Alaska Native Medical Center
Colorectal Cancer Screening Guidelines

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Background

The natural history of colorectal cancer (CRC) makes it ideally suited to screening. Most colorectal cancers develop over many years from benign adenomatous polyps. Precancerous polyps can be detected and removed during screening procedures. When CRC is found early and appropriately treated, survival is greatly enhanced, with a five-year relative survival rate of 90%. Colorectal cancer is the third most commonly diagnosed cancer in the United States, and the second among Alaska Native people, in whom it occurs at almost twice the rate of the U.S. White population.[1, 2]

Introduction

The Alaska Native Medical Center Colorectal Cancer (CRC) Screening Guidelines were last updated in 2008. The current guideline revisions (2013) include some key recommendations and changes highlighted below with justifications:

When to Start Screening

1. **Alaska Native patients should begin screening for colorectal cancer (CRC) at age 40 years rather than age 50.**

Justification:

- Colorectal cancer is the leading cause of cancer among Alaska Native people, in whom it occurs at almost twice the rate of the U.S. White population.[1, 2]
- Alaska Native people have the highest incidence of CRC among racial/ethnic groups in the United States.[1, 3]
- Incidence is higher at every age group, and as high in 40-49 year old Alaska Native people as in the U.S. White 50-59 year old age group (**see Figure 1**).
- Alaska Native people have over twice the mortality due to CRC as U.S. Whites: 33.0 vs. 14.2 per 100,000 age-adjusted to the 2000 US standard population (2005-2009).[4]
- African-Americans are recommended to get screened at age 45 based on high mortality rates (men: 30.5 and women: 21.0 per 100,000 age-adjusted to the 2000 US standard population rates (2003-2007)).[5, 6] Alaska Native people have a mortality rate that is even higher (men: 35.4 and women: 30.4 per 100,000 age-adjusted to the 2000 US standard population (2005-2009)).[7]

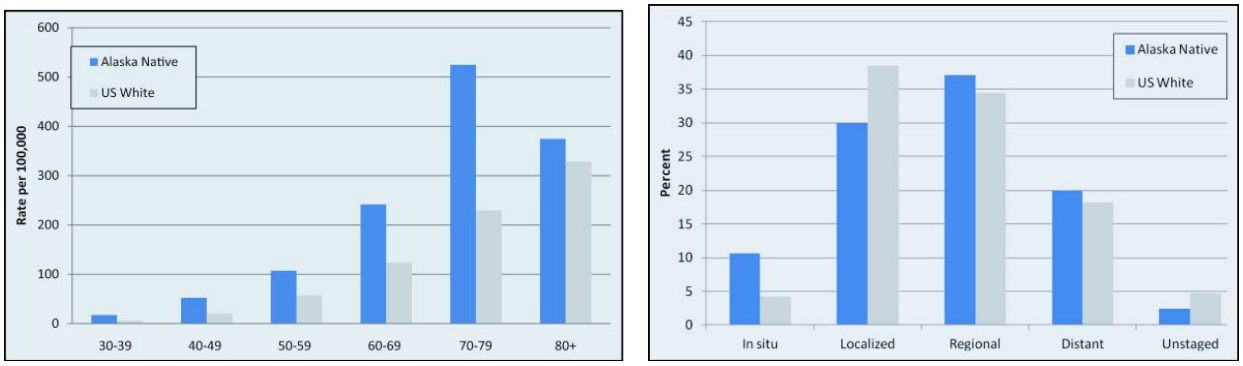

Figure 1: Age-specific CRC incidence rates and stage at diagnosis, Alaska Native People and U.S. Whites, 2005-2009.[2]

When to Stop Screening

2. Average-risk Alaska Native people should stop routine screening after age 75.

Justification:

- The 2008 ANMC guidelines did not have an upper limit on age for screening. Making this revision will bring the ANMC guidelines into accordance with the national recommendations of the United States Preventive Services Task Force and various cancer organizations.[8, 9]

3. High-risk patients should continue screening until age 85.

Justification:

- United States Preventive Services Task Force and cancer organizations do not have a recommended upper limit on age for screening of high-risk patients. The CRC Screening Roundtable (held March 20, 2013) participants determined by consensus to recommend continued screening between the ages of 76 and 85 until life expectancy < 10 years and/or over age 85.

4. Polyp surveillance intervals have changed. (Refer to Table 2: Recommendations for Surveillance and/or Screening Intervals in Individuals With Baseline Average Risk.)

Justification:

- Updating the polyp surveillance intervals will bring the ANMC guidelines into accordance with the recommendations of the United States Preventive Services Task Force and cancer organizations.[8, 10]

5. The preferred CRC screening test is colonoscopy.

Justification:

- Because of the high incidence and mortality due to CRC among Alaska Native people, cancer prevention should be the primary goal of CRC screening in this population.
- Colonoscopy is the most thorough test for detecting and removing precancerous lesions. Colonoscopy should be encouraged if resources are available and patients are willing to undergo an invasive test. If not, patients should be offered an alternative CRC screening test (flexible sigmoidoscopy every 5 years or fecal immunochemical test for blood, FIT).[6]

6. Individuals with a single first-degree relative with CRC or advanced adenomas diagnosed at age ≥60 years can be screened as an average-risk person. (Refer to Table 1: Alaska Native Screening Age, Test and Interval Recommendations.)

Justification:

- Updating the first-degree relative surveillance intervals will bring the ANMC guidelines into accordance with the recommendations of the United States Preventive Services Task Force and cancer organizations.[8, 10]

Clinical Note

These guidelines are designed to assist clinicians and are not intended to supplant good clinical judgment or to establish a protocol for all patients with this condition. Patients with symptoms suggestive of possible colorectal cancer (CRC) should be referred for diagnostic procedures and are not appropriate for screening.

Risk Factors[1]

1. Age
2. Personal history of colorectal cancer or adenomatous polyps
3. Personal history of inflammatory bowel disease (ulcerative colitis or Crohn's disease)
4. Familial adenomatous polyposis (FAP) or hereditary nonpolyposis colorectal cancer (HNPCC)
5. Family history of colorectal cancer or adenomatous polyps
6. Obesity
7. Physical inactivity
8. Use of tobacco products and alcohol consumption

Symptoms of Colorectal Cancer[1]

Signs and symptoms of colorectal cancer typically occur only in advanced stages of the disease. The absence of symptoms should never be a reason to delay or ignore colorectal cancer screening.

1. A change in bowel habits such as diarrhea, constipation, or narrowing of the stool that lasts for more than a few days.
2. Abdominal pain.
3. A feeling of bloating.
4. Bleeding from the rectum or blood in the stool.
5. Anemia.
6. Decreased appetite.
7. Weakness and fatigue.
8. Weight loss.

Screening Recommendations[8, 9]

Table 1. Alaska Native Screening Age, Test and Interval Recommendations.

	Risk Category	Test	Interval
Age 40-75 years	**Average risk and healthy**[a]	Colonoscopy* Flexible sigmoidoscopy + FIT FIT	Every 10 years FS every 5 years with FIT annually Every year
		FOBT, DCBE, CTC	Not recommended as screening tests
Age 40-75 years	**High risk** CRC or adenomatous polyps in a first-degree relative diagnosed at age <60 years or two or more first-degree relatives at any age	Colonoscopy at age 40 or ten years before the youngest case in the immediate family	Every 5 years
	CRC or adenomatous polyps in a first-degree relative diagnosed at age ≥60 years or in two or more second-degree relatives with CRC	Colonoscopy at age 40 or ten years before the youngest case in the immediate family	Every 10 years
Age 76-85 years	**Average risk**	No routine screening recommended unless healthy[a] and no screening has been done previously	None
Age 76-85 years	**High risk**	Continue surveillance until life expectancy < 10 years and no high risk lesions	Follow surveillance interval recommendations
Age 86 and older		No screening recommended	None

Note: These recommendations assume that the baseline colonoscopy was complete and adequate and that all visible polyps were completely removed.
*Colonoscopy is the preferred screening test for the Alaska Native population. Flexible sigmoidoscopy and FIT should be used if colonoscopy is not available or for patients who prefer not to get a screening colonoscopy.
[a]Definition of healthy: No significant co-morbidities and life expectancy ≥10 years.

Average Risk

- **Average Risk** is defined as:
  - No personal or family history of CRC or adenomatous polyps;
  - No history of inflammatory bowel disease (ulcerative colitis or Crohn's disease);
  - No history or suspicion of genetic syndromes such as Familial Adenomatous Polyposis (FAP) or Hereditary Non-Polyposis Colorectal Cancer (HPNCC).
- Between the ages of 40 to 75, healthy Alaska Native men and women of average risk should have screening colonoscopy every 10 years, flexible sigmoidoscopy every 5 years with fecal immunochemical testing (FIT) every year, or FIT every year. Guaiac-based fecal occult blood testing (FOBT), double contrast barium enema (DCBE), and computed tomography colonography (CTC) are not recommended as screening tests for the Alaska Native population.
- Between the ages of 76 to 85, no routine screening is recommended if at least 1 prior negative colonoscopy. If never screened, consider co-morbidities and life expectancy prior to recommending screening.

High Risk

- **High Risk** is defined as:
  - A personal history of adenomatous polyps on a previous colonoscopy;
  - A personal history of colorectal cancer; or,
  - A family history of CRC or documented history of adenomatous polyps in a first degree relative or in two or more second degree relatives.
  - Personal history of inflammatory bowel disease (ulcerative colitis or Crohn's disease);
  - Personal history or suspicion of genetic syndromes such as Familial Adenomatous Polyposis (FAP) or Hereditary Non-Polyposis Colorectal Cancer (HPNCC). Persons with inherited syndromes may develop other tumor types in addition to CRC, including tumors of the endometrial, ovarian, gastric, small intestine, brain, ureter, and biliary tract.[11]
- Patients with adenomatous polyps or ulcerative colitis on screening flexible sigmoidoscopy should be referred for colonoscopy.
- Patients with a family history of colon cancer in a first-degree relative (mother, father, sister, brother, children) who was diagnosed before age 60 should have a colonoscopy every 5 years beginning at age 40, or 10 years before the youngest case in the immediate family.
- Patients with a family history of colon cancer in a first-degree relative who was diagnosed at or over age 60 OR in two or more second-degree relatives should have a colonoscopy every 10 years beginning at age 40, or 10 years before the youngest case in the family.
- Patients with a documented family history of adenomatous polyps in a first-degree relative should have a colonoscopy every 10 years beginning at age 40.
- Between the ages of 76 and 85, continued screening is recommended until life expectancy < 10 years and/or over age 85.
- No screening is recommended for patients over the age of 85, or who have significant co-morbid conditions, or have a life expectancy <10 years.

Surveillance Recommendations

Table 2. Recommendations for Surveillance and/or Screening Intervals in Individuals With Baseline Average Risk[10]

Baseline colonoscopy: most advanced finding(s)	Recommended surveillance interval (*years*)
No polyps	10
1–2 small (<10 mm) tubular adenomas	5-10
3–10 tubular adenomas	3
>10 adenomas	<3
One or more tubular adenomas ≥10 mm	3
One or more villous adenomas	3
Adenoma with high grade dysplasia	3
Serrated polyps	
Small hyperplastic[a] or serrated polyps<10 mm in rectum or sigmoid colon	10
Small hyperplastic or serrated polyps<10 mm in proximal colon[b]	5-10
Sessile serrated polyp(s) <10 mm with no dysplasia	5
Sessile serrated polyp(s) ≥10 mm	3
OR	
Sessile serrated polyp with dysplasia	
OR	
Traditional serrated adenoma	
OR	
Sessile hyperplastic polyp(s) ≥10 mm	
Serrated polyposis syndrome[c]	1
Sessile adenoma of ≥ 2 cm, removed piecemeal	<1

Note: These recommendations assume that the baseline colonoscopy was complete and adequate and that all visible polyps were completely removed.

[a]Hyperplastic: A benign serrated polyp without atypical or dysplastic features on histology.

[b]Proximal: Proximal to the splenic flexure.[c]Based on the World Health Organization definition of serrated polyposis syndrome, with one of the following criteria: (1) at least 5 serrated polyps proximal to sigmoid, with 2 or more ≥10 mm; (2) any serrated polyps proximal to sigmoid with family history of serrated polyposis syndrome; and (3) >20 serrated polyps of any size throughout the colon.

Data Sources: Lieberman DA, Rex DK, Winawer SJ, et al. Guidelines for colonoscopy surveillance after screening and polypectomy: a consensus update by the US Multi-Society Task Force on Colorectal Cancer. *Gastroenterology.* Sep 2012;143(3):844-857;[10] Rouse RV and Mojtahed A. (2013). "Sessile Serrated Polyp/Adenoma – Surgical Pathology Criteria." Retrieved 11/18/13, from http://surgpathcriteria.stanford.edu/gitumors/sessile-serrated-polyp-adenoma.[12]

Polyp Surveillance (Refer to Table 2)

Polyp surveillance guidelines are based on national recommendations.[8, 10]

- Patients with no polyps or small (<10 mm) hyperplastic polyps in the rectum or sigmoid colon should be considered to have normal colonoscopies and should be rescreened in 10 years.
- Patients with small (<10 mm) hyperplastic or serrated polyps proximal to the splenic flexure should have their next surveillance colonoscopy in 5-10 years.
- Patients with one or two small (<10 mm) tubular adenomas should have their next surveillance colonoscopy in 5-10 years. The precise timing of 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.
- Patients with 3-10 tubular adenomas should have their next surveillance colonoscopy in 3 years.
- Patients with >10 adenomas should have their next surveillance colonoscopy in less than 3 years, with the precise interval determined by the judgment of the endoscopist.
- Patients with one or more tubular adenomas ≥10 mm, one or more villous adenomas, or an adenoma with high grade dysplasia should have their next surveillance colonoscopy in 3 years.
- Patients with sessile serrated polyp(s) or serrated adenoma(s) (SSA/P) <10 mm with no dysplasia should have their next surveillance colonoscopy in 5 years.
- Patients with SSA/P(s) ≥10 mm OR SSA/P with dysplasia OR traditional serrated adenoma should have their next surveillance colonoscopy in 3 years.
- Large hyperplastic polyps (≥10 mm), especially polyps located proximal to the splenic flexure or those seen in the context of serrated polyposis syndrome (previously known as hyperplastic polyposis syndrome) are now considered more likely to harbor malignant potential and may undergo malignant transformation more rapidly than adenomatous polyps. Patients with these atypical flat hyperplastic polyps should have their next colonoscopy in 3 years.[13]
- Patients with serrated polyposis syndrome should have their next surveillance colonoscopy in 1 year.
- Discontinuation of surveillance colonoscopy should be considered in persons with serious co-morbidities or with <10 years life expectancy OR at age ≥ 85.
- Patients with a history of CRC, genetic syndromes (FAP, HNPCC, etc.) or ulcerative colitis should be followed at appropriate intervals using colonoscopy.

Colonoscopy Quality Measures

Colonoscopy quality standards are based on national recommendations.[10, 14, 15]

1. Bowel preparation.
    a. Documentation of adequacy of bowel preparation in procedure report, i.e. Excellent, Good, Fair, Poor, Inadequate.
    b. If bowel preparation is inadequate, additional education should be given to the patient and they should be scheduled for a repeat examination within 1 year.
    c. Split bowel preparations are recommended for improved endoscopic quality.
2. Cecal intubation.
    a. Documentation of cecal intubation in the procedure report with photodocumentation.
    b. Method of determination, i.e. designation of characteristic landmarks (ileocecal valve, ileocecal bulb, tripartite cecal folds, and appendiceal orifice).
    c. If cecum cannot be reached, clinician will consider a DCBE procedure or a follow-up colonoscopy within one year.
3. Documentation of number, type, size and location of polyps found.
4. Documentation of complications (occurring within 30 days of procedure).
    a. Types of complications:
        1. Bleeding;
        2. Cardiopulmonary events (hypotension, hypoxia, arrhythmia, etc);
        3. Complications related to anesthesia;
        4. Perforation;
        5. Post-polypectomy syndrome;
        6. Excessive abdominal pain;
        7. Emergency room visit or hospital admission; or
        8. Death.
5. Reversal agents used/cardiorespiratory problems requiring intervention.
6. Documentation of biopsies and recommended follow-up based on pathology report should be included in colonoscopy provider dictation.
7. Facilities should track quality of bowel preparation, cecal intubation rate, complication rate, and adenoma/polyp detection rate (ADR) by both provider and facility for screening colonoscopies. The ADR for men should be at least 25% and for women should be at least 15%.

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