

Scientific/Educational Workshop

Workshop information

Workshop responsible :

Ingrid van de Port

Workshop title :

Technology in rehabilitation of gait and balance

Workshop goals :

After the workshop the attendees will

- Know about the recent results on the value of VR in gait rehabilitation
- Have more insight in the use of gait analysis in gait rehabilitation
- Be updated on the possibilities of different technologies to conduct gait analysis
- Know more about the possibilities of using technologies, and especially VR, in rehabilitation of gait and balance

Abstract :

It is widely known that rehabilitation training needs to be with enough intensity and variety. Also the training needs to be task specific and individualised. The use of technology can help to gain these goals.

Using virtual reality during rehabilitation is getting more attention in clinical practise and in research. The first results show that the use of VR can lead to better results in for example rehabilitation of gait and balance. In a recent review we showed that VR training is more effective than conventional therapy in improving balance and gait ability in patients with stroke. Recent studies described significant effects of VR on gait speed, Berg Balance Scale (BBS) scores, and Timed "Up & Go" Test (TUG) scores when VR was time dose matched to conventional therapy. But also in other populations, like people with Parkinson and fall prone elderly, VR has been found to be promising to improve these outcomes.

To further improve gait rehabilitation diagnostic information is needed to guide the therapy. Using gait analysis to guide gait rehabilitation and to evaluate the effects of the rehabilitation interventions is a valuable tool. However performing a gait analysis can be time consuming and straining for the

patients. Therefore we need to well evaluate the different methods and the value of the determinants gathered from a gait analysis to further improve the use of gait analysis in gait rehabilitation.

VR is increasingly used in research and clinical practice. In the Netherlands there is a special interest group on using VR and bundling and sharing knowledge. During this workshop the invited speakers will discuss their knowledge and research results on the use of technology, and VR in spscific, in gait rehabilitation, both in diagnostics and in treatment.

Speakers:

Jaap Harlaar, Philip Rowe, Kristen Hollands, Ingrid van de Port