

Somatic Genetic Testing Roadmap

To recap, somatic genetic testing involves several stages. Each stage aims to better understand the mutations present in your tumour. Results will enable your doctor to best support you and your family.



Somatic Genetic Testing

Your doctor may recommend somatic testing to help with cancer treatment. Mutations detected may need to be confirmed by germline testing.



Tumour sent to lab

Somatic testing will be conducted on your tumour in the lab to identify certain cancer biomarkers.



Treatment decisions

Based on your somatic testing results, you might be eligible for certain treatments (e.g. PARP inhibitors)

FAQs

Does a positive somatic genetic test result indicate that my cancer is inherited?

Somatic genetic testing looks for mutations in tumours. Your doctor may recommend further germline genetic testing to understand if the mutation is also present in other non-tumour body cells (i.e. is a germline mutation and is inheritable).

Do my family members need to be tested?

Not at this stage. Somatic testing is only offered to individuals with cancer to help guide treatment. If a mutation is later found to be germline and inheritable, your family members may be offered genetic testing then.

How can I learn more about somatic genetic testing?

You may speak with your treating doctor who will be able to discuss more about somatic testing with you.



Somatic Genetic Testing

In collaboration with



Download an e-copy of this brochure.

For more information on germline genetic testing, please contact:

Cancer Genetics Service at 6436 8000



National Cancer
Centre Singapore
SingHealth

Disclaimer: This brochure is to be used as a tool to facilitate patient understanding only and should not be used for medical judgement or decision-making. Scenarios described are generic and may differ in different patients.

Understanding Your Genes

What are genes?

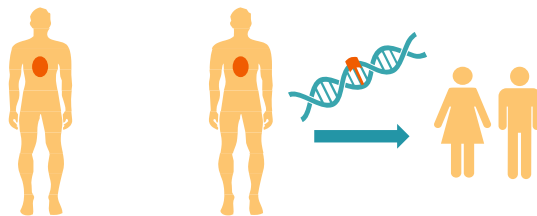
Genes contain information that determine how our body functions. We have genes that work to protect us from cancer. When there is a fault (i.e. mutation) in them, it can increase the risk of cancer. These gene faults can run in families (germline) or be acquired over a lifetime (somatic).

What is somatic testing?

Somatic testing is a type of genetic test that looks for mutations in cancer/tumour cells. These mutations are generally acquired over time and only found in the cancer/tumour. Somatic mutations do not run in families and are not passed down.

What is the difference between somatic and germline genetic testing?

Your doctor may subsequently recommend germline genetic testing to check if these same gene changes are present in normal body cells, which can be passed down in families. This is typically a one-time blood test.

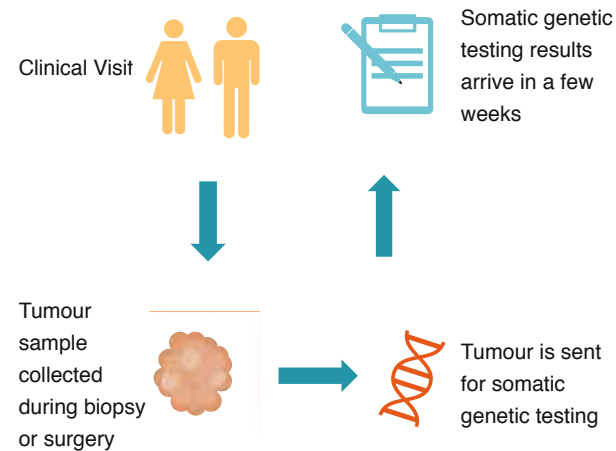


Somatic gene fault not passed down to offspring

Germline gene fault might be passed down to offspring

Somatic Genetic Testing

After biopsy or surgery, your tumour sample may be sent for somatic testing. Archived tissues from a previous sample (if any) may be used.



Why should I be tested

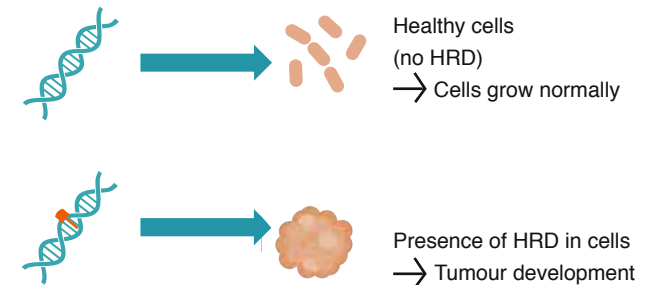
Somatic genetic testing measures the unique genetic profile of your tumour and may provide information regarding:

- Your cancer diagnosis
- The overall outlook of your cancer
- Your treatment options

HRD Somatic Genetic Testing

Somatic genetic testing may pick up a common identifier (biomarker) seen in prostate and ovarian cancer called **homologous recombination deficiency (HRD)**.

Cells with HRD are not able to repair their DNA like healthy cells do. This can lead to cancer.



Ovarian and prostate cancer patients with HRD have improved response to certain treatment types. These include platinum-based chemotherapy or poly (ADP-ribose) polymerase (PARP) inhibitors.

If your somatic genetic testing results indicate that HRD is present in your tumour, you may benefit from these treatments.