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Clinician Management Resource for *SMAD4* (Juvenile polyposis syndrome)

This overview of clinical management guidelines is based on this patient's positive test result for a pathogenic or likely pathogenic variant in the *SMAD4* gene. Unless otherwise stated, medical management guidelines used here are limited to those issued by the National Comprehensive Cancer Network® (NCCN®)[1] in the U.S. Please consult the referenced guideline for complete details and further information.

Clinical correlation with the patient's past medical history, treatments, surgeries and family history may lead to changes in clinical management decisions; therefore, other management recommendations may be considered. Genetic testing results and medical society guidelines help inform medical management decisions but do not constitute formal recommendations. Discussions of medical management decisions and individualized treatment plans should be made in consultation between each patient and his or her healthcare provider, and may change over time.

SCREENING/SURGICAL CONSIDERATIONS*,1	AGE TO START	FREQUENCY^
Colorectal Cancer		
Colonoscopy with polypectomy** for pediatric patients	12-15 years old Colonoscopy should be initiated at an earlier age or repeated more frequently if signs/symptoms of GI blood loss.	Every 2-3 years if polyps are found, or shorter intervals based on polyp size, number, and pathology. If no polyps, resume at 18 years old.
Colonoscopy** for adult patients	18 years old	Every 1-3 years. Intervals should be based on polyp size, number, and pathology.
Stomach Cancer		
Upper endoscopy with polypectomy** for pediatric patients	12-15 years old Endoscopy should be initiated at an earlier age or repeated more frequently if signs/symptoms of GI blood loss.	Every 2-3 years if polyps are found, or shorter intervals based on polyp size, number, and pathology. If no polyps, resume at 18 years old.
Upper endoscopy** for adult patients	18 years old	Every 1-3 years. Intervals should be based on polyp size, number, and pathology.
Hereditary Hemorrhagic Teleangiectasia		
Screen for signs, symptoms, and vascular lesions associated with HHT	Within first 6 months of life, or at time of diagnosis	Individualized

* Due to the rarity of the syndrome and complexities of diagnosing and managing individuals with juvenile polyposis syndrome, referral to a specialized team is recommended.

** Gastrectomy and/or colectomy should be considered if polyp burden or polyp-related symptoms (i.e., anemia) cannot be controlled endoscopically or prevent optimal surveillance for cancer.

^ Any new signs/symptoms of GI disease should receive timely workup in both the pediatric and adult populations regardless of surveillance interval.

1. Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Genetic/Familial High-Risk Assessment: Colorectal, Endometrial, and Gastric. v3.2024. © National Comprehensive Cancer Network, Inc. 2024. All rights reserved. Accessed October 31, 2024.. To view the most recent and complete version of the guideline, go online to NCCN.org. NCCN makes no warranties of any kind whatsoever regarding their content, use or application and disclaims any responsibility for their application or use in any way.

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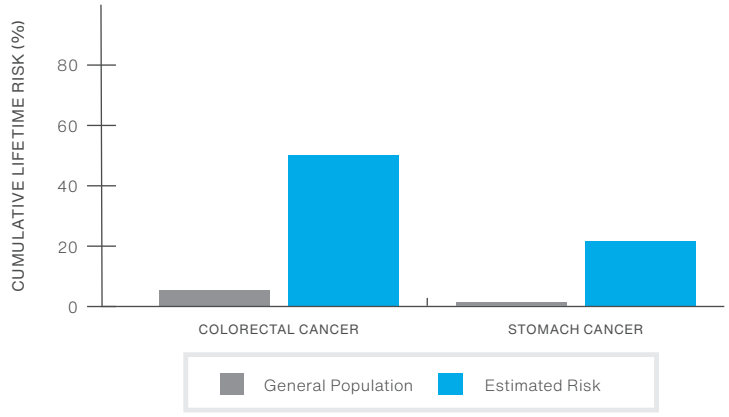
Understanding Your Positive *SMAD4* Genetic Test Result

INFORMATION FOR PATIENTS WITH A PATHOGENIC OR LIKELY PATHOGENIC VARIANT

5 Things To Know

1	Result	Your testing shows that you have a pathogenic or likely pathogenic variant in the *SMAD4* gene.
2	Juvenile polyposis syndrome /Hereditary hemorrhagic telangiectasia	People with a pathogenic or likely pathogenic *SMAD4* variant have juvenile polyposis syndrome (JPS) or a combined syndrome of JPS with hereditary hemorrhagic telangiectasia (HHT).
3	Cancer risks and other medical concerns	You have an increased chance to develop non-cancerous gastrointestinal polyps, as well as colorectal or stomach cancer. In addition, you may be at risk for HHT, which is a disorder in which some blood vessels do not develop properly. People with HHT have frequent nosebleeds and an increased risk of blood clots.
4	What you can do	Risk management decisions are very personal. There are options to detect cancer early or lower the risk to develop cancer. It is important to discuss these options with your healthcare provider and decide on a plan that works for you.
5	Family	Family members may also be at risk – they can be tested for the pathogenic or likely pathogenic *SMAD4* variant that was found in you. It is recommended that you share this information with your family members so they can learn more and discuss with their healthcare providers.

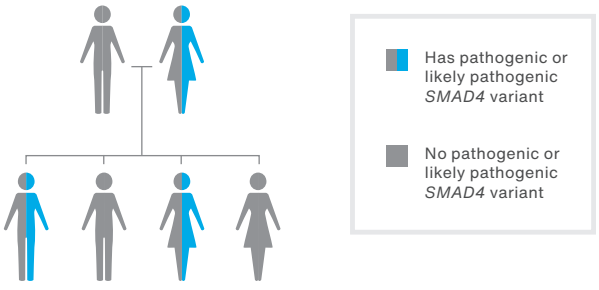
SMAD4 Lifetime Cancer Risks*



* Because risk estimates vary in different studies, only approximate risks are given. Cancer risks will differ based on individual and family history.

SMAD4 in the Family

There is a 50/50 random chance to pass on the pathogenic or likely pathogenic *SMAD4* variant to each of your children.



RESOURCES

- National Society of Genetic Counselors nsgc.org
- Canadian Association of Genetic Counsellors cagc-accg.ca

Please discuss this information with your healthcare provider. The cancer genetics field is continuously evolving, so updates related to your *SMAD4* result, medical recommendations, and/or potential treatments may be available over time. This information is not meant to replace a discussion with a healthcare provider, and should not be considered or interpreted as medical advice.

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