



TIP SHEET Genetic Testing & Counseling

Hereditary Cancer Risk: What You Should Know

Some people are born with gene mutations (alterations in specific genes) that can greatly increase their risk of developing cancer. The gene mutations may be passed along from parents to their biological children, from one generation to the next. There is a 50% chance that a child will inherit a gene mutation if the parent has one. If you have an inherited (hereditary) cancer risk, you have a higher-than-average chance of developing cancer. This is called a cancer-susceptibility syndrome.

Should You Be Tested?

While genetic testing can reveal whether or not you have an inherited cancer-susceptibility syndrome, testing is not recommended for everyone. If there appears to be a pattern of cancers in your close relatives, the **Clinical Genetics Service** at Roswell Park Cancer Institute (RPCI) can review your family medical history to help determine whether you should consider testing.

HIGH RISK? WE CAN HELP

If genetic testing reveals an increased cancer risk, RPCI experts can provide appropriate screening, surveillance and preventive options through our **High Risk Clinics** dedicated to helping people manage their risk for these cancers:

- ✓ Breast
- ✓ Gynecologic
- ✓ Pancreatic

Red Flags for Cancer Risk


Finding these “red flags” in your family tree (and there are others not listed here) suggest you may benefit from genetic testing and counseling:

 **How many of your blood relatives have had cancer?**


Most important are “first-degree” relatives—parents, brothers or sisters, and children.

 **What types of cancer appear in your family tree?**

Look for the same cancer types occurring over and over, or cancers that tend to cluster together (for example, breast and ovarian cancer). And look for relatives who have had multiple primary cancers—two or more different cancers, rather than one that has spread to other parts of the body.

 **How old were your relatives at the time of diagnosis?**

Look for relatives who received a cancer diagnosis before the age of 50. Cancer is not uncommon among people in their 60s or 70s, but diagnoses in younger people may indicate an inherited risk.

 **Where did your ancestors come from?**

Certain ethnic groups—for example, people of Ashkenazi Jewish ancestry—may be at slightly higher risk for certain hereditary cancer syndromes.

Why Roswell Park Cancer Institute?

Genetic testing should be performed by formally trained genetics providers to ensure that appropriate tests are ordered, results are interpreted correctly, and the right screening recommendations are made.

RPCI's Clinical Genetics providers can:

- **Educate you and your family** about the biology and genetics of cancer and discuss the social, ethical, and legal issues related to genetic testing.
- **Create a genetic pedigree** (family tree) to record cases of cancer among your relatives and look for patterns that may show increased cancer risk.
- **Arrange for genetic testing** via a blood test performed off-site.
- **Explain the results** of your genetic tests.
- **Discuss what you can do** if testing reveals that you have an inherited cancer risk. Options to lower your risk may include starting cancer screening at an earlier age and more frequent screenings; taking medication designed to lower the risk of certain cancers; or undergoing risk-reducing surgery—for example, having breasts, ovaries, or the thyroid gland removed to prevent cancer from developing in those organs.

RPCI is the only National Cancer Institute-designated Comprehensive Cancer Center in New York State outside of Manhattan.

Only about
5-10%
of cancers are linked to inherited genetic mutations.

Follow-Up is Essential

If you decide to undergo genetic testing, or if you were tested in the past, remember that the answers you get today may be different from the answers you'll get later on. We're just beginning to identify inherited gene mutations that raise cancer risk. Your risk profile will change as research reveals more information, so your personal and family history should be reviewed periodically.

What's the Next Step?

If you have questions about your personal cancer risk and want to learn whether you should consider genetic testing and counseling, ask your health care provider for a referral or call RPCI's **Cancer Information Program** at **1-877-ASK-RPCI** (1-877-275-7724). An information specialist will complete a brief questionnaire with you over the phone, and you will be contacted later about an appointment.

Meet the Clinical Genetics Service Team



Nicoleta Voian, MD, MPH
Director, Clinical Genetics Service



Bonnie Braddock, MPH, CGC
Genetic Counselor



Mollie L. Hutton, MS, CGC
Genetic Counselor



June Mikkelson, MS, CGC
Genetic Counselor