



Elderly Individuals or Individuals with Significant Vestibular Disorders using SportKAT 4000

1. Patient must undergo leg-strengthening exercises before and during SportKAT training. Use standard Physical Therapy Techniques.
2. Patient presents to clinic 2-3-x each week for 15-30 minute session on SportKAT. First session is 15 minutes and the remainder should be 30 minutes
3. Over first 15-minute session – have patient work simple maze pattern on relatively firm (or completely firm) surface. Over the next 3 sessions the training should be for 30 minutes at slightly less firm surfaces each visit or every other visit.
4. In subsequent sessions start the platform at a slightly less solid setting every couple of days and try to have the patient or therapist adjust the firmness 2 times each 30 minute session so that the patient spends 10 minutes at each setting and each setting is less firm than the previous one.
5. Change to more difficult mazes as needed and depending on patient progress
6. Chart progress each visit and monitor the patient.
7. Estimated number of visits needed 10-12.

Suggested progression

Sessions	Length of treatment	PSI	Cursor Speed
1	15 minutes	6.0 or more	2
2	30 minutes	6.0	2
3	30 minutes	5.5	2
4	30 minutes	5.5	3
5-7	30 minutes	5.0	3
8-10	30 minutes	4.5	3
11-12	30 minutes	4.0 or less	3

Note the following:

1. *It is recommended that the patient do 15-30 minutes of home vestibular rehab daily.*
2. *The patient must continue to work on leg strength*
3. *The patient, may, from time to time, feel dizzy or have an upset stomach when they get off the platform. This is OK and may be a sign of progress.*
4. *This is a suggested protocol only. All patients should have an individual protocol designed by a trained medical professional.*

This protocol is not intended to replace professional medical advice. This information provided herein is simply a suggestion toward customizing a treatment regime for a specific patient. Consult your physician or physical therapist for detailed rehabilitation or fitness care plans.

VESTIBULAR EXERCISES
ALL EXERCISES TO BE DONE TWICE DAILY – AM/PM

VISTIBULO-OCCULAR REFLEX

- 1) **Sitting – Standing – Walking:** Hold (small stick like) object in front of you at arm's length. Move object side to side, up and down, and in diagonal directions. Track the object with the eyes, but do not move the head.
- 2) **Sitting – Standing – Walking:** Hold object in front of you at arm's length. Shake head up and down. And side to side while looking at object.
- 3) **Sitting – Standing – Walking:** Hold object in front of you at arm's length. Shake head side to side and move object in opposite direction while looking at object.
- 4) **Sitting – Standing – Walking:** Hold object in front of you at arm's length. First move object to one side and track it with the eyes without moving the head. Then turn the head to face the object. Repeat to the opposite side, as well as up and down.
- 5) **Sitting – Standing – Walking:** Focus eyes on a stationary object in front of you. Close eyes and shake head from side to side, and up and down. Reposition head so that you are again facing the object and open the eyes. Again, focus on the object.
 - Increase speed of head/object movements, but always maintain focus on the object.
 - Have someone else move an object in front of you, while tracking with the eyes.

CERVICO-OCCULAR REFLEX:

Sitting – Standing: Keeping the head still and an object in front of you in focus, cross the arms across your chest and rotate trunk side to side.

DEPTH PERCEPTION:

Standing with the arms against a wall. Look at a fixed object in front of you, and maintain focus on the object. Do a push-up against the wall.

Sitting – Standing – Hold your finger in from of you at arm's length. Slowly bring it closer towards you nose and keep it in focus. Repeat, 1 minute.

SOMATOSENSORY/PROPRIOCEPTIVE RETRAINING:

Standing with arms crossed, eyes closed. First with feet side by side, then with one foot slightly in front of the other, hold balance. Attempt to eliminate excessive swaying from side to side or back and forth. Add a backwards head tilt as if looking up towards the ceiling.

Standing with arms crossed, eyes closed. First with feet side by side, then with one foot slightly in front of the other, hold balance. Lean as far forward, backwards, and side to side as you can without losing your balance. Attempt to hold your balance in the positions of forward, backwards, and each side for a period of time, before switching to the next position.

Standing with arms crossed, eyes closed. First with feet side by side, then with one foot slightly in front of the other, hold balance. Do a slight knee-bend and regain your balance.

Standing with arms crossed, eyes closed. Mark your starting position. March in place for 1 minute. Attempt to stay in the same starting position.

Walk a straight line with the eyes closed (as if on a tightrope).

While walking a straight line with the eyes open, turn the head side to side and look side to side at objects. Repeat, but look up and down while moving the head up and down.

Standing on one foot, eyes open. Close eyes and maintain balance.

**** All somatosensory/proprioceptive exercises may be made more difficult by narrowing the base of support progressively, and by changing the surface texture from a firm surface to a progressively softer surface, e.g. foam, sand, etc. Also adding softer shoes makes the surface softer, and thus makes the exercise more difficult. Also the surface can be angled, by using ramps, inclines, or stairs to make the exercise more difficult. A mini-trampoline may be used for the surface. Prism glasses or distortion lenses may be worn during the exercises, to decrease the visual preference.**

WALKING:

Sidestepping in both directions (walk sideways).

Braiding/Crossovers. First cross over in front, then in back. Then alternate.

Walk on tip-toes.

Walk on heels.

Repeat all exercises with eyes closed. Vary the surface from a firm surface to progressively softer one. Increase the speed of the walking as tolerated. Progress to walking stairs.

BPPV:

Sitting on the side of the bed, turn the head to one side and close the eyes. Lie down rapidly, keeping the head turned and eyes closed. Maintain that position for 10-15 seconds. Open the eyes and sit up, looking in front of you Repeat 6 times each side.

Sitting in a chair, stand up quickly and turn head to look over shoulder. Turn head back to middle and sit. Repeat, alternating sides of head rotation for one minute.

Repeatedly bend down and touch the floor. Look down to the floor while stooping, and look up to the ceiling when standing.

Lying flat on back. Roll from side to side quickly (log roll).

WALKING PROGRAM FOR FITNESS:

Walk one mile (10-12 city blocks) in 15 minutes. Progress gradually – increase the distance until 4 miles can be completed in 1 hour.

Remember the proper sequence of Warm-up, Stretching, Exercise, and Stretching again.