

Colorectal Cancer Screening & Surveillance: Why, When, & How

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No Disclosures

Presentation Objectives

01

Describe the trends in colorectal cancer diagnoses across different populations.

02

Discuss the best screening options for your patients to ensure early detection.

03

Characterize the challenges in colorectal cancer surveillance and survivorship.

Outline

01 Epidemiology and Trends in Colorectal Cancer

02 Screening Strategies for the Primary Care Patient

03 Challenges in Surveillance and Survivorship

04 Key Takeaways

Epidemiology and Trends in Colorectal Cancer

Global and National Impact

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Most Common Cancer

Colorectal cancer (CRC) ranks as the third most common cancer **worldwide and in the U.S.**

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Cancer Mortality

Second leading cause of cancer-related death globally and across the United States.

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4.1–6%

Lifetime Risk

Approximately 4.1% to 6% of **Americans** will be diagnosed with CRC in their lifetime.

Racial and Geographic Disparities

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Incidence per 100,000

Alaskan Natives

Highest risk population, facing the **highest incidence rates** overall.

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Incidence per 100,000

African Americans

Second highest risk group, following Alaskan Native populations.

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Incidence per 100,000

Asian & Pacific Islanders

Lowest risk population, maintaining generally lower incidence rates.

The Age Disparity: A Tale of Two Trends

Success in Older Adults (65+)

trend
going
down

-3% /year

Incidence and mortality are **declining** in individuals aged **65 and older** (falling by **3% annually**), largely due to the success of screening & surveillance programs.

Rise of Early-Onset CRC (<50)

trend
going
up

+3% /year

Annual Surge:
Incidence is increasing by **3% annually** for adults aged **20-49 years**.

The Age Disparity: A Tale of Two Trends

- Currently, ~**45% of new colorectal cancers** are occurring in **adults younger than 65 years old**, **up from 27% in 1995**, with most cases arising in the distal colon and rectum.
- **Birth Cohort Effect:**

Individuals born in 1990 have **double the risk of colon cancer** and **quadruple the risk of rectal cancer** vs. those born in 1950.

Clinical Vigilance in Young Patients

- For **adults younger than 50 years**, colorectal cancer is now the **#1** cause of cancer-related mortality.
- **Half** of all cases before age 50 are in **adults aged 45 to 49**, who are eligible for screening.
- Delayed Diagnosis:
 - **3 in 4** colorectal cancers in adults <50 years are diagnosed at an **advanced stage**.
 - Young patients are **58% more likely** to be diagnosed late due to **misattributed symptoms**.

Screening Strategies for the Primary Care Patient

When to Start: The New Baseline

Primary Guideline

Average-Risk Patients

Ages 45 – 75

Definition: Patients without a personal or family history of polyps, colorectal cancer (CRC), or inflammatory bowel disease (IBD).

Recommendation: Regular screening should now **begin at age 45** and continue through age 75.

Individualized Care

Selective Screening

Ages 76 – 85

Decision Framework: Screening decisions in this age group should be fully individualized based on patient preferences and clinical judgment.

Key Factors: Consider overall health, life expectancy (**at least 10 years**), and prior screening history.

Screening Methods: Visual vs. Stool-Based

DIRECT VISUALIZATION

Visual Examinations

Colonoscopy (Gold Standard)

Interval: Every 10 years

Allows for full visualization and **immediate removal of polyps**.
Recommended every 10 years if results are normal.

CT Colonography (Virtual)

Interval: Every 5 years

Noninvasive but requires **full bowel prep** and follow-up colonoscopy for any abnormalities.

NON-INVASIVE OPTIONS

Stool-Based Tests

FIT (Fecal Immunochemical Test)

Interval: Annual

Low-cost and noninvasive. Directly measures human hemoglobin with **no dietary restrictions**.

FIT-DNA (Cologuard)

Interval: Every 1–3 years

Has a **92% sensitivity** for cancer, but carries a higher false-positive rate (13%) and false-negative rate (8%).

Enhanced Screening for High-Risk Groups

Familial History

Individuals with a first-degree relative (FDR) diagnosed with CRC/advanced adenoma before age 60 (or 2 FDRs at any age).

Recommended Protocol

Colonoscopy **every 5 years** starting at age 40, or 10 years before the youngest family diagnosis.

Inflammatory Bowel Disease (IBD)

Recommended Protocol

Surveillance begins **8 years after symptom onset**, repeating every 1–3 years for life (annual if primary sclerosing cholangitis or active inflammation is present).

Enhanced Screening for High-Risk Groups

FAP

Start: Puberty (Age 10–15)

Interval: Annually

Familial Adenomatous Polyposis: Requires early onset annual monitoring.

Screening initiation typically coincides with puberty to detect early adenoma development.

Lynch Syndrome

Start: Age 20–25

Interval: Every 1–2 years

MLH1 / MSH2: Begin colonoscopy at age 20–25 (or 2–5 yrs prior to youngest family CRC diagnosis).

MSH6 / PMS2: Screening may be delayed to age 30–35 if no early family history.

Enhanced Screening for High-Risk Groups

Amsterdam Criteria

- 3+ relatives with a Lynch syndrome-associated cancer
- 1 relative must be a first-degree relative of the others
- 2 successive generations affected
- 1 or more relatives diagnosed before age 50
- Familial Adenomatous Polyposis (FAP) must be excluded



Lynch Syndrome

Referral to Genetic Counselor

Germline genetic testing for **DNA mismatch repair (MMR) gene** mutations
(*MLH1*, *MSH2*, *MSH6*, *PMS2*, and *EPCAM*)

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Familial Colorectal Cancer Type X

Start: Age 40, or 10 years before the youngest family diagnosis

Interval: Every 3 years

~40% of families who fulfill the Amsterdam Criteria do not have an identifiable MMR gene mutation

They do not carry the extra-colonic cancer risks seen in true Lynch syndrome

Surveillance After Polypectomy

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Post-Polypectomy Colonoscopy Surveillance Intervals

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Polyp Number

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Total count of adenomas removed stratifies risk as low, medium, or high.

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Polyp Size

Size threshold of 1 cm is used to determine follow-up interval.

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Histopathology

Tubular, Tubulovillous, or Villous architecture, Sessile Serrated Polyps (SSP), and presence of high-grade dysplasia (HGD).

Surveillance After Polypectomy

Colonoscopy Finding	Recommended Interval (Years)	Strength of Recommendation	Quality of Evidence	Special Considerations
Normal	10	Strong	High	Assumes high-quality baseline examination; 10 years regardless of indication for average-risk individuals.
1–2 tubular adenomas or SSPs < 10 mm	7–10	Strong	Moderate	Shift from 5–10 years based on low risk for metachronous advanced neoplasia; physicians may re-evaluate prior 5-year recommendations.
3–4 tubular adenomas or SSPs < 10 mm	3–5	Weak	Very low	The 5-year interval is favored based on current evidence in high-quality settings.
5–10 tubular adenomas or SSPs < 10 mm	3	Strong	Moderate	Higher risk for metachronous advanced neoplasia and CRC.
Adenoma or SSP ≥ 10 mm	3	Strong	High	Should be accompanied by endoscopic photo documentation relative to a snare or forceps.
Adenoma with tubulovillous or villous histology	3	Strong	Moderate	Assumes complete removal; villous histology remains a risk factor for advanced neoplasia.
Adenoma or SSP with high-grade dysplasia	3	Strong	Moderate	Assumes complete resection of the lesion.
≥10 adenomas on single examination	1	Weak	Very low	Consider genetic testing for hereditary polyposis syndromes based on cumulative count and family history.
Piecemeal resection of adenoma or SSP ≥ 20 mm	6 months	Strong	Moderate	Follow-up required at 6 months, then 1 year from the first surveillance, and 3 years from the second

Challenges in Cancer Surveillance and Survivorship

The Intensive Surveillance Paradox

Goals

Detect treatable recurrences & metachronous tumors early enough to perform curative salvage therapy.

5% to 40% of patients treated with curative intent experience disease recurrence, typically within 5 years.

Clinical Reality

Multiple major randomized trials have shown that intensive surveillance (frequent imaging & labs) does not improve overall survival compared to less frequent monitoring.

As few as 50% of patients completed all recommended follow-up tests.

If a patient is not a candidate for aggressive salvage surgery, intensive surveillance may not be beneficial.

Survivorship and Long-Term Quality of Life

Late Treatment Effects: Functional Impairments That Impact Daily Life

Bowel Dysfunction

Up to 50%

of rectal cancer survivors suffer from **LARS** (Low Anterior Resection Syndrome), including urgency and frequency.

Genitourinary Issues

20% to 30%

of patients report **urinary or sexual dysfunction** post-treatment.

Peripheral Neuropathy

40% to 50%

of patients treated with **oxaliplatin-based chemotherapy** experience grade 2 or higher severity.

Psychosocial Morbidity

Survivors frequently experience **anxiety, depression, and fear of recurrence**. These psychiatric symptoms should be systematically assessed to facilitate appropriate referrals.

Conclusion: Takeaways For The Primary Care Provider

Conclusion: Key Takeaways

01. Young Patient Vigilance

Colorectal cancer is increasingly common in young patients. Never ignore concerning symptoms in a young patient!

02. Start Screening at Age 45

Start discussing screening options at **age 45**. The best screening is the one your patient is willing to do!

03. Age Limits (75–85)

Screening continues until **age 75** in all patients, but can be continued to **age 85** in healthy patients.

04. High-Risk Screening

Screen proactively for **family history** and other high-risk factors. Consider genetic counseling referral.

05. Tailored Surveillance

Surveillance intervals depend directly on the **number**, **size**, and **histology** of polyps removed.

06. Quality of Life Focus

In cancer survivorship, **prioritize quality of life**, addressing bowel, bladder, and psychosocial needs.

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