

High-tech balance tests

When it comes to diagnosing balance disorders, there is no better place to be than the Otolaryngology – Head & Neck Surgery Center at UW Medical Center.

“We have the ability to evaluate patients with unique methods, methods that in many cases were developed here,” says UW audiologist **Kevin Kiemele**. “There are a limited number of facilities that can accommodate these procedures, which provide very fine-tuned information about the balance system.”

Six years ago, **Gary Mounger’s** ear felt plugged up. Specialists in two cities thought he was just losing his hearing. Then one day, five years later, within about a minute, his diagnosis changed when he fell off the couch while watching television and became violently ill for about an hour.

“I had seen **Dr. Larry Duckert**, UW professor of otolaryngology, for what was supposed to be a hearing problem,” Mounger says, “then I had that attack and my world turned upside down. I thought I was having a stroke.”

Mounger had an MRI and began a series of tests in the Vestibular Diagnostic Lab within the Otolaryngology – Head & Neck Surgery Center. At first the results were normal: “They showed that I was good with no problem,” Mounger says. What Mounger thought was good troubled Duckert, who believed Mounger had Ménière’s disease.

Dr. Jim Phillips, UW neurophysiologist, says Ménière’s disease is a challenging disorder that is difficult to treat and often difficult to diagnose.

“There are very few places in the country that have the capabilities that we do to diagnose vestibular diseases,” Phillips says. “We don’t throw all tests at all people either, but are able to pick and choose tests depending on what the patient, referring providers, neurotologists, audiologists, physical therapists, and neurophysiologists determine after conferring together.”

Tests most commonly used for diagnosing Ménière’s disease include video nystagmography and computerized dynamic posturography.

In video nystagmography, video cameras are placed on the patient’s face and connected to

a computer to track the pupils. The balance part of the ear is stimulated with warm or cool air and the patient is moved into different positions. The pupils’ response to this stimulation reveals how the balance organs are functioning.

Computerized dynamic posturography is a tool used to evaluate patients’ overall balance responses to learn what sensory inputs and parts of their body they are using to maintain their balance.

“These represent a small part of the tests we offer,” Phillips says, “but it’s what was needed, along with the collaboration between the otologists and the Vestibular Diagnostic Lab, to diagnose Mr. Mounger’s problem.”

The test revealed Ménière’s disease, a progressive problem in which patients experience episodes of dizziness. In Mounger’s case, one-hour episodes of dizziness quickly progressed to seven hours.

“I’ve only had eight or 10 episodes since this first started last summer, and I can take Valium to help alleviate the symptoms when I feel it coming on,” Mounger says, “But the big bouts are terrifying and they last so long.”

The hypothesis behind Ménière’s disease is that inner ear membranes begin to rupture, often on one side, but not on the other. This can affect hearing, too. As it progresses, even during the periods between attacks, patients become more and more unsteady and the ear becomes less functional.

“The brain can deal with loss of balance over time on its own,” Phillips says, “but the episodic nature of this disorder defeats the adjustment strategy. These patients need help. Serial recording helps us to watch for the right time to provide the appropriate treatment to eliminate fluctuation in the bad ear.”

In Mounger’s case the treatment was gentamicin, an antibiotic that is injected through the eardrum directly into the middle ear. The medication then moves into the inner ear, where it treats the balance organ.

“This is a minimally invasive approach that is very effective,” Phillips says. Several



Dr. Larry Duckert



Dr. Jim Phillips



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injections are given and then the patient is evaluated a few weeks later to see if more gentamicin is needed.

Mounger is excited about his prognosis after treatment. “I’m tired of being scared,” he says. “Think about how you’d feel after riding on a kids’ merry-go-round and having everything be

topsy-turvy for seven hours! I’m lucky to live near a place like UW Medical Center. There’s no place better in the world.”

More information about the Vestibular Diagnostic Lab and other services at the Otolaryngology – Head & Neck Surgery Center is on the web at www.uwENT-headneck.org or by calling 206-598-4022.