

# Peak Balance

*Vestibular rehabilitation news for physicians*

## Could Your Patients Benefit from Vestibular Rehabilitation?

**D**izziness and imbalance are among the most common complaints in medicine. Dizziness is the second most prevalent complaint that makes a person see their MD. After the age of 60, it becomes the MOST common complaint, necessitating medical care. An estimated 7.5 million patients with complaints of dizziness and imbalance are examined each year, and approximately 20-30% of the general population will be afflicted with dizziness at some point in their lifetime. There are numerous causes of dizziness and imbalance including: inner ear disorders, positional vertigo, migraines, head injury and stroke. Symptoms include light-headedness, dizziness with head movement, difficulty reading, headaches, neck pain, light/sound sensitivity, motion and visual motion sensitivity.

### Initial Evaluation

When a patient comes to Peak & Balance Centers of America, an experienced and highly specialized physical therapist performs a thorough evaluation. They assess posture, gait, strength, balance and compensatory strategies.

Testing may include Infrared goggles Oculography, Computerized Dynamic Posturography, VORTEQ/DVA and VEMP. These tests assess different functions of the inner ear and balance systems. Together, the patient and

therapist will develop a comprehensive plan for treatment, encompassing the goals of the patient into the specific exercise program best suited to meet their functional needs.

### Balance Strategies

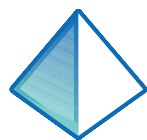
There are three main strategies that help us to maintain balance: vision,



Patients suffering from a vestibular or balance problem may be a good candidate for vestibular rehabilitation.

somatosensory and vestibular (inner ear) systems. The **brain** receives, interprets and processes the

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**PEAK & BALANCE**  
Centers of America

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# Vestibular Rehabilitation

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## Who Should I Refer?

The following criteria can be used to identify patients with balance, dizziness and vestibular disorders:

- ✓ Patients who have experienced one fall within the last 12 months and suffered an injury.
- ✓ Patients who have experienced two falls within the last 12 months without injury.
- ✓ Patients with any symptoms of vertigo or dizziness.
- ✓ Patients having difficulty with gait or balance with apparent neurological etiology. Any staggering, stumbling, tremors, spasticity or other neurological signs that are affecting a patient's balance and ambulation.
- ✓ Patients demonstrating abnormal results on any of the following audiology tests: ENG, ECOG, DGI, Fistula test, Rotary Chair and VEMP.

This is only a short list of criteria. For additional criteria or more information, please contact our office.

information from these systems to control balance. The **visual system** functions to orient oneself to the horizon to maintain body position. The **somatosensory system** is comprised of touch and proprioception (joint position sense), which provides spatial information to the brain to help maintain balance. The **vestibular system**, or inner ear equilibrium system, starts with a sensory organ located in the ear that sends signals to the brain with information about head position and movement. In turn, signals are sent to the eye muscles for eye-head coordination and postural muscles for balance control.

If the brain cannot rely on the information it receives from the vestibular system, the person's ability to maintain balance can become overly dependent on vision or proprioception. Dizziness results when there is a mismatch of sensory signals from the three balance systems to the brain.

## Treatment

Based on the initial evaluation, the therapist will develop an individualized treatment program. The patient will be guided through a series of exercises that are designed to improve balance functioning and decrease dizziness. Gaze stabilization exercises help to improve coordination between head and eye movement so that vision can remain stable with head movement. Specific balance exercises are given to challenge the patient in different sensory conditions (eyes open and closed, as well as on uneven surfaces). For patients suffering from positional vertigo (caused by loose debris in the

**Peak & Balance Centers accept Medicare/Medicaid and most private insurance plans. Please call for a current listing.**



**An experienced Physical Therapist will provide a comprehensive evaluation and a customized exercise program.**

inner ear), there are specific repositioning maneuvers that are designed to eliminate the vertigo. Patients suffering from a vestibular or balance problem may be a good candidate for vestibular rehabilitation. Please contact us at any of our locations to schedule an appointment.

## Peak Has Three Locations to Serve You:

### Downtown

850 S. Wabash Avenue  
Suite 200  
Chicago, IL 60605  
(312) 646-1001

### Wilmette

3545 Lake Avenue  
Suite 103  
Wilmette, IL 60091  
(847) 251-2028

### Mercy Hospital

2525 S. Michigan Avenue  
Suite 522  
Chicago, IL 60616  
(312) 567-2562

Maps/directions:  
[www.peakbca.com](http://www.peakbca.com)

# Parkinson's Testing Reveals Insights



**Peak & Balance Centers of America (Peak BCA) is currently gathering data from vestibular testing and treatments rendered to patients with Parkinson's Disease who have undergone deep brain stimulator (DBS) surgical implant for tremor**

and/or rigidity with “freezing” (inability to initiate or sustain repetitive movements). In conjunction with Dr. Leo Verhagen and Peggy Smith, PA at Rush University in Chicago, Peak has measured 13 subjects to date, nine of which had positive findings on CDP testing and functional balance screening protocols with falls risk. For those subjects who displayed positive findings on testing, including diminished balance with falls or near falls, a course of physical therapy was initiated and carried out over a series of weeks.

Other researchers and clinicians have reported that patients who have had DBS often have diminished bal-

ance and gait post operatively, with falls resulting in injuries reported in a high number of subjects. During the screening process at Peak BCA, measures were obtained for IR Oculography, VEMP, passive and active autorotation (VOR) measures, DVA, and CDP with and without added head motions. Additionally, Jacobsen's Handicap Inventory and DGI were measured for each subject. An individualized treatment protocol was implemented by the treating physical therapist and carried out for a time period of which either the falls risk was reduced to WNL status, or the patient achieved maximal benefit from the program and plateaued with care at maximal functional benefit.

A follow up of those patients seen showed a period of at least six months of resolution of falls risk in all nine subjects who had initially displayed falls risk status, or who had sustained a fall post operatively. The patients are continuing to be monitored and should either a fall occur, or status decline such that the patient has near falls or becomes a falls risk, assessment and necessity for further treatment will again be determined.

Peak BCA hopes to continue to gather further data on this patient population to gain insight as to the appropriate course of post-operative physical therapy care.

## *Referral Basics:*

### ***What Happens When I Refer Patients?***

- 1. Initial Evaluation** — Using objective and subjective methods, we conduct comprehensive neurologic, orthopedic and vestibular assessments. Testing may include oculography, Computerized Dynamic Posturography (CDP), VORTEQ/Dynamic Visual Acuity (DVA) and Vestibular Evoked Myogenic Potential (VEMP). We then create a patient-specific Plan of Care.
- 2. Plan of Care (POC)** — Each patient receives a personalized treatment program — one-on-one treatment with specialized equipment — and a supplemental home exercise program that can be graduated with the patient's progress. Typically, a patient will be seen two to three times per week for seven to eight weeks. Patients are evaluated monthly to measure progress.
- 3. Discharge** — Once goals are met or a patient has reached maximal functional capacity based on his/her condition, a patient is discharged from our care. Oftentimes, a patient is given a home exercise program to help maintain his/her level of improved ability.

Note: Referring Physicians and Physical Therapists receive their patient's initial evaluation and discharge notes.

# CST Technique Shows Success with Tinnitus Management

## Case Study

### Patient:

- 23-year-old female

### Conditions:

- Concussion after being hit by a car door while riding a bike
- Initially complained of headaches

### Deficits:

- Unable to lie in bed, bend over or reach up without vertigo or dizziness
- Decreased balance

### Treatment

#### (2 treatment sessions):

- Canalith repositioning maneuver to reposition loose crystals in the inner ear

### After:

- Patient is now able to lie in bed, bend over and reach up without further dizziness
- Patient no longer has complaints of imbalance or headaches
- Patient is able to ride her bike and perform all daily activities without difficulty

At our locations in Chicago and Wilmette, Peak & Balance Centers of America is now working with OtoSound Products, LLC, to institute a program for Tinnitus Retraining Therapy using Customized Sound Therapy (CST) for problematic tinnitus, employing Tinnitus Matching technique.

Tinnitus, or problematic perception of sound in the ears, affects 40 million Americans annually. Historically, management of tinnitus has been difficult and requires a comprehensive approach, with best results obtained when a multidisciplinary team approach is used. Peak BCA, along with the founder of

Otosound Products, LLC, Dr. Eric Viirre, has developed a team of medical doctors, audiologists, psychologists and physical therapists to address the etiology of the symptoms and institute a program of treatment.

Peak BCA participated in a pilot study in Chicago of six patients, following their course of treatment for a period of six months. Additionally, a study of the technique was performed in Milan, Italy, with 20 patients. Both studies showed favorable results as measured by the Tinnitus Handicap Inventory (THI) Scale.

Peak BCA has partnered with Dr. Eric Viirre, founder of Otosound Products, LLC, to offer cost-efficient trial rental of a Customized Sound Therapy (CST) machine.



Tinnitus management typically has been expensive and seldom covered by insurances. Therefore, in addition to the standard purchase of the device, Peak BCA has developed a cost-efficient trial rental period for use of the device from Otosound Products, LLC, for a two-month period to establish effectiveness in reducing the symptoms, prior to purchase of the device.

For more information regarding the details of the program, please contact our office in Chicago at (312) 646-1001 or Wilmette at (847) 251-2028.



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850 S. Wabash Ave., Ste. 200  
Chicago IL 60605