Hereditary Cancer Risk

Who should be tested first?

You may be considering genetic testing to learn about your cancer risk. Genetic testing can find DNA changes that increase the risk for cancer. However, even with a strong history of cancer in the family, genetic testing works better on some family members than others.

Who is the best person to have testing in my family?

The best way to **start** genetic testing is with a person in your family who has the highest chance for a positive test result. A review of your family history by a genetic specialist can identify who this might be in your family. Usually this is someone who has already had cancer. Testing this person first finds out if current genetic testing can detect any DNA change (mutation).

How can testing help a person who has already had cancer?

Genetic testing can help find out exactly which cancer gene is not working correctly. This will explain how cancer runs in the family, but can also help a person who has already had cancer. Some cancer genes increase the risk for many types of cancer or a second cancer of the same type. Special medical care may reduce the chance of getting another cancer or allow a new cancer to be found at an earlier stage.

Why is it better to start testing in someone with cancer?

Testing someone with cancer helps find out whether or not genetic testing will be useful for other family members. Genetic testing does not always give clear answers. There are several possible results: positive, negative, or uncertain.

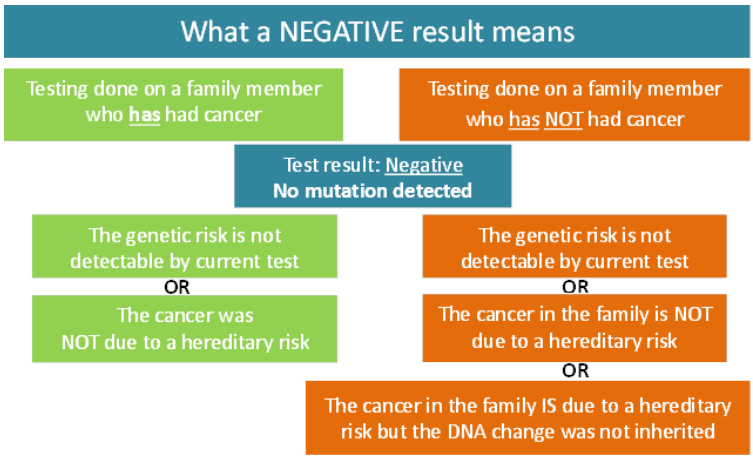
Here's why it helps to start with a family member who has had cancer:

- **Positive result**: A positive test result confirms a hereditary cancer risk. A person who has had cancer is usually the most likely one in the family to get a positive result. When a mutation is found in a cancer gene, other family members (with or without cancer) can have testing to look for the same mutation.
- **Negative result**: A negative test result means that no mutation was found. A negative result in a person who has had cancer can happen for two reasons:
    - The cancer is not due to a hereditary risk factor
      OR
    - The genetic test cannot detect the family's specific mutation (Not all genetic changes are detectable with current genetic testing)

  Either way, it means that testing family members *without* cancer will not help determine their cancer risk.
- **Uncertain result**: An uncertain test result means that a DNA change was found but it is not clear if that change causes an increased risk for cancer. This result means that testing family members *without* cancer will not help determine their cancer risk.

What if no one with cancer can be tested?

Genetic testing is sometimes done on someone without cancer, even if no one else in the family has been tested. A positive result indicates an increased risk for cancer. However, in this situation, a negative result is considered "uninformative". It is not possible to tell whether that person has a mutation that cannot be detected, or if they did not inherit the cancer risk gene at all. This is why it helps to start with the person in the family who is most likely to have a positive result.



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