



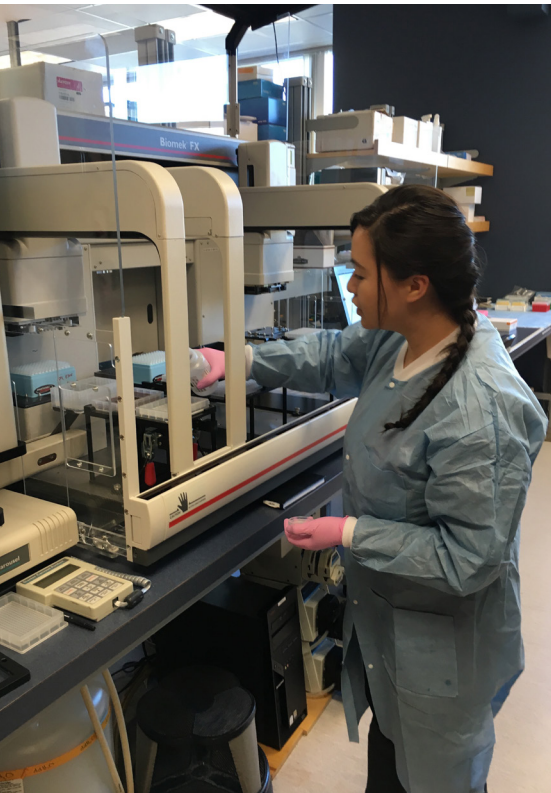
CRACKING CANCER



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More About POG – The Personalized OncoGenomics Program at the BC Cancer Agency

- POG is a radical new way of characterizing cancers – not according to where they originate in the body, but rather as a disease of genetic mutations.
- Cancer treatments are usually chosen based on what has been previously given to other people with the same type of cancer. Although this works for some people's cancers, it doesn't work for everyone. POG is about learning how to customize a treatment for each individual person's cancer, or what is known as "personalized medicine".
- When POG launched in 2012, there were only 30 patients with cancer in the trial. Initial results were so promising that, two years later, it expanded to take in 300 people with incurable cancer. By the end of 2016, it had enrolled 750 people. It's aiming for 5,000 in the next few years.
- POG has brought cutting-edge genomic cancer medicine to British Columbia. The team has built a genomic platform that takes patients with all types of cancers from consent to biopsy to in-depth genomic analysis;



this does not exist anywhere else in the world. The program enables the team to study advanced cancers in a new way and with unprecedented detail. By sharing their data with researchers around the world, everyone gains a better understanding of how cancer grows and how to fight this disease.

- The POG process takes about 3 months, from the time of biopsy to completion of genome analysis. This may seem like a very long time to wait, but the complexity and care that goes into the analysis of a person's cancer genome requires a lot of sophisticated computer work, and time for highly-skilled genome analysts to research the findings for each individual.
- POG compares the patient's normal DNA (each cell's complete set of instructions) with the DNA of their tumours. It also compares the RNA of their tumours to reference RNA. By doing these comparisons, POG is searching for a mutation or other sorts of abnormalities that might be implicated in causing that person's cancer to grow and spread. If they can isolate abnormalities that are driving the cancer, then they can search for a drug that might block the cancer's growth; though sometimes even when they identify what is driving the cancer, it is not possible to block that pathway.
- POG has clearly demonstrated that cancer is immensely complex and each person's cancer is unique; this makes the identification of possible drug targets a difficult process.
- POG has shown it is possible to identify patients, sequence the genome and transcriptome (RNA) of their cancer and normal tissue, analyze and report abnormalities and identify potential actionable targets in a clinically relevant timeframe.
- In the past 5 years, the price tag for individual genome sequencing has come down from \$250,000 to about \$20,000. Some of this cost is dropping because the technology is becoming less expensive, but the person time involved in the analysis is not likely to decrease as dramatically.
- Currently only BC residents can enrol in the trial, but POG is branching out to national and international collaborations.

You may be able to participate in the POG study if:

- You have been diagnosed with an advanced cancer that cannot be cured
- You are 18 years of age or older
- You are willing and able to have at least one biopsy of your tumour
- You are able to give a blood sample or a skin biopsy or cheek swab
- You are in good physical shape and are likely to live many months or years despite the cancer diagnosis
- You do not have a known blood disorder which may make you bleed excessively
- You do not have any other medical problem that makes enrollment into POG or subsequent therapeutic drug trials difficult
- You are willing and able to travel for tests, follow up and treatment.
- You are able to understand this study and sign a written informed consent
- Please note – that there are other specific study criteria that may be relevant for each cancer type.
- POG can be used for other cancer-like diseases that also involve tumour growth; this is restricted to pediatric cancers.



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