Together, we can get one step ahead of cancer.

Meet the talented researchers who are working to predict cancer's next move.

Cancer care, choose hope

Chris O'Brien Lifehouse

Biomarker research: redefining cancer care

When I started over 20 years as an oncologist, there was only one drug for metastatic colorectal cancer. That was all we had. Now, we have more than half a dozen. **This progress is driven by continued investment in research.**

Thanks to research, overall survival outcomes for cancer have improved. But while we've developed more personalised and effective treatments for cancer, these treatments still don't work for everyone.

Just like everyone's body is different, their cancer is different too. Two people with the same cancer may respond very differently to the same medicine, depending on unique biological factors such as their genetic makeup, their immune system or the metabolic environment

This is why biomarker research is so important. Biomarkers are like a 'fingerprint' of a cancer – the genes, proteins or other molecules that the cancer produces. They could help us understand an individual's cancer; how aggressive it is, what it's likely to do next, and how it might behave with certain treatments.

Put simply, biomarkers help doctors get one step ahead of cancer, so they can predict and target its next move.

At Chris O'Brien Lifehouse, the generosity of our donors has helped establish a crucial program of biomarker research across many types of cancer. Donor support enables our talented researchers to identify and test biomarkers that will redefine the future of personalised cancer treatment. **Because this research is happening in our hospital, our patients are benefiting from research breakthroughs faster.**

As you may know, funding for research is incredibly competitive

and many researchers spend more time seeking funding than doing actual research. This can slow down potentially life-saving breakthroughs.

Your donation today will help scientists uncover more biomarkers that will lead to more effective precision cancer treatments.

Together, we can get one step ahead of cancer.

Thank you for your consideration of support.

Professor Lisa Horvath

Director of Research, Chief Clinical Officer and Medical Oncologist

Chris O'Brien Lifehouse

Dr Madeleine Strach

Medical Oncologist

"**Appendix cancers and abdominal sarcomas** are rare - there is still much we need to learn about them. Unfortunately, survival outcomes for patients can be poor in advanced stages. **There is an urgent need for better drug treatments.** Chris O'Brien Lifehouse is a specialist referral centre for both appendix cancer and sarcoma, which means we are in a great position to study these diseases and find better treatments.

Our innovative research aims to gather information about biology and immune cell biomarkers around these tumours looking at how they grow and respond to treatments. This information could help doctors use the most effective treatment as early as possible.

In the long term, if we can get better treatments, we might cure patients or give them a better quality of life. That's what I want my research to help achieve.

"The motivating factor is improving outcomes for my patients… I want to think longer term and be a part of the change that will make their lives better in the future."

Dr Tahlia Scheinberg

Medical Oncologist

“My research is investigating the metabolic profile of patients with **advanced metastatic prostate cancer**. This means testing the fats in a patient’s blood to help identify whether their cancer might be resistant to treatment.

We’ve identified that men who have particular changes in these fats, have a shorter survival than those without those changes. The long-term goal is to be able to target this profile, by giving people additional therapy to treat their metabolic changes. We hope that this will help them live longer with advanced cancer.

“What excites me about this research is the opportunities it gives patients. As a researcher, you can see the impact your work can have on people’s lives; to watch something that started as an idea to actually make a difference for people is amazing.”

Dr Samuel Smith

Medical Oncology Fellow

“My PhD is focused mainly on **bowel cancer**, which is common, and **appendix cancer**, which is rare. Both cancers have their own unique challenges.

To this point, appendix cancer has been treated the same as bowel, but it’s a completely different disease. It’s also hard to detect and diagnose. Bowel cancer, on the other hand, has a great screening program. But there is a lack of recognition and tools to diagnose patients under 50 years old at an early and curable stage.

Part of my research is looking at tumour cells and biomarkers in the bloodstream of patients with cancer as well as those who have completed treatment. **If we can pick up tumour cells before imaging or before other tests might find them, this could help us catch cancer as early as possible.** Learning more about how these tumour cells mutate and behave could also help us develop more effective, personalised treatments.

“Biomarkers have a huge range of potential uses, including detection of cancer in people with no known history, or surveillance for patients who are at risk of recurrence. For patients with incurable cancer, certain biomarkers may lead us to choose one treatment over another and therefore help us predict how effective treatments can be.”

Dr Susannah Hallal

Brain Cancer Researcher

"**Glioblastoma** is the most common and deadly form of brain cancer in adults. It spreads easily, adapts quickly and resists most drug treatments available.

Currently, glioblastoma can only be diagnosed through neurosurgery, which can have significant side effects. Detecting its recurrence can also be challenging. Even with all the advanced imaging we have, it's often impossible to tell the difference between the effects of treatment on the brain, or whether the cancer has recurred.

I'm proud to be a part of a team that has discovered a world-first method for detecting glioblastoma using urine biomarkers.

Our research investigated extracellular vesicles, which are tiny particles that are shed by glioblastoma tumours and disposed of by the body through urine. We found that they are valuable biomarkers that can detect cancer recurrence with high accuracy. The biomarker levels drop after treatment, but rise again when a patient's tumour reappears, making them a promising tool for tracking recurrence.

We are now expanding our studies to test whether this strategy can be used to monitor patients during their treatment and potentially detect recurrence earlier."

"It's exciting to be a part of this research that will potentially change the way we manage glioblastoma and transform outcomes for patients in the future."

Help researchers get one step ahead of cancer.

Donate today.

Scan here to make your investment.

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