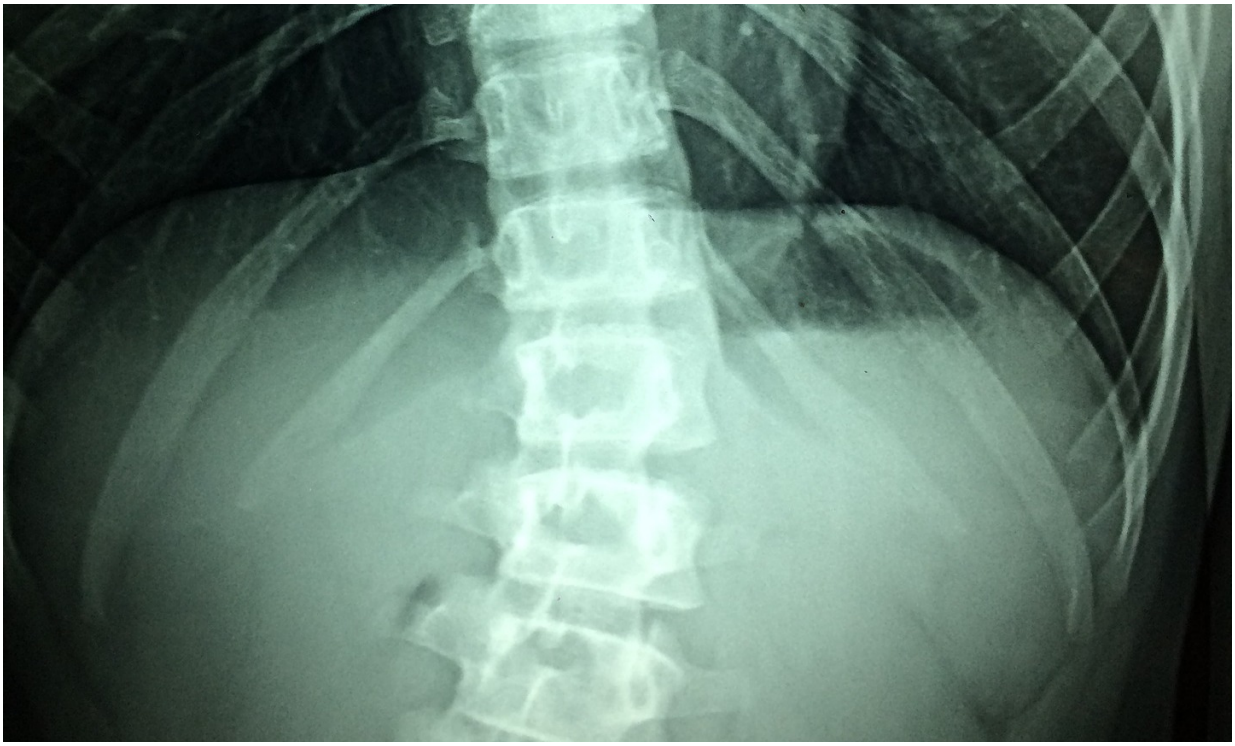
Time-saving high-intensity workouts can benefit people with spinal cord injuries

June 11 2020



Credit: CC0 Public Domain

Research from the Department of Kinesiology at McMaster University has found that the practical advantages of high-intensity interval training (HIIT), or short bursts of all-out exercise, could be especially beneficial for people who have experienced spinal cord injuries (SCI).

While many studies have proven the benefits of HIIT for the able-bodied, much less is known about its impact—for better or worse—on the SCI population.

In a comprehensive review published online in the journal *Spinal Cord*, researchers from McMaster, the USA and the UK have weighed the evidence regarding the overall health benefits, potential adverse effects and feasibility of interval training for people with SCI.

Researchers found HIIT and sprint interval training (SIT) improve cardiorespiratory fitness in people with SCI to a degree that appears to match longer bouts of moderate intensity exercise. Importantly, the population is generally able to tolerate both HIIT and SIT, and there have been very few reports of harm from this type of training, the researchers have found.

"This may be especially relevant in the in-patient rehabilitation environment, where newly injured people with SCI spend a number of weeks before being discharged to the community," says Audrey Hicks, a professor in the Department of Kinesiology and one of the lead authors of the study.

"During this time, the patient's days are extremely full, with physiotherapy, occupational therapy, functional training and exercise training, all with the goal of optimizing transition to the community," she says. "The time demands are enormous, so more efficient forms of exercise can be particularly attractive."

Spinal cord injuries typically lead to reduced physical activity, which in turn leads to other health problems such as a decline in fitness, muscle atrophy, increased body fat, and increased risk for heart disease and diabetes.

Hicks and her team have shown in a previous study that a program of SIT three times a week for five weeks is as effective in improving indices of cardiorespiratory fitness as traditional moderate intensity exercise and takes a fraction of the time to complete.

She says it is now to learn more about the feasibility and implementation of HIIT for people with spinal cord injuries because that form of training requires quick transitions between higher to lower intensity exercise, which poses challenges for those with limited mobility.

"It is important to encourage more research to be done to establish safe guidelines for its implementation in this population," says Hicks.

Provided by McMaster University