

# THE NEED FOR BALANCE CENTERS

## The Challenge

Balance and movement disorders are difficult to diagnose and treat. The challenge lies in the fact that balance disorders do not represent a single disease, but can be caused by a combination of disorders. Balance requires cooperative actions of the sensory, motor control, and central nervous systems. Understanding balance problems requires knowledge of the individual components that contribute to balance, as well as how the components do or do not work together. Further, because the typical balance disorder has multiple causes that cannot be pinpointed to a single pathological source, an accurate diagnosis requires a combination of tests that focus on the individual components, the way they work together, and resulting functional loss.

Until recently, many healthcare professionals had taken a traditional approach to the diagnosis and treatment of balance disorders in which only one specific component of the balance system was explored at a time. With this approach, many patients were faced with consulting multiple healthcare professionals before being accurately diagnosed. In the absence of a comprehensive assessment of the complete balance system, patients whose problems were caused by deficits with multiple components, never received effective care. This fragmented, specialist approach led to frequent patient frustration and lack of clinical effectiveness.

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## Comprehensive Patient Management Programs

The balance center concept represents a significant shift in the way care is delivered to balance impaired patients. Designed to solve these complex cases, the balance center is based on a multidisciplinary "team" approach to care delivery. Drawing on specialists from otolaryngology, neurology, physiatry, audiology, and rehabilitation, team members take a comprehensive, disease management approach. They focus on all aspects of the patient's problem from the underlying medical cause(s) and impairments through the resulting disability.

Balance centers function most efficiently when all team members are trained in the assessment and treatment of patients with balance deficits and have access to the assessment tools necessary to effectively evaluate and differentiate pathology, underlying impairments, and resulting functional limitations. For patients, the historically long, expensive, and frustrating course of care is often eliminated. For the healthcare system, service delivery is faster, more comprehensive, and more cost-effective.

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## Objective Assessment of Impairments and Functional Limitations

Through advances in computerized assessments, clinicians can objectively differentiate among sensory and motor impairments that contribute to balance problems and the resulting functional limitations:

- Ineffective use of vestibular, somatosensory, and/or visual inputs to balance
- Ineffective use of vestibular and visual systems for gaze control
- Delayed, weak, and/or asymmetric automatic motor responses
- Inappropriate use of movement strategies
- Delayed, restricted, and/or fragmented voluntary motor responses
- Impaired center of gravity alignment and control
- Impaired planning and coordination of weight transfers



Computerized Dynamic Posturography provides unique, objective information to isolate specific causes underlying a patient's functional limitations and disabilities which provides a foundation for the treatment plan. Clinical research has repeatedly shown that, when the treatment plan is customized to address both pathology and impairment information, outcomes are significantly improved over those achieved with generic approaches based on performance and/or site-of-lesion tests only.<sup>1</sup>

Impairment specific information is paramount to goal setting, progress monitoring and outcome documentation.

## Incidence of Balance Disorders

The emergence of new diagnostic and rehabilitative technology has created an opportunity for comprehensive assessment and rehabilitation of patients with balance disorders, documented in a variety of patient populations:

- **Elderly Fallers/Fall Risk Reduction (non-specific, multifactorial)**

Every year, one-third to one-half of the population age 65 and over experience falls.<sup>2</sup> About one-third of the population age 65 and over reports some difficulty with balance or ambulation; incidences increase in frequency and severity in the population age 75 and over.<sup>3</sup>

- **Neurologic Disorders (Parkinson's Disease, Multiple Sclerosis, Stroke, Head Injuries, etc.)**

Stroke survivors often have problems with balance and/or coordination.<sup>4</sup> A majority of individuals with head injuries (450,000 Americans annually) complain of dizziness for up to five years following the injury, and many are disabled by this symptom.<sup>5</sup> Complaints of dizziness and unsteadiness are frequent problems in accidental and job related mild head injuries.<sup>6</sup> 250,000 Americans suffer from some stage of Multiple Sclerosis.<sup>7</sup> Most MS patients experience muscle weakness in their extremities and difficulty with coordination and balance.<sup>8</sup> One million people in the United States are affected by Parkinson's Disease;<sup>9</sup> 35% of people with advanced Parkinson's Disease experience falls.<sup>10</sup>

- **Vestibular Loss & Dizziness**

Approximately 12.5 million Americans age 65 and over have dizziness or balance problems that significantly interfere with their lives; at least half of the U.S. population is affected by a balance or vestibular disorder sometime during their lives.<sup>11</sup> Various reports estimate 5 to 8 million physician visits for dizziness in the U.S. each year, and dizziness is the number one reason for an office visit in the over 75 age group.<sup>12</sup>

- **Medical Legal (Disability Rating, Aphysiologic Response, Return to Work)**

Dizziness as a chief complaint is of particular concern in medicolegal cases because the incidence is high, the etiology may be multifactorial, and a patient's symptoms may have other concurrent, unrelated causes.<sup>13</sup> Differentiating between physiologic and aphysiologic symptoms is a significant clinical problem because complaints of dizziness and unsteadiness are frequent sequela in accidental and job related injuries (mild head injury, neurotoxic chemical and drug exposure)<sup>14</sup> and vestibular testing may be inadequate to clearly determine nonorganicity.<sup>15</sup>

## Summary

There is a real clinical need for improved management of patients with balance and mobility disorders. Diagnostic and functional assessment technology and progressive treatment protocols are available to make a significant impact on the management of these patients.

A comprehensive balance program that utilizes the appropriate information to cost-effectively assess, identify, and treat balance disorders offers patients and payers many benefits. Costly tests, multiple physician visits, and medications can often be minimized. In short, the multidisciplinary balance center is the ideal program for the management of these patients.

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