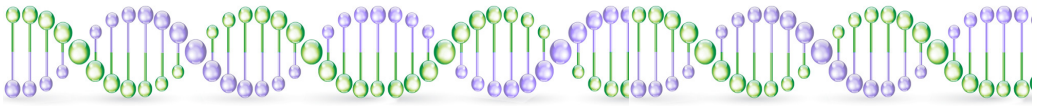
Information Sheet



SYDNEY CANCER GENETICS

BAP1 Tumour Predisposition syndrome and the BAP1 gene

BAP1 Tumour Predisposition syndrome is caused by mutation in the BAP1 gene. It is very rare, with less than 100 families known worldwide.

What a BAP1 tumours?

BAP1 Tumour Predisposition syndrome is associated with melanocytic tumours, including melanoma, melanoma of the eye (uveal melanoma), malignant mesothelioma, renal cell carcinoma and a type of meningioma called a rhabdoid meningioma. Other skin lesions include basal cell carcinomas and atypical Spitz tumours.

What are Atypical Spitz tumours?

Atypical Spitz tumours are skin-coloured to reddish-brown, averaging 5mm in diameter. The histologic findings are between those of a Spitz nevus (benign) and a melanoma (cancer). In these tumours, both copies of the BAP1 gene are inactivated, leading to loss of staining for the BAP1 protein on immunohistochemistry. This may be a clue to an inherited BAP1 mutation and genetic testing is usually recommended.

What are uveal melanomas?

Uveal melanomas affect the iris (coloured part of the eye), the ciliary body (includes the muscle that changes the shape of the lens when the eye focuses) and/or the choroid (part of the wall of the eye). They are very rare affecting about 5 in a million people each year. Uveal melanomas are more common in people with light eye colour, fair skin and blond hair. Uveal melanomas usually present with a dark spot visible in the eye. If caught and treated early, sight can be saved.

There is a 30% chance of a BAP1 mutation in a family with 2 or more uveal melanomas. All uveal melanoma should be tested for loss of the BAP1 protein. This testing is Medicare funded.

Management of BAP1 Tumour Predisposition syndrome

Because it is so rare, scientists are still trying to determine the lifetime risks of having a BAP1 mutation. Management guidelines for individuals with a BAP1 mutation include following:

- follow sun sense guidelines
- avoid arc welding due to the risk of uveal (eye) melanoma
- review of the eye by an ophthalmologist every 6 to 12 months from age 16
- review with a dermatologist every 6 months from age 18.
- annual kidney scan from age 30 (alternating ultrasound and MRI, if available)

Genetic testing for BAP1 mutations

Genetic testing for germline BAP1 mutations is recommended if there is loss of staining for the BAP1 protein in IHC testing of a tumour or cancer. Genetic testing should also be considered if there are two or more confirmed BAP1-associated tumours either in the same person or in 2 closely related people. The tumours include:

- uveal melanoma
- malignant mesothelioma
- renal cell carcinoma
- rhabdoid meningioma

Because they are so common in Australia, skin cancers such as melanoma and basal cell carcinomas are not included in this list unless there is loss of staining of BAP1 on IHC testing.

Clinics in Sydney. Telehealth throughout Australia including to rural and regional areas
All Correspondence: PO Box 845, Broadway, NSW, 2007
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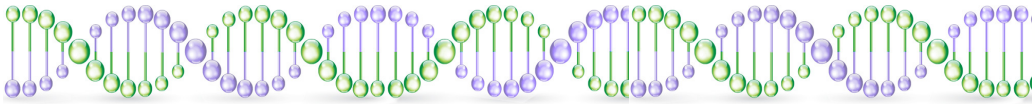

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Is BAP1 Tumour Predisposition syndrome inherited?
Yes. BAP1 Tumour Predisposition syndrome is a hereditary cancer syndrome caused by the BAP1 gene. There is a 50% chance of a person who carries a germline BAP1 mutation, whether male or female, passing 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?
Has a BAP1 mutation been detected in a blood relative or has there been loss of staining for BAP1 on IHC testing?

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:

- Melanoma support groups, hosted by The Melanoma Institute Australia.
- Melanoma support groups hosted by Melanoma Patients Australia
- There are many support groups for people with mesothelioma, although most relate to asbestos exposure. The Australian Mesothelioma Society has a list.
- The US National Library of Medicine website has more information about this syndrome.

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