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BALANCING ACT

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With the help of the NeuroCom -- the only machine of its type available on the Central Coast -- doctors are getting a better idea of what causes balance disorders and how to treat them



Unsteadiness while standing may be perceived as an inevitable side effect of old age -- the product of limbs not being as strong as they used to be.

One local company believes it has a tool to turn that notion on its head.

Dizziness and vertigo actually have a range of causes, from neurological or vestibular (inner ear-related) problems to muscle weakness, all of which can be treated.

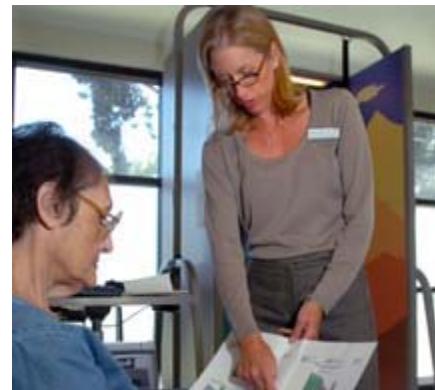
"An increasing number of people have balance problems, and they're not really treated in a comprehensive way," said Bob Huhn, who runs the Human Performance Center and has been practicing physical therapy -- mostly on athletes -- in Santa Barbara since 1968.

Finding the tool for diagnosis is perhaps the most challenging part of the equation. That's where the technology of Human Performance Center comes in.

The facility at Calle Real and Pueblo Street treats athletes for sports injuries, brings people hurt on the job back to full strength and helps other people regain their sense of balance. Most of them are senior citizens, but others are younger people who have suffered an accident or illness.

Mr. Huhn, who studied at the Mayo Clinic School of Physical Therapy, decided to focus on balance disorders after observing local demographic and treatment trends over several decades.

Dizziness is one of the most commonly reported medical problems for people older than 75, and with baby boomers aging, preventive care for elder health is a growing aspect of medical business. According to a University of Virginia study, more than \$1 billion is spent in the U.S. each year treating balance disorders.



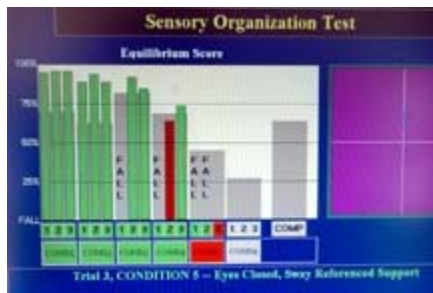
About 20 percent of the center's clientele, who are referred by their general practitioners or another doctor, is made up of balance patients. The staff of 18 treats around 70 patients a day.



"There's a lot of people who are doing balance training and balance testing, but nobody's got the technology that we do to differentiate between the various problems," Mr. Huhn said.

To determine what's causing a balance issue, therapists Diane Barrickman and Debbie Fisher use a machine called the NeuroCom Smart EquiTest, which was developed by NASA to study the effects of weightlessness. Mr. Huhn acquired one of the machines early this year.

The size of a phone booth, the NeuroCom measures visual, vestibular and physical reactions in a series of tests that takes less than an hour.



Wearing a harness like that of a skydiver, patients stand on a platform that contains computer chips. They are asked to try their best to maintain their balance while covering an eye, watching the colorfully painted walls move, and other variables.

Results are compared to the national average for their age group. Because the patients can be retested after therapy, progress is easy to gauge.

The most distressing part of balance problems is how quickly a fall can change an elderly person's life. A broken hip or other bone can prohibit driving and prevent self-sufficiency. Studies show that after surgical hip repair, only half of patients can continue to walk independently.

Nationally, accidental injury from falls is the sixth-leading cause of death among those 65 and older.

With the tests complete, the therapists can determine what physical therapy would be best for their patients. Treatment is typically covered by Medicare and some other insurance providers.

Among the center's success stories was a woman who suffered dizziness after a car accident who recovered completely. Another patient was able to return to work as a swimming pool contractor, which she had had to stop doing because of her vertigo.

Patients typically referred to the Human Performance Center with imbalance issues might have Parkinson's, multiple sclerosis or other neurodegenerative diseases, movement disorders or diabetic peripheral neuropathy. Vestibular disorders include positional vertigo, labyrinthitis, vestibular neuritis, ototoxicity and post-traumatic vertigo.

But they might also be distance runners with chronic ankle issues. The NeuroCom test showed one young woman needs physical therapy for an old injury during a sway velocity test conducted with eyes closed. The machine's wobbling felt like an earthquake, and within seconds, a fall had been recorded.

The center also has infrared video goggles to assess positional vertigo and visual activity tests conducted on a computer screen.

The NeuroCom is the only machine of its type available on the Central Coast, and an initial consultation test runs \$110. The machine is also available for testing of patients who will take the results back to their own therapists, Mr. Huhn said.

Ms. Barrickman said her patients' happiness when their condition improves makes her work worthwhile.

"These people are miserable. If you can help them, they love you."

She began working on a certification in vestibular rehabilitation because of one of her hobbies, sailing.

"Almost every time I'd get seasick. I could really relate to a dizzy, nauseated person and how hard that was," she said. Ms. Barrickman has 19 years of experience in the physical therapy field.

Mr. Huhn, whose specialty is in cardiac and pulmonary rehabilitation, has a professional staff of 11 clinicians who work with patients at the center.

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STATISTICS

- One-third to one-half of the population 65 and older experience falls yearly.
- In 2000, 1.6 million seniors were treated in emergency rooms for fall-related injuries, and 353,000 were hospitalized.
- The medical expense related to falls amounts to more than \$20 billion annually in the U.S. and is projected to climb to \$32 billion annually by 2020.
- Dizziness is the most common complaint reported by patients 75 and older.
- Of all falls suffered by the elderly, 50 percent are reported to be the result of vestibular problems.

SOURCE: WWW.ONBALANCE.COM

STEVE MALONE / NEWS-PRESS PHOTOS

Diane Barrickman, right, helps patient Rosemarie Marasco use the NeuroCom Smart EquiTest.

Diane Barrickman, right, gives patient Rosemarie Marasco her latest test results and a comparison of improvements from an earlier appointment several weeks ago.