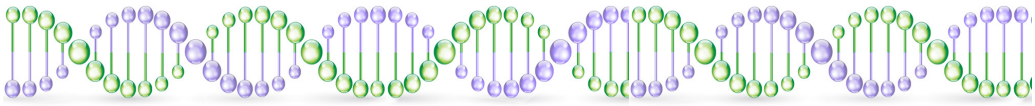
Information Sheet



Hereditary Papillary Renal Cell Carcinoma syndrome Type 1 and the MET gene

Hereditary Papillary Renal Cell Carcinoma syndrome Type 1 is very rare, occurring in less than 1% of individuals diagnosed with a papillary renal cell carcinoma.

Papillary renal cell carcinomas make up 10% of cancers affecting the kidney. Historically, papillary renal cancers were divided into type 1 and type 2. Type 2 papillary cancers are associated with FH gene mutations and the Hereditary Leiomyomatosis and Renal Cell Carcinoma syndrome.

How is Hereditary Papillary Renal Cell Carcinoma syndrome Type 1 diagnosed?
Hereditary Papillary Renal Cell Carcinoma type 1 is diagnosed via germline genetic testing and is caused by mutations in the MET gene. Genetic testing is rarely done just for the mutations in the MET gene, unless a pathogenic mutation has been found in a blood relative. Instead, genetic testing is usually performed via a panel of 7 to 12 genes associated with increased risk of kidney cancer. These genes may include BAP1, FH, FLCN, PTEN, MET, SDHB, SDHC, SDHD, TSC1, TSC2, VHL and TP53. (Follow the links on our website to read more about the hereditary cancer syndrome associated with each gene).

Which people with kidney cancers should have genetic testing?
Genetic testing in individuals with kidney cancers is based on the age at diagnosis, cancer pathology and personal and family history. Genetic testing should be performed if there is:

- a diagnosis before age 40
- bilateral kidney cancers
- a rare kind of kidney cancer such as chromophobe or oncocytoma
- loss of staining on immunohistochemical testing of the cancer for proteins associated with FH, BAP1 or the SDH genes
- clinical features associated with a hereditary cancer syndrome such a rare skin lesions, paraganglioma or pheochromocytoma or other cancers
- multiple close blood relatives diagnosed with kidney cancers

How is Hereditary Papillary Renal Cell Carcinoma syndrome type 1 managed?
An individual with hereditary papillary renal cell carcinoma syndrome type 1 should start screening at age 30. Screening involves:

- an MRI of both kidneys starting at age 30
- an MRI every 3 years if there is no abnormality detected

If a kidney cancer develops in someone with a MET mutation, they are usually slow growing and unlikely to spread (metastasise). It means that small lesions may just be watched very carefully until they reach 3cm and then they should be removed.

It also means that kidney-sparing surgery, to just remove the damaged part of the kidney rather than a nephrectomy (removing the whole kidney) can be performed in most cases.

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Clinics in Sydney. Telehealth throughout Australia including to rural and regional areas
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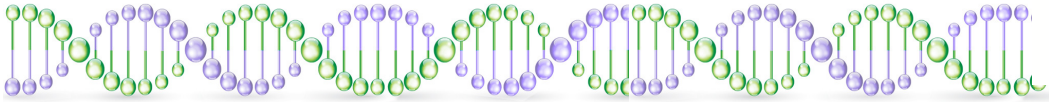

Is Hereditary Papillary Renal Cell Carcinoma syndrome Type 1 inherited?
Yes. Hereditary Papillary Renal Cell Carcinoma syndrome Type 1 is a hereditary cancer syndrome caused by a mutation in the MET gene.

There is a 50% chance of a person who carries a germline MET mutation, whether male or female, passing the mutation to their son or daughter. If a mutation is identified, then predictive testing is available for blood relatives.

Does this sound like you or your family?
Have you been diagnosed with kidney cancer at a young age or have you had more than one kidney cancer? Has a MET mutation been detected in a blood relative? Genetic testing is available.

Make an appointment with Dr Hilda High at Sydney Cancer Genetics. It is a confidential opportunity to discuss your personal and family history of cancer and genetic testing can be organised, if needed.

More information is available on our website, including links to the following:

- The Cancer Genetics section of the Cancer Institute's eviQ website provides up-to-date Australian-based management guidelines.

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