

Balance exercises and physical therapy management of vestibular dysfunction

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Vestibular dysfunction is most often experienced as vertigo or dizziness depending on the peripheral or central origin of the imbalance. There are vestibular rehabilitation methods to cope with these symptoms in the long term using balance exercises and physical therapy.

Our goal is to present our own devised panels of exercises in graphic form that we use to help patients speed up their natural cerebral compensation and spatial awareness in order to relieve and delay symptoms of vestibular dysfunction after the initial acute attack or with mild complaints. Among them are Epley and Semont maneuvers, Brandt-Daroff exercises (most useful in BPPV), as well as several exercises to enhance eye movements, head and body posture. Our patients are referred to physical therapy in cases involving dizziness accompanied by cervical pain and stiffness.



BALANCE EXERCISES LEVEL 1

Beginner exercise, 20 repetitions

Eye movements, perform seated

1. Follow moving object (finger) up and down without head movement
2. Follow moving object (finger) left and right without head movement
3. Move head up and down following a fixed target
4. Move head left and right following a fixed target

Head exercises

Stand upright back to wall, arms beside body, legs close, chair for balance in case of falling

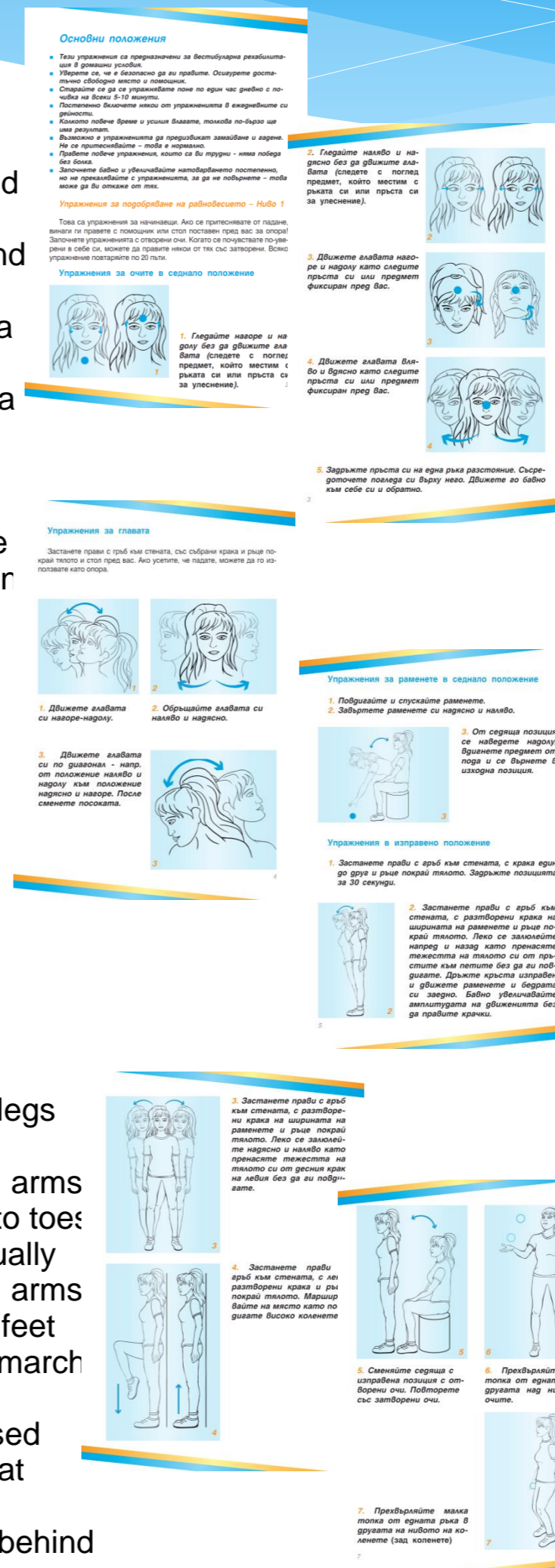
1. Move head upside down
2. Move head left and right
3. Move head diagonally

Seated shoulder exercises

1. Raise and drop shoulders
2. Rotate shoulders left and right
3. Bend down to pick up an object off the floor, return to starting position

Standing exercises

1. Stand upright back to wall, arms beside body, legs close. keep this position for 30 seconds
2. Stand upright back to wall, legs shoulder wide, arms beside body, swing back and forth from heels to toes without raising them. Increase amplitude gradually
3. Stand upright back to wall, legs shoulder wide, arms beside body, swing left and right without lifting feet
4. Stand upright back to wall, arms beside body, march lifting knees high
5. Sit and stand eyes open, repeat with eyes closed
6. Throw a small ball from one hand to the other at eyelevel
7. Throw a small ball from one hand to the other behind knees



BALANCE EXERCISES LEVEL 2

Increased risk of falling

1. Stand upright back to wall, legs shoulder wide, arms beside body, Turn around 180 degrees, hold for 10 secs or for the dizziness to pass; 5 reps alternating left and right. Try to reach a full circle with eyes closed and away from the wall
2. Make 5 steps forward and an abrupt stop; Repeat until 15 meters; gradually increase to 30 meters
3. Make 5 steps forward; hold for 10 secs or for the dizziness to pass; around and go back, repeat 5 times; gradually increase to 10 times
4. Walk up and down a slope with eyes open starting from 20 steps in each direction, gradually increasing. Advanced users should try eyes closed
5. Walk up and down stairs with eyes open starting from 20 steps in each direction, gradually increasing. Advanced users should try eyes closed
6. Walk turning head left and right at each step, at least 15 meters. Advanced users should try eyes closed
7. Walk moving head up and down at each step at least 15 meters. Advanced users should try eyes closed
8. Walk tilting head to left and right shoulder at least 15 meters. Advanced users should try eyes closed

Our experience shows that this panel might be equally effective alternative to medical treatment (most often betahistine) in the long term achievement of vestibular compensation, decreasing existing and delaying new symptoms and crisis in patients with chronic imbalance problems and/or outpatients with mild vertigo complaints.

Patient key points

1. Home exercises
2. Make sure it is safe, provide enough space and a helper, if possible
3. Exercise should be at least 1 hour daily with a break every 10-15 minutes
4. Gradually incorporate some of the exercises in daily routine
5. The more time and effort involved, the quicker the result
6. It is normal for the exercises to elicit dizziness and nausea
7. No pain no gain, do not avoid difficult exercises

References:

Brandt T, Daroff RB.: Physical therapy for benign paroxysmal positional vertigo Arch Otolaryngol. 1980 Aug;106(8):484-5.

Epley JM The canalith repositioning procedure: for treatment of benign paroxysmal positioning vertigo Otolaryngol Head Neck Surg. 1992 Sep;107(3):399-404

Herdman, Susan Vestibular Rehabilitation (Contemporary Perspectives in Rehabilitation) 3rd Edition 222-360