

# Boxing can take the fight to Parkinson's Disease

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When we think of boxing, it's understandable many of us wouldn't associate it with being 'good' for our brains. However, new Edith Cowan University (ECU) [research](#) undertaken in partnership with The Perron Institute and boxer Rai Fazio has shown the sport—without an opponent—could be a valuable way for people suffering Parkinson's Disease (PD) to improve their quality of life.

Also collaborating with Sir Charles Gairdner Hospital and the University of Western Australia, ECU researchers had 10 people with early-stage PD perform three one-hour boxing sessions per week, over 15 weeks.

Rather than an opponent, the group did battle against a Fightmaster boxing unit, a commercially available device which has 11 padded punching targets mounted to a stand.

The program had three distinct segments: an introduction to boxing, a high-intensity component and a cognitively challenging segment.

Participants completed two-to-three-minute "rounds" where they were required to strike the various pads in different sequences, followed by no more than two minutes of rest.

[Dr. Travis Cruickshank](#) from ECU's Centre for Precision Health said boxing has grown in popularity among those living with PD, despite little evidence supporting its use.

"So, what we did was look really robustly at how feasible a boxing program is for people with PD, which hadn't been done in the past," he said.

"We used heart rate monitors throughout the intervention so we could see the cardiovascular load on our participants, we used scales that measured their perceived levels of exertion from both a physical and cognitive standpoint.

"We have a lot of the metrics needed to say it's safe, well tolerated and that people enjoyed it."

## **Big benefits**

After the 15-week program, nine of the 10 participants improved their score on the Unified Parkinson's Disease Rating Scale, a tool used to measure the progression and severity of PD.

The group also reported a reduction in fatigue and improvements in sleep.

Dr. Cruickshank said that group boxing has the benefit of by combining many aspects of therapy, such as exercise, cognitive stimulation and socialization into a single exercise.

"In the past, I might have been working with people with Parkinson's and we'd have exercises in a gym, then a separate computerized cognitive training program, and another event for the social aspect," he said.

"With boxing, we can combine all of those and deliver it really quickly, which makes it all more enjoyable and people will stick with it."

## **A feasible option**

Dr. Cruickshank said a key aspect of the study was establishing boxing as a feasible option to be prescribed to people living with early-stage PD.

Despite the high intensity of many of the workouts, participants reported no increase in muscle soreness from the program, nor major injuries, which may be expected for people with PD.

Crucially, this meant that every person completed the 15-week program with almost 97 percent of training sessions completed.

"In fact, after we finished the study, everyone chose to buy a Fightmaster and have it installed in their home," Dr. Cruickshank said.

"So, in the future programs such as this could be run in people's homes or in clinics, it could be self-administered, supervised in a clinic or done remotely via telehealth so people in regional areas can still be included.

"We know the camaraderie and positive relationships formed between the members in the study also served as a motivator.

"These social benefits cannot be understated, particularly given the link between socialization and emotional well-being."

## **Expanding the fight**

Dr. Cruickshank said the next step was to trial boxing's therapeutic effectiveness in a larger group of people living with various stages of PD.

He said he believed it could be effective for other [neurological conditions](#) such as Huntington's Disease, multiple sclerosis, stroke and traumatic brain injury and more.

"Beyond these neurological conditions, people with cancer, may also see benefits, particularly to bone [mineral content](#) and muscle mass which is impacted by treatments," he said.

"The ability to adapt the training to someone's individual state is really important.

Dr. Cruickshank said he hoped [boxing](#) programs could soon be rolled out in treating PD in the not-too-distant future.

"We know now it's safe, well-tolerated and people enjoy it," he said.

"Once we've established the therapeutic effectiveness with larger

trials—then it will be ready to be implemented in the community."

**More information:** David J. Blacker et al, FIGHT-PD : A feasibility study of periodised boxing training for Parkinson disease, *PM&R* (2023). [DOI: 10.1002/pmrj.12986](https://doi.org/10.1002/pmrj.12986)

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