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 28 – July 14, 2022
Fertility, Preconception and Pregnancy in IBD
Eugenia Schmidt, MD
Thursday, July 14th at Noon Eastern and NEW! 8pm Eastern!

Week 29 – July 21, 2022
Vascular Diseases of the GI Tract
Paul Feuerstadt, MD, FACG
Thursday, July 21st at Noon Eastern and NEW! 8pm Eastern!

Visit gi.org/ACGVGR to Register
Disclosures

Bharati Kochar, MD, MS
No relevant financial relationships

Adam S. Faye, MD, MS
Crohn’s and Colitis Foundation: Research Support
GLG, M3, Guidepoint: Consultant
Janssen Pharmaceuticals: Regional Ad Board

*All of the relevant financial relationships listed for these individuals have been mitigated
Geriatrics & GI: Is Age Only a Number?

Bharati Kochar, MD, MS
Division of Gastroenterology
Massachusetts General Hospital
Harvard Medical School

Outline
Aging Epidemiology
Nomenclature
Polypharmacy
Frailty
Aging & Gastrointestinal Symptoms
Aging & Liver Disease
Aging & Inflammatory Bowel Disease
Aging & Endoscopy
The 5Ms
Best Practices to Care for Older Adults
Aging Epidemiology

Life Expectancy at Birth $\uparrow \sim 30$ years in the past century!

Figure 2a—Life Expectancy at age 0 by Sex and Calendar Year (Based on Period Tables)

Bell & Miller Actuarial Study No. 120 2005
Americans are RAPIDLY aging

The number of Americans ≥65 years in 2060 will be more than DOUBLE what it was in 2014

PRB analysis of data from the USCB
Older adults will outnumber children by 2034 in the US

Projected percentage of population

- 22.8% Adults 65+
- 19.8% Children under 18

Projected number (millions)

- 49.2 in 2016
- 73.6 in 2034
- 77.0 in 2034
- 76.5 in 2034
- 94.7 in 2060
- 80.1 in 2060

Note: 2016 data are estimates not projections.

Source: National Population Projections, 2017
www.census.gov/programs-surveys/popproj.html

Older adults are living longer: life expectancy at age 65

Figure 2b—Life Expectancy at age 65
by Sex and Calendar Year
(Based on Period Tables)

21 years
17 years

American College of Gastroenterology
I’m a GI/hepatologist, why should I care about geriatrics?

As Population Ages, Where are the Geriatricians?

Number of geriatricians in the US per capita is DECLINING!
Geriatrics 101

Older adults have more comorbidities

Divo et al Eur Respir J 2014
Older adults are more susceptible to infections

- Immunosenescence
- Infection

Aging and Infection

- Accelerated Aging
- Age-associated Pathologies

- Damage
- Loss of homeostasis

Older adults are more likely to have a malignancy

Incidence counts

Age

American College of Gastroenterology
Older adults have a lower life expectancy than younger adults

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>76.3</td>
<td>81.1</td>
</tr>
<tr>
<td>45</td>
<td>34.0</td>
<td>37.8</td>
</tr>
<tr>
<td>50</td>
<td>29.6</td>
<td>33.2</td>
</tr>
<tr>
<td>55</td>
<td>25.5</td>
<td>28.8</td>
</tr>
<tr>
<td>60</td>
<td>21.5</td>
<td>24.5</td>
</tr>
<tr>
<td>65</td>
<td>17.8</td>
<td>20.4</td>
</tr>
<tr>
<td>70</td>
<td>14.3</td>
<td>16.5</td>
</tr>
<tr>
<td>75</td>
<td>11.0</td>
<td>12.9</td>
</tr>
<tr>
<td>80</td>
<td>8.2</td>
<td>9.7</td>
</tr>
<tr>
<td>85</td>
<td>5.9</td>
<td>6.9</td>
</tr>
<tr>
<td>90</td>
<td>4.1</td>
<td>4.8</td>
</tr>
<tr>
<td>95</td>
<td>2.9</td>
<td>3.3</td>
</tr>
<tr>
<td>100</td>
<td>2.1</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Nomenclature: Who is Geriatric?
Polypharmacy

Older adults are more prone to polypharmacy

Reported by age

<table>
<thead>
<tr>
<th>B</th>
<th>Reported by age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any use</td>
<td>Any use</td>
</tr>
<tr>
<td>Polypharmacy</td>
<td>Polypharmacy</td>
</tr>
</tbody>
</table>

Kantor et al JAMA 2015

American College of Gastroenterology
Defining Polypharmacy

Numerically: 2-10 concurrent medications, most commonly: ≥5 medications

Criterion based

Therapeutic Polypharmacy

AGS Beers Criteria

American Geriatrics Society 2019 Updated AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults

<table>
<thead>
<tr>
<th>Gastrointestinal</th>
<th>Metoclopramide</th>
<th>Can cause extrapyramidal effects, including tardive dyskinesia; risk may be greater in frail older adults and with prolonged exposure</th>
<th>Avoid, unless for gastroparesis with duration of use not to exceed 12 weeks except in rare cases</th>
<th>Moderate</th>
<th>Strong</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mineral oil, given orally</td>
<td>Potential for aspiration and adverse effects; safer alternatives available</td>
<td>Avoid</td>
<td>Moderate</td>
<td>Strong</td>
</tr>
<tr>
<td>Proton-pump inhibitors</td>
<td>Risk of Clostridium difficile infection and bone loss and fractures</td>
<td>Avoid scheduled use for ≥8 weeks unless for high-risk patients (eg, osteoporosis, or chronic NSAID use), erosive esophagitis, Barrett esophagitis, pathological hypersecretory condition, or demonstrated need for maintenance treatment (eg, because of failure of drug discontinuation trial or H2-receptor antagonists)</td>
<td></td>
<td>High</td>
<td>Strong</td>
</tr>
</tbody>
</table>
STOPP: Screening Tool of Older People’s Potentially Inappropriate Prescriptions

Section F: Gastrointestinal System

1. Prochlorperazine or metoclopramide with Parkinsonism (risk of exacerbating Parkinsonian symptoms).
2. PPI for uncomplicated peptic ulcer disease or erosive peptic oesophagitis at full therapeutic dosage for > 8 weeks (dose reduction or earlier discontinuation indicated).
3. Drugs likely to cause constipation (e.g. antimuscarinic/anticholinergic drugs, oral iron, opioids, verapamil, aluminium antacids) in patients with chronic constipation where non-constipating alternatives are available (risk of exacerbation of constipation).
4. Oral elemental iron doses greater than 200 mg daily (e.g. ferrous fumarate > 600 mg/day, ferrous sulphate > 600 mg/day, ferrous gluconate > 1800 mg/day; no evidence of enhanced iron absorption above these doses).

START: Screening Tool to Alert doctors to Right Treatments

These medications should be considered for people ≥ 65 years of age with the following conditions, where no contraindication to prescription exists.

Section D: Gastrointestinal System

1. Proton Pump Inhibitor with severe gastro-oesophageal reflux disease or peptic stricture requiring dilatation.
2. Fibre supplements (e.g. bran, ispaghula, methylcellulose, sterculia) for diverticulosis with a history of constipation.

O’Mahony et al. Age Ageing 2011

Additive Drug Burden
Prescribing Cascades

- Arthritis
- NSAID
- Heartburn
- PPI
- C. diff
- Vancomycin
- Diarrhea
- Probiotic
- Bloating
- Rifaximin

Adverse Outcomes of Polypharmacy

- Malnutrition
- Increased healthcare utilization
- Falls
- Medical nonadherence
- Cognitive decline
- Frailty

Mehta et al. Nat Rev Aging 2021
Frailty

"state of increased vulnerability to poor resolution of homoeostasis after a stressor event, which increases the risk of adverse outcomes"

Clegg et al. Lancet 2013
Frailty as a Measure of Biologic Reserve

Measuring Frailty

American College of Gastroenterology
Frailty & Multi-Morbidity

- Frailty: $N = 403$ (3%)
- None: $N = 7,220$ (49%)
- Multimorbidity: $N = 6,213$ (42%)

Aging & Gastrointestinal Symptoms
Aging GI Pathophysiology

Minimal age-related physiologic changes in the GI tract itself
- No significant effect on GI hormones, gastric acid secretion, gastric and small intestinal transit
- Older adults may have slower colonic transit time
- The immune system manifests age-related changes

***True aging-related physiologic effects are harder to distinguish from sub-clinical pathophysiology***

GI symptoms are often seen due to age-associated primary GI disorders or systemic disease

Many medications have GI side effects and older adults are more prone to polypharmacy

Changes in Intestinal Absorption with Age

<table>
<thead>
<tr>
<th>Box 1. Changes in intestinal absorption with aging</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced</td>
</tr>
<tr>
<td>Carbohydrate</td>
</tr>
<tr>
<td>Protein</td>
</tr>
<tr>
<td>Triglycerides</td>
</tr>
<tr>
<td>Folate</td>
</tr>
<tr>
<td>Vitamin B₁₂</td>
</tr>
<tr>
<td>Vitamin D</td>
</tr>
<tr>
<td>Calcium</td>
</tr>
<tr>
<td>No change</td>
</tr>
<tr>
<td>Thiamine</td>
</tr>
<tr>
<td>Riboflavin</td>
</tr>
<tr>
<td>Niacin</td>
</tr>
<tr>
<td>Vitamin K</td>
</tr>
<tr>
<td>Zinc</td>
</tr>
<tr>
<td>Magnesium</td>
</tr>
<tr>
<td>Iron</td>
</tr>
<tr>
<td>Increased</td>
</tr>
<tr>
<td>Cholesterol</td>
</tr>
<tr>
<td>Vitamin A</td>
</tr>
<tr>
<td>Vitamin C</td>
</tr>
</tbody>
</table>
Microb-aging & aging related changes to host immunity

Physiologic Anorexia of Aging

Deterioration of olfactory function
Altered sense of some tastes: salt, bitter, sweet and sour
Decreased fundic compliance
Increased cholecystokinin (satiety hormone)

***Work-up other etiologies of weight loss: malignancies, Celiac disease, pancreatic insufficiency, IBD, etc***
**Dysphagia**

- Common in older adults!
- up to 50% of nursing home residents report dysphagia
- even in those who do not report dysphagia, functional swallowing studies are abnormal in 63%

**Prolongation of the oral phase and delay in UES opening**

Dysphagia in any patient >40 years should be treated as an **alarm symptom**!

*Ekberg et al Am J Roentgenol 1991
Reynolds & George Geri Gastro 2012*

**Gastroparesis**

- Prevalence increases with age!
- Most likely due to medication side effects

**DDx more common in older adults:**

- **Endocrine:** long standing diabetes mellitus
- **Neurologic:** Parkinson’s, Amyloidosis
- **Malignant:** Paraneoplastic (most common: small cell lung cancer)
- **Achlorhydria:** older adults may have decreased gastric acid secretion

*Jung et al Gastro 2009
McCallum & Malhotra Geri Gastro 2012*
Constipation: Changes in Colonic Motility with Age

A Ascending Colon

B Descending Colon

Relaxation during EFS

% of strips

Age (years)

Diarrhea

Infections

Microscopic Colitis

Rate (microscopic colitis per 100,000) vs Age group (years)

IBD

Celiac Disease

Fujihashi & Kiyono Trends Immunol 2009
Bergman et al AP&T 2019
Chokhavatia & Trindade Geri Gastro 2012
Ludvigsson et al AJG 2013
Fecal Incontinence

>25% may have fecal incontinence, as high as 50% in Long Term Care facilities – ASK!

- Lower anal pressure
- May need less rectal pressure to produce relaxation of the anal sphincter
- Pelvic floor trauma
- Cognitive impairment
- Work-up etiologies of diarrhea, including overflow incontinence
Liver Changes with Advancing Age

**AGING**

↓

**LIVER**

↓

**STRUCTURAL**

- Decreased blood flow
- Decreased liver mass
- Increased thickness of the hepatic stellate cells
- Decreased fenestrations
- Altered mitochondrial numbers

↓ hepatocyte proliferation response

↓ 20-40% between 20s – 90s

**FUNCTIONAL AND METABOLIC**

- Impaired liver metabolic function
- Decreased macromolecular synthesis
- Decreased mitochondrial function
- Increased oxidative stress
- Increased oxidative damage

↓

**IMPAIRED LIVER FUNCTION**

---

Aging & The Liver

Increased susceptibility to:
- Alcohol
- Drugs
- Toxins

Increased incidence of:
- Obesity
- Insulin Resistance
- Cellular Senescence

Liver Damage

- Lipid Accumulation
- Mitochondrial Dysfunction
- Stellate Cell Activation
- Inflammasomes, Autophagy

Abnormal LFTs are NOT normal with increasing age!
Age & Liver Transplantation

The Liver & Frailty
The FrAILT Study: Functional Assessment In Liver Transplantation

<table>
<thead>
<tr>
<th>Measure*</th>
<th>Normative Data in Older Adults, Mean (SD) or Range</th>
<th>FrAILT Cohort, n = 530</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walk speed, m/sec</td>
<td>Men: 1.3 (1.2) m/s</td>
<td>1.2 (1.0-1.6)</td>
</tr>
<tr>
<td></td>
<td>Women: 1.2 (1.7) m/s</td>
<td></td>
</tr>
<tr>
<td>Grip strength, kg</td>
<td>Men: 40 (9.3) kg</td>
<td>28 (21-37)</td>
</tr>
<tr>
<td></td>
<td>Women: 24 (5.5) kg</td>
<td></td>
</tr>
<tr>
<td>Chair stands, number per second</td>
<td>&lt;0.5 is impaired</td>
<td>0.6 (0.3-0.5)</td>
</tr>
<tr>
<td>Balance, seconds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unintentional weight loss</td>
<td>6%/10%</td>
<td>48%</td>
</tr>
<tr>
<td>Exhuastion</td>
<td>17%/50%</td>
<td>62%</td>
</tr>
<tr>
<td>Low physical activity</td>
<td>20%</td>
<td>13%</td>
</tr>
<tr>
<td>ADLS</td>
<td>Expected to be six (i.e., fully independent)</td>
<td>6 (5-6)</td>
</tr>
<tr>
<td>IADLs</td>
<td>Expected to be eight (i.e., fully independent)</td>
<td>8 (6-8)</td>
</tr>
</tbody>
</table>

Lai et al. Hepatology 2017

Frailty is more strongly associated with wait list survival than MELD

Lai et al. Hepatology 2017
Frailty is associated with increased risk of cirrhosis progression and death

![Frailty graph](image)

Wang et al. Hepatology 2021

<table>
<thead>
<tr>
<th>No. at risk</th>
<th>Start</th>
<th>90 days</th>
<th>180 days</th>
<th>270 days</th>
<th>360 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frail</td>
<td>201 (100%)</td>
<td>158 (78.6%)</td>
<td>123 (61.2%)</td>
<td>96 (47.8%)</td>
<td>69 (34.3%)</td>
</tr>
<tr>
<td>Pre-Frail</td>
<td>488 (100%)</td>
<td>436 (89.3%)</td>
<td>379 (77.7%)</td>
<td>322 (66.0%)</td>
<td>264 (54.3%)</td>
</tr>
<tr>
<td>Robust</td>
<td>133 (100%)</td>
<td>118 (88.7%)</td>
<td>101 (75.9%)</td>
<td>91 (68.4%)</td>
<td>76 (57.1%)</td>
</tr>
</tbody>
</table>

Frailty in liver transplantation: An expert opinion statement from the American Society of Transplantation Liver and Intestinal Community of Practice

Patient Components
- Synthetic dysfunction
- Portal hypertension
- Cardiac function
- Renal function
- Other co-morbidities
- Muscle wasting
- Under-nutrition
- Physical inactivity

Measurement Tools
- MELD
- MELD-Na
- Child Pugh Score
- Vital signs
- Echocardiogram
- Creatinine
- Urea
- Spirometry
- Hemoglobin A1c
- Colonoscopy
- Eyeball test

Global Assessment of Transplant Candidate

Objective Frailty Tool Kit

Aging & Inflammatory Bowel Diseases

Incidence of UC is bimodal

25% of incident UC is in adults \( \geq 60 \) years!
Incidence of CD is also bimodal

20% of incident CD is in adults ≥ 60 years!

Rapidly Growing Number of Adults ≥60 Years with IBD

Shivashankar et al. CGH 2017

Coward et al. Gastro 2019
Older adults with UC have a higher risk for colectomy 5 years after diagnosis.

**Cumulative Risk of Surgery in EO-UC vs. AO-UC**

<table>
<thead>
<tr>
<th>Study name</th>
<th>Risk ratio</th>
<th>Lower limit</th>
<th>Upper limit</th>
<th>Events / Total</th>
<th>EO</th>
<th>AO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexakis</td>
<td>0.11</td>
<td>0.05</td>
<td>0.25</td>
<td>6 / 2758</td>
<td>135 / 6757</td>
<td></td>
</tr>
<tr>
<td>Everhov</td>
<td>1.60</td>
<td>1.31</td>
<td>1.96</td>
<td>144 / 3595</td>
<td>257 / 10290</td>
<td></td>
</tr>
<tr>
<td>Jeuring</td>
<td>0.27</td>
<td>0.06</td>
<td>1.11</td>
<td>2 / 373</td>
<td>26 / 1288</td>
<td></td>
</tr>
<tr>
<td>Nguyen</td>
<td>1.20</td>
<td>0.96</td>
<td>1.50</td>
<td>105 / 1749</td>
<td>249 / 4983</td>
<td></td>
</tr>
<tr>
<td>Surgery - 1y</td>
<td>0.61</td>
<td>0.29</td>
<td>1.27</td>
<td>257 / 8475</td>
<td>667 / 23318</td>
<td></td>
</tr>
<tr>
<td>Alexakis</td>
<td>0.90</td>
<td>0.74</td>
<td>1.10</td>
<td>124 / 2758</td>
<td>338 / 6757</td>
<td></td>
</tr>
<tr>
<td>Everhov</td>
<td>2.60</td>
<td>2.30</td>
<td>2.92</td>
<td>467 / 3595</td>
<td>515 / 10290</td>
<td></td>
</tr>
<tr>
<td>Jeuring</td>
<td>1.17</td>
<td>0.76</td>
<td>1.79</td>
<td>26 / 373</td>
<td>77 / 1288</td>
<td></td>
</tr>
<tr>
<td>Lakatos</td>
<td>0.46</td>
<td>0.11</td>
<td>1.90</td>
<td>2 / 106</td>
<td>30 / 733</td>
<td></td>
</tr>
<tr>
<td>Nguyen</td>
<td>1.40</td>
<td>1.21</td>
<td>1.62</td>
<td>245 / 1749</td>
<td>498 / 4983</td>
<td></td>
</tr>
<tr>
<td>Surgery - 5y</td>
<td>1.29</td>
<td>0.79</td>
<td>2.11</td>
<td>864 / 8581</td>
<td>1458 / 24051</td>
<td></td>
</tr>
</tbody>
</table>

**IBD & Frailty**

- Diarrhea
- Fatigue
- Abdominal pain
- Weight loss
- GI tract bleeding
- Inflammation
- Microbial disturbance
- Sarcopenia
- Anorexia
- Chronic condition
- Associated with aging
- Functional limitations
- Slow walking speed

**Vulnerability**
Older adults with IBD are more likely to be frail than matched comparators

Frailty prior to immunosuppression for IBD confers greater risk for infections after immunosuppression

TNF: Tumor Necrosis Factor
IMM: Immunomodulator
Co-morbidity, not age, is associated adverse outcomes in IBD patients treated with vedolizumab and ustekinumab

**TABLE 3** Safety analysis—any infection

<table>
<thead>
<tr>
<th>All patients</th>
<th>OR</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCI</td>
<td>1.277</td>
<td>0.998-1.634</td>
<td>0.052</td>
</tr>
<tr>
<td>Age at baseline (y)</td>
<td>0.984</td>
<td>0.966-1.003</td>
<td>0.109</td>
</tr>
</tbody>
</table>

**TABLE 4** Safety analysis—hospitalisation

<table>
<thead>
<tr>
<th>All patients</th>
<th>OR</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCI</td>
<td>1.450</td>
<td>1.119-1.879</td>
<td>0.005</td>
</tr>
<tr>
<td>Age at baseline (y)</td>
<td>0.986</td>
<td>0.965-1.008</td>
<td>0.204</td>
</tr>
</tbody>
</table>

Are IBD Patients at Higher Risk for Dementias?

[Graph showing survival curve with comparison between patients with IBD and non-IBD individuals]

Villumsen et al Gut 2019
Zhang et al Gut 2020
IBD Decision Making

Disease-based Decision Making

Patient Priorities-based Decision Making

Aging & Endoscopy
Older Adults Get Endoscopies: especially inpatient!

![Graph showing the number of colonoscopy procedures by year and age group (under 80 years and 80 years and over).]

To Scope or Not to Scope?

Inpatient colonoscopies in Octogenarians:

- Inpatient mortality rate: 8298 (2.8)
- Inpatient GI adverse events:
  - Perforation: 3260 (11 per 1000 colonoscopies)
  - Postcolonoscopy bleeding: 2667 (9 per 1000 colonoscopies)
  - Splenic injury: 65 (0.22 per 1000 colonoscopies)

| Table 2: Diagnostic yields and results of colonoscopy |
|-----------------|------|---|
|                | n (%) | P value |
| Cecal intubation |       |        |
| Yes             | 130104 (95) |
| No              | 8164 (5) |
| Quality of bowel preparation |       | 0.44 |
| Acceptable      | 140156 (95.1) |
| Poor            | 8156 (4.9) |
| Diagnostic yield |       |        |
| Advanced neoplasm | 19 (11.5) |
| Advanced adenoma | 17 (10.3) |
| Colon cancer    | 7 (4.2) |
| Non-advanced adenoma | 56 (34.1) |
| Hyperplastic polyp | 38 (23.2) |

Cr increase 25%   PEG (63)   NaP (101)
2 (6.3)     10 (16.1) 0.17
**When to Scope?**

Patients ≥65 years who were admitted for a **non-variceal upper GI bleed**:
- 24,830 with EGD <24 hrs (early)
- 96,005 with EGD >24 hrs (late)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>EGD &lt;24hrs (vs EGD &gt;24hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adjusted Measures (CI)</td>
</tr>
<tr>
<td>In-hospital Mortality</td>
<td>OR: 1.32 (1.06 – 1.64)*</td>
</tr>
<tr>
<td>Length of Stay</td>
<td>1.17 days shorter</td>
</tr>
<tr>
<td>Mean Charges</td>
<td>$5,717.24 less</td>
</tr>
<tr>
<td>GI perforation</td>
<td>OR: 1.36 (0.57 – 3.26)</td>
</tr>
</tbody>
</table>

*No difference in mortality for those 18-50 years based on timing of endoscopy

---

**When to Stop Surveillance Colonoscopies?**

- **Multi-Society Task Force**
  - MTF, 2021: "We suggest that individuals who are up to date with screening and have negative prior screening tests, particularly high-quality colonoscopy, consider stopping screening at age 75 years or when life expectancy is less than 10 years (weak recommendation, low-quality evidence)."

- **National Comprehensive Cancer Network**
  - NCN, 2021 (66): Not practiced

- **American College of Gastroenterology**
  - 2021 (67): "We suggest that a decision to continue screening beyond age 75 years be individualized (conditional recommendation, strong, low-quality evidence)."

- **United States Preventative Services Task Force**
  - USPSTF, 2021 (59): Grade C. "The USPSTF recommends that clinicians selectively offer screening for colorectal cancer in adults aged 75 to 85 years. Evidence indicates that the net benefit of screening all persons in this age group is small. In determining whether this service is appropriate in individual cases, patients and clinicians should consider the patient’s overall health, prior screening history, and preferences."
Permission to Scope? GI Competencies in Geriatric OSCE

Shah et al AJG 2011

American College of Gastroenterology
## The 4 M Framework

**Age-Friendly Health Systems**

![Image of the 4 M Framework with icons for What Matters, Mobility, Medication, and Mentation]

*An initiative of The John A. Hartford Foundation and the Institute for Healthcare Improvement (IHI) in partnership with the American Hospital Association (AHA) and the Catholic Health Association of the United States (CHA).*

## Adding a 5th M

### Geriatric 5Ms

<table>
<thead>
<tr>
<th>Geriatric 5Ms</th>
<th>Focus Areas</th>
</tr>
</thead>
</table>
| Mind          | ■ Maintaining mental activity  
■ Helping manage dementia (a decline in memory and other mental abilities that make daily living difficult)  
■ Helping treat and prevent delirium (an abrupt, rapid change in mental function that goes well beyond the typical forgetfulness of aging)  
■ Working to evaluate and treat depression (a mood disorder that can interfere with all aspects of your daily life) |
| Mobility      | ■ Maintaining the ability to walk and/or maintain balance  
■ Preventing falls and other types of common injuries |
| Medications   | ■ Reducing polypharmacy (the medical term for taking several medications)  
■ De-prescribing (the opportunity to stop unnecessary medications)  
■ Prescribing treatments exactly for an older person’s needs  
■ Helping build awareness of harmful medication effects |
| Multi-Complexity | ■ Helping older adults manage a variety of health conditions  
■ Assessing living conditions when they are impacted by age, health conditions, and social concerns |
| Matters Most  | ■ Coordinating advance care planning  
■ Helping manage goals of care  
■ Making sure that a person’s individual, personally meaningful health outcomes, goals, and care preferences are reflected in treatment plans |

*© Frank McKusick & Allen Huang, University of Ottawa, Mary Tipton, Yale University*
### 5Ms of Geriatrics

#### Medications
- Polypharmacy
- Optimal Prescribing
- Deprescribing
- Side Effects

#### Mind
- Depression
- Delirium
- Dementia
- Encephalopathy

#### Mobility
- Frailty
- Falls
- Function

#### Multicomplexity
- Multimorbidity
- Geriatric Syndromes
- Psychosocial Needs

#### Matters Most
- Caregiver Support
- Advance Care Planning
- Goals of Care

---

### 5Ms of Geriatrics in GI

<table>
<thead>
<tr>
<th>Medications</th>
<th>Mind</th>
<th>Mobility</th>
<th>Multicomplexity</th>
<th>Matters Most</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication review at each clinical visit</td>
<td>Assess self-management skills</td>
<td>Assess overall health reserve and frailty</td>
<td>Understand the impact of non-GI diagnoses on GI conditions</td>
<td>Assess patient preferences, values and goals of care</td>
</tr>
<tr>
<td>Assess drug-drug and drug-disease interactions</td>
<td>Consider mood and cognition with low threshold for referral to neuropsychiatry services</td>
<td>Ask about falls and ability to perform independent activities of daily living</td>
<td>Leverage team-based care for patients with multiple providers</td>
<td>Screen for caregiver support, financial constraints and transportation barriers</td>
</tr>
<tr>
<td>Consider deprescribing if appropriate</td>
<td>Consider ability to engage in digital health services</td>
<td>Consider referral to physical therapy and nutrition support</td>
<td>Consider the effect of comorbid diseases on overall progress</td>
<td>Consider early referral to palliative care and social work</td>
</tr>
</tbody>
</table>

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American College of Gastroenterology
Best Practices to Care for Older Adults

Older Adults are Under Studied and Under Included in Clinical Trials

Table 2. Representation of Older Adults and Age-Relevant Outcomes in Reviewed Trials (n=109)

<table>
<thead>
<tr>
<th>n (%)</th>
<th>Average age reported in article, mean (SD)</th>
<th>Upper age limit exclusion</th>
<th>Age cutoff for trial exclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>61 (5.9)</td>
<td>65 (10.9)</td>
<td>25</td>
<td>70</td>
</tr>
<tr>
<td>23 (20.3)</td>
<td>70-75</td>
<td>30</td>
<td>80</td>
</tr>
<tr>
<td>3</td>
<td>75-80</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>

Exclusion criteria that may disproportionately affect older adults:
- Physical disability or functional limitation (e.g., ADLs, IADLs, ambulatory status)
- Decreased life expectancy
- Inability to give informed consent
- Age-related cognitive impairment
- Other (not listed)

Other exclusion criteria that may disproportionally affect older adults:
- Preexisting medical conditions judged to preclude safe participation in study
- A clinically significant skeletal, cardiac, or endocrine disorder
- Judgment by the clinician that participation was not in the best interest of the patient or treatment
- Uncontrolled medical comorbidity
- Any condition that might decrease the chance of obtaining satisfactory data
- Evidence of poor compliance with prescribed medications
- Living in a residential or nursing home
- Herpes zoster infection
- Subjects who are in the opinion of the investigator had clinical conditions that may have made realization of the safety and efficacy of the drug difficult

Outcomes include one or more measures of health status, function, or quality of life (Zulman et al JGIM 2011)

6/30/2022
Older Adults May Have More Barriers to Access to Care

GI Outpatient Visit Types by Age During the COVID-19 Pandemic

Coordinate Care

Endocrinology

Cardiology

Oncology

Nephrology

Physical Therapy

Primary Care

Nutrition
Review Medications

De-prescribe!

Obtain best possible medical history

Assess eligibility of each medication to be discontinued

Prioritize medications for deprescribing

Implement deprescribing plan and monitor

Mehta et al Nat Rev Aging 2021
Anticholinergic Burden Calculator

Your patient has scored ≥3 and is at high risk of confusion, falls, and death. Please review their medications and discuss this with the patient and caregivers. Please consider if any of these medications could be switched to a lower-risk alternative. For help choosing measures to reduce anticholinergic burden, click here.

Anticholinergic Burden Calculator

www.acbcalc.com

ePrognosis

www.eprognosis.ucsf.edu

age, sex, weight, height

general health

Comorbidities: chronic lung disease, cancer, CHF, DM

hospitalizations

Function: difficulty walking ¼ mile, IADLs, ADLs
Ask patients what matters most
Climate Change is Hard: The Silver Tsunami

Tsunamis are **catastrophic** when you are **UNPREPARED**

Tsunamis can have a **POSITIVE** role in the environment: *re-distribute nutrients, create new habitats and economic opportunities*

_Perspective & Preparation Matters_

Conclusions & Summary

The Rising Tide is Upon Us

- Older adults are often marginalized in the medical system
- **Review Medication Lists** – *especially in GI clinic since many medications have GI side effects*
- Consider overall frailty and functional status
- Discuss alternatives, weigh risks and assess understanding
- Ask patients what MATTERS MOST to them

There is A LOT more to learn!
So now…is age just a number?

Questions and Answers

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Adam S. Faye, MD, MS
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