

HEALTHCARE PROFESSIONALS SERIES:

Exercise for People Living with Huntington Disease

Very little research has looked at the benefits of exercise for people living with Huntington disease (HD), a progressive neurological disease that includes cognitive, behavioural and motor symptoms.

However, there are good reasons to believe that exercise may be helpful in HD:

- Exercise has physical, emotional and cognitive benefits in the general population.
- Exercise has been shown to improve functional capacity in other neurological diseases, such as Alzheimer's and Parkinson's.
- Studies of mouse models of HD found exercise delayed the onset of Huntington's symptoms, improved cognition, and raised the levels of BDNF, a chemical that helps to protect the brain.
- One case study of a patient with HD found that a seven-week program of twice-weekly aerobic and anaerobic exercises resulted in greater strength, improved balance and fewer falls.

Workout components

To have the greatest impact, the exercise program should address the person's abilities, likes and functional challenges. An ideal workout involves:

- A warm up and cool down
- Tai chi, yoga, free weights or pulleys to develop muscular strength and improve balance and functional skills

- A cardiovascular session such as walking, using an exercise bike or working out in the pool

Cardiovascular exercises

Walking: Walking can be done on a track, around the block or around the mall. Start with 10 minutes a day, three days a week. Gradually increase walking speed and pace to the point where the person builds up a sweat but is not out of breath.

Exercise bike: Start out with 10 minutes of biking three times a week. Start off slowly, choosing a comfortable resistance, and gradually pick up the pace.

Aquatic exercise: Begin with exercises such as standing in waist-deep water and kicking one leg at a time out to the side. Follow this up with a few laps around the pool. If involuntary movements make swimming too difficult, use a kick board to support the upper body.

Frequency and duration of workouts

The American College of Sports Medicine suggests the following general exercise guidelines:

- 3 workout sessions per week
- 30 minutes of cardiovascular exercise within the aerobic training zone (50–80% of the age-predicted maximum heart rate) per session
- 2 sets of each weight-training exercise, with a maximum of 10 repetitions per set

However, keep in mind that shorter, more frequent exercise sessions may be less tiring

for people with HD. Training too hard may be harmful: one person with HD reported muscle damage as a result of training for a marathon. Adjust the frequency and duration based on the person's overall cardiovascular fitness and energy levels.

Intensity of workouts

Ideally, the person with HD should be exercising at a level around 13 ("somewhat hard") on the Borg RPE Scale, where 6 is "very, very lightly" and 20 is "very, very hard."

Watch for the following symptoms of over-exertion:

- shortness of breath
- excessive fatigue
- paleness
- dizziness
- an increase in HD symptoms such as involuntary movements

If at any point the person feels short of breath or cannot breathe, they should stop immediately, rest, and see their doctor.

Adjusting the exercise program

Because HD is a progressive disease, it's important to re-assess the exercise program

regularly to make sure it continues to suit the person's needs and functional abilities.

Safety precautions

Before starting an exercise program, the person with HD should discuss it with their doctor.

Make sure the person understands how to use the equipment safely and how to perform each exercise correctly. A personal trainer or coach can offer education and adapt the program and movements as needed. Because the symptoms of HD can include involuntary movements, reduced coordination and problems with balance, not all equipment may be suitable for people with Huntington's. Use adapted equipment as needed.

Ensuring success

In addition to causing motor symptoms, HD affects the parts of the brain involved in motivation and initiating activity. To help overcome these barriers, focus the exercise program on activities the person enjoys and, if possible, involve the caregiver and/or family members.

Adapted from: *European Huntington's Disease Network Physiotherapy Guidance Notes*,
EHDN Physiotherapy Working Group, July 2008

<http://www.euro-hd.net/html/network/groups/physio/physiotherapy-guidance-doc-2009.pdf>