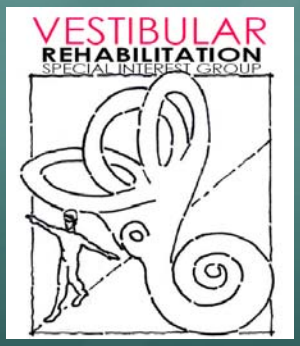
Physical Therapy and the VOR

FACT SHEET

Author: René D. Crumley, PT, DPT, NCS



How does physical therapy help people with "inner ear" problems?

To keep our vision clear and our balance and walking steady, the brain gets information from three systems: our eyes, our position sensors in our legs and neck, and our inner ears. Our two ears work together in an equal and opposite way, often called a "push-pull" system. When the information from the two ears does not say the same thing, for example due to an injury on one side, it causes problems with your vision and balance. The ears and the eyes work together through the vestibular-ocular reflex, or the VOR, which is a very fast reflex that keeps our vision clear with head movement. Through a process called VOR adaptation, we can make changes to the way our ears and eyes work together and compensate for injury.

How does VOR Adaptation work?

The physical therapist will provide you with exercises to help the VOR regain its function. These are specific exercises that will cause a very slight blur which in turn signals a problem to the brain. The problem can then be fixed by the repair shop of the brain, the cerebellum. The cerebellum can adjust or reset the way the eyes move with the head and improve your ability to move you head without blurred vision.

What else do I need to know about VOR Adaptation?

At first the exercise may seem to increase your symptoms of dizziness. Let your physical therapist know about this, and he/she may recommend changes to your exercise program. The repair shop, the cerebellum, needs to have different experiences to make all the adjustments you need, so you may have to do the exercises in different ways. Your physical therapist can help guide you through these exercises and make appropriate adjustments.

APTA
American Physical Therapy Association
Neurology Section

1111 North Farifax Street
Alexandria, VA 22314-1488
Phone: 800-999-2782,
Ext 3237
Fax: 703-706-8578
Email: neuropt@apta.org
www.neuropt.org