
COPING

COGNITIVE

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Cognitive Aspects of Vestibular Disorders

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Vestibular disorders affect individuals physically AND psychologically. And while it is important to understand your physical symptoms, it is equally important to understand your psychological symptoms as they can often trigger and/or exacerbate your physical symptoms.

Cognitive is just a fancy word for thinking. When I use the phrase cognitive aspects of vestibular disorders, I am referring to how your vestibular disorder affects your ability to think, specifically to pay attention and concentrate, to remember, to reason and to problem solve.

DISORIENTATION AND CONFUSION

Disorientation and confusion are common during the acute stages of vestibular disorders. In these very frightening and disturbing moments, a sense of time and place might feel non-existent. Fortunately, these moments are relatively short-lived. As the physical symptoms fade, clarity, and comprehension return.

VISION & COGNITIVE FUNCTIONING

Due to the intricate link between the vestibular system and the visual system, problems with visual-spatial tasks are common in people with vestibular disorders. Many studies pinpoint the strong link between vestibular dysfunction and difficulties with spatial memory, navigation, and mental rotation (Chari et al., 2022). This link might be due in part to the brain's anatomy, as the hippocampus is involved in our vestibular functioning as well as spatial memory (Besnard et al., 2012). However, in general, mechanisms of overlap in vestibular and cognitive domains are still unclear. Regardless of etiology, people with vestibular conditions might find their eye-hand coordination and depth perception to be thrown off-course.

COGNITIVE STAMINA/ENERGY

Cognitive energy is finite for everyone. If you are using a great deal of this energy to maintain equilibrium and stay steady (something that is normally done automatically), it is unlikely that you will have very much left over for other activities. As a result, cognitive fatigue sets in. Activities that you used to be able to perform with ease and very little effort now require much more effort, leaving you drained of energy and requiring rest/naps. Spontaneity goes right out the window.



ATTENTION AND CONCENTRATION

Vestibular disorders interfere with your ability to pay attention and concentrate. You may find that it is difficult to sustain focus for a significant length of time. You may find you are easily distracted - both by external stimuli (the noise of other people talking, the TV) and internal stimuli (your thoughts and feelings). Multi-tasking, the ability to do and keep track of two processes at the same time can also be compromised. Another area of attention/concentration that is often affected in people that have vestibular disorders is sequencing. For example: you may find yourself mixing up sounds while speaking or reversing numbers or letters when speaking or writing. You may have trouble following directions, filling out forms, following a recipe, or tracking conversation or plot in a movie.

THE PROBLEM WITH MEMORY



The most common cognitive complaint I have heard in my clinical experience working with people living with vestibular disorders has been difficulties with memory. And the problem seems to be more with short-term memory (remembering why you just came into a room) rather than long-term memory (recalling the name of your best childhood friend). Often, but not always, what is perceived as a memory problem is really a problem with attention. I like to use a bank model of memory to explain this phenomenon. To deposit money into your bank account, there are a series of steps that you need to execute to ensure your money is properly deposited so that at some later date, it will be there for you to withdraw. The same is true for your brain and processing information to be stored in memory. There are specific steps it goes through to ensure that information gets “deposited” so that it is available for retrieval or “withdrawal” at some later point. At the bank as well as in your brain, if the steps are not followed properly, the money/

information gets lost and thus is not available for future use. The cognitive strain of a vestibular disorder can interfere with this “depositing” or encoding process of information. As such, if the information is never properly encoded, there is no way it will be available at some later date for retrieval.

YOUR EXECUTIVE MAY NOT BE FUNCTIONING

Imagine that just inside your forehead is a very important person sitting at a very large desk. This person is the executive of your brain, the person in charge of managing, overseeing, and coordinating all the functions of your brain. Specifically, this person is responsible for organization, problem-solving, decision-making, and self-monitoring. In addition, this person provides you with a sense of internal certainty, that thoughts get organized, and plans get executed, seemingly automatically. These abilities are referred to as executive functioning. Unfortunately, in the presence of a vestibular disorder, your executive functioning may not be functioning very well. This person is asleep under the desk! Overworked, under-resourced, he/she is just too overwhelmed, and this automaticity that you so readily rely on is gone. Plans, even the simplest ones, such as getting yourself dressed in the morning may be completely disorganized... and disorganizing. You may find it difficult deciding what to have for breakfast. Activities that were automatic, that you never had to even think twice about, now must be meticulously focused on and thought about.

The difficulties described above can, and unfortunately often do, significantly interfere with day-to-day life. In response to these cognitive changes, you may feel that your abilities have diminished, both at home and at work. However, it is not your abilities that are diminished. It is your cognitive stamina that is depleted because it is being used for a function that, prior to having a vestibular disorder, it didn't need to be used for in the past. Reading is laborious, using the computer is painful and frustrating, balancing your checkbook is near impossible. Or if it is possible, you are doing things very differently than you did before. For example, you may find you operate at a slower pace, needing a lot more time to accomplish tasks than you used to, or with help from others. You may have found a more simplistic approach to accomplishing tasks, one that gets the job done but not nearly as satisfactorily. You may also have trouble navigating large supermarkets or department stores.



COPING STRATEGIES

Thankfully, there are ways to combat and overcome these difficulties and improve functioning. The chart below pairs each problem area discussed above with a variety of coping skills you can utilize to minimize and/or compensate for these difficulties. Rest, proper nutrition, and appropriate exercise are also key components to managing areas of cognitive difficulty.

TREATMENT

Participating in treatment offers individualized attention to your specific problem areas while also providing normalization, validation, and support. Sometimes professional help begins with a neuropsychological evaluation. This evaluation

can provide detailed information about your cognitive functions. It identifies your strengths and weaknesses, areas in which you are functioning normally and areas in which you are having problems. With the results of this evaluation, treatment recommendations are made, usually for a course of cognitive rehabilitation. Cognitive rehabilitation can be done by an occupational therapist, a speech therapist, or a psychologist. A first step is increasing awareness and self-monitoring of difficulties. Once problems are clearly identified and understood, there are two routes available: (1) cognitive retraining (a physical therapy for the brain) to remediate problem areas and (2) learning compensatory strategies. In cognitive retraining, skills (such as attention and concentration) are practiced and strengthened through a variety of exercises. Learning compensatory strategies involves utilizing strengths to overcome weaknesses and developing a “bag of tricks” that you can employ to get around problem areas.

COPING STRATEGIES	
DIFFICULTY	COPING STRATEGY
Disorientation and confusion	Breathe. Repeat the mantra: “This will pass. I’m OK.”
Cognitive fatigue	Conduct self-checks of your mental energy. Pace yourself. Take breaks.
Attention/ concentration	Enlist all sense modes to take in information. Listen to what is being said, write it down, read it, and say it out loud.
Visual Skills	Visit large stores at off-peak hours. Read from a print out rather than from a computer screen. Listen to information rather than reading it.
Memory	Make lists and check them often.
Executive functioning	Create a structure and routine to your day and follow it consistently. Use an organizer/daily planner. Prioritize.

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