

Clinical recommendations to guide physical therapy practice for Huntington disease

The clinical guidelines document provides guidelines based on best available evidence of physiotherapy interventions to improve mobility and function in people with Huntington's disease. It is important to note that an exercise program is a part of the overall plan of care, which may include medication management, speech therapy, occupational therapy, psychological counseling, home safety assessment.

Role of the Physiotherapist: The physiotherapist will evaluate walking, physical function, muscle strength, posture and their impact on self-care and home management. The evaluation helps to understand why mobility problems occur and guides the design of an optimal exercise program.

When to Consult a Physiotherapist:

Individuals with HD consult should consult with a physiotherapist soon after diagnosis so that a personalized exercise program can be prescribed. This will optimize the ability to perform daily activities for as long as possible. The physiotherapist can also help answer questions about the frequency, type and intensity of exercises. If the person with HD experiences any trouble walking, getting in and out of chairs or bed or experience stumbles or falls they should consult a physiotherapist for a longer episode of care (e.g. 8-10 weeks) for an individualized program to remediate these issues.

Specific Recommendations for Exercise:

- 1 Physiotherapists should prescribe aerobic exercise (moderate intensity, 55-90% heart rate maximum) paired with upper and lower body strengthening three times per week for a minimum of 12 weeks to improve fitness and to stabilize or improve motor function.
 - Aerobic exercise can improve exercise capacity and improve motor function.
 - Aerobic exercises include stationary bicycle, brisk walk or run, and walking on a treadmill.
- a Including strengthening and resistance exercises in the exercise routine or circuit training may help improve motor function
 - Strengthening and resistance exercises may include supervised exercise with resistance bands, weights, performing squats, step-up etc.
- 2 Physiotherapists should prescribe one-on-one supervised gait training to improve measures of gait such as walking speed and step length.
- 3 Physiotherapists may prescribe individualized exercises, including balance exercises, delivered at a moderate frequency and intensity to improve balance and balance confidence. Individualized training may be included in functional activities such as transfers, walking activities, and stair climbing.
- 4 Physiotherapists may provide regular breathing exercises, including inspiratory and expiratory training, to improve respiratory muscle strength and cough effectiveness.
- 5 Physiotherapists may prescribe an individually tailored program to improve postural control, and may use positioning devices to optimize posture.
- 6 Physiotherapists should ensure that care plans for individuals with HD with end stage disease include appropriate positioning and seating, active movement, position, respiratory exercise

and education. Family and caregiver training to provide strategies for maintaining appropriate ongoing activity and participation for as long as possible is an important focus for the physiotherapy team as part of end-stage care

Specific Recommendations for Mobility and Positioning Devices:

- a) For people who require assistance for independent walking, the physiotherapist may consider the use of a rolling walker to promote safety and independence in walking.
- b) For those with more advanced Huntington disease, the use of positioning devices may promote better posture in sitting and lying positions.
 - Examples of positioning devices include wedge cushions, bolsters, pillows and bed railings for positioning in bed, and cushions or pillows for positioning in a wheelchair and the use of safety belt to prevent sliding
- c) In the advanced stages of Huntington disease, experts recommend the use of the Broda Chair or similar for optimal positioning.
- d) For people who experience rigidity, passive range of motion exercises may help in maintaining range of movement, and prevent skin breakdown.

Recommendations for Advanced Stage Care:

- a) Families should develop a plan for advanced care and end-stage care in order to clearly communicate the needs of the patient and family to the multi-disciplinary care team.
- b) Active engagement in goal-directed and social activities may help to improve mood, movement and quality of life.
- c) Environmental modifications and seating adaptations are recommended by experts in promoting good posture, and minimizing injuries.

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