

# Biking in bed is good for ICU patients, says new McMaster study

**A study found that cycling is safe for patients in an ICU, even if they are sedated**

By Clare Bonnyman, [CBC News](#) Posted: Dec 29, 2016 3:42 PM ET Last Updated: Dec 29, 2016 3:42 PM ET



Dr. Michelle Kho's research uses the RT-300 supine bicycle, which allows patients to work on strengthening their legs while they are in their hospital bed. (St. Joseph's Healthcare Hamilton)

A McMaster University study says cycling in bed is safe for patients in an intensive care unit, and can aid in recovery and rehabilitation.

Michelle Kho, an assistant professor and physiotherapist at St. Joseph's Healthcare, led the study of 33 patients. Those patients spent 30 minutes, six days a week "supine cycling," as early as three days into their admission in the ICU. On average, they left the ICU with "nine kilometres of cycling on their legs."

"It is feasible and safe to start doing cycling with patients in the intensive care unit, even if they are on mechanical ventilation, and even if they are receiving sedatives," she said.

## Biking from bed

The machine is motorized, with calf support and straps to secure a patient's feet into the moving pedals. Their backs remain on the bed, and their arms relaxed. "It's almost like a recumbent bike in bed," said Kho.

It allows for "active" biking, where patients leg muscles are leading the pedals. There's also "passive" biking, which can be used with patients who are sedated or unconscious.

Going against the common idea that "resting" is the key to recovery, Kho and her team are encouraging a move away from relaxation post-injury.

"We're learning more and more that complete bed rest is bad for a lot of different conditions," she said. "We know that if someone survives their ICU stay, some people have weakness that can last for five to eight years later."

'It's a fairly significant insult to the body.' - Michelle Kho

## An 'insult to the body'

The study, referred to as TryCYCLE, is an important step in the study of early rehabilitation, a practice encouraged by physiotherapists like Kho who have seen patients suffer from prolonged injury after leaving the intensive care unit.

"If someone is on bed rest and not doing anything at all then the size of the muscles will start to shrink," she said. Of "the people that were able to walk before the got sick and got admitted to the ICU, only one in four are able to stand or walk" upon leaving the unit.

An admittance to the ICU is "a fairly significant insult to the body," said Kho.

## On the road to recovery

What's next for Kho and her team is a large scale trial, including an economic evaluation for not only the costs of the bikes themselves, but also the trained physiotherapists needed to administer this sort of exercise.

"You can think of the bike as the initial investment," said Kho.

'We need to think about how we're going to help them get better downstream.' - Michelle Kho

The continued investment in trained rehab professionals is a larger, more important part of rehabilitation, she said.

"As soon as we admit a patient to the ICU, we need to think about how we're going to help them get better downstream," she said.

"We really need to be starting to think proactively about how we get these people to survive and thrive after their stay in the ICU or hospital."

Link to article: <http://www.cbc.ca/news/canada/hamilton/biking-in-bed-is-good-for-icu-patients-says-new-mcmaster-study-1.3915472>