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## Balance System Rehabilitation

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*This document describes training and exercise using diagnosis based strategies to improve equilibrium and prevent falls.*

### **Expected Outcomes**

Amelioration or elimination of the symptoms of balance disorders.

Regained ability and confidence in retaining balance and managing daily activities.

### **Clinical Indications**

Balance disorders as a result of vestibular dysfunction that cannot be corrected or further improved by available medical/surgical treatment.

### **Clinical Process**

Multidisciplinary approach involving medical and other allied health specialists.

Primary care clinicians should be involved and kept informed in the evaluation and rehabilitation process.

A definitive or at least working diagnosis and results of balance function tests must be obtained from the referring doctor or audiologist. There should be an evaluation of available diagnostic information and assessment of the degree of disability employing suitable scales and measures e.g. oculomotor assessment and posturography. This information is required to devise a rehabilitation programme.

This information then leads to the selection of appropriate models and types of therapy to form the individualised rehabilitation program.

### **Models of Therapy:**

#### 1. Adaptation

The vestibular system is repeatedly stimulated using specific head and body movements to assist the balance centres of the brain in adapting to the change in input with a damaged system.

#### 2. Substitution

In the absence of normal vestibular input bilaterally, the visual, musculoskeletal and proprioceptive systems are trained to increase the brain's use of the input from these systems.



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### 3. Liberating/Repositioning/Desensitisation

Clients diagnosed with Benign Paroxysmal Positional Vertigo (BPPV) are placed in a series of head and body positions designed to move the debris out of the affected semi-circular canal. If this does not resolve symptoms, another series of movements may be used daily to desensitise the balance system.

#### Types of Therapy:

1. Self-directed
2. Vestibular rehabilitation
3. Balance re-training
4. Liberating/Repositioning/Desensitisation

Programmes can be implemented by instruction, demonstration, active supervision and support during the rehabilitation process. This should include informing family members and significant others of the components of the program, potential provocation of symptoms and expected outcomes of the therapy.

The discharge process should include post-rehabilitation assessment of disability status, an outcome report to referral source, arrangement of other follow-up appointments or on-going support.

#### Setting/Equipment Specifications

There should be an appropriate rehabilitation environment and facilities/tools provided according to the protocols employed.

#### Documentation

Documentation of preliminary diagnosis, disability status assessment, categorisation of the disorders, selection of the rehabilitation program (supervised or self-directed home), progress, events and outcome, post-rehabilitation disability evaluation, report to referral source and recommendation.

#### Related References

- *Gans, R.E. (1996). Vestibular Rehabilitation: Protocols and Programs. San Diego, CA: Singular Publishing.*

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## Balance System Rehabilitation

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