessment of competency in endoscopy.
Evaluation of colonoscopy technical skill levels by use of an objective kinematic-based system

Keith L. Obasaju, MD, MPH, Valshov D. Paul, MD, Ingadoceen Jayender, PhD, Ratil San Jose Estigar, PhD, Inbar S. Spofford, MD, Balazs I. Leongyl, MD, Kirby G. Vosburgh, PhD, Christopher C. Thompson, MD, MSE, FACC, FANGE

Boston, Massachusetts, USA

Objective Differences in Colonoscopy Technique Between Trainee and Expert Endoscopists Using the Colonoscopy Force Monitor

Alexander B. Iseki, MD, PhD, Rewa K. Patel, MD, Shelanagul B. Schneid, MD, Khoon H. Wong, MD, John D. Heidel, MD, FACC, FARGE, Fellow, FAGE

Boston, Massachusetts, USA

Conclusion

- Use a standardized instrument
  - Cognitive
  - Technical
- Provide feedback
  - Focused
  - Measurable
- Have fun!
Complications Can Occur

- Gastroenterologists will encounter $\geq 1$ significant adverse event in their career
- GI fellow has 1 in 3 odds of facing a procedural complication
- Complications can happen to the best of endoscopists

Donnangelo et al, Gastro 2022
Consent

• Management of a complication starts before the procedure even starts

• Consent needs to be “informed”

• Beyond legal and institutional requirements

• Discuss alternatives

• Discussion with family members

• Open access endoscopy

• Patient-endoscopist rapport

Consent

• “Reasonable Physician” Approach
  • Clinicians lead pre procedure discussion
  • Decide on amount of information patient needs to know
  • Can be paternalistic

• “Reasonable Patient” Approach
  • Disclosure of all relevant information
  • Options for patient to make an informed decision
I Had a Complication – Now What?

• Technical skills
  • Taught and discussed
  • Bleeding
  • Perforation
  • Infection
  • Post ERCP (Pancreatitis)
  • Rare: Splenic injury
  • Sedation related

• Non-technical skills

• Early recognition and management is key

• Culture change from “See Peritoneum and Run” to “Evaluate and Fix”

• Most endoscopic complications can be managed endoscopically by you or someone else

• Tool Box
  • TTS clips, OTSC, Suturing, Stents, EVT, Hemostatic Spray

Bollipo et al, Gastro 2020
I Had a Complication – Now What?

- Take a Deep Breath
- Communicate (anesthesia, team members in room)
- Assign roles (call for Abx, IR/ Surgery back up)
- Stabilize (needle decompression)
- Can you fix the problem (peroration – clips?)
- Can someone else fix the problem (colleague next door)
- Call for help

Communication and Disclosure

- Open and honest communication with patient and family members
- Maintain trust
- Disclosure
- Be prepared for reactions from patient and/or family
  - Grief, Anger, Frustration, Betrayal, Nervous
- Use principles of difficult conversation
  - Find a quiet place
  - Sit down
  - Show empathy
  - Listen intently
  - Honestly disclosing all facts
  - Consider a chaperone (colleague, nurse, fellow)
Taking Ownership

• Stay involved
• Coordinate care (talk to surgery, IR, primary team yourself)
• Don’t want message to be lost in translation
• Call trustworthy colleagues
• Explain patient that while you may not be the one performing next steps in medical care, you will stay involved and help coordinate
• Visit patient, even if social
• Continue to provide care or transfer care?

Documentation

• All events with explicit documentation
• Conversations with patient and/or family
• Documentation should be timely
Post Complication Follow-Up

- Example: Esophageal perforation during Dilation

- Follow up and communication ensure relationship continues

- Patient returns for serial dilations

- Phone call / clinic visit

Apology

- Be sincere

- Be empathetic

- No physician wants to cause harm

- Important for relationship with patient

- Can have legal implications as well

- Wording of apology
Legal Aspects

• Involve institution’s risk management team

• In severe situations, can also contact your personal lawyer

• Do not use email / text in communicating sensitive information

Coping with Complications

• Complications don’t only cause harm to patient
• Lead to distress and emotional impact on endoscopist as well
• Physician peer-support is essential
• Culture where we do NOT blame and shame for complications
• Peer-review / QA / QI meetings to learn and improve
• Time to re-group BUT get back at it
• Debrief with team
• Remember positive impact “WE” made
Summary

- Complications are part of interventional specialties and happen to everyone
- Informed consent
- Take “Ownership” of complication
- Stay calm
- In 2022, most endoscopic complications can be fixed by YOU or a colleague
- Honest and empathetic disclosure
- Coordinate care
- Find your peer-support group
- Debrief and learn
- Be mindful of legal implications
- Let’s get back at it

Questions and Answers

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Judy A. Trieu, MD, MPH
CONNECT AND COLLABORATE IN GI

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ACG GI Circle
ACG Hepatology Circle
ACG Functional GI Health and Nutrition Circle
ACG Women in GI Circle

ACG’s Online Professional Networking Communities
LOGIN OR SIGN-UP NOW AT: acg-gi-circle.within3.com