

Huntington's Disease Balance and Gait Training Fact Sheet

Physiotherapists should prescribe one-on-one supervised gait training to improve spatiotemporal measures of gait. (Grade A recommendation)

Physiotherapists may prescribe individualized exercises, including balance exercises, delivered at a moderate frequency and intensity to improve balance and balance confidence. (Grade B recommendation)

Types of people with HD who would most benefit from balance and gait interventions:

Persons with HD in premanifest, early and middle disease stages (Total Functional Capacity score of at least 5/13).

How to perform balance and gait training:

Intervention type, dosage, and intensity vary widely across studies.

Interventions need to be individualized according to the person's disease severity, functional abilities and preferences and progressed over time to maintain an appropriate level of challenge.

If posturography equipment is not available for performing the Sensory Organization test, the therapist could perform the Modified Clinical Test of Sensory Integration on Balance test.

Dual task performance can be assessed with the Timed Up and Go Motor and Timed Up and Go Cognitive.

Considerations for exercise prescription:

Safety: To prevent falls from occurring take precautions such as using gait belts, overhead harness devices, and appropriate guarding by rehabilitation staff. Rollator walkers are recommended to improve gait stability and safety as needed.

Practice setting: Balance and gait exercises may be safer and more effective when administered with close supervision of a physiotherapist.

Cost, space: Consider costs of equipment and technology, and the safety of the environment when prescribing and administering balance and gait exercises.

How to perform the intervention

Type of Training	Frequency, Intensity, Time, (FIT)	Tools for Assessment	What it Improves
Task specific training focused on walking, sit-to-stand transfers, and standing (PT in home)	60 mins, 2 days a week, for 8 weeks	Goal Attainment Scale	Achievement of personal goals for each of the activities
Aerobic training in group (clinic-based) Resistance training Unsupervised home exercise program	<u>Clinic-based exercise:</u> 60 mins (5 mins warm up/cool down, 10 mins aerobic, 40 mins resistance), once a week, for 9 months <u>Home exercise:</u> 60 mins, 3 times a week, for 6 months	Unified Huntington’s Disease Rating Scale- total motor score Sensory Organization Test (Neurocom Balance Master) Activities-Specific Balance (ABC) Confidence Scale	Rate of decline of motor symptoms (chorea, tandem walking); balance confidence in walking up and down stairs
Balance exercise with use of technology such as visual and auditory biofeedback and exergaming (e.g., Dance Dance Revolution) or exercise DVD	45 minutes, 2-3 days a week, for 6-8 weeks.	Wearable activity monitors Gait speed Berg Balance Scale 30 second chair sit to stand Physical Performance Test	Static and dynamic balance during walking and functional activities Gait speed Physical activity
Exercise programs with activities focused on postural control (e.g., functional training, static/dynamic balance exercises, balance reaction training)	60-90 minutes, 2-5 times per week for 3-9 weeks.	Timed Up and Go Tinetti Mobility Test Berg Balance Scale Four Square Step Test Functional Reach Physical Performance Test 10-meter walk test	Mobility, balance and gait

Resources

ACTIVE-HD YouTube Channel includes some examples of home balance and task specific training exercises: https://www.youtube.com/channel/UCH7_ed2_mkzXNWPZqVlosw

Physiotherapy resources in HD including guidelines (<http://www.ehdn.org/physiotherapy-wg/>)

Podcast on physiotherapy care in HD by Lori Quinn: <https://www.neuropt.org/special-interest-groups/degenerative-diseases/podcasts> (search 4D Episode 10)