UC San Diego Health

Colorectal Cancer Before 50: What Physicians Need to Know

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Disclosures

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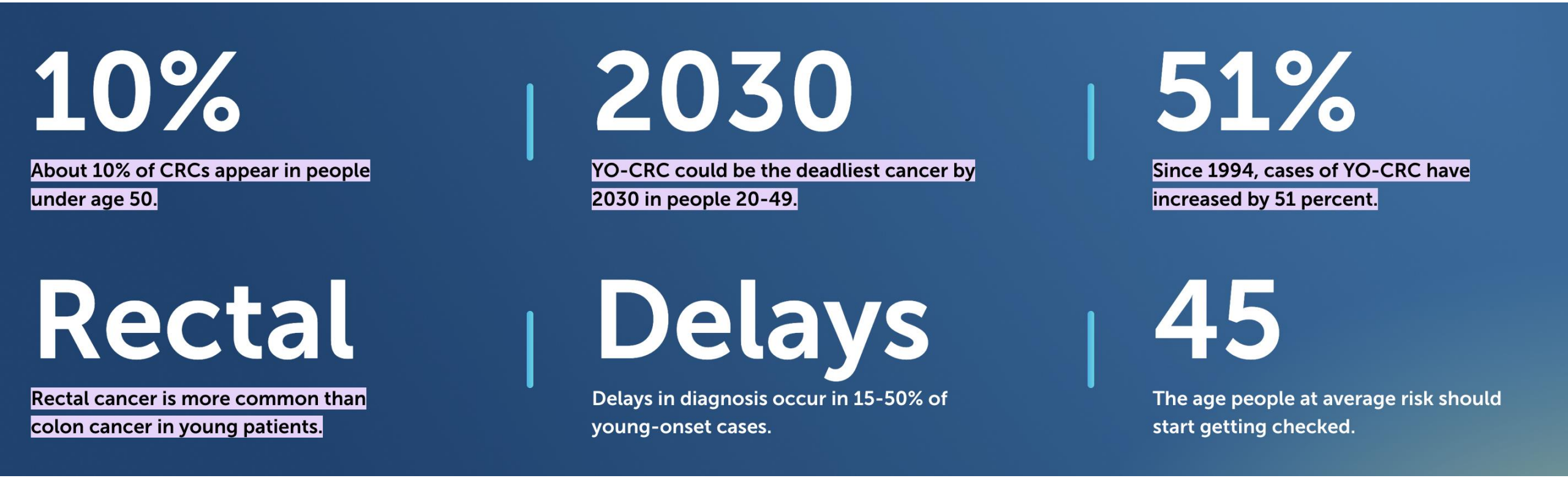
Young Onset Colorectal Cancer (CRC)

Young onset colorectal cancer is colon cancer or rectal cancer diagnosed before the age of 50

Young Onset CRC: Facts and Figures



Important role for primary care in early recognition

Objectives

- Colorectal cancer trends
- Epidemiology and risk factors
- Clinical presentation and diagnostic challenges
- Screening and early detection
- Management and multidisciplinary approach
- Key takeaways & call to action

Young Onset CRC: Trends

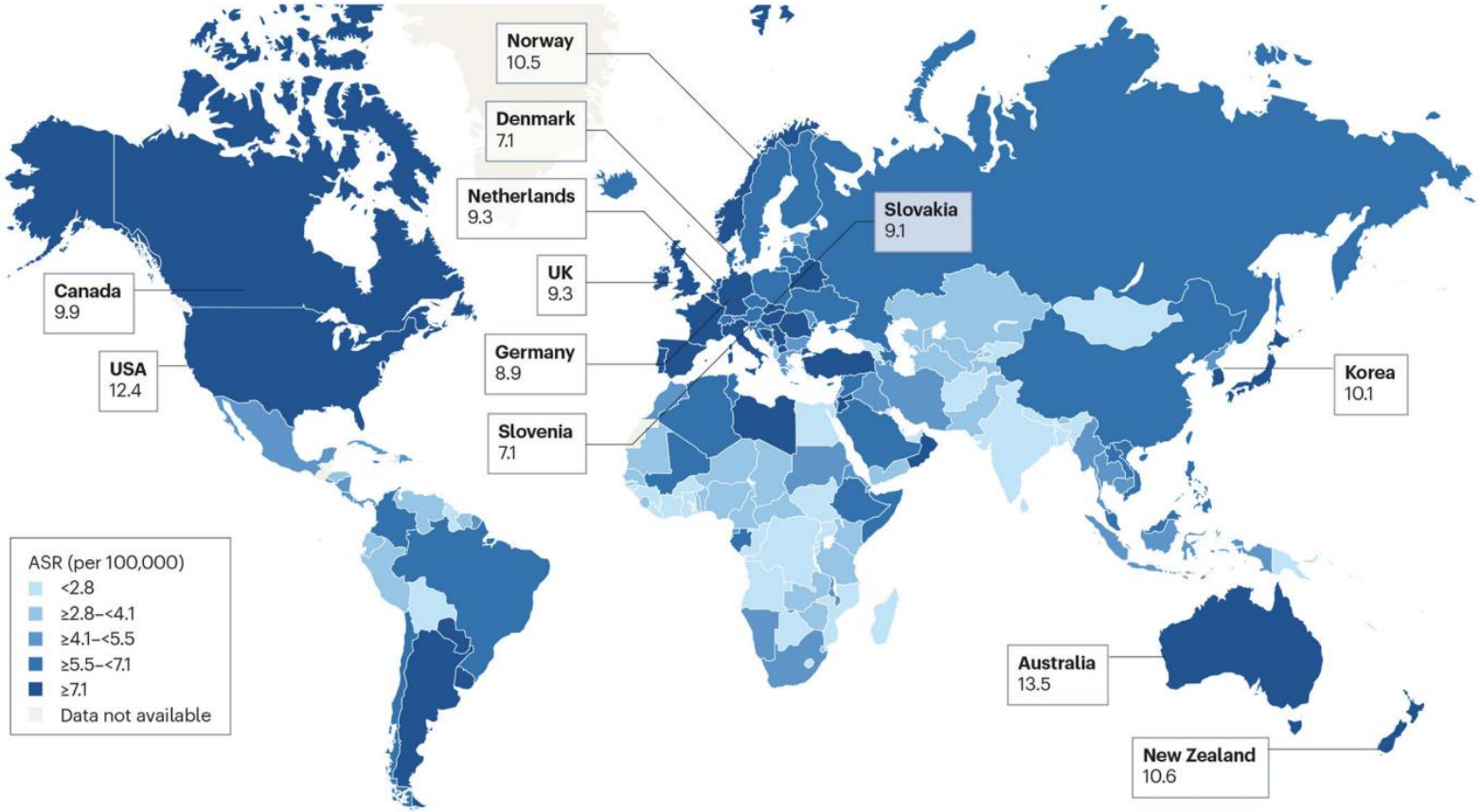
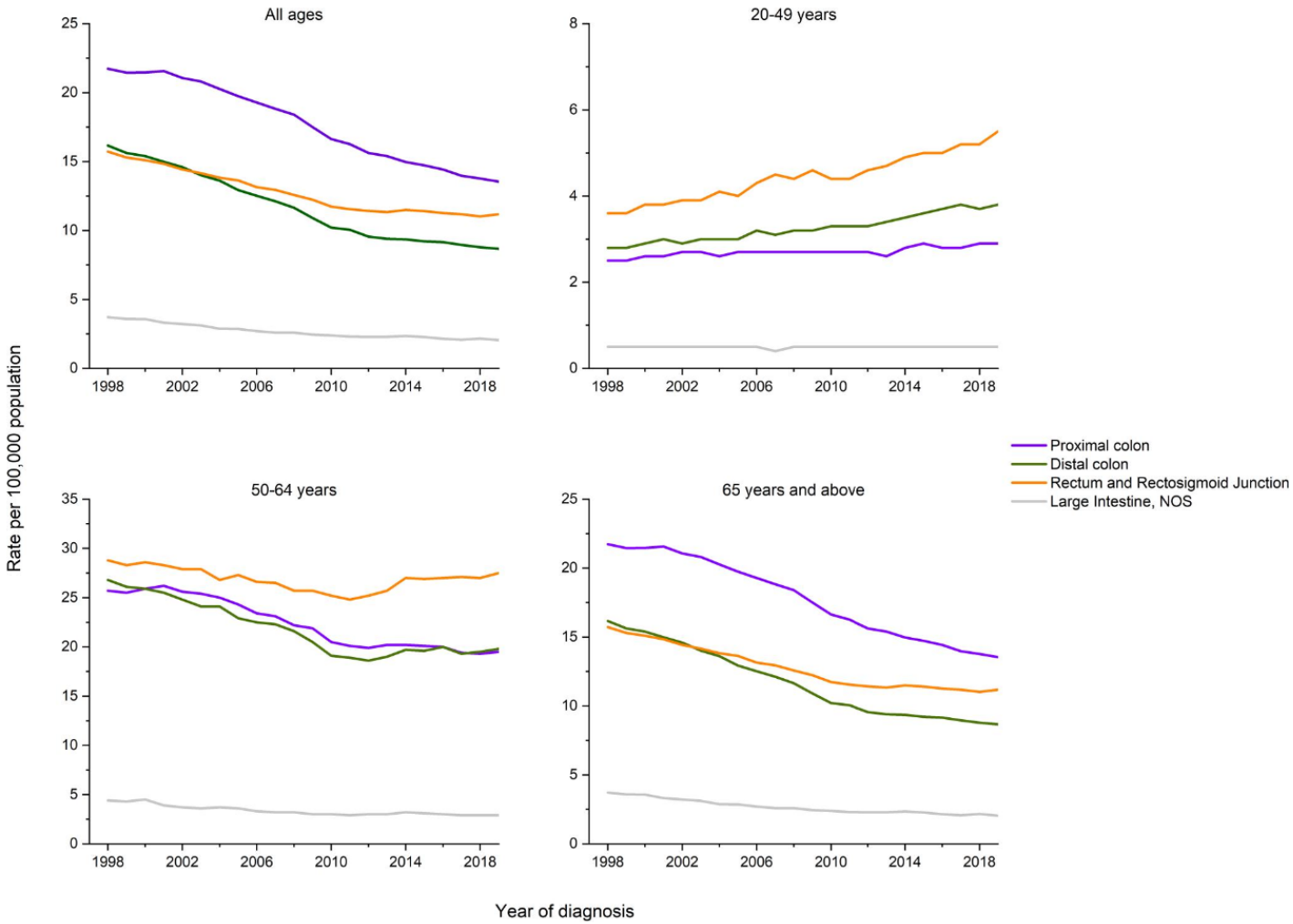


Figure 1. Global incidence of YO-CRC.
Age-standardized incidence of young-onset colorectal cancer (YO-CRC; age 20–49 years) in both sexes worldwide **for the year 2020. Countries/regions with the** greatest **percentage increase for years 2008–2012** are depicted in red.[8]

Young Onset CRC: Trends

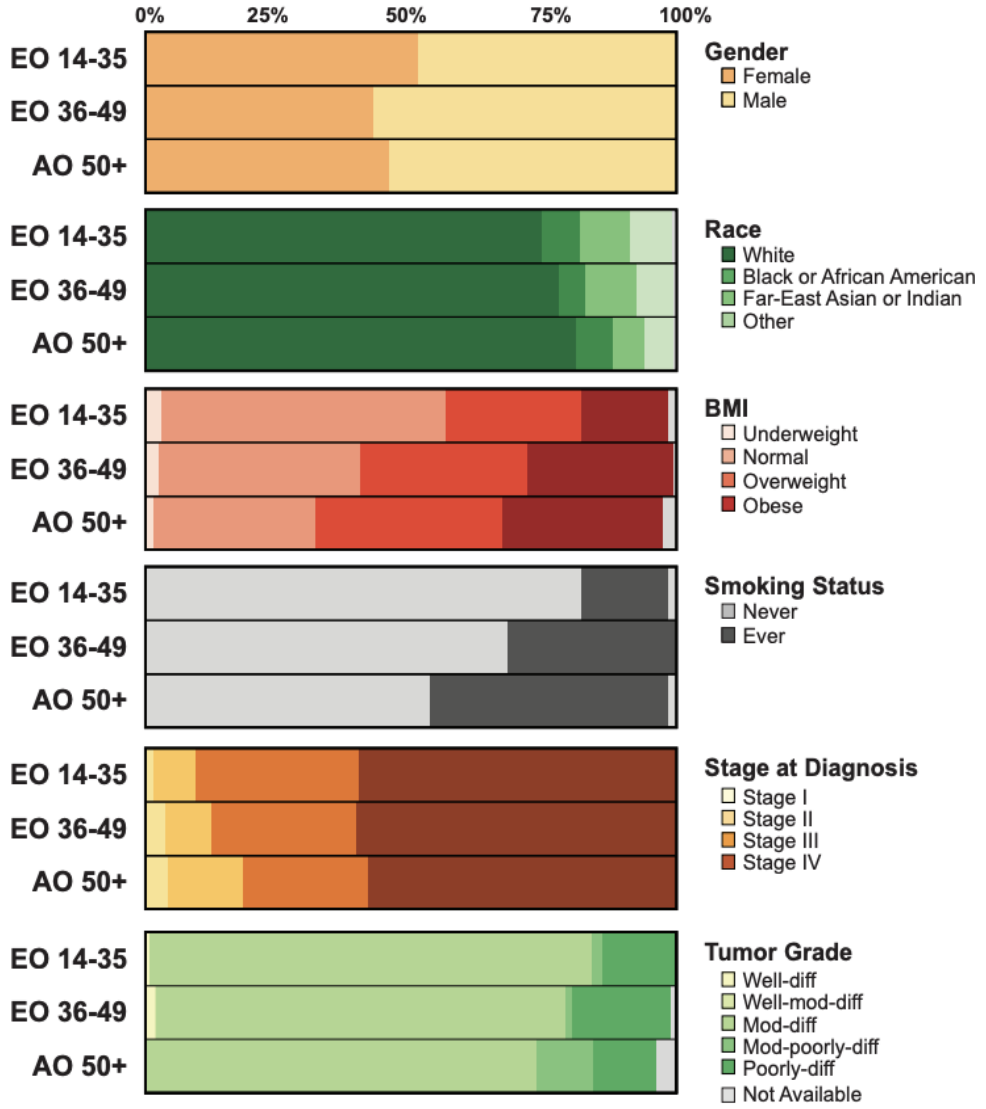
- In all ages, incidence is decreasing
- Incidence in young adults is increasing
  - Doubled since 1990s
  - Predominantly left-sided



Young Onset CRC: Epidemiology

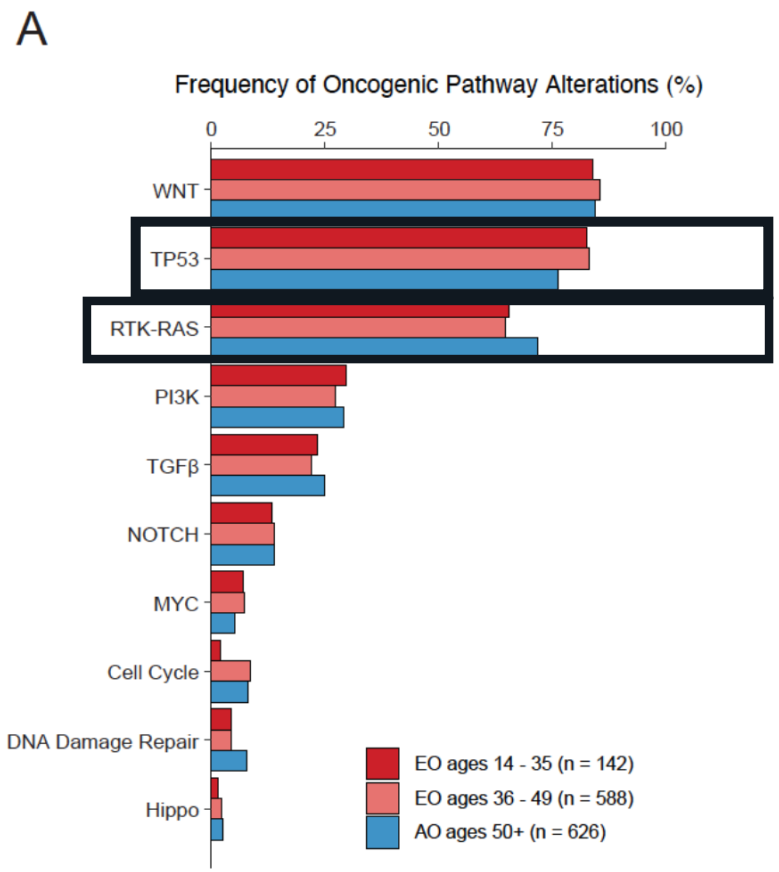
- Women>Men
- Non-white race
- Normal BMI
- Non-smokers
- Present with advanced disease
  - Delay in diagnosis
- More aggressive pathologic features
  - LVI, T3/T4, N+
  - Poorly differentiated

Importance of early recognition, critical role for primary care



Young Onset CRC: Genetic risk

- Most cases before 50 years are sporadic
- MSK: EOCRC (759) vs. AOCRC (687)
  - Exclude hereditary, MSI, IBD
- Inherited component ~30% (first degree relative)
- Pathogenic germline variant ~20%
- Somatic genomically indistinguishable from average onset
  - No significant differences in TMB, fraction of genome altered, whole-genome duplication, LOH



Young Onset CRC: Established and Emerging Risk Factors

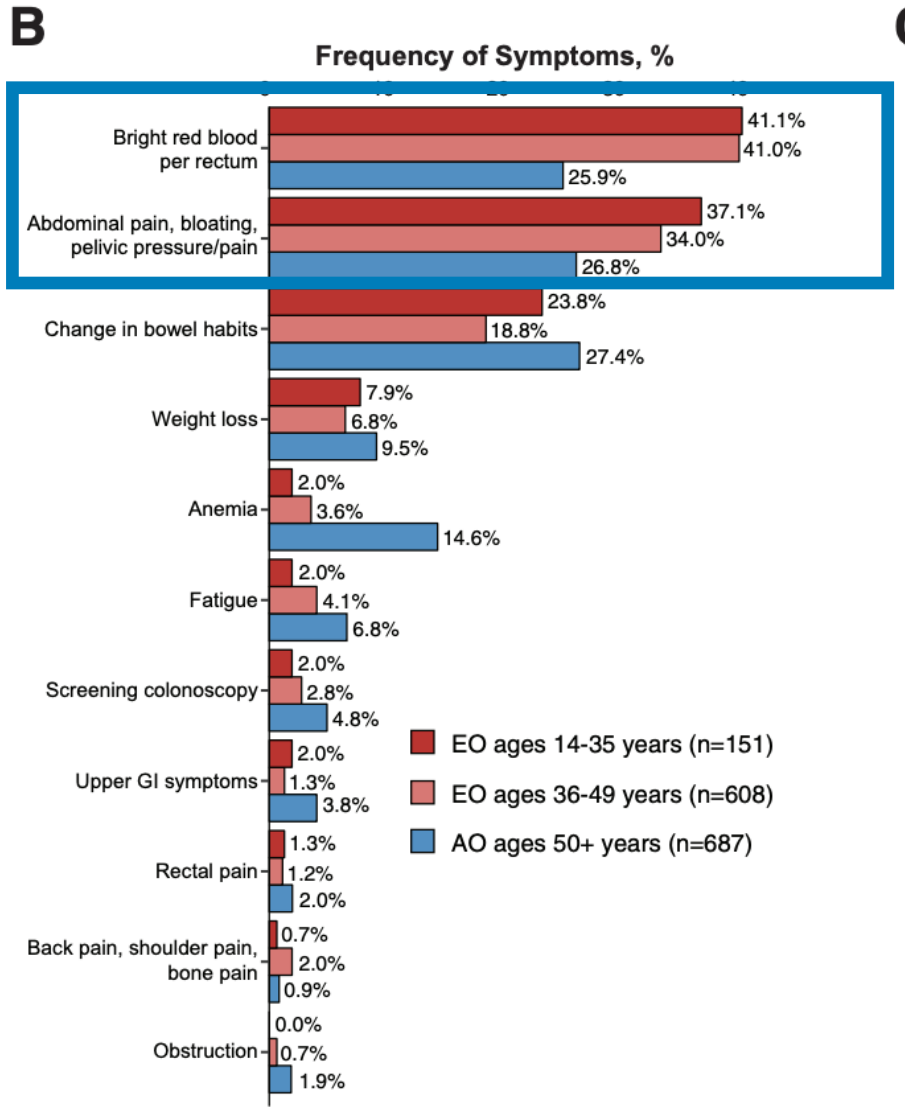
- Lifestyle
  - Sedentary lifestyle
  - Diet: sugar, red/processed meat, processed foods, low fiber
  - Obesity
  - Smoking and alcohol
- Exposures
  - Antibiotics
  - Agricultural runoff
  - Industrial pollution
  - Occupational exposures

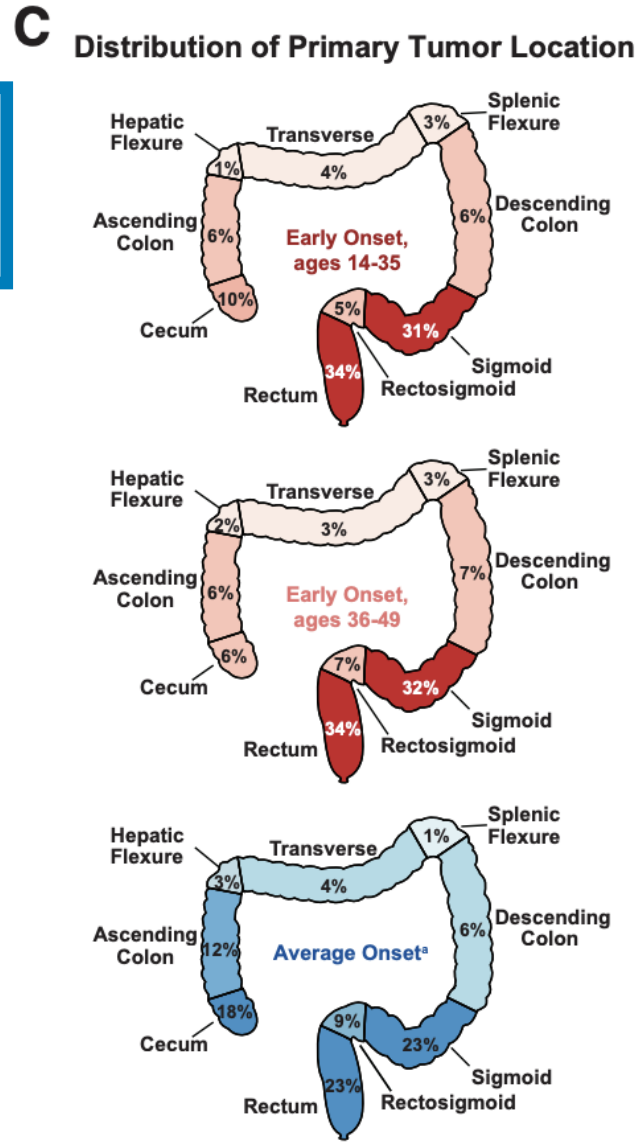
- Effect on Microbiome
  - Dysbiosis
  - Loss of protective microbiota
  - Production of oncogenic metabolites
    - Secondary bile acids
    - Nitrosamines
    - Formate

- Intestinal Effects
  - Proinflammatory environment
  - Suppression of immunity
  - Induction of tumor growth

Young Onset CRC: Clinical Presentation and Challenges

- **Bright red blood per rectum**
- **Abdominal/pelvic pain/bloating**
  - Related to more commonly left sided disease
- **Delay in diagnosis approximately 6 months**
  - *Importance of keeping CRC in the differential for younger patients*





Young Onset CRC: Screening and Detection Strategies

Warning signs

- Rectal bleeding
- Abdominal pain
- Change in bowel habits

Young Onset CRC: Screening and Detection Strategies

Stool-based tests

- Fecal immunochemical test (FIT): A common stool-based test that checks for microscopic blood in stool
  - Low sensitivity for detecting CRC (70%-75% vs colonoscopy)
  - Low sensitivity for precursor lesions
    - 20% to 25% for advanced adenomas
    - <5% for advanced sessile serrated adenomas
- Multitarget Stool DNA test (mt-sDNA): Also known as Cologuard, this test checks for abnormal DNA in stool
  - Better sensitivity for detecting CRC (92%)
  - Low sensitivity for precursor lesions (40-50%)
- Limitations: Less effective than a colonoscopy, and may require a follow-up colonoscopy

Colonoscopy

- Benefits: Can detect and remove precancerous polyps before they turn into cancer
- Drawbacks
  - Requires sedation and bowel preparation
  - Invasive/risk of complications

Recommended intervals for colorectal cancer screening tests include

- High-sensitivity gFOBT or FIT every year
- sDNA-FIT every 1 to 3 years
- CT colonography every 5 years
- Flexible sigmoidoscopy every 5 years
- Flexible sigmoidoscopy every 10 years + FIT every year
- Colonoscopy screening every 10 years

Young Onset CRC: Risk Reduction

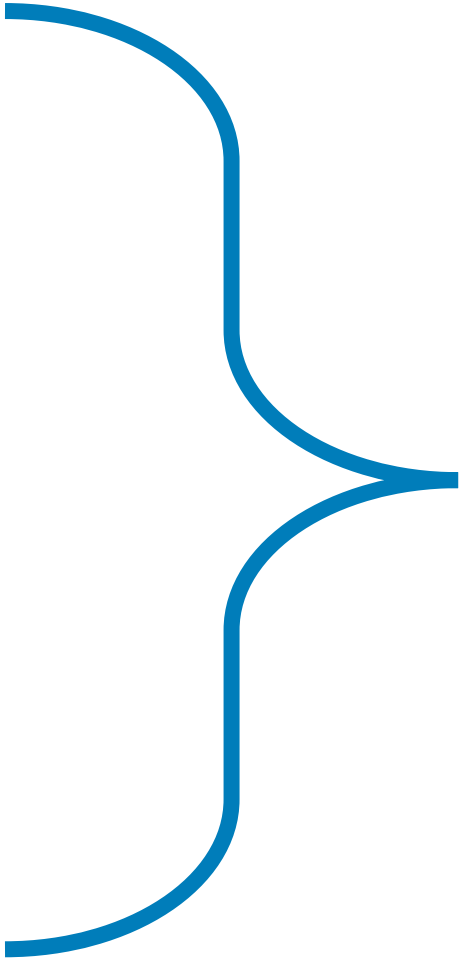
- Increase physical activity
  - 150 minutes of moderate exercise or 75 minutes of vigorous exercise each week
- Limit red meat processed meat
- High proportion of plant-based foods in the diet
  - Fiber supplement
- Limit alcohol
- Don't smoke
- Supplements may benefit: Folate, selenium, omega-3 fatty acids, vitamin D, NSAIDs, curcumin, green tea, soy

Young Onset CRC: Treatment Strategies

- Surgery
  - May require temporary or permanent ostomy
- Chemotherapy
- Radiation
  - For rectal cancer only
  - Some patients with rectal cancer have a complete response to neoadjuvant therapy and have close surveillance with surgery only for regrowth

Management Considerations for Young Adults with Cancer

- Fertility
  - Cancer during pregnancy
- Sexual and urinary function
- Long-term impact of therapies on QOL and function
  - Neuropathies
  - XRT
- Secondary cancer
- Psychological and mental health impact on patient and family



Role of primary care in survivorship, surveillance, and addressing long-term effects

Key Takeaways and Call to Action

- CRC is increasingly prevalent among young adults, particularly left sided disease
- Delays in diagnosis are common

Have a high index of suspicion with bleeding and abdominal symptoms

- Quality of life is significantly altered by treatment and there are unique considerations for young adults who are likely best served at specialty centers

Thank you

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Q&A / Discussion (Optional, time permitting)

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