

How a Physical Therapist Can Help Increase Your Balance

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Balance and Falls

- In a study looking at subjective feelings of balance, those individuals with ET (vs. a control group) had lower confidence levels of balance and those with head tremors had more near misses than in controls
- Even with no injury, falls or near misses can be harmful to confidence which may lead to decreased mobility or activity.
- You do not need to wait until you have had a fall to do something about your balance.



What a Physical Therapist Will Assess

- Talk to you about your current status and what your balance troubles are.
- Find out your goals and what you want to address in therapy
- Assess your strength, range of motion, balance (both static and dynamic), your walking and how you are able to ascend and descend stairs/curbs
- After assessment, therapist will set goals and let you know what you are going to work on in therapy sessions as well as what exercises to work on at home to improve your balance

Range of Motion and Strength

- Limited flexibility in your legs and trunk can increase your risk of falls
 - Decrease your ability to safely get up from a chair, correct your position if you lose your balance
- Limited Strength in legs and trunk can decrease your safety with walking (feet don't pick up, hip is not stable), balance (especially ankle and hip muscles), functional tasks like getting up from chairs, getting up from the floor, getting items from the ground/low shelves, negotiating stairs/curbs



Postural Alignment

- Having your posture as close to midline is important for ideal balance and walking
- Your therapist can help you identify areas in which your posture can be improved and teach you how to maintain it throughout the day (in all positions such as sleeping, sitting, standing or walking)

Static Balance

- Imbalance in a static position is important to assess as many of your daily tasks are “in place”
 - Tasks such as reaching, turning, shifting your weight
- There are standardized tests with established cut-offs which your therapist can use to find out if you are an increased risk of falls

Dynamic Balance and Walking

- Dynamic Balance involves your balance when you are in motion
- Turning, head turns, walking with eyes closed (low light conditions)
- Similar to Static Balance, there are standardized tests which can assess dynamic balance and have cut-off scores for increased risk of falls.
- Dual Tasking Conditions- recent study looked at ET and dual tasking and found that in a group of participants with some cognitive impairment had changes in their gait pattern once asked to perform cognitive challenges with ambulation. It is important for therapists to both assess ambulation with and without dual tasking (can also look at physical dual tasking).

Walking

- Your therapist will assess your walking and try to find if there are any deficits which would increase your risk of falls
- Several studies have noted that individuals with ET have increased difficulty with tandem gait which can increase risk of falls in tight spaces, with turns
- Gait speed is also an indicator of risk of falls, so therapist may time your walking.
- Therapist will assess you with an assistive device if appropriate or instruct you in the use of one if needed.



Walking

A certain set of persons with ET may have an identifiable gait disorder that is characterized by difficulty with tandem gait expressed by multiple mis-steps, enlarged base of support, often linked with hand intention tremor and tremor disability is severe.

DBS

- Studies have found that as many as 37% of people after receiving DBS actually have a worsening in balance.
 - Once study found that those with worse tremors (measured by the Fahn, Tolosa, Marin Tremor Rating Scale) prior to DBS or older age may have the most impact on balance after DBS.

Other Items a PT can Address

- Pain
- Home Safety
- Help you in finding community programs to address strength/balance...Tai Chi, Yoga, Community Exercise Groups
 - Just participating in general exercise can help you to increase flexibility and strength and decrease your risk of falls.



Occupational Therapy

- Occupational Therapists work with you to find what functionally is difficult for you to do and then find ways to help you achieve your functional goals. They are experts in adaptive equipment which can help you make your daily tasks easier.



Any Questions?

References

- Functional correlates of gait and balance Difficulty in ET: Balance Confidence, near misses and falls- Elan D. Lewis et al, *Gait & Posture* 2011
- The gait disorder of advanced essential tremor- Henning Stolze et al, *Brain* 2001
- Steady or not following thalamic deep brain stimulation for essential tremor- Nelson Hwynn et al, *Journal of Neurology* 2011