

Vestibular Rehabilitation Therapy: Using Neuroplasticity to Reconnect Balance with Everyday Life

Vestibular rehabilitation therapy (VRT) is one of the most powerful tools available to help people recover function and confidence after vestibular dysfunction. But as speakers emphasized during the Life Rebalanced Live session “VRT: Neuroplasticity & Exercises that Connect it to Everyday Life,” VRT is not simply a list of exercises—it is a process that harnesses the brain’s ability to adapt, learn, and rebuild connections through neuroplasticity.

The session featured two vestibular experts—a physical therapist and an occupational therapist—who explored the science behind VRT and how it can be integrated into everyday life. Their conversation was followed by a patient panel where individuals shared their personal experiences navigating vestibular therapy, diagnosis, and recovery.

Together, these perspectives highlighted an essential message: meaningful recovery requires a combination of individualized therapy, patient engagement, and patience with the non-linear nature of healing.

Neuroplasticity: The Foundation of Vestibular Rehabilitation

At the heart of vestibular rehabilitation therapy is neuroplasticity, the brain’s ability to reorganize and form new neural pathways in response to experience and practice.

One of the experts described neuroplasticity in simple terms: the brain changes itself through repeated, meaningful activities that challenge the system in the right way. When those activities are repeated frequently, the brain strengthens the pathways involved—much like walking repeatedly along the same path through a field eventually creates a clear trail.

This process is essential for vestibular recovery. When the balance system is disrupted—whether by injury, illness, or structural differences—the brain must learn to reinterpret signals coming from the inner ear, eyes, and body.

Several key principles help drive neuroplastic change:

- Repetition and intensity of practice
- Meaningful activities (salience) that matter to the patient
- Sleep and physical activity, which support brain health
- Engagement and belief that improvement is possible
- Consistency over time

These factors work together to help the brain recalibrate how it interprets motion, balance, and spatial orientation.

Importantly, the speakers emphasized that neuroplasticity does not expire with age. While aging can affect certain factors like blood flow or vision, the brain retains the capacity to adapt and learn throughout life.

Connecting Therapy Exercises to Real Life

One of the biggest misconceptions about vestibular rehabilitation is that it consists only of structured exercises performed during therapy sessions.

In reality, the most effective VRT programs integrate rehabilitation into everyday activities.

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The experts described this approach as “exercise snacks”—small, frequent opportunities to practice vestibular challenges throughout the day. Examples include:

- Turning the head while walking down a hallway
- Practicing balance while brushing teeth
- Performing visual tracking while doing household tasks
- Rehearsing movements required for daily routines

By embedding exercises into familiar activities, patients practice more frequently and reinforce the brain pathways needed for real-world function.

Occupational therapy plays a key role in this process. Therapists often begin by asking patients a simple but powerful question: “What makes you you?”

Understanding what activities are meaningful—whether cooking, driving, gardening, or playing with grandchildren—helps therapists design exercises that directly support the patient’s goals.

This approach ensures that therapy focuses not just on reducing symptoms, but on restoring participation in everyday life.

Lifestyle Factors That Support Brain Recovery

The discussion also highlighted how lifestyle factors influence neuroplasticity and recovery from vestibular disorders.

Three factors stood out as particularly important:

Sleep



Sleep prepares the brain for learning and adaptation. It helps consolidate new information and strengthens the neural pathways built during rehabilitation exercises.

Sleep deprivation, on the other hand, can increase anxiety, rumination, and sensitivity to symptoms.

Stress Management

Vestibular symptoms often trigger fear and anxiety, which can amplify dizziness and make recovery more difficult.

While some stress exposure can build resilience, chronic stress can interfere with progress. Learning strategies to manage stress—through breathing techniques, mindfulness, or therapy—can help patients tolerate vestibular challenges more effectively.

Physical Activity

Movement improves blood flow, supports brain health, and promotes the release of chemicals that support learning and mood.

Regular physical activity—even gentle movement—can help prepare the brain for the neuroplastic changes needed during rehabilitation.

Breaking the Cycle of Fear and Avoidance

For many vestibular patients, symptoms create a powerful cycle:

Dizziness → Fear of movement → Avoidance → Increased sensitivity to movement

Over time, this cycle can make symptoms worse.



The speakers explained that fear and anxiety are natural responses to vestibular symptoms. However, avoiding movement can reinforce the brain's expectation that movement is dangerous.

VRT works by gradually exposing the brain to movement again, allowing patients to experience successful outcomes and retrain their predictive responses.

Small successes—such as tolerating a short car ride or walking through a store—can reshape the brain's expectations and reduce symptom responses over time.

Progress Is Not Linear

One of the most important messages from the session was that recovery rarely follows a straight line.

Vestibular patients often experience good days and bad days, even when therapy is working.

Therapists encourage patients to focus on long-term progress rather than day-to-day fluctuations. Objective measures—such as balance tests or visual stability assessments—can help track improvements that may not be immediately noticeable.

Consistency matters more than intensity. Doing a small amount of exercise regularly is more beneficial than pushing too hard and triggering severe symptoms.

Finding the Right Provider

Another major theme of the discussion was the importance of working with a qualified vestibular specialist.

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Because vestibular disorders can be complex, not all rehabilitation programs are the same. Effective care typically includes:

- A thorough assessment of symptoms and history
- Objective testing to measure balance and eye movements
- Individualized exercise programs
- Collaboration with the patient in designing therapy goals

Equally important is the therapeutic relationship. Patients should feel heard, validated, and included in treatment decisions.

As one expert emphasized, listening is the first step in good care.

Patient Experiences: Navigating Therapy and Diagnosis

Following the expert discussion, Jeannette Tousignant and Sarah Page shared their personal journeys with vestibular rehabilitation.

Their stories illustrated both the challenges and the hope that can come with persistent symptoms.

Jeannette explained that she first encountered vestibular rehabilitation as a healthcare professional before realizing she had a vestibular disorder herself. After eventually receiving a diagnosis of superior canal dehiscence, she began using VRT to help recalibrate her balance system.

Sarah described the difficulty of attending in-person therapy sessions while experiencing severe dizziness. Her clinicians adapted her program to include home-based exercises delivered through a mobile app, allowing her to continue therapy at her own pace.

Both patients emphasized how important it was to find providers who listened and tailored treatment to their needs.

Advanced Therapies and New Approaches

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The patient panel also discussed different forms of vestibular therapy, including advanced technologies used in specialized clinics.

One example was the GyroStim, a device designed to stimulate the vestibular system by moving patients through different planes of motion while they track visual targets. The goal is to retrain coordination between eye movements and head motion—an essential part of balance and spatial awareness.

Another assessment tool described was the NeuroCom balance testing system, which measures how the body responds to unexpected movements of the floor or visual environment.

These technologies represent one end of the rehabilitation spectrum. Many effective VRT exercises, however, require only simple tools and can be performed at home.

The Challenge of Living with Vestibular Disorders

The patient panel highlighted just how complex and exhausting vestibular disorders can be.

Everyday activities such as driving, shopping, or using a computer may require intense concentration and energy when the balance system is disrupted.

Patients also described how fluctuating symptoms can make progress feel unpredictable.

Despite these challenges, both panelists emphasized the importance of persistence and maintaining hope.

A Message for Anyone Who Feels Stuck

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The session concluded with a message directed toward people who feel stuck in their recovery.

If progress has slowed or symptoms remain challenging, it does not mean improvement is impossible.

There are always ways to support the brain's ability to adapt—through strengthening the body, improving sleep, building resilience, and continuing to engage in meaningful movement.

Recovery may take time, and sometimes it requires revisiting therapy or adjusting strategies. But the brain's capacity for change remains.

As one speaker put it: even when the path forward isn't obvious, there is always another pathway to explore.

Moving Forward

Vestibular rehabilitation therapy offers more than symptom management—it provides a pathway to reconnect with everyday life.

By combining neuroplasticity-based exercises, supportive lifestyle habits, and patient-centered care, VRT helps individuals rebuild confidence in movement and regain participation in the activities that matter most.

For many vestibular patients, that journey is not quick or simple. But with the right guidance, persistence, and support, meaningful progress is possible.