CATEGORIZING CANCER RISK

Stratify patient cancer risk into average, increased (moderate) or high risk to determine management and next steps.

The risk assessment process starts by identifying red flags and patterns in the patient's family history, and then uses that information to stratify individuals into average, increased, or high risk. The goal of this simplified 3-tiered stratification is to identify individuals who should 1) consider more frequent and/or earlier screening (increased risk) or 2) be referred to genetics for further evaluation and undergo high risk cancer screening (high risk). Remember that anyone presenting with alarm signs and symptoms of CRC should move straight to further evaluation (see page 61), but still might need to see genetics in the future for cancer genetic risk assessment. See guidelines for specific increased and high risk criteria.

The steps below are educational in nature and address general patterns seen in hereditary and familial cancers. As discussed in Chapter 2, you can customize your process and select tools to help you assess and stratify risk that align with the goals of your practice.

PARTICIPANTS
Provider, patient, IT

WHAT YOU'LL NEED
Risk assessment tool

BARRIERS
Incomplete or missing family history information, misattributed family relationships (e.g., paternity), complex family relationships and structure, small families, adoption, early deaths due to other causes, prophylactic surgeries that may prevent cancers, and lack of medical record documentation

PRACTICE THIS SKILL
Web based module on Categorizing Cancer Risk

LEARN MORE
Establish a System for Structured Assessment

Professional Society Guidelines

STEPS

1 Based on the red flags identified in the patient history, assign a risk category.

High risk: individuals at risk for a hereditary cancer syndrome.
Individuals at high risk for a hereditary cancer syndrome typically have one or more of these general family history features:

- 3 or more relatives with similar or related cancers
- 2 generations of cancer cases, and
- 1 or more individuals diagnosed at a younger than usual age (< 50 years) or with a rare presentation, such as > 10 adenomas or a known hereditary cancer syndrome

Moderate/increased risk: those with personal or familial risk factors.

A patient may be at increased risk for cancer because of a family history contribution, or personal and lifestyle risk factors, or a combination of the two.

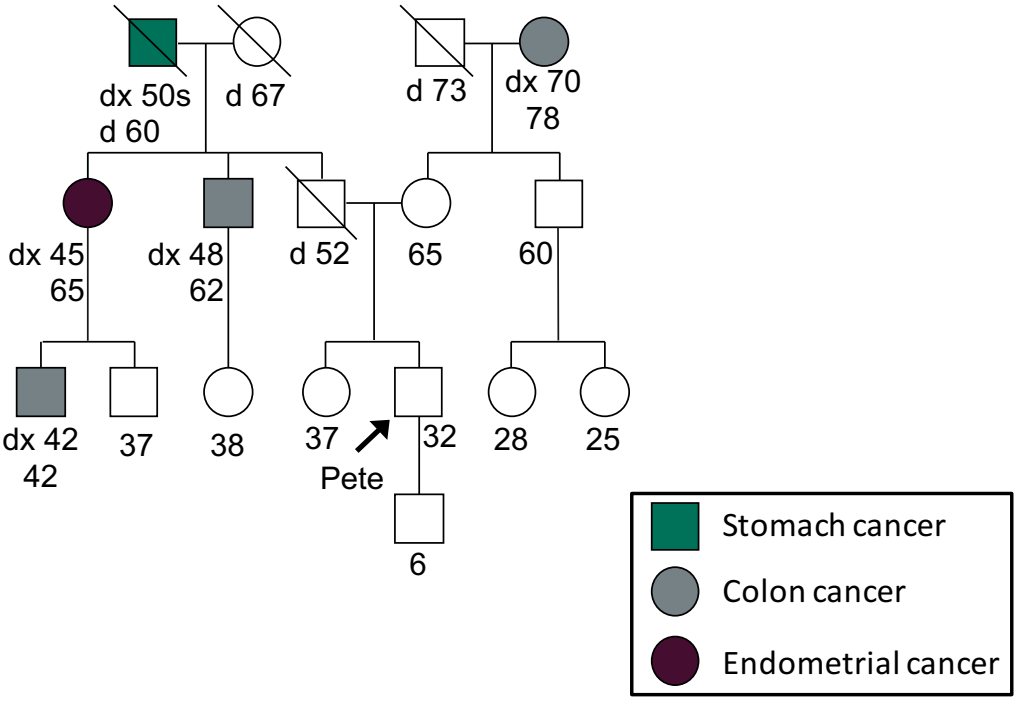
- Family histories suggestive of increased risk may show familial clustering of cancer but do not meet the criteria for high risk.
    - One first-degree relative with CRC at average age (> 60 years), or
    - Two second-degree relatives with CRC at any age
- Consider risk factors in personal history, such as inflammatory bowel disease and ethnicity.

Average risk: those with few or no risk factors.

WORKED EXAMPLE OF RISK ASSESSMENT TOOLS

Patient presents with the following collected family history:

Paternal uncle with CRC dx at 48, living at 62
Paternal aunt with endometrial cancer dx at 45, living at 65
Paternal cousin with CRC dx at 42, living at 42
Paternal grandfather with stomach cancer in 50s, died at 60
Maternal grandmother with CRC dx at 70, living at 78



COLORECTAL CANCER RISK ASSESSMENT CHECKLIST

POSSIBLY HIGH RISK

- ☐ Patient or first-degree relative[1] with colon or rectal cancer before age 50
- ☐ Patient or first-degree relative with uterine cancer before age 50
- ☐ Patient or relative with more than one of the Lynch-associated[2] cancers (in the same person) (Lynch-associated cancers include: Colon, rectal, uterus, stomach, small intestine, ovary, urinary system, renal pelvis, pancreas, brain (usually glioblastoma), and sebaceous skin lesions and keratoacanthomas)
- ☐ Patient with cancer and an abnormal tumor screening test for Lynch syndrome
- ☐ Patient with 10 or more precancerous polyps (adenomas), 2 or more hamartomatous polyps, or 5 or more serrated polyps
- ☒ One member of the family (may include the patient) with colon cancer at or after age 50 and a first- or second-degree relative on the same side of the family with any of the Lynch-associated cancers[2] before age 50
- ☒ Three members on the same side of the family (may include the patient) with any of the Lynch-associated cancers[2] at any age
- ☐ Patient or a relative with any of the Lynch-associated cancers[2] at any age with a limited family history due to early death, a small family or adoption
- ☐ A known mutation in a colon cancer gene (*MLH1, MSH2, MSH6, PMS2, APC*, others) in the family

POSSIBLY INCREASED RISK

- ☐ Personal history of CRC
- ☐ Personal history of adenomas or sessile serrated polyps
- ☐ Personal history of inflammatory bowel disease (Ulcerative colitis or Crohn's colitis)
- ☐ African American ancestry
- ☐ One or more first-degree relatives with CRC or confirmed advanced adenoma at any age
- ☒ One or more second degree relatives with CRC <50

AVERAGE RISK

- ☐ Absence of the above risk factors

1 First-degree relatives (FDR): Parents, siblings, children. Second-degree relatives (SDR): Grandparents, aunts, uncles, nieces, nephews, half-siblings, grandchildren.

2 Colon, rectal, uterus, stomach, ovary, small intestine, pancreas, ureter and renal pelvis, brain (usually glioblastoma), as well as sebaceous skin lesions and keratoacanthomas.

Adapted with permission from work by Gregory Feero, MD, PhD and Susan Miesfeldt, MD. Disclaimer: This checklist was developed by primary care and genetic experts based on NCCN guidelines but has not been validated. These risk criteria are designed to assist in the clinic-based evaluation of patients and families. They do not reflect all increased and high risk criteria, and may not reflect guidelines that have been updated past the date of this publication. For questions regarding individual patients and families, contact your local cancer genetic provider.

SIMPLE FAMILY HISTORY SCREENING TOOL FOR CRC

	YES	NO
1. Have you had either of the following conditions diagnosed before age 50?		
Colon or rectal cancer		
Colon or rectal polyps		
2. Do you have a first-degree relative (mother, father, brother, sister, or child) with any of the following conditions diagnosed before the age of 50?		
Colon or rectal cancer		
Cancer of the uterus, ovary, stomach, small intestine, urinary tract (kidney, ureter, bladder), bile ducts, pancreas, or brain		
3. Do you have three or more relatives with a history of colon or rectal cancer? (This includes parents, brothers, sisters, children, grandparents, aunts, uncles, and cousins)	X	
If YES to any question → Refer for additional assessment or genetic evaluation.		
If NO to all → proceed with the following questions:		
4. Do you have any first-degree relatives (mother, father, brother, sister, or child) with cancer of the colon or rectum?		
If NO → Average risk family. Provide average risk screening guidelines to patient and their family members (start screening with any acceptable test at age 50)*		
If YES to #4, proceed with the following questions:		
5. Was the first-degree relative under age 60 when CRC was diagnosed?		
6. Do you have more than one first-degree relative with CRC?		
If both NO → Intermediate risk family. Provide risk-based screening guidelines to patient and their family members.		
If either YES → High risk family. Provide high risk screening guides for patient and their family members.		

**The 2018 ACS guidelines for CRC screening now recommend that CRC screening start at age 45 for average risk individuals, while the USPSTF recommends starting at age 50. Please adjust the chart as needed, per your practice's protocol.*

Published by:
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Patel et al. Dig Dis Sci. 2015;60:748.