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Clinician Management Resource for Hereditary Paraganglioma/Pheochromocytoma syndrome

This overview of clinical management guidelines is based on this patient's positive test result. Unless otherwise stated, medical management guidelines used here are limited to those issued by the National Comprehensive Cancer Network (NCCN) 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 decision 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.

SCREENING CONSIDERATIONS[1, ^, *]	AGE TO START	FREQUENCY
Paraganglioma/Pheochromocytoma (PGL/PCC) -specific screening recommendations for patients with confirmed germline hereditary PGL/PCC syndrome		
Blood pressure monitoring.	6-10 years old for patients with *SDHB* mutations 10-15 years for patients with all other forms of hereditary PGL/PCC	At all medical visits
Measurement of plasma free metanephrines or 24-hour urine for fractionated metanephrines.	6-10 years old for patients with *SDHB* mutations 10-15 years for patients with all other forms of hereditary PGL/PCC	Annually
Cross-sectional imaging of skull base to pelvis. Whole body MRI or other non-radiation-containing imaging procedures. If whole body MRI not available, may consider abdominal MRI, skull base and neck MRI, and chest CT.**	6-10 years old for patients with *SDHB* mutations 10-15 years for patients with all other forms of hereditary PGL/PCC	Every 2–3 years

^ Patients with *SDHD*, *SDHAF2*, and *MAX* mutations are most at risk if the pathogenic variant was paternally inherited. Recommend following the above recommendations if the parent of origin is unknown. Consider screening for patients with maternally inherited variants as case reports of tumor occurrence exist.

* If asymptomatic and without a prior history of elevation, annual follow-up and testing can be omitted or done with imaging every 2-3 years. Since SDH genes have variability in their tumor penetrance and risk for malignancy, consideration can be given to modified screening intervals, especially for less penetrant genes such as *SDHA*.

** Available data suggest that patients with *SDHAF2* mutations are primarily at risk for head and neck tumors and patients with *MAX* mutations are primarily at risk for adrenal tumors. Therefore, consideration can be given to more targeted imaging in these cohorts.

1. Referenced with permission from the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines) for Neuroendocrine and Adrenal Tumors v1.2023. National Comprehensive Cancer Network, Inc. 2023. All rights reserved. Accessed December 6, 2023. To view the most recent and complete version of the guideline, go 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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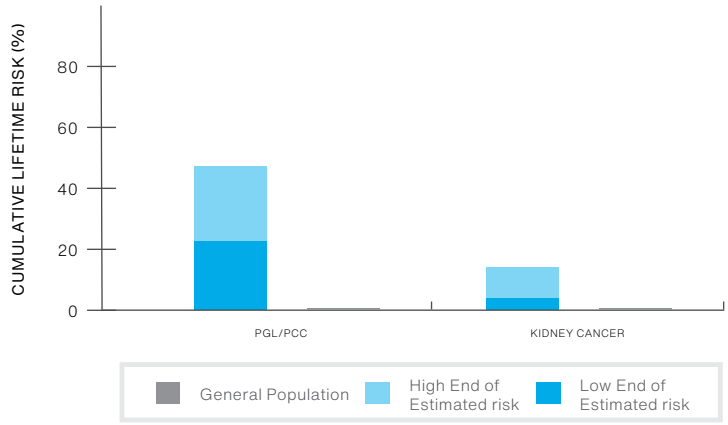
Understanding Your Positive *SDHB* Genetic Test Result

INFORMATION FOR PATIENTS WITH A PATHOGENIC MUTATION OR VARIANT, LIKELY PATHOGENIC

5 Things to Know

1	*SDHB* mutation	Your testing shows that you have a pathogenic mutation or a variant that is likely pathogenic in the *SDHB* gene.
2	Non-cancerous tumor and cancer risks	You have an increased chance to develop paragangliomas (PGLs)/pheochromocytomas (PCCs), gastrointestinal stromal tumors (GISTs), and kidney cancer.
3	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 doctor and decide on a plan that works for you.
4	Other medical concerns	Individuals with *SDHB* mutations may have an increased risk to have a child with mitochondrial complex II deficiency, but only if their partner also carries a mutation in the *SDHB* gene. Mitochondrial complex II deficiency is a rare, highly variable autosomal recessive condition that can can affect many different parts of the body, including the brain, heart, and muscles.
5	Family	Family members may also be at risk – they can be tested for the *SDHB* mutation 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.

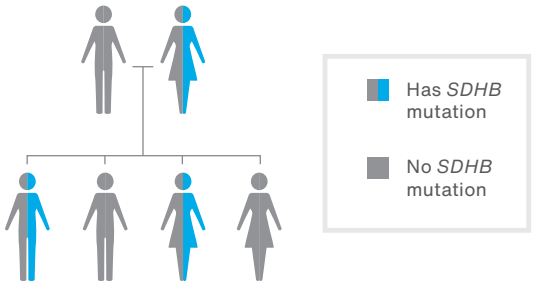
SDHB Mutation Lifetime Cancer Risks*



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

SDHB Mutations in the Family

There is a 50/50 random chance to pass on an *SDHB* mutation to each of your children. The image below shows that everyone can carry and pass on these mutations, regardless of their sex at birth.



RESOURCES

- Pheo Para Alliance pheopara.org
- National Society of Genetic Counselors nsgc.org
- Canadian Society 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 *SDHB* 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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