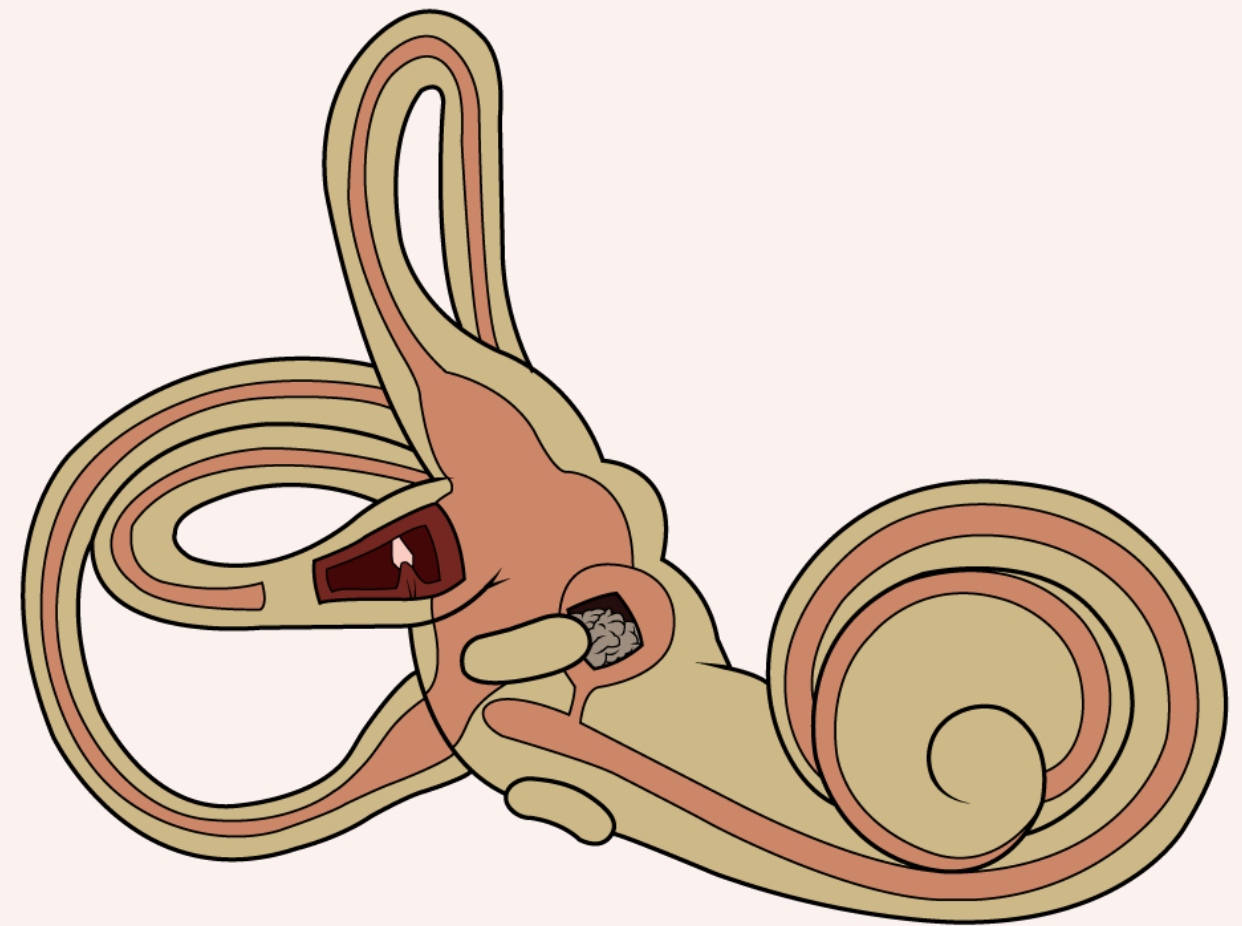


What is the Vestibular System?

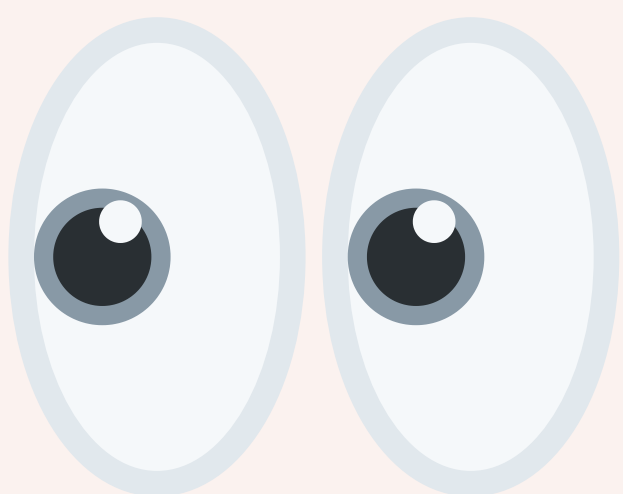
The vestibular system is the system in your inner ear responsible for balance, gaze stability.



The vestibular system is the system in your inner ear responsible for balance, gaze stability, spatial awareness. & more

You have three systems of balance, and each is responsible for different tasks. In addition to the tasks listed above, the Vestibular System is also responsible to be the decision-making party when determining which other system is telling the truth.

SYSTEMS OF BALANCE



vision



proprioception



vestibular

HOW TO DOSE VESTIBULAR EXERCISES



HOW SHOULD THEY MAKE YOU FEEL?

Vestibular exercises are intended to make you feel dizzy. However, they should not make you dizzy for more than 5 minutes, or 5/10 over your BASELINE

WHAT IS BASELINE?

Baseline is how you're feeling before you do your exercises. Your symptoms can be anywhere from 0-10 (0= best ever, 10=worst ever).

You can do exercises starting at any level, but you need to convert your starting number to zero.

Example: right now, I am a 2/10 for dizziness. I want to do my exercises, so my 2 is now my baseline. But, you will consider the 2 to be a 0 so you never go over 5 from that number.



HOW MANY & AT WHICH SPEED?

This is entirely customized to you. You should perform them at a speed where you can do the exercise well (your thumb or focal point should never jump or become blurry, but the exercise should challenge your system. You should feel a mild increase in dizziness for less than 5 minutes, and a level of less than 5 over baseline.

Vestibulo-Ocular Reflex (VOR)

The vestibulo-ocular reflex is between your ears (vestibular) and eyes (ocular) responsible for gaze stability.

The rule of this reflex states that there is an equal and opposite reaction of the eyes for every action of the head. This action and reaction system keeps your eyes stable while your head moves.

Place your thumb in front of you at eye level. Find a crease in your thumb and stare. Now, move your head right and left, at a quick cadence. The crease in your thumb should stay still, (other things behind you though may jump). That is your VOR in action.

When your head moves right, your eyes move left. This keeps your eyes fixated on a singular point and your gaze stable.

**BUT WHAT
IF THE
HORIZON
DOESN'T
STAY STILL?**

If your gaze moves when you move, instead of staying still, the horizon may bounce while you walk. This is called gaze instability, also frequently called oscillopsia.

Gaze instability is caused by a unilateral or bilateral vestibular hypofunction. This means that one (or both) of your vestibular systems are not working to the levels they should.

The common causes of this are vestibular migraine, vestibular neuritis, Meniere's Disease, genetics, or other causes.

HOW TO TREAT GAZE INSTABILITY

with VORx1

How to perform VORx1

- Find a focal point. like your thumb of a sticky note on the wall, and stand 2-4 feet away.
- Start your metronome and shake your head left and right to the beat.
- The focal point should never jump or become blurry.
- The exercise should make you feel mildly dizzy.

1

DETERMINE LEVEL OF GAZE INSTABILITY

You can perform the dynamic visual acuity test with your PT or decide the difficulty based on the metronome speed you can use. Start at 120BPM, and work your way up until it's difficult, but not impossible.

2

SET YOUR METRONOME

Starting at 120, perform 15s of VORx1. If this is easy, increase the BPM by 5-10BPM. You've found your level when it's difficult, but not impossible. There is no jumping/blurriness, but you become mildly dizzy for seconds to minutes.

3

STANDARD VORX1 PRESCRIPTION

VORx1 should start with a steady focal point on a blank background. You can tape a dot or a letter to the wall, or use your thumb. It is for you and your PT to determine the duration, but typically it's 3x 15s.

4

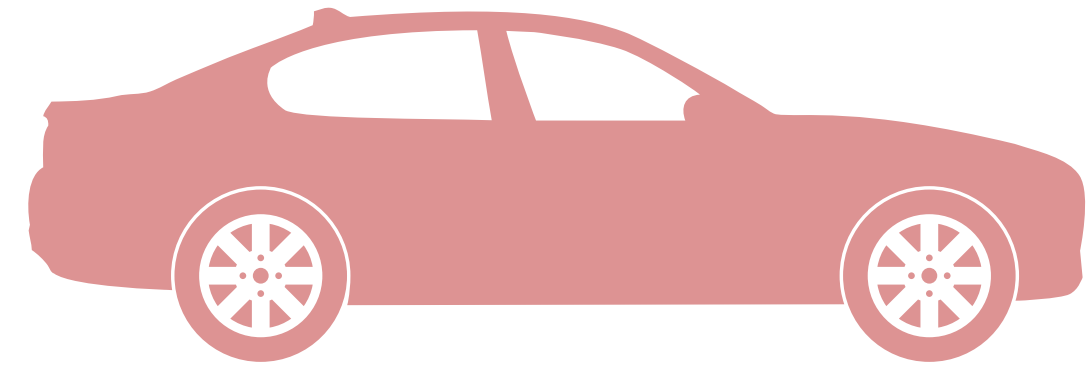
MAXIMUM SPEED

The speed for this VORx1 should never be greater than 240BPM. After 240, your vestibular reflex will no longer keep your vision still; this is called retinal slip.

How to treat

MOTION SENSITIVITY

With VOR Cancellation



Motion sensitivity comes from many sources, but central-peripheral visual integration is one issue. VOR Cancellation (VORcX) can help reorient this reflex.

1

Stand and clasp your hands together with your thumbs up.

Stare at your thumbs and then move your whole body right and left, keeping your focus on your thumbs

2

3

Rep 5 times in a 60• sweep (Right + Left = 1).

You should be able to keep your eyes on your thumbs without getting blurry or jumping around.

4

5

This may make you nauseous/motion sick. That is the feeling we are going for with this exercise, but all symptoms should decrease in 1-5 minutes.

Repeat!

This is typically prescribed 5-10x reps for 3 sets. It can also be performed vertically.

6

VOR CANCELLATION

WALKING WITH HEAD TURNS



1: Find your walking cadence

Can you walk in a straight line while looking straight ahead?

2: Begin with 1 right and left head turn

Find floorboards and line your feet up with a straight line. Then, start walking at your normal pace.

3: Then look left and right

Next, start with a small right and left head turns every few steps.

4: If you walk in a zigzag, reorient yourself and start again

Reorient yourself and start walking again. Do fewer head-turns, smaller head turns, or slower head turns. But don't slow your pace.

Walking with Head Turns is a great exercise for functional walking.

Like being in the grocery store, shopping at the mall, or walking elsewhere.

5: This should make you feel off

That's how you know you're doing it the right way. It should be difficult, but not impossible.

6: Add more directions

Add in vertical or diagonal head turns.

Medical & Risk Disclaimer:

None of the information found on the previous pages, or in the videos, is medical advice.

Always talk to your physical therapist and physician prior to starting vestibular exercises.

All information here is to be used at your own risk.

Madison Oak, Oak Physical Therapy & Wellness, and all affiliated parties are not responsible for injuries, damages, or other symptoms that occur due to the information found here.

This Is not Vestibular Rehabilitation Therapy, nor is it a replacement for Vestibular Rehabilitation Therapy, or Physical Therapy, or other medical treatment.