MET gene

Associated Syndrome Name: Hereditary papillary renal cell carcinoma (HPRCC)

MET Summary Cancer Risk Table

CANCER	GENETIC CANCER RISK
Renal	High Risk

MET gene Overview

Hereditary papillary renal cell carcinoma (HPRCC) [1, 2, 3, 4]

- Individuals with *MET* gene mutations have a condition known as hereditary papillary renal cell carcinoma (HPRCC). This condition is also known as hereditary papillary renal cancer (HPRC).
- Patients with HPRCC have a high risk for renal cancer. HPRCC related kidney cancers are usually multi-focal, and bilateral (affecting both kidneys). Although these tumors are slow growing, there is a risk of spread if not treated.
- In addition to renal cancers, patients with HPRCC often develop multiple kidney polyps and cysts.
- Renal cancers in patients with HPRCC are typically not diagnosed until after age 50, but there are cases diagnosed at younger ages.
- Although there are high cancer risks for patients with mutations in *MET*, there are interventions that may be effective at reducing these risks. Guidelines from the National Comprehensive Cancer Network (NCCN) are listed below. It may be appropriate to interpret these results in consultation with cancer genetics experts.

MET gene Cancer Risk Table

CANCER TYPE	AGE RANGE	CANCER RISK	RISK FOR GENERAL POPULATION
Renal	To age 80[4, 5]	90%	1.4%

MET Cancer Risk Management Table

The overview of medical management options provided is a summary of professional society guidelines. The most recent version of each guideline should be consulted for more detailed and up-to-date information before developing a treatment plan for a particular patient.

This overview is provided for informational purposes only and does not constitute a recommendation. While the medical society guidelines summarized herein provide important and useful information, medical management decisions for any particular patient should be made in consultation between that patient and his or her healthcare provider and may differ from society guidelines based on a complete understanding of the patient's personal medical history, surgeries and other treatments.

CANCER TYPE	PROCEDURE	AGE TO BEGIN	FREQUENCY (UNLESS OTHERWISE INDICATED BY FINDINGS)
Renal	Abdominal MRI (preferred) or CT, with and without contrast[2]	Age 30, or 10 years younger than the earliest renal cancer diagnosis in the family	Every 1 to 2 years

Information for Family Members

The following information for Family Members will appear as part of the MMT for a patient found to have a mutation in the MET gene.

This patient's relatives are at risk for carrying the same mutation(s) and associated cancer risks as this patient. Cancer risks for females and males who have this/these mutation(s) are provided below.

Family members should talk to a healthcare provider about genetic testing. Close relatives such as parents, children, brothers and sisters have the highest chance of having the same mutation(s) as this patient. Other more distant relatives such as cousins, aunts, uncles, and grandparents also have a chance of carrying the same mutation(s). Testing of at-risk relatives can identify those family members with the same mutation(s) who may benefit from surveillance and early intervention.

References

1. Northrup BE, et al. Hereditary renal tumor syndromes: imaging findings and management strategies. AJR Am J Roentgenol. 2012 199:1294-304.PMID: 23169721.

2. Motzer RJ et al. NCCN Clinical Practice Guidelines in Oncology®: Kidney Cancer. V 1.2026. Jul 24. Available at https://www.nccn.org.

3. Verine J, et al. Hereditary renal cancer syndromes: an update of a systematic review. Eur Urol. 2010 58:701-10. PMID: 20817385.

4. Gupta S, et al. Diagnostic approach to hereditary renal cell carcinoma. AJR Am J Roentgenol. 2015 204:1031-41. PMID: 25905938.

5. SEER*Explorer: An interactive website for SEER cancer statistics [Internet]. Surveillance Research Program, National Cancer Institute. [Cited 2025 Aug 12]. Available from https://seer.cancer.gov/explorer/.

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