



Colorectal Cancer Screening

This Care Pathway is intended to provide guidance for Penn State Health and affiliated providers in the evaluation and screening of Colorectal Cancer. The guidance provided in this document is based on evidence-based standards. This document provides an approach applicable for most patients; however, clinicians should use clinical judgement and adapt to individual patients and situations.

BACKGROUND

There is very strong evidence that screening for colorectal cancer reduces morbidity and mortality from this condition, and that these benefits outweigh the risks of testing. Testing is now widely available with a variety of options, making it easier to identify a method that is acceptable to our patients. The screening methods are differentiated into Tier 1 (best option) and Tier 2 (good alternatives).

GOALS

Improve awareness and understanding of the available methods for colorectal cancer screening throughout the populations we serve. This will support our goal to provide evidence-based, individualized colorectal cancer screening for every at-risk individual who chooses to get tested.

OUTCOMES MEASUREMENT

We will measure the rates of colorectal cancer screening in all individuals aged 45-74 for whom we care. Screening rates will be calculated using USPSTF recommended Screening Strategies.

CARE TEAM OPPORTUNITIES

We will develop clinical protocols (workflow redesigns) to improve efficiency and, ultimately, screening rates. For example, Quality personnel and/or office-based staff will identify patients who are candidates for screening, and facilitate the order for the appropriate tests.

QUICK REFERENCE

Average Risk Screening	2
Increased Risk Screening	3
High Risk Screening	4
USPSTF Guidelines/Evidence	5



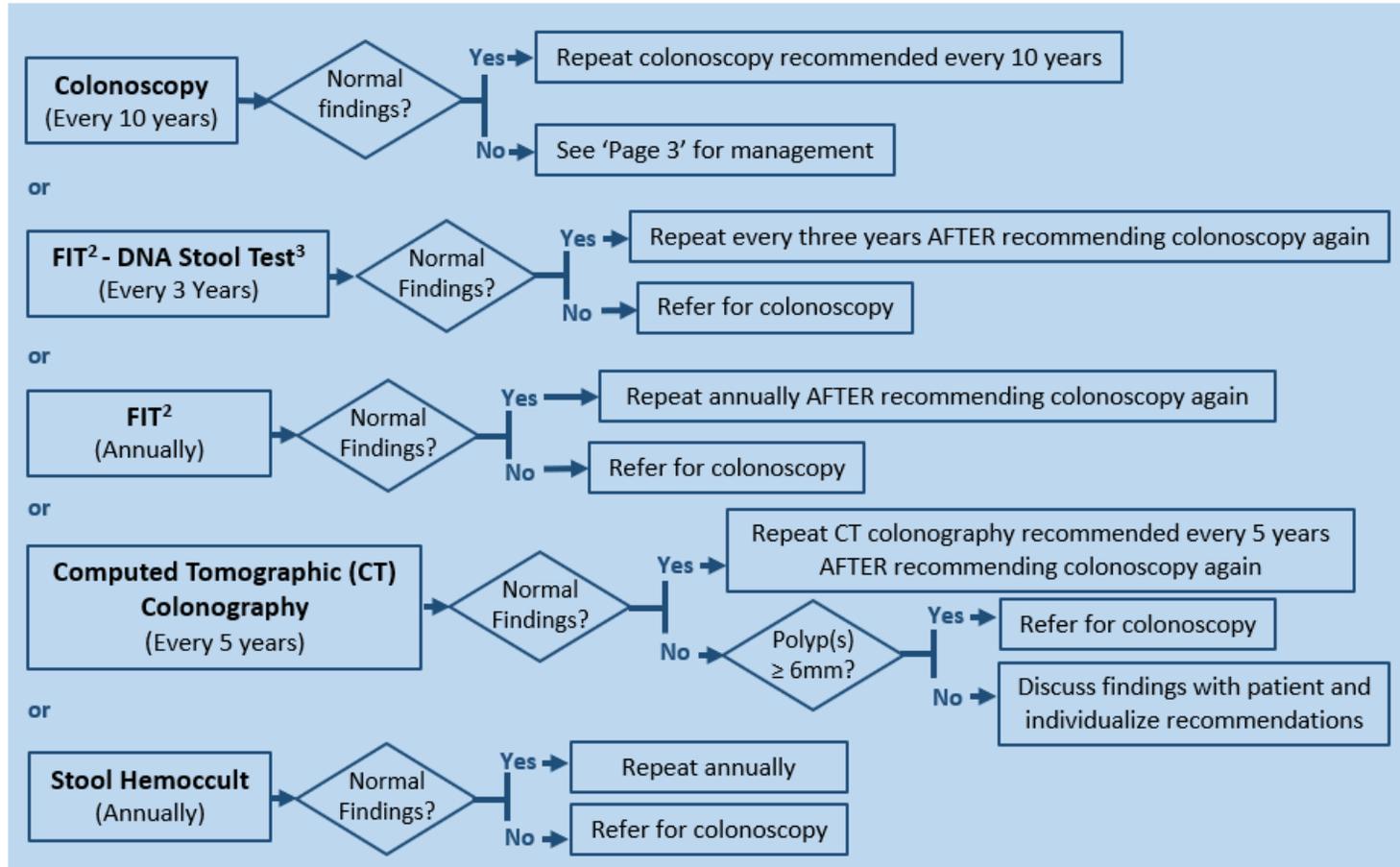
Average Risk – Colorectal Cancer Screening

Diagrams modified from: [MD Anderson Colorectal Web-Algorithm](#)

POPULATION

Individuals Age 45-75
At Average Risk¹

RECOMMENDED SCREENING



¹Screening starting at age 45 years in all average-risk individuals (per 2021 USPSTF Recommendations, and based on patient preference). African Americans have a higher risk of colorectal polyps and cancers; it is important to start screening this population by age 45. Follow-up testing frequency for all individuals is based on colonoscopy findings.

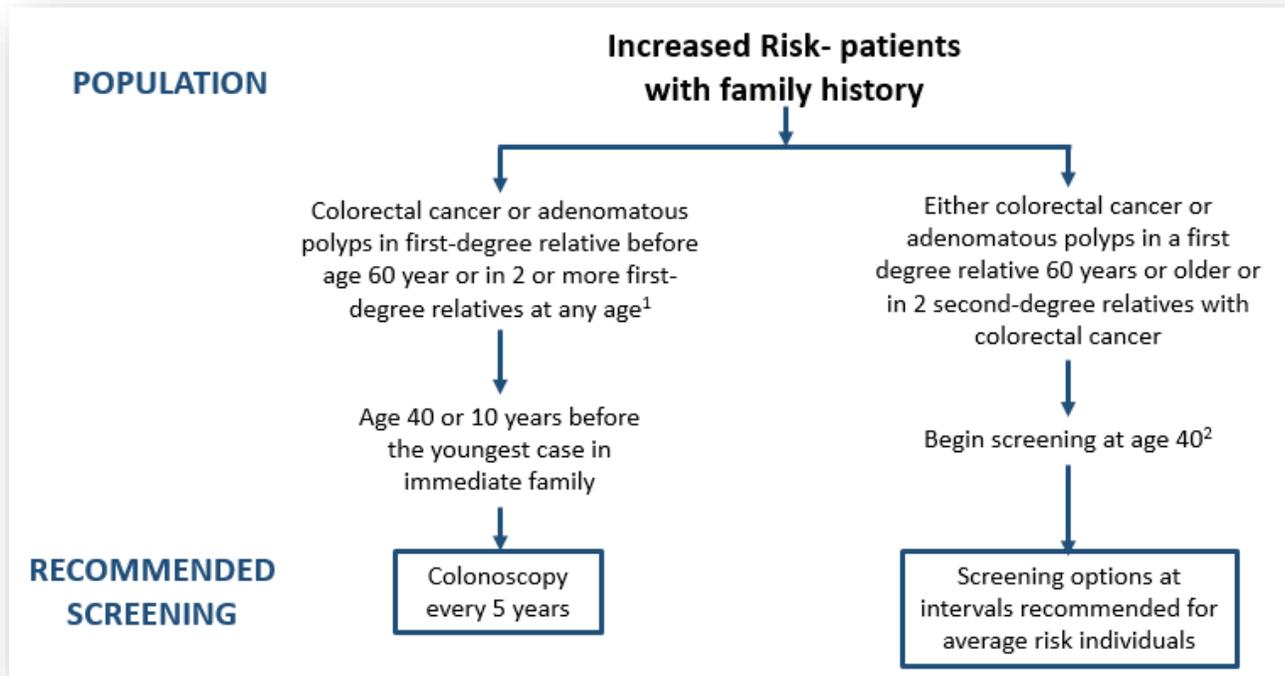
There are no comparative studies of all of the methods listed.

²FIT – Fecal immunochemical test

³Preauthorization with one’s insurance carrier is always advised.



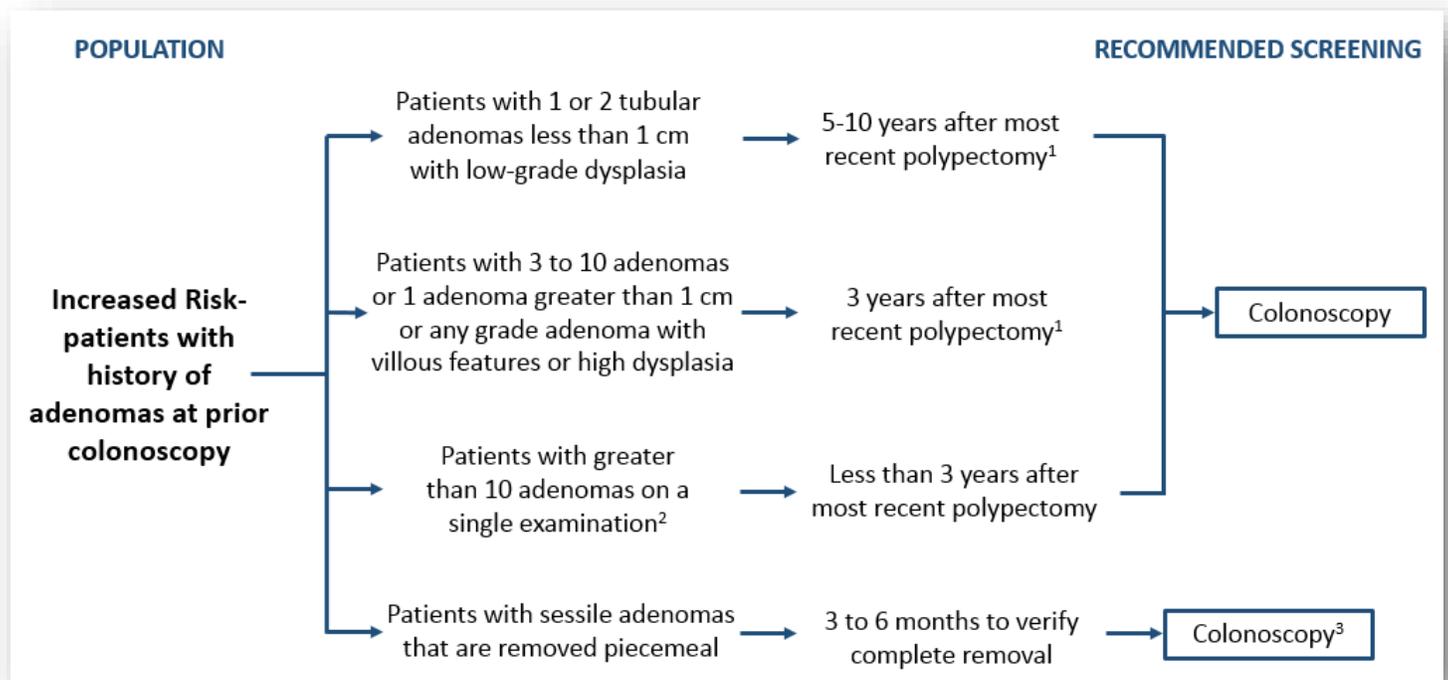
Increased Risk – Screening for patients with family history



¹ Consider Familial Syndrome

² Screening should begin at an earlier age, but individuals may be screened with any recommended form of testing

Surveillance – Monitoring for patients with history of adenomas at prior colonoscopy:



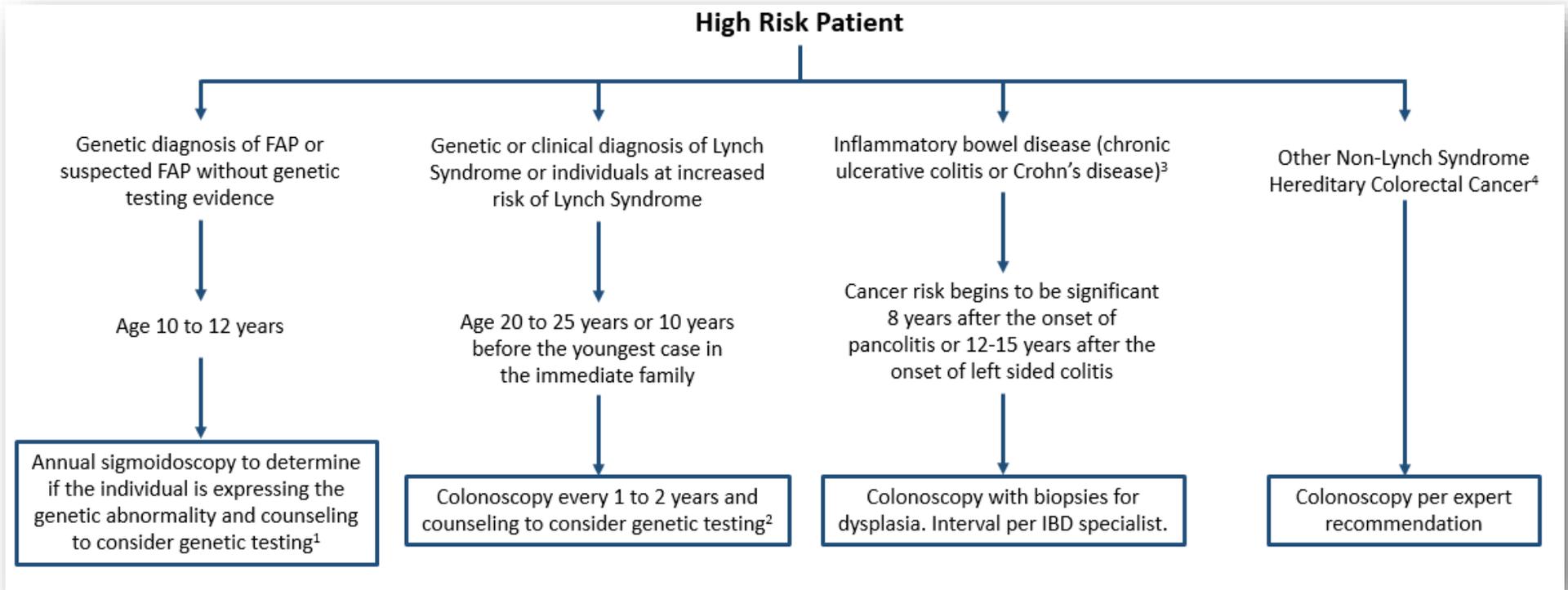
¹ Precise timing based on clinical factors, patient and physician preference.

² Genetic evaluation for familial cancer syndromes is recommended.

³ Surveillance individualized based on endoscopist judgment.



High Risk – Colorectal Cancer Screening:



¹ If the genetic test is positive, refer to colorectal surgery.

² Genetic testing for Lynch Syndrome should be offered to first-degree relatives of persons with a known inherited Lynch Syndrome gene mutation.

³ These patients are best referred to a center with experience in the surveillance and management of inflammatory bowel disease.

⁴ These patients are best referred to a center with experience in the surveillance and management of inherited colorectal cancer syndrome.



USPSTF Colon Cancer Screening Recommendation, May 18, 2021:

<https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/colorectal-cancer-screening>

The USPSTF recommends screening for colorectal cancer in all adults aged 50 to 75 years.	GRADE A Recommendation
The USPSTF recommends screening for colorectal cancer in adults aged 45 to 49 years.	GRADE B Recommendation
The USPSTF recommends that clinicians selectively offer screening for colorectal cancer in adults aged 76 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.	GRADE C Recommendation

Per 1,000 patients aged 45-75 screened

- 286-337 life years gained
- 42-61 cases of CRC avoided
- 24-28 CRC deaths averted

Subgroup (Evidence in screening patients age 45-50 is summarized below)

- absolute risk reduction is estimated to be 27 life years gained per 1,000 people screened with colonoscopy and 26 life years/1,000 people screened with stool-based testing
- avert 1 death per 1,000 people screened if starting screening at 45.
- potential for up to 311 additional lifetime colonoscopies per 1,000 screened

Colonoscopy

- 89-98% Sensitive
- primary screening colonoscopy in normal-risk patients was associated with decreased colorectal cancer mortality (adjusted odds ratio 0.33, 95% CI 0.21-0.52).
- In general, the estimated risk of colonoscopies is 14.6 major bleeding events per 10 000 colonoscopies and 3.1 perforations per 10 000 colonoscopies.
- Overall complications estimated as occurring in 1 in every 63 - 102 adults screened from ages 45 to 75 years

FIT-DNA

- Stool DNA testing has higher sensitivity than FIT testing for detecting both colorectal cancer (92.3% vs 73.8%) and advanced adenomas and sessile serrated polyps (42.4% vs. 23.8%).
- Better than FIT testing for detecting serrated sessile polyps > 1 cm (42.4% vs. 5.1%).
- Frequency q3 years if negative
- Lower specificity than FIT so more false positive tests; from further testing after positive, estimate 17.5 major bleeding events per 10,000 colonoscopies and 5.4 perforations per 10 000 colonoscopies.