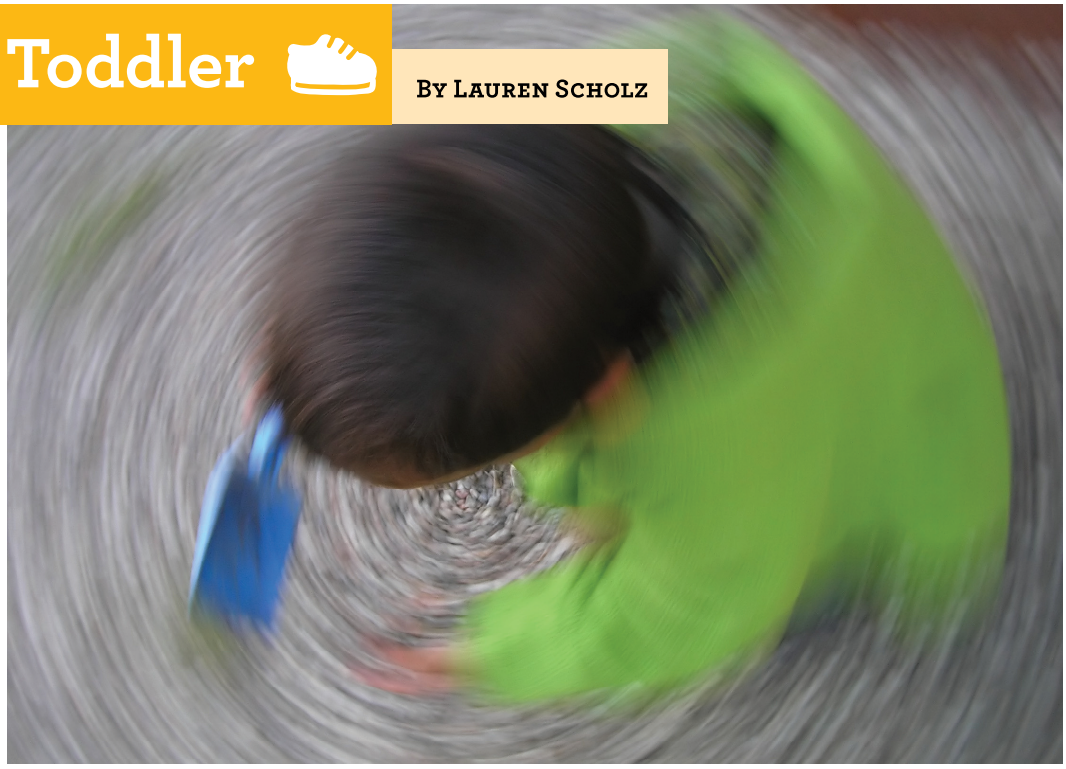
By Lauren Scholz



Out of balance

Vestibular rehabilitation therapy may be the answer.

Does your child often complain about dizziness? Or maybe your ever-growing infant should be walking by now but isn't? It isn't uncommon for parents to suspect a learning or developmental disorder but then are surprised to learn that it is actually a hearing or auditory issue.

The vestibular system controls and regulates our postural control, balance and gaze stabilization. Damage to the system can cause a variety of symptoms, such as dizziness, blurred vision and vertigo in adults and children as well.

At Newport-Mesa Audiology, Balance and Ear (NMABE), Dr. Howard Mango, founder and executive director, and Dr. Cara Makuta, director of clinical research, have developed a specialized vestibular rehabilitation therapy to significantly improve their patients' conditions.

The symptoms to vestibular problems may vary among each individual. With children, it's harder to distinguish these symptoms, because they can easily be mistaken for other conditions. Some of the common indicators include not walking, stumbling often and easily, hearing loss and impaired vision. Each symptom can vary depending on the child, but generally all are connected with balance, hearing and vision.

For each patient, the case can be different. One of Makuta's cases at NMABE involved a child who saw things tilted. With noninvasive testing and participation in vestibular rehabilitation, the child was able to improve his vision.

Without finding a solution to the problem, a patient who suffers from vestibular problems may behave aggressively or physically. It is important to find out the problem with children as early as possible to determine the level of dysfunction and partake in specialized vestibular rehabilitation right away.

"The brain is receiving conflicting signals, and we are not trying to take the place of a pediatrician. We just want to find out what is wrong with the patient's system," says Makuta.

At NMABE, one of the key equipment items that Makuta and Mango use to test and treat vestibular dysfunctions is the rotating chair. The rotational chair is the "gold standard" for quantifying bilateral vestibular system weakness and independent utricle function.

It allows the audiologist to

CONTINUED ON PAGE 32...

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Symptoms and behaviors that might indicate a vestibular issue:

- Late crawling or walking
- Unable to complete physical activities
- Disinterest in or inability to process schoolwork
- Exhibits symptoms or behaviors similar to ADD/ADHD
- Poor fine and/or gross motor skills
- Perceived as clumsy
- Staggers or walks in an unsteady fashion
- A family history of migraine headaches
- Predisposed to motion sickness (All motion sickness is a direct response to a weak inner ear and is not normal; get it checked.)
- Involuntary eye movements
- Difficulty looking at flashing, fluorescent or moving lights
- Discomfort in chaotic situations (heavy traffic, busy patterns, crowded/noisy places)
- Problems with depth perception, which can affect eye-hand or eye-foot coordination

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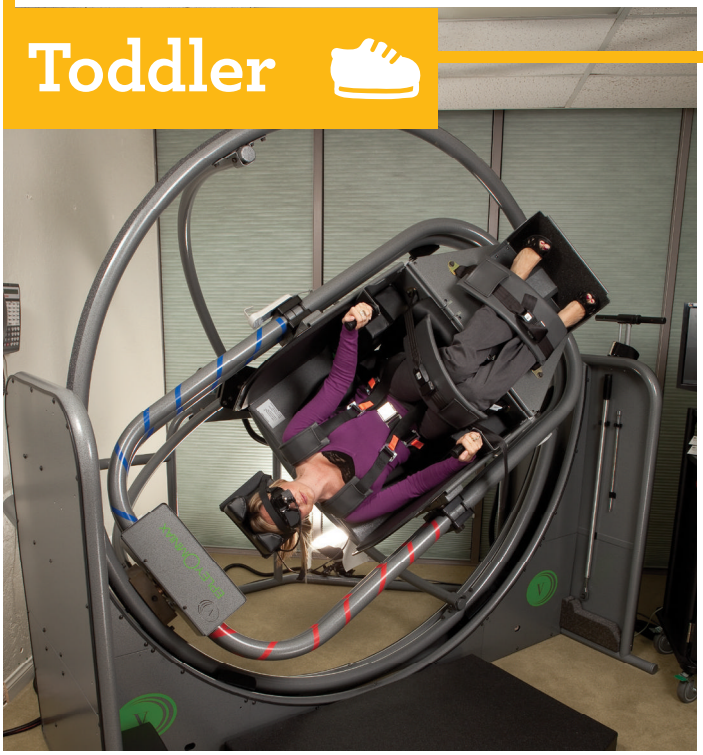
Toddler



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thoroughly assess vestibular compensation. The rotational chair also examines each utricle independently via otolith subtesting. The otolith system consists of the utricles and saccules, which are the sensory organs in the inner ear that convert linear acceleration into an electrical code the brain can use.

Another crucial piece of equipment used in testing and rehabilitation is NeuroCom's Smart Equitest Computerized Dynamic Posturography (CDP). It is used to assess the function of a patient's three sensory inputs: vestibular (inner ear), somatosensory (feet, joints, ankles) and vision (eyes). The three sensory inputs communicate with the brain and control overall motor function.

During the Computerized Dynamic Posturography (CDP) test, a number of procedures are performed under different conditions to assess the patient's overall balance; these tests are similar to real-life situations that patients might encounter on a daily basis.

Other tests are also conducted to identify the source of the balance problem. The patient will stand on a censored platform and be placed into a safety harness. She is asked to stand as steady as possible while the walls of the booth and platform responsively move with eyes open and eyes closed.

During the testing, the patient's postural stability and motor reactions are recorded and monitored, allowing the audiologist to determine which of the three sensory inputs is causing the imbalance. The test results provide the audiologist with the necessary information to understand the patient's balance problem and can point to possible causes.

Both children and adults can suffer from different vestibular functions. With rehabilitation, one can greatly improve those dysfunctions.

"The brain can be trained," says Makuta. "Patients see improvements after rehabilitation. Some can see results take place after five weeks." **dizziland.com** OCF