

A holistic approach to improve breast cancer care

June 7 2016, by Sciencenetwork Wa



Credit: AI-generated image ([disclaimer](#))

A young UWA researcher hopes that one day a simple blood test could screen a breast cancer patient's DNA for cancer related genetic information within each tumour which would alleviate the need for other invasive procedures such as mammography or CT scans.

23 yr old PhD student Olivia Ruhen and her supervisors Dr Katie Meehan and Prof Wendy Erber in the Translational Cancer Pathology Laboratory at UWA are working on a research project which involves identifying molecular markers in blood samples taken from breast [cancer patients](#) who are undergoing chemotherapy treatment and who are participating in the trial.

The project involves examining tumour samples from patients to screen their DNA for cancer associated genetic changes within each tumour. Molecules within the patients' blood will then be comprehensively examined to determine whether [genetic changes](#) can be detected by a simple [blood test](#).

"So we will be genetically testing these markers in order to try and match them to the genetics of the patient's tumour," Ms Ruhen says.

The project is run in conjunction with the Medical Oncology team at Sir Charles Gairdner Hospital and the surgical team at 'The Breast Centre' within Sir Charles Gairdner Hospital. It involves identifying markers in blood samples taken from patients who are on the trial.

"Our aim is to use the blood test results to monitor a number of aspects of the patients who are on our trial. "This includes monitoring the risk of a recurrence, monitoring their response to treatment and any disease progression rather than relying on conventional methods such as mammography or CT scans which can be invasive for a patient," said Ms Ruhen.

Ms Ruhen says she was very grateful for a \$36,000 scholarship from Cancer Council WA which provides additional professional opportunities and added passion to her research work.

"Knowing I have the added support of Cancer Council donors makes a

huge difference to my work," she said. "This is an exciting project to work on because it's highly translational research, meaning we're right there at the crossroads between medicine in the clinic and science at the lab bench," she says.

While this study involves working with [breast cancer patients](#), Ms Ruhen said it could potentially be adapted as a tool to monitor other cancer patients undergoing treatment.

"We hope data from our study will eventually help develop a specific blood test to more effectively monitor cancer patients undergoing treatment, detect recurrence of a tumour earlier which could ultimately improve a patient's outlook or survival prospects," said Ms Ruhen.

This article first appeared on [ScienceNetwork Western Australia](#) a science news website based at Scitech.

Provided by Science Network WA

Citation: A holistic approach to improve breast cancer care (2016, June 7) retrieved 9 April 2024 from <https://medicalxpress.com/news/2016-06-holistic-approach-breast-cancer.html>

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