

# Vestibular Physical Therapy for Concussion

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## What does my vestibular system do?

- The vestibular system includes the parts of the inner ear and brain that help to control balance and eye movements.
- This system also helps us move around without feeling dizzy or off-balance.

## The balance system includes:

- Eyes
- Inner ears (vestibular system)
- Proprioceptive systems (sensation from our feet, legs, and trunk)

These systems work together to help us maintain our balance, and they allow us to see things clearly while we are still or in motion.

## How does a concussion affect my vestibular system?

- Concussion can disrupt the vestibular system's coordination with the eyes and our proprioceptive systems.
- When this occurs, it can create symptoms that make it hard to balance, walk straight, perform quick movements, exercise, read, focus/concentrate, and it may even make you tired.

## What are some vestibular symptoms after concussion?

- Dizziness
- Headache
- Balance Problems
- Sensitivity to light and noise
- Pressure in head
- Blurred vision
- Brain Fog "Feeling like in a fog"

## **How does vestibular therapy help?**

After your Physical Therapist evaluates you, they will teach you specific exercises to do during therapy visits and at home to treat your dizziness, imbalance, or vision symptoms.

To help improve your recovery, it is important for you to attend your physical therapy appointments and participate in the daily prescribed home exercise program. This will allow your therapist to:

- Monitor improvements
- Make changes to your exercises
- Communicate with your doctor about your progress

## **Why are these exercises important?**

- Vestibular exercises will help to improve your balance and decrease symptoms of dizziness.
  - You may experience symptoms as you are doing these exercises. Slow, gradual, and consistent participation in an exercise that causes mild to moderate symptoms will help to decrease your symptoms over time. This process is called **habituation**.
- Vestibular exercises can also improve the ability of your eyes to work together with your balance system to reduce symptoms of blurred or double vision.

## **Guidelines for vestibular exercises**

Vestibular Exercises **may** provoke dizziness. Perform the exercises with just enough intensity to bring on mild to moderate dizziness that returns to baseline within 1-2 minutes. If you experience significant dizziness or your dizziness lingers for more than 1-2 minutes, continue the exercises with one of these modifications:

- Decrease the exercise speed
- Perform the exercise with less motion
- Decrease the number of repetitions

## **How do I know whether to make my exercises easier, or more challenging?**

- If you perform your exercises correctly, you should feel a mild to moderate increase in dizziness (and other symptoms) for only 1-2 minutes. This brief increase in symptoms in the short-term will help improve your recovery. We refer to this as the “sweet spot”.
- It is important for you to find the “sweet spot” regarding the intensity of each of your exercises:
  - **If you are performing your exercises too slowly**, you may not experience symptoms. Try increasing the speed of the exercise until you feel a mild to moderate amount of dizziness.
  - **If you push yourself too hard**, you may experience an increase in concussion symptoms that take greater than 15 minutes to decrease to their pre-exercise level. If this occurs, you must decrease the intensity of the exercise. During this time, if you feel off-balance, please sit down and take a break so that you don't fall.

**If you feel like you are having difficulty finding your “sweet-spot”, tell your physical therapist so they can assist with modifications.**

## **When will I see improvement?**

- You should notice some symptom improvement within a few days, but sometimes it takes longer.
- If you feel your dizziness or other concussion symptoms are getting worse or not improving after 2 weeks, contact your therapist and doctor.

## What guidelines should I follow for participating in daily activities?

It is important to avoid another concussion, especially during your recovery process.

**Do not participate in any contact sports until you are medically cleared by your doctor.**

- In the first 1-2 days after suffering a concussion, rest is important.
  - Symptoms may worsen in response to mental or physical activity, exposure to bright lights or loud sounds, or being in a place with lots of movement (such as in a car or crowded room).
  - Limit or avoid activities that worsen symptoms.
- As you start to feel better, we encourage you to start light physical activity (brisk walking or riding a stationary bike) and gradually increase the intensity if you can tolerate it.
  - New studies suggest that performing regular exercise leads to a quicker recovery from concussion, as long as the exercise does not significantly worsen symptoms and does not place you at increased risk for another concussion.
  - There is a fine line between “too much or too little” activity, so exercise should be gradual and **guided by your concussion doctor**.

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