

# Hereditary Cancer Genetic Test Results

*This report is intended to facilitate a discussion between providers and their patients.*

## INFORMATION FOR INDIVIDUALS WITH A PATHOGENIC OR LIKELY PATHOGENIC VARIANT IN THE *VHL* GENE

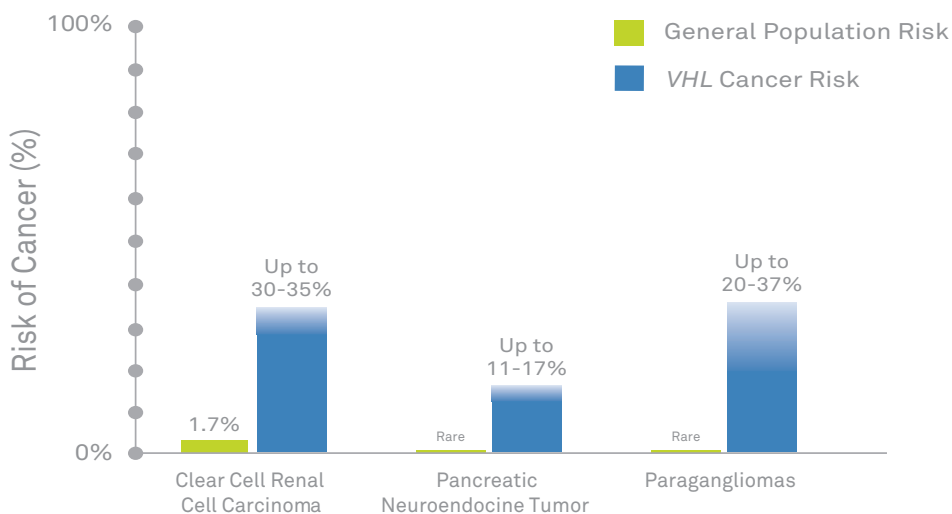
### What this result means

Individuals who have a pathogenic or likely pathogenic variant (sometimes called a mutation) in the *VHL* gene have von Hippel-Lindau (*VHL*) syndrome. Individuals with *VHL* have a higher-than-average chance to develop the following tumors/cancers: hemangioblastomas, clear cell renal cell carcinoma, pancreatic and renal cysts, pheochromocytomas, endolymphatic sac tumors, and pancreatic neuroendocrine tumors.

### Cancer risk

The graph below compares general population cancer risks to the potential cancer risks associated with pathogenic variants in the *VHL* gene. Individual cancer risks may be higher or lower depending on the specific variant identified in addition to each individual's gender, age, medical history, and family history. Not everyone with a pathogenic or likely pathogenic variant will develop cancer.

Information about cancer risks related to pathogenic variants in *VHL* may change over time, so it is important for the ordering healthcare provider, genetic counselor, and patient to keep in contact regarding this result.



\*Data on file, Quest Diagnostics 2022.

## Options for managing cancer risk

Guidelines for cancer prevention and early detection are evolving. A referral to an appropriate specialist may be considered. For more information, see the “Additional resources” section on page 4. Each individual’s gender, age, medical history, family history, quality of life goals, reproductive desires, general health status, and other medical information should be taken into account when developing a medical management plan.

	Considerations for cancer prevention/early detection	Age to begin	Frequency
Paraganglioma/ Pheochromocytomas	Blood pressure monitoring	2 years	All medical visits
	Measurement of plasma-free metanephrines or 24-hour urine metanephrines	5 years	Annual
Paragangliomas/ Pheochromocytoma, Kidney Cancer, Pancreatic Neuroendocrine tumors	Abdominal MRI or CT with and without IV contrast	15 years old	Every 2 years

Source: National Comprehensive Cancer Network® Clinical Practice Guidelines in Oncology: Neuroendocrine and Adrenal Tumors. V4.2021.  
National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology: Kidney Cancer. V4.2022. [www.NCCN.org](http://www.NCCN.org)

## What this result means for family members

Family members may have the same *VHL* variant that was identified in this individual. Parents, brothers, sisters, and children may each have a 50% chance of having the same variant. Other blood relatives also have an increased risk for the variant. It is important to share these test results with family members to allow each of them to decide if they want to be tested. Some family members may only need testing for this one *VHL* variant, while other relatives may need a more comprehensive test with multiple genes. Children of parents who both have a *VHL* variant are at risk for familial erythrocytosis type 2. A genetic counselor or other healthcare provider can help determine the most appropriate testing options.

## Reproductive information

Individuals interested in family planning should speak to their doctor and/or genetic counselor to discuss reproductive options. This may include discussion of prenatal diagnosis or pre-implantation genetic testing.

### Risk assessment and counseling: an important first step

A genetic counselor or other qualified healthcare professional can help explain test results and what they mean for a patient and family members. A team of specialized Quest genetic counselors or clinical geneticists is available to speak with healthcare providers about test results by calling 1.866.GENE.INFO (1.866.436.3463). Patients can access a directory of independent genetic counselors at [FindAGeneticCounselor.com](https://www.findageneticcounselor.com).





## Creating a plan: a checklist for patients

- ☐ Get a copy of your genetic test results.
  - ☐ Talk with your healthcare provider about what this result means and the things you can do to manage your risk.
  - ☐ Ask your healthcare provider if additional genetic testing may benefit you.
  - ☐ Share your test results with your family members and give them a copy. Their healthcare provider will need this information in order to provide them with the most accurate risk assessment.
  - ☐ Talk with your healthcare provider regularly so that you know about any important changes in genetic testing and cancer screening options. Be sure to let them know of any changes in your family history, including family members' genetic test results.
  - ☐ Consider talking to a genetic counselor about your results.
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## Research opportunities

**Prospective Registry of MultiPlex Testing (PROMPT)** [PromptStudy.info](https://www.promptstudy.info)

**GenomeConnect:**  
The ClinGen Patient Portal  
[GenomeConnect.org](https://www.genomeconnect.org)

## Additional resources

**National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology (NCCN Guidelines®): Neuroendocrine and Adrenal Tumors** [NCCN.org](https://www.nccn.org)

**Quest Hereditary Cancer Testing Solutions**  
[QuestHereditaryCancer.com](https://www.questhereditarycancer.com)

**National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology (NCCN Guidelines®): Kidney Cancer** [NCCN.org](https://www.nccn.org)

**Genetic Information Nondiscrimination Act (GINA)** [GINAhelp.org](https://www.ginahelp.org)

**The VHL Alliance**  
[VHL.org](https://www.vhl.org)

**National Society of Genetic Counselors**  
[FindAGeneticCounselor.com](https://www.findageneticcounselor.com)

This information is not a substitute for medical advice, diagnosis, or treatment. The diagnosis or treatment of any disease or condition may be based on personal history, family history, symptoms, a physical examination, laboratory test results, and other information considered important by a healthcare provider. Always talk with a healthcare provider about the meaning of genetic test results and before stopping, starting or changing any medication or treatment.

The classification and interpretation of the variant(s) identified reflect the current state of Quest Diagnostics' understanding at the time of this report. Variant classification and interpretation are subject to professional judgment, and may change for a variety of reasons including, but not limited to, updates in classification guidelines and availability of additional scientific and clinical information. This test result should be used in conjunction with the healthcare provider's clinical evaluation. Inquiry regarding potential changes to the classification of the variant is strongly recommended prior to making any clinical decision. For questions regarding variant classification updates, please call Quest Diagnostics at 1.866.GENE.INFO (1.866.436.3463) to speak to a genetic counselor or laboratory director, or visit [QuestDiagnostics.com/VariantIQ](https://www.questdiagnostics.com/VariantIQ).

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