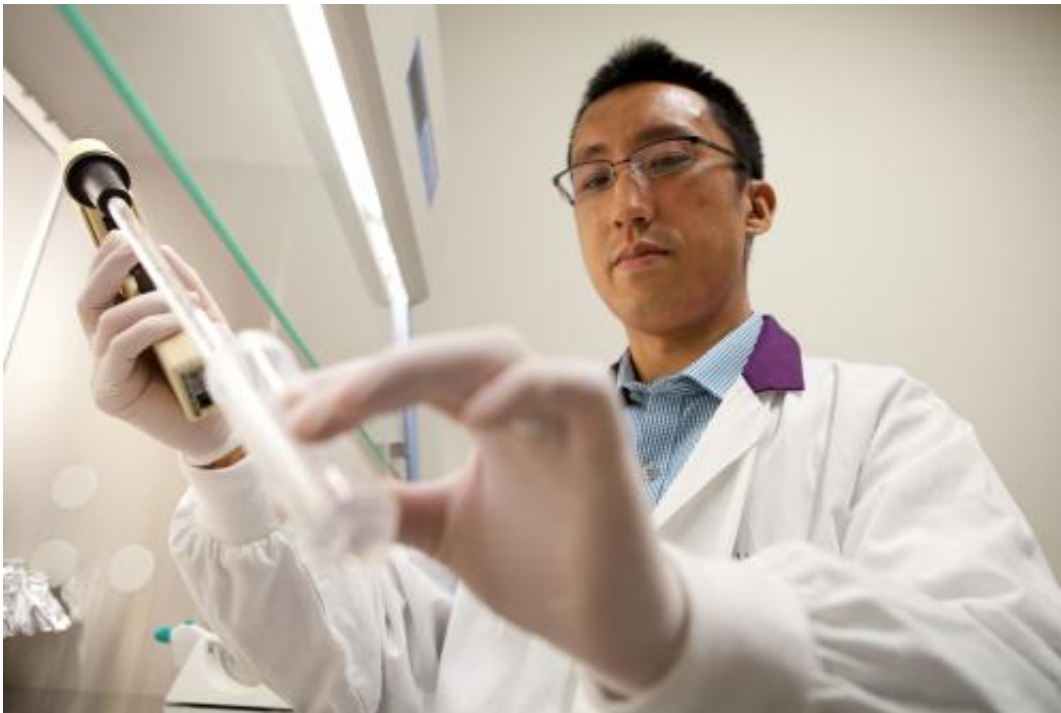


Researchers looking at new way to treat chronic kidney disease and heart failure

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Researchers at St. Michael's Hospital are using adult bone marrow stem cells as they investigate a completely new way of treating chronic kidney disease and heart failure in rats. Credit: St. Michael's Hospital

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Dr. Darren Yuen and Dr. Richard Gilbert were the first to show, in

2010, that enriched [stem cells](#) improved heart and kidney function in rats with both diseases.

But they and other scientists wondered about the potential side effects of returning those cells to the body, such as forming tumours.

In a paper published online today in the journal *Stem Cells*, Drs. Yuen and Gilbert said they have since found that enriched bone marrow stem cells secrete hormones in the petri dish that, if injected into rats, has the same positive impact as the stem cells.

"We've shown that we can use these hormones, collected in the dish, to replicate the beneficial effects of the stem cells in treating animals with [chronic kidney disease](#) and [heart failure](#)," said Dr. Yuen, a nephrologist. "In our view, this is a significant advance for stem cell therapies because it gets around having to inject stem cells."

Dr. Yuen said they do not yet know what kind of hormone the cells are secreting. Identifying the hormone would be the first step toward the goal of developing a synthetic drug.

Chronic kidney disease is much more prevalent than was once believed, with recent estimates suggesting that up to 5 per cent of the Canadian population may be affected. The number of people with CKD and end-stage renal failure is expected to rise as the population ages and more people develop Type 2 diabetes. People with [kidney disease](#) often develop heart disease, and many of them die from heart failure rather than kidney failure.

Provided by St. Michael's Hospital

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