Friday General Session

Colorectal Cancer Update

Lewis Foxhall, MD
Professor of Clinical Cancer Prevention
VP for Health Policy
MD Anderson Cancer Center
Houston, Texas

Educational Objectives
By completing this educational activity, the participant should be better able to:
1. Identify various risk factors for colon cancer.
2. Recognize the importance of early detection of colon cancer.
3. Compare and contrast various methods of screening and discuss approved screening technologies.
4. Address barriers to screening to improve quality and outcomes.

Speaker Disclosure
Dr. Foxhall has disclosed that he has no actual or potential conflict of interest in relation to this topic.
Colorectal Cancer Screening Update

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Colorectal Cancer Learning Objectives

- Identify risk factors for colorectal cancer
- Recognize importance of early detection
- Compare and contrast methods of screening
- Address barriers to screening to improve quality and outcomes
- Make a personal action plan to achieve 80% screening rate

Colorectal Cancer Risk Factors

- The fourth most common new cancer in U.S., and the second deadliest
  - 101,420 estimated new cases 2019
  - 51,020 deaths nationwide
- More than 1 million US colorectal cancer survivors

TX CRC Incidence/Mortality

10,950 New Cases 2019
3,850 Deaths 2019

Cancer Statistics, 2019, CA A Cancer Journal Jan, 2019 vol.69, Issue 1
America Cancer Society, Cancer Facts and Figures 2019
Colorectal Cancer Risk Factors

- **Age**
  - 90% of cases occur in people 50 and older
  - Average age of diagnosis 68 in men 72 in women
- **Gender**
  - Male predominance, but common in both men and women
- **Race/Ethnicity**
  - African Americans (especially males) have highest incidence and mortality rate of all groups in U.S., API the lowest
  - Increased rates also documented in Alaska Natives, American Indian tribes

CRC Incidence and Mortality Trends

Relative vs. Absolute Risk

Colorectal Cancer Genetic Factors

- **Sporadic (average risk)**
  - 65%–85%
- **Family History CRC**
  - 1 first degree relative
  - > 1 relative
  - Relative dx < 45 yo
- **Personal History CRC, polyps**
- **Medical History IBD**
  - Crohn’s colon
  - UC colon
  - UC rectum
- **Hereditary Syndromes**
  - FAP
  - HNPCC
  - BRCA1 < 50

Colorectal Cancer Risk Factors

- **Cancer Survivors**
  - Testicular
  - Prostate with RTx
- **Other**
  - DM
  - Obesity
  - Red meat
  - Processed meat
  - Smoking
  - Alcohol
  - HPV (rectal)
**Racial Ethnic Disparities**

- NH Black
- Am Indian
- Alaskan Native

**Incidence Mortality by Age and Location**

**CRC by Age and Location**

**Importance of Early Detection**
- Detect disease in asymptomatic individuals vs. clinical symptoms
- At early stage where treatment is more effective and less toxic
- Reduce cancer specific mortality
- Reduce overall mortality
- Improve or preserve quality of life
- Lower incidence by treating precursors
- Avoid harms

**CRC Mortality by Racial/Ethnic and County**

**Screening Key to Early Detection**

- Importance of Early Detection
- Survival by Stage
  - Late stage 14%
  - Localized 90%

**Early Diagnosis**

- Importance of Early Detection

**Survival by Stage**

**Early Detection**

**Screening Key to Early Detection**

**Importance of Early Detection**

- Detect disease in asymptomatic individuals vs. clinical symptoms
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Screening Rates Comparison

50-75 years asymptomatic and average risk – Screen Routinely
- FIT or FOBT (high sensitivity) annually
- Follow-up all positive tests with endoscopy
- FIT-DNA every 1-3 years
- Flexible Sigmoidoscopy every 5 years or every 10 years with annual FIT
- Colonoscopy every 10 years
- No interval FIT/FoBT after normal colonoscopy
- Those with history of polyps or CRC use surveillance protocol
- CT Colonography every 5 years; 76-85 years – Screen only after SDM
- Benefit declines with age especially in those routinely screened with normal results 50-75
- Risk increases especially with comorbid conditions
- Do not screen if life expectancy limited or high risk

Methods of Screening Compared Screening Guidelines: USPSTF*

<table>
<thead>
<tr>
<th>Frequency and Method</th>
<th>Middle</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIT every year</td>
<td>10</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>FIT-DNA every 5 y</td>
<td>9</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>High-Risk FIT every year</td>
<td>10</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>CT colonography every 5 y</td>
<td>10</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Flexible sigmoid every 10 y</td>
<td>12</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>FIT-DNA every year</td>
<td>12</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Colonoscopy every 10 y</td>
<td>15</td>
<td>14</td>
<td>15</td>
</tr>
</tbody>
</table>

Methods of Screening Compared to USPSTF Recommendations

50-75 years asymptomatic and average risk – Screen Routinely
- FIT or FOBT (high sensitivity) annually
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Methods of Screening Compared

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Methods of Screening Compared

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The methods are not presented in any preferred or ranked order, rather, the goal is to maximize the total number of persons who are screened because that will have the largest effect on reducing colorectal cancer deaths.
• The ACS recommends that adults aged 45 y and older with an average risk of CRC undergo regular screening with either a high-sensitivity stool-based test or a structural (visual) examination, depending on patient preference and test availability. As a part of the screening process, all positive results on noncolonoscopy screening tests should be followed up with timely colonoscopy.

• The recommendation to begin screening at age 45 y is a qualified recommendation.

• The recommendation for regular screening in adults aged 50 y and older is a strong recommendation.

• The ACS recommends that average-risk adults in good health with a life expectancy of greater than 10 y continue CRC screening through the age of 75 y (qualified recommendation).

• The ACS recommends that clinicians individualize CRC screening decisions for individuals aged 76 through 85 y based on patient preferences, life expectancy, health status, and prior screening history (qualified recommendation).

• The ACS recommends that clinicians discourage individuals over age 85 y from continuing CRC screening (qualified recommendation).

Wolf, Ca Cancer Jnl. May 2018

Methods of Screening Compared
ACS Recommendations

Options for CRC Screening

Stool-based tests
- Fecal immunochemical test every y
- High-sensitivity, guaiac-based fecal occult blood test every y
- Multitarget stool DNA test every 3 y

Structural examinations
- Colonoscopy every 10 y
- CT colonography every 5 y
- Flexible sigmoidoscopy every 5 y


Barriers to Screening and Quality

80% Screening Goal – What’s Stopping Us?

Barriers to Screening: Individual

- Individual level barriers
  - Lack of a physician recommendation
  - Lack of knowledge
  - Fear
  - Embarrassment
  - Lack of symptoms or current health problems
  - Cost
  - Competing demands. Barriers also might vary by test type
    - FOBT – not wanting to handle stool or keep stool cards in the house
    - Colonoscopy – fear or avoidance of bowel preparation, fear of having a tube inserted through the rectum, and fear of pain or discomfort
    - Clinicians might preferentially recommend a particular test to patients, which might deter patients who would prefer an alternate test option from following through with screening

Joseph, Prevalence of Colorectal Cancer Screening Among Adults, BRFSS 2010, MMWR Supplement. June 15, 2012. 61(02); 51-56

Barriers to Screening: Clinician

- Clinician barriers
  - Lack of knowledge of current screening guidelines
  - Forgetfulness
  - Competing priorities in the care of the patient (e.g., active comorbid diseases)
  - Patient refusal
  - Lack of time
  - Lack of a reminder system
  - Lack of tracking and follow-up systems
  - Clinicians also might overestimate the frequency with which they recommend colorectal cancer screening to their patients because patients often cite lack of a physician recommendation as the reason they did not complete screening
Barriers to Screening: Health System

- Health-care system and organizational barriers
  - Financial barriers
    - Uninsured rates
    - Low income
  - Absence of office systems that facilitate identification and referral of patients eligible for screening
  - Insufficient access to primary care
  - Insufficient access to or misdistribution of endoscopists
  - Structural barriers (e.g., lack of transportation, lack of translation services, or availability of screening services only during working hours)

Health Insurance

Source: U.S. Census Bureau, American Community Survey, 2012-2016, 5-Year Sample

Median Household Income

Source: U.S. Census Bureau, American Community Survey, 2011-2015, 5-Year Sample

Active Physicians per 100,000 Population, United States, 2016

Source: July 1, 2016, population estimates are from the U.S. Census Bureau (released December 2016). Physician data include MDs and DOs and are from the 2017 AMA Physician Masterfile (December 31, 2016).

Barriers to Screening

Lack of clinician recommendation

“My doctor never talked to me about it!”

Improving Quality and Outcomes

- Inform patients about the benefits of preventive services and offer recommended clinical preventive services as a routine part of care
- Adopt electronic health records and enable reminders
- Adopt medical home or team-based care models
- Reduce or eliminate out-of-pocket costs for preventive services and educate and encourage patients to access these services
- Establish patient reminders
  - Mailing cards, sending e-mails, or making phone calls when a patient is due for a preventive health service
Strategies for Clinic Based CRC Screening
ACS/NCCRT

- Develop a screening policy
  - Risk assessment
  - Documentation of prior screening
  - Recommendation for all eligible patients
  - Define responsibilities
  - Plan for evaluation of abnormal tests and treatment
  - Surgeon, Anesthesiology, Pathology, Oncology

- Reminders
  - Patients and clinicians
  - Follow-up unreturned tests

- Tracking system/Navigation
  - Results
  - Compliance with follow-up/colonoscopy
  - Rescheduling protocol (clinic vs. endoscopist)

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Addressing Underserved Populations Through Community Health Centers

- Opportunities through community health centers
  - Serve vulnerable populations
    - 93% low income
    - 24% limited English speakers
    - 62% ethnic minorities
    - 36% uninsured, 39% Medicaid
    - Homeless, farm workers, public housing residents
  - National Prevention Strategy
  - National Quality Strategy
  - IOM Integrating Public Health and Primary Care
  - National Colorectal Cancer Roundtable 80% by 2018 Goal
  - CRC screening added UDS requirement by HRSA 2012
  - No cost to individuals covered by health plans through ACA
  - Transition to Patient Centered Medical Home Model

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Screening Quality Issues

- Colonoscopy
  - Inadequate prep
  - Missed polyps (inadequate withdrawal time)
  - Incomplete insertion
  - Inadequate report
  - Performance monitoring inadequate
  - Guidelines not followed

- FIT/Fecal Occult Blood Testing
  - FIT/FOBT option not offered
  - Patient preferences not considered
  - Low sensitivity tests
  - In-office tests
  - Follow-up inappropriate

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CRC Screening Points to Consider

- “No CRC screening test is perfect, either for cancer detection or adenoma detection.
- Each test has unique advantages, each has been shown to be cost-effective and each has associated limitations and risks
- Patient preferences and availability of resources play an important role in the selection of screening tests.”
- With full adherence recommended approaches give same benefits (FOBT/FIT, FS+FOBT, Colo)
- “The best test is the one that gets done well.”
  - Dr. Sidney Winowar

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Implementations Approaches FLU-FIT Program

- Flu-FIT an effective approach to screening
  - Initially based in community clinics in SF area, Dr. Michael Potter
  - Eligible patients completing screening increased 2.2X

- Method
  - Adults 50-75 years of age offered FIT/FOBT screening at time of annual influenza vaccination
  - Standing orders executed by nursing staff
  - One hour training for LVN’s, MA’s
  - Log Sheet reminder to check eligibility at time of visit
  - Visual aide for patients
  - Multilingual written instructions
  - Video instructions
  - Stamped envelopes for return of tests
  - www.flu-fit.org
Implementation Approaches MDA Alliance for CRC Testing

- Partnership with FQHC’s and community clinics
- Train staff to identify eligible patients
  - Targeting low income, uninsured
- Take-home FIT offered at time of clinic visit
- Direct endoscopy for increased risk patients
- Screening offered through standing orders when eligible.
  - At time of influenza vaccinations, chronic care visits or wellness visits good opportunity for promoting screening
- Program covers expenses for FIT tests, endoscopy and polypectomy administered through TPA

Implementation Approaches MDA Alliance for CRC Testing

- 2012 – CPRIT CRCS*
  Project modeled after Flu-FIT 15 clinics sites, Dr. David Vining, project director
- 2013 – 1115 Medicaid Waiver FIT Flu
  Project in RHP3 9 county area; 32 clinic sites
- 2015 – CPRIT Alliance for Colorectal Testing*
  Project in 21 county area; in 24 clinic sites
- 2018 – CPRIT ACT II 24 additional counties*
  *Funded by Cancer Prevention Research Institute of Texas

MD Anderson Alliance for CRC Testing

Outcomes to date:

<table>
<thead>
<tr>
<th>Metrics</th>
<th>1115 Waiver Project</th>
<th>ACT (CPRIT-funded Project)</th>
</tr>
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<tbody>
<tr>
<td>Number of Counties</td>
<td>9 county area</td>
<td>50 county area</td>
</tr>
<tr>
<td>Number of Clinic Sites</td>
<td>47 clinics</td>
<td>49 clinics</td>
</tr>
<tr>
<td>Reporting Dates</td>
<td>2013 – 7/20/18</td>
<td>02/2016 – 12/1/18</td>
</tr>
<tr>
<td>Total FITs Distributed</td>
<td>22,465</td>
<td>8,333</td>
</tr>
<tr>
<td>Total Returned</td>
<td>13,657 (60.92%)</td>
<td>5,632 (67.59%)</td>
</tr>
<tr>
<td>Number Positive</td>
<td>990 (6.32%)</td>
<td>401 (7.12%)</td>
</tr>
<tr>
<td>Pts with Polyps Removed</td>
<td>353</td>
<td>145</td>
</tr>
<tr>
<td>Cancers Diagnosed</td>
<td>47 (0.30%)</td>
<td>20 (0.35%)</td>
</tr>
</tbody>
</table>

How are you doing?

- What barriers have you encountered?
- What approaches have you found to work?
- What can you change to improve your screening rate?
Personal Action Plan

- What steps will you take to improve prevention and early detection of colorectal cancer in your practice?
  - List three things you will do to reduce colorectal cancer deaths in your patients
    1.
    2.
    3.

Resources

- ACS CRC tools and resources
  - Cancer.org/health-care-professionals/colon-md
  - ACS colorectal Cancer Facts for patients
  - cdc.gov/cancer/colon
  - NCCRT Manual for community health centers
  - https://www.nccrt.org/resource-center/
- ePrognosis estimates for life expectancy
  - http://cancerscreening.eprognosis.org/
- FLU-FIT Materials
  - http://flufit.org
- USPHS/UNC guide to improve screening
  - ncsped.org/sites/default/files/CRC_Toolkit.pdf
- USPSTF Recommendations for ASA in CVD and CRC prevention
- American Family Physician (CME available)
  - Colorectal Cancer Screening and Surveillance in Individuals at Increased Risk
  - Colorectal Cancer Screening and Prevention

Synopsis

- Colorectal cancer is a serious threat to our patients.
- One third of eligible people have never been screened.
- Our patients suffer and die needlessly from colorectal cancer.
- We can be leaders and make a difference.

Q & A

LIVE LONG & PROSPER

Lewis E. Foxhall, MD, FAAFP
lfoxhall@mdanderson.org
www.mdanderson.org

Additional Information

Surveillance Guidelines

Polypl Characteristics

- Hyperplastic
  - Minimal cancer potential
- Adenomatous
  - Approximately 90% of colon and rectal cancers arise from adenomas
- Villous/serrated
  - Increased risk of progression
ACS/MSTF Colorectal Cancer Surveillance Guidelines

### Initial Colonoscopy Findings

- **Normal**
  - No polyps or normal biopsy results
  - Interval: 10 years

- **Hyperplastic polyps**
  - Small (< 10 mm) hyperplastic polyps in rectum or sigmoid
  - Interval: 10 years

- **Low-risk polyps**
  - 1 or 2 small (< 10 mm) tubular adenomas
  - Interval: 5 to 10 years

- **Small sessile serrated polyp (< 10 mm) without dysplasia**
  - Interval: 5 years

- **High-risk polyps**
  - 3 to 10 tubular adenomas
  - Interval: 3 years

  - Tubular adenoma or serrated polyp that is ≥ 10 mm
  - Interval: 3 years

  - Adenoma with villous features or high-grade dysplasia
  - Interval: 3 years

  - Sessile serrated polyp with cytologic dysplasia
  - Interval: 3 years

  - Traditional serrated adenoma
  - Interval: 3 years

- **Other circumstances**
  - More than 10 adenomas
  - Interval: < 3 years

  - Serrated polyposis syndrome*: Interval: 1 year

  - Following piecemeal removal of a large (> 15 mm) sessile adenoma or serrated polyp
  - Consider repeat in < 1 year if question of residual polyp

  - Following curative resection of colorectal cancer
  - 1 year after resection, then 3 and 5 years if normal

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### Screening with Increases FHx Risk

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Age to Initiate Screening</th>
<th>Interval if Normal (Years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single first-degree relative with colorectal cancer or an advanced adenoma diagnosed at ≥ 60 years of age</td>
<td>50 years (may start at 45 years in AA)</td>
<td>10</td>
</tr>
<tr>
<td>Single first-degree relative with colorectal cancer or an advanced adenoma diagnosed at &lt; 60 years of age</td>
<td>40 years or 10 years younger than affected relative’s age when diagnosed, whichever is earlier</td>
<td>5</td>
</tr>
<tr>
<td>Two first-degree relatives with colorectal cancer or an advanced adenoma diagnosed at any age</td>
<td>40 years or 10 years younger than the youngest affected relative’s age when diagnosed, whichever is earlier</td>
<td>5</td>
</tr>
</tbody>
</table>

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*Criteria for serrated polyposis syndrome: At least 5 serrated polyps proximal to the sigmoid with 2 or more that are > 10 mm, any serrated polyposis occurring in a family with a history of serrated polyposis syndrome, or > 20 serrated polyps of any size throughout the colon.

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ACS/MSTF Colorectal Cancer Surveillance Guidelines

1. Patients with small rectal hyperplastic polyps should be considered to have normal colonoscopies, and therefore the interval before the subsequent colonoscopy should be 10 years. An exception is patients with a hyperplastic polyposis syndrome. They are at increased risk for adenomas and colorectal cancer and need to be identified for more intensive follow up.

2. Patients with only one or two small (<1cm) tubular adenomas with only low-grade dysplasia should have their next follow-up colonoscopy in 5 to 10 years. The precise timing within this interval should be based on other clinical factors (such as prior colonoscopy findings, family history, and the preferences of the patient and judgment of the physician.)

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ACS/MSTF Colorectal Cancer Surveillance Guidelines

3. Patients with 3 to 10 adenomas, or any adenoma >1 cm, or any adenoma with villous features, or high-grade dysplasia should have their next follow-up colonoscopy in 3 years providing that piecemeal removal has not been done and the adenoma(s) are completely removed. If the follow-up colonoscopy is normal or shows only one or two small tubular adenomas with low-grade dysplasia, then the interval for the subsequent examination should be 5 years.

4. Patients who have more than 10 adenomas at one examination should be examined at a shorter (<3 years) interval established by clinical judgment, and the clinician should consider the possibility of an underlying familial syndrome.

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ACS/MSTF Colorectal Cancer Surveillance Guidelines

5. Patients with sessile adenomas that are removed piecemeal should be considered for follow up at short intervals (2 to 6 months) to verify complete removal. Once complete removal has been established, subsequent surveillance needs to be individualized based on the endoscopist’s judgment. Completeness of removal should be based on both endoscopic and pathologic assessments.

6. More intensive surveillance is indicated when the family history may indicate hereditary nonpolyposis colorectal cancer.