

A QUARTERLY MAGAZINE OF THE VESTIBULAR DISORDERS ASSOCIATION



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# LIVING BEYOND LIMITS

Cherika's Vestibular Journey

When medical professionals repeatedly told Cherika that her symptoms were "just pregnancy-related," she knew something deeper was happening.

As a family nurse practitioner herself, she understood her body was sending signals that couldn't be dismissed as typical maternal experiences.

## **UNEXPLAINED AND UNDIAGNOSED**

Her journey began subtly - unexpected dizziness, persistent nausea, and an overwhelming sense of motion sickness that defied conventional explanations. What started as seemingly normal pregnancy symptoms evolved into a

AS A FAMILY NURSE PRACTITIONER HERSELF, SHE UNDERSTOOD HER BODY WAS SENDING SIGNALS THAT COULDN'T BE DISMISSED

complex vestibular challenge that would test her resilience, professional identity, and personal strength.

During her pregnancy, Cherika experienced debilitating episodes of dizziness. Around 25 weeks, she had a particularly alarming

incident where she felt she might pass out while driving. The experience was so intense that she was rushed to the hospital in an ambulance - a moment that dramatically increased her anxiety and marked a turning point in her health journey.

Medical professionals ran numerous tests - CT scans, EKGs, and comprehensive blood work - but found nothing conclusive. They suggested dehydration and recommended adding salt to her diet. But Cherika knew something more significant was happening.

## LOSING HERSELF

Her daily life transformed dramatically. The once-outgoing professional who enjoyed traveling and spontaneity became someone who meticulously calculated every movement. Driving



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CHERIKA'S JOURNEY
STARTED WHILE SHE WAS
PREGNANT WITH HER SWEET
SON, WHO HAS BEEN ALONG
SIDE HER THROUGH EVERY
STEP OF HEALING

became a source of extreme anxiety.

## **LEARNING TO COPE**

She developed coping mechanisms like listening to anxiety podcasts, practicing deep breathing, and often pulling over to the side of the road when symptoms became overwhelming.

"I was just existing, but surviving at the same time," Cherika recalls.

## FINALLY FINDING HELP

Her symptoms persisted even after childbirth, leading her to seek answers independently.

Her breakthrough came through an unexpected source - a colleague who shared similar experiences and recommended a specialist.

Dr. Habib Rizk finally diagnosed Cherika with vestibular migraines - a condition with no cure, but symptoms that are possible to manage. While the diagnosis was initially devastating, it provided Cherika with a framework to understand her experience.



The Vestibular Disorders Association (VeDA) played a crucial role in her journey. Through VeDA's resources, Cherika found:

- Comprehensive information about vestibular disorders
- Community support from others experiencing similar challenges
- Educational materials to help her understand her condition
- Strategies for managing symptoms and maintaining quality of life

## A HOLISTIC APPROACH

Cherika's approach to managing her condition became holistic. She learned to:

- Pace herself and recognize her body's limits
- Track barometric pressure changes that trigger symptoms
- Use specialized migraine glasses to manage visual stimuli
- Communicate her needs at work and

home

 Practice self-compassion during challenging days

Her six-year-old son became an unexpected ally, showing empathy for her condition and offering support during challenging moments.

Her workplace provided flexibility, allowing her to work virtually when symptoms were intense.

"Accepting it has helped me manage my symptoms better," Cherika shares. "I realized my body had gotten me through the unknown, and we survived."

Her story is more than just a medical narrative—it's a testament to human resilience. She evolved from feeling defeated by her condition to becoming an advocate for herself and others facing similar challenges.

## WHERE IS CHERIKA TODAY?

Today, Cherika continues to work fulltime, parent her child, and manage her vestibular condition. She has learned to listen to her body, adapt her lifestyle, and find meaning in her experience.

Her story reminds us that with proper support, education, and medical

understanding, individuals can not only survive but also thrive.

"Some days I'm great and can do whatever," she says. "Other days, I do the bare minimum. But every day is a learning process. Healing isn't about being symptom-free, it's about finding strength in the journey and showing my son that resilience and hope can carry us through."

## **HOW YOU HELPED CHERIKA**

Cherika's journey illustrates the critical importance of your contributions to VeDA. Each donation represents hope for people like Cherika.

By funding research, providing resources, and creating community, you're helping individuals like Cherika transform medical challenges into stories of empowerment.



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HER WORKPLACE PROVIDED FLEXIBILITY, ALLOWING HER TO WORK VIRTUALLY WHEN SYMPTOMS WERE INTENSE.

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## A NEW TOOL TO HELP DIAGNOSE VESTIBULAR DISORDERS

Research Summary

Vestibular disorders affect the inner ear and brain areas that control balance and spatial orientation. They can cause dizziness, vertigo, unsteadiness, and other symptoms that can be confusing and overwhelming.

These conditions are notoriously hard to diagnose because symptoms often overlap between different disorders. For example, someone with Menière's disease, vestibular migraine, or persistent postural-perceptual dizziness (PPPD) might all report similar sensations, even though the underlying causes and treatments are different.

Traditionally, doctors rely on a combination of patient history, symptom descriptions, physical exams, and special tests to make a diagnosis. This process takes skill, experience, and time—and it's not unusual for patients to see several specialists before getting the right answer.

#### THE GOAL OF THE STUDY

Researchers wanted to see if they could build a machine learning (ML) tool—a type of artificial intelligence—that could help doctors sort through the clues and narrow down the possibilities for six common vestibular disorders:

- Menière's Disease (MD) often includes vertigo, hearing loss, and tinnitus.
- 2. Benign Paroxysmal Positional Vertigo (BPPV) - brief vertigo triggered by head position changes.
- **3. Vestibulopathy (VEST)** damage to the balance organs in the inner ear.
- 4. Hemodynamic Orthostatic Dizziness (HOD) - dizziness related to changes in blood pressure when standing up.
- **5. Vestibular Migraine (VM)** migraine attacks that include dizziness or vertigo.
- 6. Persistent Postural-Perceptual
  Dizziness (PPPD) ongoing
  dizziness or unsteadiness not caused
  by a current structural problem in the
  ear.

## **HOW THE MODEL WAS BUILT**

The team started with a large pool of information from real patient histories—details like symptoms, triggers, and test results. They used a two-step process to decide which pieces of information to include:

- **1. Computer analysis** to find features most helpful for distinguishing between disorders.
- **2. Input from medical experts** to make sure the chosen features were practical and made sense clinically.

This produced 50 key "features" for the model to learn from.

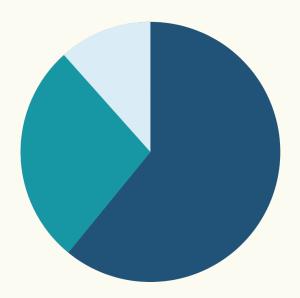
They then trained a type of ML algorithm called CatBoost, which is especially good at handling complex medical data. The model was tuned to be:

- Very sensitive to common, less invasive-to-treat disorders like BPPV and vestibular migraine (to catch as many cases as possible).
- Very specific for conditions like Menière's and HOD, where unnecessary or incorrect treatments could be harmful.

## **HOW WELL IT WORKED**

When tested, the model's overall accuracy was 88.4%. Of all the cases:

- 60.9% were exactly right.
- 27.5% were close-pointing to a similar disorder.
- 11.6% were wrong.



## WHY THIS MATTERS

This tool could help doctors—especially those who aren't vestibular specialists—make faster, more accurate diagnoses, leading to better treatment decisions and fewer unnecessary tests. It could also be a useful teaching aid for new clinicians learning to evaluate dizziness.

## LIMITATIONS

While promising, the study has some important caveats:

- **Limited scope** It only covers six vestibular disorders. Many others (like acoustic neuroma or labyrinthitis) aren't included.
- **Data source** The model was trained on a specific dataset. Its performance might change if used in other clinics or populations.
- Not a replacement for doctors It's meant to assist, not replace, a full clinical evaluation. Human judgment remains essential, especially for rare or complicated cases.
- Accuracy gaps About 40% of cases were either close-but-not-quite or wrong, so results must be interpreted with caution.

## **BOTTOM LINE**

The study shows that a carefully designed machine learning tool, built with both computer algorithms and medical expertise, can be a helpful partner in diagnosing vestibular



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disorders. It's not perfect and won't replace the need for an experienced clinician, but it could speed up diagnosis, reduce errors, and improve care for people struggling with dizziness and balance problems.

## SOURCE

Callejas Pastor, C.A., Ryu, H.T., Joo, J.S. et al. Clinical decision support for vestibular diagnosis: large-scale machine learning with lived experience coaching. npj Digit. Med. 8, 487 (2025). https://doi.org/10.1038/s41746-025-01880-z

## EXPERT PERSPECTIVE - LIMITATIONS OF THE STUDY

VeDA Board President and Associate Professor of Neurology and Otolaryngology-Head and Neck Surgery at Johns Hopkins University, Dr. Amir Kheradmand, MD, offered this perspective:

"This tool shows promise, but it's important to remember how its performance was measured. The model was trained and evaluated against the opinions of vestibular specialists, rather than confirmed diagnoses. In that sense, it reflects how closely the system can mirror an expert's clinical judgment based on the information available, rather than how it performs against a definitive diagnostic gold standard."

# DOUBLE YOUR IMPACT THIS GIVING TUESDAY

Your #GivingTuesday gift will be doubled to advance vestibular research, raise awareness, and offer a lifeline to people who are suffering

DOUBLE YOUR
IMPACT AT
VESTIBULAR.ORG/GT





On Tuesday, **December 2nd**, the global movement of **Giving Tuesday** invites people everywhere to come together in generosity and compassion. It's a day to give back, to stand beside those who are struggling, and to show that when we act together, we can create real change.

For the millions of people living with vestibular disorders, every day can feel like an uphill battle – dizziness, vertigo, and imbalance make even simple tasks overwhelming. Too often, patients feel invisible, misunderstood, or left searching for answers. But your support changes that.

This year, you can make an even bigger difference. Thanks to VeDA's Medical Advisory Board's *gift matching challenge*, the gift you give by midnight on Giving Tuesday will be doubled. That means your generosity goes twice as far – funding educational resources, connecting patients with vital support, and ensuring that no one facing a vestibular disorder has to feel alone.

Please don't wait. You can make your gift in honor of Giving Tuesday starting now!

But opportunity to double your impact ends at midnight on December 2nd. Join this global movement of kindness and help us make vestibular visible this Giving Tuesday.

Double your #GivingTuesday donation today at **vestibular.org/GT** 

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## A LEGACY OF RESEARCH AND ADVOCACY

**Dr. David Zee, MD**, is a pioneering neurologist whose recent generous donation boldly advances VeDA's medical advocacy programs. As a long-standing member of our Medical and Scientific Advisory Board and now a Trustee, Dr. Zee continues to support VeDA's mission with profound integrity and vision.

## SIX DECADES OF GROUNDBREAKING CONTRIBUTIONS

Dr. Zee's storied journey at Johns Hopkins began in 1965 as a medical student. After an early immersion in clinical medicine, he devoted nearly 55 years to studying and treating eyemovement and vestibular disorders. His research has profoundly shaped modern neuro-ophthalmology and vestibular medicine.

## INNOVATIONS IN THE CLINIC AND LAB

Combining bedside observation, animal models, and mathematical modeling, Dr. Zee and his collaborators unraveled complex cerebellar and brainstem mechanisms governing eye movements. Notably, in 1980, with colleagues from Johns Hopkins and the United Kingdom, they identified the first effective pharmacologic therapy for a persistent,

pathological nystagmus associated with cerebellar disorders. His co-authored textbook, with John Leigh, The Neurology of Eye Movements, remains a definitive resource, now in its fifth edition.

Dr. Zee and his colleagues also elucidated how magnetic fields—such as those in MRI scanners—stimulate the inner ear, causing vertigo and nystagmus. These findings not only explained this phenomenon but also influenced interpretations of functional MRI studies by accounting for vestibular effects. The work on MRI and magnetic fields won the Bárány Society gold medal in 2018 for the outstanding vestibular research in the previous six years.

## A SCHOLARLY FORCE AND MENTOR

Dr. Zee has an impressive research background with over 560 publications. His work covers a wide range of topics, including how our balance and eye movements work, the effects of magnetic fields on the inner ear, and how our brains adapt to changes caused by disease and trauma. He is particularly known for his expertise in the science of eye movements, the vestibulo-ocular reflex (which helps keep our vision stable when we move), and the function of the cerebellum, as well as many related disorders of the brain, the inner ear, and the muscles of the eyes.

Among his recent contributions, he co-authored the "Dizzy Exam Guide," with Amir Kheradmand and Joel Goebel



improving bedside diagnosis for dizzy patients, and helped spearhead the development of smartphone-based eyetracking tools to advance the testing and diagnosis of positional nystagmus in BPPV (benign paroxysmal positional vertigo). His leadership continues through collaborative proposals, such as a standardized BPPV testing protocol using 3D simulations and investigations of skull-vibration-induced nystagmus to understand self-stability mechanisms. In 2017, he received VeDA's "Champion of Vestibular Medicine Award".

## **ELEVATING VEDA'S IMPACT**

Dr. Zee's donation is a natural extension of his decades-long commitment, from transforming clinical assessment to mentoring trainees and advancing research. His philanthropy now empowers VeDA's medical advocacy efforts: enhancing educational tools, expanding clinician training, and amplifying patient and provider outreach.

## WITH DEEPEST GRATITUDE

More than a donor, Dr. Zee is a luminary whose work and generosity continue to steady our mission. His passion for clear diagnosis, scientific rigor, and patient-centered care inspires all of us. On behalf of VeDA and the broader vestibular community, we offer our heartfelt thanks today and for generations to come.

Thank you, Dr. Zee, for your brilliance, your generosity, and your unwavering devotion to the pursuit of helping patients with dizziness, vertigo, and loss of balance.

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## MY TEN FAVORITE HOME HACKS

By Karen R. Mizrach

Home should be our sanctuary, a place where we can rest. You don't want to worry about vestibular triggers or safety issues. In this article, I share "hacks" I've done in my home over these last dizzy years to make my life more comfortable and safe.

## 1. LIGHT DIMMERS

I've always hated bright lights; they are a guaranteed migraine trigger. When I had my kitchen lights replaced a few years ago, I asked the electrician to install dimmers on them. What a wonderful invention! Now, when I enter the kitchen in the morning, I turn on the lights, but they are barely on. Until my eyes wake up, I move around in a peaceful glow. Recently, I had my bathroom redone and insisted on dimmers for the lights in there as well. It's wonderful! Rarely are the lights on full strength. In the dining room, the lights have never seen total brightness. It's an easy addition to a light switch with a big payoff for those of us with light sensitivity.

## 2. BATHROOM GRAB BARS

As part of my bathroom remodel, I added safety bars. Finally, I feel safe in the shower. I love having that grab bar for extra security. Showers are one of our biggest challenges and often the



site for falls, slips, and dizziness. Holding onto the bar through most of my shower reduces all those concerns. I'm back to loving my daily hot shower! The bar next to the toilet wasn't necessary quite yet, but it doesn't hurt having it for a few years down the line.

## 3. FURNITURE ARRANGEMENT

Recently, while I was considering where to put a new chair in my living room, a friend suggested a spot that put it smack in the middle of my path from bedroom to kitchen. I looked at her with disbelief. Ok, granted, it looked good design-wise, but it would never work for me. Especially at night. I need there to be no obstacles as I move around the house. Make sure you have open pathways through your home. On dizzy days, it's important not to have tripping hazards. Also, try to arrange things so you have something to hold onto while

you move around. The backs of sofas, chairs, and tables strategically placed can be grounding touchstones and offer security. Safety first, design second!

## 4. CALMING DECOR

Speaking of design... There are some houses you walk into where the wild patterns, bright colors, and assorted tchotchkes hit you all at once. A lively, highly decorated place is energizing and happy for some people, but I've

found that I feel more grounded and steadier in a calmer, toneddown setting. So, I've decluttered, bought more neutral shades, and tried to create an atmosphere that won't send my nervous system into chaos. Granted, I still like my colors, but only as accents now. Go for a sense of calm, rather than excitement. Just my opinion.

# 5. ROBOTIC VACUUM/MAID SERVICE

When I first became unsteady, vacuuming was a special kind of torture. The vibrations and noise made that activity impossible. Eventually, I splurged and hired a maid service. I mainly needed them to vacuum and clean the bathrooms (which is

also a challenge - all that bending and reaching). It was a gift to myself and worth it. My vacuum mostly sits quietly now, neglected and lonely. But my house is clean without throwing me into a whirlwind.

## 6. GRABBER

I've owned a grabber tool for a long time before my vestibular challenges. Because I'm height challenged as well, I depend on reaching aids constantly.

> But before my world spun out of control, I also used a variety of step stools, ladders, and precarious positions on unsteady ledges. Obviously, those methods have been retired. But I still have the need to reach things without triggering symptoms. My grabber tool is always in reach and often in use. Once I grab hold of something, I can shift my gaze back level, so my eye movement doesn't

cause problems. For certain tasks like changing light bulbs, air filters in the ceiling, and smoke alarm batteries, I wait until a friend or family member is around to help. Falling is not an option!





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FYI - the fire department will also change smoke detector batteries for you.

## 7. STOOL IN KITCHEN

At the beginning of my battle with vertigo and balance problems, I decided to clean up my diet. I began cooking more and creating simpler, healthier foods. However, standing in the kitchen for extended periods caused exhaustion and neck stiffness, which, of course, leads to... you know what. So, I dragged one of my yellow barstools into the kitchen and sat down while preparing food. A simple modification that helped tremendously. I also tend to brace my legs against the counter, which provides extra grounding. Be sure to try different stools, so the height allows you to cut, stir, and



assemble without hunching over or being in awkward positions.

## 8. BAG FOR MY PHONE

Without a landline or anyone else in my house to yell to in case of problems, I knew I needed to always keep my phone with me. No more running when I hear it ring in another room. For a long time, I dragged it around in my hand, juggling it with other items I was holding, often to discover I had left it in some mysterious place during my travels. Now I wear a small, lightweight shoulder bag as I move around the house. The phone fits perfectly, and I can be sure I'm always in reach of calling for help or answering an important text from my family. I also use this bag when taking a walk around my neighborhood or the park. No more dropping phones or sagging pockets.

## 9. COMFORT SPOT

I love to have a place in my house that is pure comfort. I have a recliner where I sit to read, check my phone, or just close my eyes and disconnect. There is a cozy blanket on the chair, a speaker if I want to listen to a book or quiet music, and a sweet little mobile of clear glass stars hanging from the ceiling. Create or find your spot that brings a sense of calm and stillness. Even when you're not there, it's a place to imagine.

## 10. OUTDOOR SPACE

Do you have a porch, deck, yard, or driveway? Somewhere to put a chair, a small table, and an umbrella. To sit, to ground yourself, to be in nature and the world outside the house. I often read on my porch, with a baseball cap if it's too bright, and sunglasses. It feels wonderful to be outside and to hear the sounds of the world. Sometimes a neighbor will walk by and wave. These small connections with the world can bring us healing. Natural light is important even for those of us with sensitivity to light.

Accommodations such as a hat, sunglasses, an umbrella, or an awning can help. And on days when the light really bothers me, I limit my outside time to maybe 15 minutes. When all else fails, sit outside with your eyes closed and breathe.

Before you decide what to tweak around your home, take stock of your symptoms, triggers, worries, and budget! There are many ways to make our homes more dizzyfriendly, but priorities and budget will vary from person to person.

"There is nothing more important than a good, safe, and secure home"

- Rosalynn Carter



## HONORING THE IMPACT OF BALANCE BENEFACTORS

MR. TIM ERICKSON

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MS. BLANCHE HAWKINS

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MR. BRUCE WYRE

You can help people who are in crisis because of dizziness, vertigo, and imbalance get an accurate diagnosis and effective treatment and save them from their spinning nightmare.

Visit **vestibular.org/OTLdonate** to make a difference today. Your gift matters!

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## IN BETWEEN

By Rachel Brooker

Swirling, pulling, whirling, what I feel, what I see,

I can move, I'm scared to move, I am in between.

Floating particles, blizzard air, waves like the sea,

I can see, I cannot see clearly, I am in between.

You look fine, you're walking well, they are so very keen,

I'm in a dream, I don't feel seen, I am in between.

Floor bouncing, feather legs, the cars are pulling me,

I can walk, I cannot walk alone, I am in between.

I am so tired, no energy, can't remember who I used to be,

I am me, I am not the same me, I am in between.

I'm overwhelmed, feeling faint, don't want to cause a scene,

I am ashamed, try to be brave, I am in between.

I keep trying, pushing myself, be grateful, positivity.

I am only human, I don't feel human, I am in between.

You can read the rest of this and previous years' winning poems at **VESTIBULAR.ORG/P4B.** 

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