

## **TITLE: OUTCOME MEASUREMENT IN WHEELCHAIR SEATING, POSITIONING AND MOBILITY**

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*Purpose:* The purpose of the workshop is

1. To discuss and describe contemporary outcome measures for wheelchair seating positioning and mobility
2. To explore and describe the role of emerging technologies for outcome measurement
3. To map the outcome measurement described above to the Body Function and Structures, Activity, Participation and Contextual of the International Classification of Functioning, Disability and Health (ICF, WHO, 2001).
4. To identify gaps and discuss and propose how best to address these gaps by augmenting clinical practice through emerging technologies

There has recently been a plethora of information regarding assessment and outcome measurement for wheelchair seating and use, but how do clinicians, researchers and educators distinguish which measures are most appropriate for their setting or client group? An integral part of the provision of wheeled mobility is a detailed and thorough assessment, but how are the outcomes of the device on all aspects of the device user measured?

Internationally, measurement of outcome of health and social interventions are increasingly required, as health and insurance systems come under financial pressure due many reasons including aging populations and increasing, but expensive technologies. In the case of wheelchair seating, outcome measurement is required in order to (a) justify the need for seating and positioning in health and social care settings, (b) ensure that equipment provided is effective in meeting user goals, (c) to advocate for funding and (d) to collect evidence for further research. In recent years, not only has there been a growth in traditional outcome measures available, but the emergence of new technologies mean that there are more ways than ever before to objectively measure practice.

However, the assessment, prescription and monitoring of wheeled mobility and seating is an interdisciplinary intervention, to enable people to participate in life; however, it can also be restrictive, depending on the priority of the intervention. Traditional approaches to seating and positioning have tended towards a medical model of providing a piece of equipment to address issues with the person's body functions and structures, or, simply transporting a person from place to place. Optimal seating and wheelchair provision should promote and enhance function, be individual to the person and enable them to meet their own goals, as well as enhance motor control and efficiency. Also considered is the preventative aspect of the device, that is, to prevent the development of secondary difficulties such as shoulder pain/injury or pressure sores.

An identified challenge of wheelchair/seating provision is the inherent dual purpose of the device; that is as a medicinal product with the aim of compensating for or improving body functions and structure [1], or as a device to enhance performance of the person in seating, wheeled mobility and function [1]. However, even with these two priorities, aspects that are highly important to the person, such as environmental and social factors are still missing here. Furthermore as inappropriate provision has the potential to cause harm, it is important to articulate potential difficulties with inappropriate provision, but further to measure the outcomes of this [2].

The International Classification of Functioning, Disability and Health (ICF), [3] WHO, 2001) is a classification system that aims to establish a common language for describing health and health states for all people, including those living with a disability. It is based on an integration of medical and social models, and each facet of the model is considered of equal importance. With competing priorities between the different elements of wheelchair provision of improving/managing body functions and structure, versus enabling activity and participation of wheeled mobility users combined with personal and environmental factor, the ICF is a useful framework on which to classify different outcomes, and is increasingly being used in the field of seating and mobility, with increasing emphasis on health and participation [2, 3, 4]. The ICF fits well with the provision of wheelchairs and seating, because each aspect discussed are given equal weight in the framework [5]. Current views of the effectiveness of wheelchair and seating provision demonstrates that person centred practice that combine the individual's own devices as a mechanism for enhancing participation and engagement [6].

Outcome measurement tools take many forms; performance in the wheelchair [7], generic assessments that cover assistive devices [8, 9, and 10] or wheelchair skills of the user [11]. Furthermore, to ensure that concepts such as quality of life and participation are included as important indicators of the effectiveness of mobility, outcome measurements continue to evolve emerging technologies are increasingly utilised [12, 13, 14, and 15]. For example, using accelerometers and data loggers to objectively measure everyday mobility has been used as a proxy for participation [16, 17].

This workshop will begin by asking participants about their own current outcome measurements and a discussion of priorities within their own services; Body Functions and Structure, Enablement of Activity and Participation, Personal and Environmental factors. Following this, a brief overview of traditional and new outcome measures will be given, including Wheelchair skills Test, emerging technologies and a range of other commonly used outcome measurements. Each small group of workshop participants will work with the facilitators to map the identified outcome measurements to the domains of the ICF, together with common health conditions that the measures are appropriate for.

The workshop will wrap up with a group discussion to identify firstly how participants feel that they can use the knowledge in their own practice, followed by an identification of gaps in knowledge.

*Learning Outcomes:*

Delegates attending this workshop will:

1. Have up to date knowledge on available wheelchair-related outcome measures related to the domains of the ICF Domains
2. Understand the breadth of traditional assessments and their utility in practice
3. Identify the purpose and potential of new and emerging technologies to support practice
4. Identify gaps in outcome measurement

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