**CALL for ABSTRACTS**

**ACG 2021**

**OCTOBER 22–27, 2021**

**MANDALAY BAY • LAS VEGAS, NV**

---

**Submit Now!**

**SUBMISSION DATES:**

**MARCH 15 – JUNE 21, 2021**

The American College of Gastroenterology invites you to submit abstracts for presentation at the 2021 Annual Scientific Meeting and Postgraduate Course. Abstracts must be clinical or research-oriented, with a focus on gastroenterology or hepatology.

**IMPORTANT DATES**

- **MARCH 15**
  - Submission Site Opens

- **JUNE 21 | 11:59 PM EDT**
  - Submission Site Closes (No Exceptions)

- **BY JULY 31**
  - Notification of abstract acceptance

- **OCTOBER 1**
  - Presenting Authors MUST REGISTER as an attendee

**ABSTRACT CATEGORIES**

- **Biliary/Pancreatic**
- **Colorectal**
- **Colon-Cancer Prevention**
- **Endoscopy Video Forum**
- **Esophagus**
- **General Endoscopy**
- **GI Bleeding**
- **Functional Bowel Disease**
- **IBD**
- **Interventional Endoscopy**
- **Liver**
- **Obesity**
- **Pediatrics**
- **Practice Management**
- **Small intestine**
- **Stomach**
- **Clinical Vignette/Case Reports**

**Submit your abstract:**
conferenceabstracts.com/acg2021.html

Visit this site to download complete instructions and start your submission.

---

**Virtual Grand Rounds**

**2021**

**ACG’S FUNCTIONAL GI DISORDERS SCHOOL & MIDWEST REGIONAL POSTGRADUATE COURSE**

**AUGUST 13-15, 2021**

**HILTON ST. LOUIS AT THE BALLPARK**

**ST. LOUIS, MISSOURI**

Register online at https://meetings.gi.org/
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, 2021 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, 2022 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 21, 2021
Assessing for Eating Disorders: A Primer for Gastroenterologists
Monia E. Werlang, MD
May 27, 2021 at Noon Eastern

Week 22, 2021
Addressing Sexual Trauma and Abuse with GI Patient
Laurie A. Keefer, PhD
June 3, 2021 at Noon Eastern

Visit gi.org/ACGVGR to Register
Disclosures:

Speaker:
Aasma Shaukat, MD, MPH, FACG
Scientific Advisor: Iterative Scopes Inc., Freenome, Inc.

Moderator:
Linda Rabeneck, MD, MPH, MACG
Dr. Rabeneck, faculty for this educational event, has no relevant financial relationship(s) with ineligible companies to disclose.

*All of the relevant financial relationships listed for these individuals have been mitigated.

ACG Clinical Guidelines:
Colorectal Cancer Screening 2021

Aasma Shaukat, MD, MPH, FACG
GI Section Chief, Minneapolis VAMC
Professor of Medicine, University of Minnesota
Outline

Review new evidence and recommendations for:
- Age to initiate screening
- Screening in those with a family history
- Quality indicators for colonoscopy
- Organized screening
- Special considerations

USPSTF Recommendations 2016

<table>
<thead>
<tr>
<th>Population</th>
<th>Adults aged 50 to 75 y</th>
<th>Adults aged 76 to 85 y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommendation</td>
<td>Screen for colorectal cancer starting at age 50 y.</td>
<td>The decision to screen for colorectal cancer is an individual one.</td>
</tr>
<tr>
<td>Grade</td>
<td>A</td>
<td>C</td>
</tr>
</tbody>
</table>

There are numerous screening tests to detect early-stage colorectal cancer, including stool-based tests (gFOBT, FIT, and FIT-DNA), direct visualization tests (flexible sigmoidoscopy, alone or combined with FIT, colonoscopy, and CT colonography), and serology tests (CEPT9 DNA test). The USPSTF found no head-to-head studies demonstrating that any of these screening strategies are more effective than others, although they have varying levels of evidence supporting their effectiveness, as well as different strengths and limitations.

- gFOBT
- FIT
- FIT-DNA
- Flex Sig
- Flex Sig +FIT
- Colonoscopy
- CT colonography
- Sept9 DNA test


American College of Gastroenterology
ACS Guidelines 2018

- Qualified recommendation to lower screening age to 45
- Rising incidence of rectal cancer in <50
- Based on modelling studies using MISCAN and SimCRC

Model estimated Life Years Gained per 1000 screened


Modeling supports starting AA at age 45

Meester RGS et al. Optimizing colorectal cancer screening by race and sex: microsimulation analysis II to inform the American Society Colorectal cancer screening guideline. Cancer 2018 May 30
### Change in CRC Incidence (SEER)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>2000</th>
<th>2015</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>25-29</td>
<td>1.7</td>
<td>3.4</td>
<td>50</td>
</tr>
<tr>
<td>30-34</td>
<td>4.1</td>
<td>5.8</td>
<td>30</td>
</tr>
<tr>
<td>35-39</td>
<td>7.6</td>
<td>10.7</td>
<td>29</td>
</tr>
<tr>
<td>40-44</td>
<td>14.7</td>
<td>19.0</td>
<td>23</td>
</tr>
<tr>
<td>45-49</td>
<td>27.7</td>
<td>33.4</td>
<td>17</td>
</tr>
<tr>
<td>50-54</td>
<td>52</td>
<td>62</td>
<td>16</td>
</tr>
</tbody>
</table>

### Birth cohort effect

**A**

- Colon
- Rectum

**B**

- Colon
- Rectum

[Natl Cancer Inst, Volume 109, Issue 8, August 2017](https://doi.org/10.1093/jnci/djw322)
Increasing CRC incidence is a real trend: Incidence and stage at diagnosis 1995-2015


ACG Clinical Guidelines: Colorectal Cancer Screening 2021

1. We recommend colorectal cancer (CRC) screening in average-risk individuals between ages 50 and 75 yr to reduce incidence of advanced adenoma, CRC, and mortality from CRC

2. We suggest CRC screening in average-risk individuals between ages 45 and 49 yr to reduce incidence of advanced adenoma, CRC, and mortality from CRC

3. We suggest that a decision to continue screening beyond age 75 yr be individualized

4. We recommend colonoscopy and fecal immunochemical testing (FIT) as the primary screening modalities for CRC screening

USPSTF Recommendations 2021

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen average risk men and women 50-75</td>
<td>A</td>
</tr>
<tr>
<td>Screen average risk men and women starting at age 45</td>
<td>B</td>
</tr>
<tr>
<td>Individualize decision to screen 76-85</td>
<td>C</td>
</tr>
</tbody>
</table>

Recommended screening strategies include:
- High-sensitivity guaiac fecal occult blood test (HsFOBT) or fecal immunochemical test (FIT) every year
- Stool DNA-FIT every 1 to 3 years
- Computed tomography colonography every 5 years
- Flexible sigmoidoscopy every 5 years
- Flexible sigmoidoscopy every 10 years + annual FIT
- Colonoscopy screening every 10 years

• Grade A or B recs are covered by Medicare
• Other payors follow Medicare


USMSTF Guidelines on CRC Screening

Age 50 and older
  • African Americans starting at age 45

SCREENING TESTS:

• Tier 1:
  • FIT—1 year
  • Colonoscopy—10 years

• Tier 2:
  • CTC—5 years
  • Flexible sigmoidoscopy—5-10 years
  • Stool-DNA test—3 years

• Tier 3:
  • Colon capsule—5 years

• Not recommended:
  • Septin 9 blood test

USMSTF. GIE 2017;86:18-33
Benefits of earlier age at screening

- Reduce CRC incidence and mortality in younger group with rising incidence
- Bring people earlier to screening, boost 50-to-55-year-olds getting screened


Benefits of earlier screening

<table>
<thead>
<tr>
<th>Screening modality and frequency</th>
<th>Mean CRC cases averted if start screening</th>
<th>Additional CRC cases averted if start screening at age 45 y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stool tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIT every year</td>
<td>47</td>
<td>3</td>
</tr>
<tr>
<td>HIspFOBT every year&lt;sup&gt;c&lt;/sup&gt;&lt;sup&gt;d&lt;/sup&gt;</td>
<td>39</td>
<td>3</td>
</tr>
<tr>
<td>sDNA-FIT every year</td>
<td>54</td>
<td>3</td>
</tr>
<tr>
<td>sDNA-FIT every 3 y&lt;sup&gt;d&lt;/sup&gt;</td>
<td>44</td>
<td>3</td>
</tr>
<tr>
<td>Direct visualization tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>COL every 10 y</td>
<td>58</td>
<td>3</td>
</tr>
<tr>
<td>CT colonography every 5 y</td>
<td>53</td>
<td>2</td>
</tr>
<tr>
<td>Flexible SIG every 5 y</td>
<td>49</td>
<td>2</td>
</tr>
<tr>
<td>Flexible SIG every 10 y plus FIT every year</td>
<td>54</td>
<td>3</td>
</tr>
</tbody>
</table>

Harms

**Estimated lifetime number of complications (gastrointestinal and cardiovascular)**

<table>
<thead>
<tr>
<th>Screening modality</th>
<th>Mean estimate of lifetime No. of tests by type if start screening at age 50 y</th>
<th>Mean estimate of lifetime No. of tests by type if start screening at age 45 y</th>
<th>Additional tests if start screening at age 45 y by type</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIT</strong></td>
<td>1496/15940</td>
<td>1882/19412</td>
<td>186/3472</td>
</tr>
<tr>
<td><strong>HSG</strong></td>
<td>1347/16577</td>
<td>1535/20077</td>
<td>188/3501</td>
</tr>
<tr>
<td><strong>sDNA</strong></td>
<td>2221/11303</td>
<td>2531/13693</td>
<td>311/2390</td>
</tr>
<tr>
<td><strong>sDNA-FIT</strong></td>
<td>1477/6006</td>
<td>1861/7194</td>
<td>184/1188</td>
</tr>
</tbody>
</table>

**Direct visualization tests**

| **COL**            | 3464/4248                                       | 784/No change                                   |                                                   |
| **CT**             | 1590/4056                                       | 161/803                                         |                                                   |
| **Flexible Sig**   | 1660/3946                                       | 179/777                                         |                                                   |
| **Flexible Sig**   | 1953/15088                                      | 270/3553                                        |                                                   |


Virtual Grand Rounds

Screening test options

Table 2. Summary of performance characteristics for CRC screening tests

<table>
<thead>
<tr>
<th>Performance characteristics</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FIT</strong></td>
<td>79% sensitivity and 94% specificity for CRC</td>
<td>Noninvasive</td>
</tr>
<tr>
<td><strong>HSG</strong></td>
<td>64% sensitivity</td>
<td>Nonspecific</td>
</tr>
<tr>
<td><strong>sDNA</strong></td>
<td>92% sensitivity</td>
<td>Nonspecific</td>
</tr>
<tr>
<td><strong>sDNA-FIT</strong></td>
<td>95% sensitivity</td>
<td>Nonspecific</td>
</tr>
<tr>
<td><strong>Flexible Sig</strong></td>
<td>98% sensitivity</td>
<td>Nonspecific</td>
</tr>
<tr>
<td><strong>Colonoscopy</strong></td>
<td>90% specificity for CRC</td>
<td>Dilatation and intubation</td>
</tr>
<tr>
<td><strong>Flexible sigmoidoscopy</strong></td>
<td>90%–100% sensitivity for detection of CRC</td>
<td>Less invasive than colonoscopy</td>
</tr>
<tr>
<td><strong>CT colonography</strong></td>
<td>90%–100% sensitivity for CRC</td>
<td>Less invasive than colonoscopy</td>
</tr>
<tr>
<td><strong>Carcinoma</strong></td>
<td>81% sensitivity and 95% specificity for polyps, 4 mm or greater</td>
<td>Malignant polyps</td>
</tr>
</tbody>
</table>
### Approach to Family History in CRC Screening

#### CRC Risk Group

<table>
<thead>
<tr>
<th>Average Risk: No personal or FH of CRC neoplasia or 1 SDR w CRC</th>
<th>Guideline Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Start screening at 50, menu of options</td>
</tr>
</tbody>
</table>

| Increased risk: 1 FDR > age 60                                 | Start screening earlier, menu of options |
| High Risk: 1 FDR <60 or >1 FDR                                | Start earlier, use colonoscopy, repeat more often |
| Very high risk - Hereditary syndromes                         | Start much earlier, use colonoscopy repeat much often |
### Family History: New ACG Recommendations

<table>
<thead>
<tr>
<th>Who</th>
<th>Modality</th>
<th>Age to start</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 FDR&lt;60 or &gt;2 FDRs any age</td>
<td>Colonoscopy</td>
<td>40 or 10 years younger than earliest CRC</td>
<td>Q5 years</td>
</tr>
<tr>
<td>CRC or advanced adenoma or advanced SSA/P</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 FDR&gt;=60 with CRC or advanced adenoma</td>
<td>Any screening modality</td>
<td>Begin at age 40</td>
<td>Similar as for average risk</td>
</tr>
<tr>
<td>1 SDR at any age with CRC</td>
<td>Any screening modality</td>
<td>Similar as for average risk</td>
<td>Similar as for average risk</td>
</tr>
</tbody>
</table>

- Obtain clear documentation of histology of adenoma/polyp in FDR
- If histology information not available, assume the adenoma/polyp were not advanced
- Benefit of earlier screening likely highest in individuals <50
- After age 60 with 1 FDR with CRC, unlikely to have increased CRC risk


### Quality of Colonoscopy should be measured

We recommend that all endoscopists performing screening colonoscopy should measure their individual cecal intubation rates (CIRs), adenoma detection rates (ADR), and withdrawal times (WTs)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
<td>Minimum 25%; aspirational target &gt;=50%</td>
</tr>
<tr>
<td>WT</td>
<td>Minimum 6 min; 8-9 min optimal</td>
</tr>
<tr>
<td>CIR</td>
<td>95% for screening exams</td>
</tr>
</tbody>
</table>

Measuring Quality of Colonoscopy

• **Endoscopist Report cards**
  - Individual physicians
  - Group average
  - Individuals de-identified
  - Individuals identified
  - Post them on the ASC wall
  - Publish online

<table>
<thead>
<tr>
<th>Endoscopist ID: 21314566</th>
<th>Time period: Q1 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of colonoscopies performed</td>
<td>300</td>
</tr>
<tr>
<td>Total number of screening colonoscopies performed</td>
<td>100</td>
</tr>
<tr>
<td>Complete Colonoscopies (excluding cases due to poor prep)</td>
<td>295 (98%)</td>
</tr>
<tr>
<td>ADR (for screening colonoscopy)</td>
<td>31%</td>
</tr>
<tr>
<td>Withdrawal time (procedures where no polypectomy or biopsies performed)</td>
<td>8.2 min ± 1.15 min</td>
</tr>
<tr>
<td>Number of Colonoscopies with inadequate bowel prep</td>
<td>5 (2%)</td>
</tr>
</tbody>
</table>

Endoscopist report card

• 6 Endoscopists
• Quarterly report card on quality measures starting 2009
• Compared ADR and cecal intubation rate before and after intervention

<table>
<thead>
<tr>
<th></th>
<th>Before (95% CI)</th>
<th>After (95% CI)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADR</td>
<td>44.7% (39.1%-50.4%)</td>
<td>53.9% (49.7%-58.1%)</td>
<td>0.013</td>
</tr>
<tr>
<td>Cecal intubation rate</td>
<td>95.6% (92.5%-97.5%)</td>
<td>98.1% (96.7%-99.0%)</td>
<td>0.027</td>
</tr>
</tbody>
</table>

Improving Prep Quality

- Use split dose or same day prep
- Begin second dose 4-6 hours prior to colonoscopy
  - Finish prep at least 2 hours prior to colonoscopy
- Judge prep after all washing has been done
- Adequate prep should be achieved in at least 85% of cases
- If inadequate prep, repeat within 1 year

Split prep = Higher ADR

Polyp Recognition is important!

- **Type 0**
  - Polypoid 0-I
  - Non-polypoid 0-II
  - Excavated 0-III

**Endoscopic Features of easily missed polyps:**
- Right sided
- Flat/sessile
- Irregular borders
- Covered by mucus


Huang CS et al. AJG 2011;106:229-40
ADR Benchmarks from GIQUIC

- 2,646,833 colonoscopies were performed by 1,169 Endoscopists
- Adjusted to the US population, average ADR 39.08%
- Associated factors for ADR: Age, male, Withdrawal time

Summary

- Colonoscopy quality should be tracked and can be improved
  - Good technique is essential
    - Careful segmental inspection
    - Look behind folds
    - Segmental and timed withdrawal
    - Look for flat lesions
    - Water exchange
  - Technology can help but is no substitute
  - Educational programs can help but effort and cost involved

Organized screening and improving follow-up for 2-step tests

<table>
<thead>
<tr>
<th>Summary</th>
<th>Recommendation strength</th>
</tr>
</thead>
<tbody>
<tr>
<td>We recommend organized screening programs to improve adherence to CRC screening compared with opportunistic screening</td>
<td>Strong</td>
</tr>
<tr>
<td>We suggest the following strategies to improve adherence to screening: patient navigation, patient reminders, clinician interventions, provider recommendations and clinical decision support tools</td>
<td>Conditional</td>
</tr>
<tr>
<td>We suggest the following strategies to improve adherence to follow-up of a positive screening test: mail and phone reminders, patient navigation, and provider interventions</td>
<td>Conditional</td>
</tr>
</tbody>
</table>


Percentage of Adults Aged 50–75 Years Up-to-Date with CRC Screening, by State

Behavioral Risk Factor Surveillance System, United States, 2016

Overall screening rates are 64%

Screening rates by Race:
- Whites 66%
- AA 60%
- Asian 55%

37%
Colonoscopy
17% Stool test

21 million adults 45-49 yrs
Fecal Immunochemical Test (FIT)

- One sample
- No dietary/medication restrictions
- Higher adherence
- Higher sensitivity and specificity

Choice Can Improve Adherence

- 997 screen eligible participants in WA/CA
- Cluster randomized to FOBT, Colonoscopy or Choice
- Overall screening 58% at 1 year

![Chart showing adherence rates with p-values](chart.png)

P<.001

Preference Varies by Race/Ethnicity

- Rates of screening were lower in minorities
- Minorities more likely to adhere to FOBT while whites more likely to adhere to colonoscopy


Outreach with Colonoscopy vs. FIT vs. usual care

Gupta et al. JAMA Internal Medicine 2013;173:1725-1732
Improving Adherence


False positive stool DNA test

- 1050 patients with MT-DNA test
- 8 cancers over 4 years (1 CRC, 3 lung, 3 pancreatic, 1 bile duct)
- No difference in those that tested positive and negative

<table>
<thead>
<tr>
<th>Study</th>
<th>Per-protocol</th>
<th>Calibrated, 90th percentile</th>
<th>Calibrated, 95th percentile</th>
<th>Cancer type</th>
<th>Smoking status</th>
<th>Alcohol use</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Specificity”</td>
<td>TN</td>
<td>FP</td>
<td>TN</td>
<td>Pancreas</td>
<td>Former</td>
<td>Never</td>
</tr>
<tr>
<td>“Specificity”</td>
<td>FP</td>
<td>TN</td>
<td>TN</td>
<td>Lung</td>
<td>Never</td>
<td>Occasional</td>
</tr>
<tr>
<td>“Specificity”</td>
<td>TN</td>
<td>TN</td>
<td>TN</td>
<td>Bile duct</td>
<td>Never</td>
<td>Never</td>
</tr>
<tr>
<td>“Cutoff”</td>
<td>TN</td>
<td>TN</td>
<td>TN</td>
<td>Lung</td>
<td>Former</td>
<td>Occasional</td>
</tr>
<tr>
<td>“DeeP-C”</td>
<td>TN</td>
<td>TN</td>
<td>TN</td>
<td>Lung</td>
<td>Current</td>
<td>Never</td>
</tr>
<tr>
<td>“DeeP-C”</td>
<td>FP</td>
<td>FP</td>
<td>FP</td>
<td>Colorectal</td>
<td>Former</td>
<td>Never</td>
</tr>
<tr>
<td>“DeeP-C”</td>
<td>TN</td>
<td>TN</td>
<td>TN</td>
<td>Pancreas</td>
<td>Never</td>
<td>Never</td>
</tr>
</tbody>
</table>

False positive stool DNA test

- 1216 subjects with negative colonoscopy: 1011 negative stool DNA test (concordant); 205 positive stool DNA test (discordant)
- Median follow-up 5.3 years
- Concordant group: 11 (1.1%) Aerodigestive cancers: Lung (6), Pancreas (2), Liver, Head and neck (2)
- Discordant group: 5 (2.4%) Aerodigestive cancers (Colon, 2 Lung, Pancreas and Parotid)
- Risk ratio 2.2 (0.8-6.2; p=0.15)

- Conclusion: No work-up required for positive test after negative colonoscopy


Towards Personalized Screening

- Individualized risk score for harboring advanced neoplasia
- Based on:
  - Non-Modifiable factors: Age, Gender, Race/ethnicity, family history
  - Modifiable factors: Smoking, BMI, ASA use, diet

Kaminski MF et al. A score to estimate the likelihood of detecting advanced colorectal neoplasia at colonoscopy. Gut. 2014;63(7):1112-9
Take Home Points

• Average risk CRC screening beginning at age 45
• One-step versus 2-step screening tests
• Colonoscopy and FIT as primary screening modalities
• Track quality indicators for colonoscopy: ADT, WT CIR
• Organized screening approaches for adherence to screening and to follow up for 2-step tests
• False positive mtsDNA test does not need special follow-up
• Future: Personalized screening, expansion of noninvasive testing and higher adherence

Thank you!

Shaukat@umn.edu
@aasmashaukatmd
@AmJGastro
@AmCollegeGastro
Questions?

Speaker:
Aasma Shaukat, MD, MPH, FACG

Moderator:
Linda Rabeneck, MD, MPH, MACG

CONNECT AND COLLABORATE IN GI

ACG & CCF IBD Circle
ACG Hepatology Circle
ACG Functional GI Health and Nutrition Circle
ACG GI Circle
ACG Women in GI Circle

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