



## NDIS Therapy Justification & Info Guide

*This NDIS Therapy Justification & Info Guide has been prepared to help NDIS participants and their allied health professional in preparing a Low-cost Assistive Technology assessment should the participant wish to use their NDIS funding to access the Ulysses VR therapy system.*

### **What is the Ulysses VR upper limb therapy system?**

The Ulysses therapy system is an ARTG registered (No. 402309), Class I medical device that promotes improved upper limb motor function through encouraging users to perform clinically designed tasks and activities using the latest in Virtual Reality technology. In doing so, the immersive nature of VR and gamified task-reward structure increases therapy engagement and compliance. It is highly compact and portable, suitable to be used in the home with minimal supervision required.

The system comprises a wireless Oculus Meta Quest 2 VR headset which has been specifically configured with Neuromersiv's proprietary software so that no other software can be installed onto the headset. This ensures the system maintains safety as a registered medical device and so that Neuromersiv can remotely install software updates when the headset is connected to Wi-fi.

The Ulysses VR software has been intentionally designed to be operated using the Meta Quest's hand tracking technology, allowing the user to use their own hands to interact with the virtual environment rather than using handheld controllers, as seen with most head mounted display VR devices. This is beneficial for users with limited grip strength or mild to moderate hand contracture.

The content of the Ulysses VR software has been designed in consultation with therapists to deliver tasks and activities that are not only engaging and challenging but adhere to proven neurorehabilitation therapy principles including the importance of repetition whilst making tasks functional and rewarding.

One aspect of the Ulysses VR software is the virtual Activities of Daily Living (ADL) rooms which invite users to practice tasks that are essential to everyday life in realistic household settings such as a bathroom or kitchen.

The main advantages of practicing these tasks in VR first, instead of going straight to real-world practice include:

- Allows confidence to be built, without fear of dropping objects or safety concerns;
- Tasks can be gamified, reward-based and scored to provide engagement and motivation when practicing repeatedly.



### **Who may benefit from using Ulysses VR therapy?**

The therapy is currently designed predominantly for adults who have suffered a stroke (ischemic or hemorrhagic) or brain injury (traumatic or acquired) however it may also be beneficial to users with other neurological conditions. We are frequently creating new therapy content to cater for a variety of other conditions and severities of condition.

### **How does Ulysses VR therapy help users regain functional activity?**

It is well known that many traditional forms of upper limb rehabilitation therapy are simply boring and disinteresting to patients, leaving them disheartened and unmotivated to comply with their prescribed therapy. Even if patients do comply, it is usually not enough therapy, with one well regarded study by the Australian Physiotherapy Association ([click to open the link](#)) suggesting at least an extra 240% of rehabilitation was needed for significant likelihood that extra rehabilitation would improve activity for patients after stroke.

The Ulysses VR system is designed as an engaging tool that can be used in conjunction with other therapy modalities in order to increase the dosage of prescribed rehabilitation. Furthermore, the system's portability combined with the self-guided design of the therapy software removes many of the barriers to achieving greater therapy compliance giving patients more autonomy over when and where they do their rehab.

### **Isn't VR just for playing games?**

No. While VR is commonly associated with gaming, head mounted display VR hardware is becoming increasingly used in a variety of applications, including rehabilitation. In fact, a number of clinical studies and reviews have shown the effectiveness of using specifically-designed VR as part of a stroke rehabilitation protocol (see links below):

**Sensory Feedback and Interactivity: Enhancing Motivation and Engagement for VR Stroke Rehabilitation. 2021 International Conference on Computer & Information Sciences (ICCOINS), Jul 2021, Kuching, Malaysia.**

**Effect of Specific Over Nonspecific VR-Based Rehabilitation on Poststroke Motor Recovery: A Systematic Meta-analysis. American Society of Neurorehabilitation, Neurorehabilitation and Neural Repair 2019.**

**Enhancing Upper Limb Rehabilitation of Stroke Patients With Virtual Reality: A Mini Review. Frontiers in Virtual Reality, 8 November, 2021.**

**Neuroplasticity and Virtual Reality, Chapter 2, Virtual Reality for Physical and Motor Rehabilitation, Virtual Reality Technologies for Health and Clinical Applications, New York 2014.**



This growing clinical evidence points to the positive effect that immersive VR has to promote neuroplastic changes in the brain due to the increased release of dopamine during use.

**What part of a NDIS participant's budget should be billed?**

The Ulysses VR therapy system is considered low-cost AT (Assistive Technology). Typically a participant can use funding from their Assistive Technology (Low-cost AT - Personal Mobility) or Consumables budget.

**How much does the Ulysses VR therapy system cost?**

In Australia, the system can be purchased or leased by end users.

*Outright purchase* - \$1,500 (plus GST) (includes 1 year of complementary software updates)

or

*Monthly leasing* - \$150 (plus GST) per month (for a minimum commitment of 3 months)

**Have further questions?**

Please call us on 1300 617 671 or email at [connect@neuromersiv.com](mailto:connect@neuromersiv.com)