What Is The OmniVR®?

The OmniVR® is the world's first 3D Virtual Reality Augmented Therapy system designed specifically for aging adults and others with physical limitations. The technology is an important new tool for physical, occupational and speech therapists to help improve function, while making the therapy process more fun and rewarding for patients. Under the direction of a therapist, one or two patients at a time can use the OmniVR® to participate in a variety of therapeutic activities and exercises that are selected for the individual's physical challenge or condition. These exercises and activities have been developed around evidence-based literature addressing the techniques and objectives of accepted therapy practice.

How Does It Work?

Although the OmniVR® represents the latest in leading-edge rehabilitation technology, it is very easy for therapists and patients to use. The system uses a unique 3D “time of flight” camera and specialized computer software that captures the patient's precise movement in an interactive, computer simulated environment without the use of cumbersome controllers or platforms. Once the patient has entered the virtual environment, treating therapists use their expertise and clinical judgment to select the proper exercise program and parameters that best suit the patient’s condition and treatment goals.

The OmniVR® includes 6 “skilled” Therapeutic Exercise categories which have been designed to improve functional abilities through muscle strengthening, balance, movement, coordination, endurance and cognitive skills. At the end of each exercise program or activity, the system produces a “Training Summary” to help therapists measure patients' performance and progress.

The OmniVR® also features 3 Assessment Tools for outcomes measurement including Functional Reach, Timed Up and Go (TUG) and Sit to Stand tests. These capabilities enable therapists to benchmark patients' functional abilities, risk of falls and treatment progression in an efficient, standardized way for accuracy and consistency of measurement.

Does Medical Research Support Virtual Reality Augmented Therapy?

There is a strong body of evidence demonstrating the value of virtual reality augmented therapy. Research suggests that patients will exercise harder and longer when “immersed” in a virtual rehabilitation environment providing positive reinforcement. This phenomenon is called a “Virtuous Cycle.” Patients receiving positive feedback in an interactive environment feel an increased sense of motivation, which encourages them to perform more repetitions and/or exercise longer to surpass their previous performance.
This motivation and encouragement is important for many aging adults, particularly those who are reluctant to participate in the therapy process or are fearful due to physical limitations. Research also shows that when virtual reality augmented exercises are combined with traditional therapy techniques, treatment outcomes can exceed those generated by traditional therapies alone. Scientific studies have also demonstrated that the skills acquired in virtual reality augmented therapy can be transferred to real-world functional improvements.

What are the OmniVR® Benefits to Therapists and Patients?

### Therapist Benefits

- Provides skilled therapy exercise and activity programs for PTs, OTs and SLPs
- Makes the therapy process and repetitive exercise activities more fun and interesting for patients
- Increases exercise motivation, repetitions and duration to support better outcomes
- Introduces a new Group Therapy solution that is clinically meaningful and encourages social interaction - easy to set up and schedule with patients
- Provides objective performance data after each session for documentation and patient progression

### Patient Benefits

- Patients become highly engaged or “immersed” in virtual reality augmented activities to help improve exercise motivation, participation and duration
- While engaged in virtual reality augmented activities and having fun, patients are more likely to overcome their fears and push beyond previous boundaries
- Skills learned in the virtual environment are transferable to real-world functional gains
- Research suggests that when virtual reality augmented exercises and activities are combined with traditional therapy techniques, outcomes may be enhanced

OmniVR® System Components & Features

### Infrared 3D “Time-of-Flight” Camera

Captures and Tracks Patients’ Precise Movements without the Use of Special Hand Controllers or Platforms

The OmniVR® camera uses an advanced proprietary filtering process of the patient’s image to generate an “avatar,” which is introduced into the virtual exercise program and mirrors the patient’s movements in real time. This sophisticated 3D “Time-of-Flight” camera technology supports a broader range of therapeutic applications and measurement capabilities than standard, off-the-shelf “Time of Flight” cameras. It is capable of capturing a patient’s precise movements at distances of up to 30 feet, which is essential to some exercise programs and the system’s ability to offer accurate outcomes measurement functions. These “assessment” capabilities can be used to track impaired movement patterns for evaluation of dynamic balance and ADL function - without the high cost of a balance platform and multi-camera imaging technology.

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Multi-Disciplinary Exercise Programs
Geared specifically to PT, OT & ST

The OmniVR® provides 6 different skilled exercise and activity categories focused on functional rehabilitation for aging adults and others with physical debilities, with pre-set parameters for ease of set-up and therapist convenience including minimal, moderate, and maximal levels of difficulty. The 7 skilled activity categories include 22 individual exercises and 3 outcomes measurement tests, designed around functional movement patterns and clinically appropriate treatment strategies. Unlike off-the-shelf video gaming systems, the OmniVR® uses more simplified graphics and slower pacing to complement the cognitive abilities and reaction time of aging adults and others with physical debilities.

The system also offers a range of adjustable parameters for customized treatment protocols to suit each patient’s individual physical capabilities and treatment plan.

**Seated Exercises**
While seated, patients reach with arms, move their legs, and/or lean in multiple directions

**Balance Exercises**
Exercises that engage ankle, hip and/or stepping strategies, with therapists controlling the degree of challenge

**Wheelchair Control**
Exercises are controlled by patients maneuvering their wheelchairs in multiple directions

**Upper Extremity Exercises**
Exercises performed by reaching with one or both upper extremities in a variety of tasks and exercises

**Walking Exercises**
Patients march in place to walk along a pathway, moving right/left to avoid obstacles and step over objects

**Cognitive Exercises**
Activities focused on cognitive abilities and memory training

Assessment Tools
For Objective Outcomes Measurement

The OmniVR® system capabilities also include 3 different Objective Measurement Tests to document patients’ individual physical capabilities, guide the treatment plan, and demonstrate treatment progress:

**Timed Up and Go (TUG) Test**
The TUG Test is a simple and widely used clinical performance based measurement of mobility, lower extremity function and fall risk.

**Sit to Stand Test**
The Sit to Stand Test is a simple and widely used clinical physical performance test used to assess lower extremity function. Lower extremity function and strength has been shown to predict subsequent development of disability because it reflects the effects of chronic disease, coexisting conditions, and overall physiologic decline. A 5 repetition test is a measure of strength and a 30 second timed test is a measure of strength and endurance.

**Functional Reach Test**
The Functional Reach Test is a simple and widely used clinical performance-based measurement of standing balance and limits of stability. The test measures in inches the difference between arm’s length and maximal forward reach, using a fixed base of support. The Functional Reach Test can be used to identify balance impairments or changes in balance over time.

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Training Summary
For Patient Progress & Documentation

The OmniVR® provides objective outcomes data after each exercise program or functional assessment session to document ongoing patient progress. Each exercise within the system has a series of measures (i.e. therapeutic exercise duration, gait speed, right vs. left side accuracy, object avoidance accuracy, etc.) that can be viewed on-screen after the exercise session and printed as needed for patient notes and documentation.

Additional Components & Features

- **42” LCD Monitor**: A large high definition color monitor is mounted on a specially-designed stand for optimal viewing.
- **Integrated Computer Unit**: A specialized computer unit is integrated into the OmniVR® system with operating software that is easy to use, and displays all therapy options with simple icons.
- **Wireless Mouse Remote Control**: A wireless hand-held air mouse is included for ease of use in making on-screen selections
- **Ongoing Clinical Service and Support**: ACP provides continual education and clinical support through a network of over 150 Clinical Program Managers and a dedicated Customer Service Support Team. In addition, the OmniVR® maintenance plan (included in all OmniVR® leases) covers the main components of the system, repair, servicing and ongoing software upgrades.

To Learn More About the OmniVR®, including Current Lease and Purchase Options, Please Call 800-350-1100