

Lawson research team working to personalize cancer care

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The Lawson Translational Cancer Research Team (LTCRT) of the Lawson Health Research Institute is one of five groups participating in a new study that seeks to personalize cancer drug treatment.

The Genomics Pathway Sequencing (GPS) study, led by the Princess Margaret Hospital in Toronto, will assess the feasibility of identifying specific genetic markers (mutations) in the DNA of patients' tumours. This information will then be used to identify more targeted treatments.

The Lawson team has developed a process for London where they can obtain a fresh tissue sample from the patient's tumour biopsy. This tissue is sent away to a lab in Toronto where two types of DNA analysis are performed. Within three weeks a report on the cancer's [genetic profile](#) is provided to the patient's oncologist. "With this new information, it is hoped the oncologist can deliver a more tailored treatment plan," says Dr. Eric Winkvist, lead of the LTCRT and medical oncologist at the London Health Sciences Centre.

Jennifer Malone from London, Ontario was diagnosed with cancer in 2006. Over the next five years, she exhausted all standard cancer treatments. A [DNA analysis](#) of her tissue sample identified a mutation in a gene known as KRAS. Fortunately, a study investigating a new drug known to target mutations in KRAS was available at the Princess Margaret Hospital and Jennifer was enrolled.

Since starting the [experimental treatment](#), Jennifer's tumour has

regressed and many of her cancer symptoms have improved or disappeared. It is "remarkable and amazing," says Jennifer.

"Participating in this study gave me an option where previously no option existed."

While the GPS study is still in early development, the idea of more precisely matching patient treatment to their cancer's individual [genetic characteristics](#) holds great promise. "We are excited to be discovering what the future holds for our patients using a personalized approach to [cancer treatment](#)," says Dr. Winkvist, "and the GPS study is a promising look at what this future may look like."

Provided by Lawson Health Research Institute

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