Posturography with virtual reality and tracker system

PI： Prof. Huey-Wen Liang

Department of Physical Medicine and Rehabilitation, College of Medicine, National Taiwan U.

Experience: Please refer to the webpage: https://scholars.lib.ntu.edu.tw/cris/rp/rp06358

Market Needs:

Postural control is an important ability for daily activities. Impaired balance is prevalent among variable pathologies and the older population and is highly correlated with the risk of falls. To evaluate the postural control is critical for clinical assessment, diagnosis, and outcome follow up. The traditional methods for postural control evaluation include force platform (for center of pressure path) or motion capture system (for estimating center of mass). However, these methods are expensive and of limited availability.

Our Technology:

Our technology incorporated a commercial virtual reality (VR) system and trackers. Through the software design, we can obtain the trunk sway path in frontal and sagittal planes in either standing or sitting posture. The data can be used to calculate multiple postural parameters as a proxy of trunk sway.

Strength:

This system incorporated commercial product and our software design. We have documented the validity and reliability. Moreover, it can be used in sitting or standing posture, with a much less expanse than the current tools. It also has the potential for remote health care.

Competing Products:

1. Force platform: multiple products are commercially available.
2. Motion capture systems: several products are commercially available.

Intellectual Properties:

This technology has completed software design and clinical validity. The validation results are also accepted in late 2020 and e-published in 2021. Therefore, there is an urgent need to apply the patent.

Contact (do not need to fill out):

Center for Industry-Academia Collaboration, NTU

Tel: 02-3366-9945, E-mail: ordiac@ntu.edu.tw