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April 27, 2009

Your Health

**Inner Ear 'Rock Slides' Lead To Vertigo**

by Allison Aubrey

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Christopher Toothman/NPR

Geeta Tiwari wears infrared goggles to record eye movements that help determine the cause of her dizziness.

[Morning Edition](#), April 27, 2009 · Experts who treat dizziness estimate that about 20 percent of all dizziness is due to loose crystals — or ear rocks — in the inner ear.

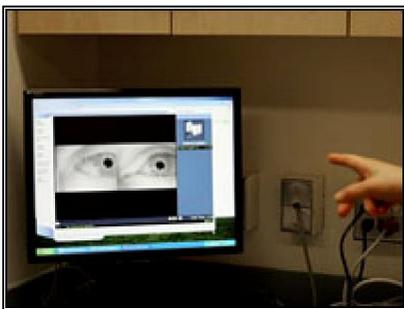
The condition, known as benign paroxysmal positional vertigo, or BPPV, is usually treated with a series of simple head movements aimed at putting dislodged ear rocks back where they came from so they can be cleared away by the immune system. BPPV can be triggered by a head injury or a virus. The condition is more common in older adults.

**Tiny 'Ear Rocks' Keep Us Balanced**

Within the inner ear, there's a little pouch called the utricle that contains about 1,000 little pebbles made of calcium carbonate.

The tiny rocks serve an important purpose: They stimulate nerve cells when we move our heads — and send signals to our brain that guide our sense of up and down.

"The trouble is that sometimes the little rocks fall off," explains Dr. Timothy Hain, a dizziness expert at Northwestern University. When the rocks fall into one of the inner ear canals, the brain gets confused. As the rocks roll around in the canal, the brain senses that the head is moving a lot more than it actually is. The result: vertigo.



Christopher Toothman/NPR

Eye movements are recorded, reviewed, analyzed and saved on the computer.

**With Age Comes Dizziness**

Head injuries and viruses can trigger the "rock slide" seen in BPPV. But several studies also document that the condition is more prevalent among adults over age 50.

The dizziness usually comes on suddenly. For Adele Freed, 83, of Frankfort, Ill., the sensation was similar to being tipsy from alcohol.

"I remember everything was spinning," she recalls. "And when I tried to get out of bed, the walls were moving. I just didn't have any balance."

Freed's family medical doctor gave her a prescription of Meclizine to treat the dizziness. When she didn't improve, she went to Hain, who's known at Northwestern University as the dizziness doc. He diagnosed her with BPPV.



Christopher Toothman/NPR

Audiologist Saul Strieb moves Tiwari through a series of head and body positions to clear the otoconia (ear rocks or pebbles) out of the semicircular canals.

The condition is not uncommon. About 1 in every 5 patients referred to him has this condition. And some researchers estimate that about 50 percent of all dizziness in older people is due to BPPV.

"This is really a success story in medicine," says Hain. "We've figured out the cause of this condition — and we've figured out how to treat it."



Christopher Toothman/NPR

As the head changes position during treatment, the ear rocks roll out of the semicircular canals and back into place.

Freed was relieved to learn that the dizziness could be relieved by a series of simple movements that take about 15 minutes. A physical therapist guided her through the maneuver. Hain also gives patients exercises to do at home. The goal is to dislodge the rocks from the canal, and get them back where they belong.

"I was amazed that the whole secret to what I had was to get those crystals back in place," says Freed.

### The Treatment

The main strategy used to move the rocks out of the canal is called the [Epley maneuver](#). It was first introduced in the late 1980s, and has since been adopted by many ear specialists, neurologists, physical therapists and audiologists.

At the Washington Hospital Center, in Washington, D.C., audiologist Saul Strieb demonstrated the process. It begins with the patient moving quickly from an upright, seated position to lying flat on his or her back. The patient holds the supine position, and then turns the head. This position is held for about one minute, then the patient rolls onto his or her side. The sequence is often repeated.



Christopher Toothman/NPR

The patient wears a cervical collar to discourage head movements for 24 hours after the procedure.

"It's not successful all the time," says Strieb. "Sometimes it takes repeat visits."

Several randomized clinical trials have demonstrated that the Epley maneuver is a safe and effective treatment. Some studies document an 80 percent success rate. However, there is no solid evidence that the maneuver provides a long-term resolution of symptoms. Recurrence rates may approach 50 percent, depending on the age of the patient.

For those who seek no treatment at all, the condition usually improves on its own within a few months.

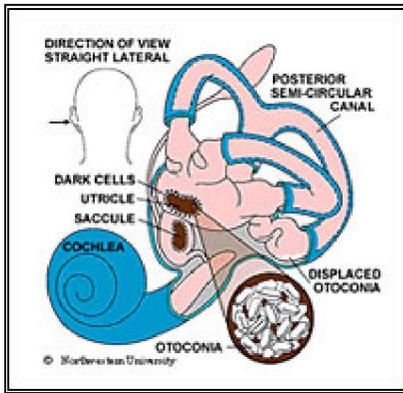
In severe cases, where the symptoms linger, physicians can perform a surgery to plug the ear canal.

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Ear rocks are small crystals of calcium carbonate called otoconia, which collect in the inner ear. If they fall out of place into the ear canal, they can cause vertigo. Northwestern University



**Leah Singer (singerle)** wrote:

Thanks for the article. I'm 26 and had a bout of labyrinthitis several months ago. The severe dizziness caused nausea and vomiting - it was quite awful. I also have 80% hearing loss in my left ear due to a cold virus I had in college. I'm curious to know if those who have hearing loss are more apt to BPPV??

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**Beena Sadasivan (Beansvs)** wrote:

I have had vertigo and dizziness since I was 7yrs old. Many tests were done, but nothing seemed wrong. I just kept fainting all the time. Then when I turned 17yrs, I stopped fainting, but I still suffered severe vertigo every time I did something sudden like getting out of bed or bending down to pick up something. All the odd fallings gave me a slip disc and migraines in the late 20s. Now at 33, I am much better, but I feel them when I workout. I cannot do squats or any up and down exercise and my condition still remains a puzzle. I was motivated to write this mainly after seeing so many people saying, "Good to know I am not alone". I hope ~~someone can relate to me as well~~

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**heidi mcGrath (heid)** wrote:

I have had this for years and can control it with exercises from the web site American-hearing.org. This is a very helpful site for more information.

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**Andy Katzman (AndyinChicago)** wrote:

Dr. Hain happens to be the biggest quack in the city of Chicago. He's a peddler for the drug companies. I spent nearly 6 months in complete misery because of this man. I recommend 2nd and 3rd opinions after seeing him. In fact, the physcial therapist that treated me and finally was able to get my vertigo under control shared with me that she has heard very similar things about Dr. Hain and his so-called dizziness clinic.

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**Ginger Booker (bookermom)** wrote:

I have suffered with this. The exercises initially rile the dizziness more (hence I call them dizzycises) but in a couple of days, it really abates. Good to know I am not alone with this!

Monday, April 27, 2009 3:39:25 PM  
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