

Industry Workshop

Workshop Title

From Theory to Practice: Continuum of Lower Extremity Gait and Balance Training

Workshop Responsible

Bettina Studer-Pastore (Hocoma AG, Volketswil, Switzerland)

Speakers

Evelyne Wiskerke, Giovanni Morone, Liliana Paredes, Rocco Salvatore Calabrò

Attendee Engagement

The talks will be followed by a panel discussion within the experts and the audience. During the workshop, practical planned sessions will be defined at the booth during the Congress.

Abstract

Walking impairments, caused by neurological, orthopedic, muscular, and cardiovascular disorders occur frequently and have often important physical and social impacts on a patient's quality of life, affecting around three quarters of stroke survivors and the vast majority of people suffering a spinal cord injury.

One of the primary goals during rehabilitation programs for patients with walking disorders, is to maintain and restore gait abilities, which entails increasing walking capacity while improving static and dynamic balance skills.

Technological innovations have allowed rehabilitation to move toward more integrated processes, with improved efficiency and less long-term impairments. In particular, robot-mediated neurorehabilitation for gait training can enhance rehabilitation outcomes, but it needs to be used according to well-defined neuroscientific principles.

By now, the clinicians have available a toolbox of several robotic rehabilitation devices developed to address different therapy goals and patients' characteristics: treadmill-based exoskeletons, overground body weight support systems, end-effector devices etc.

But which technology is more suited for which patient? Which therapy goals can be trained and using which device? Each technology has specific key features which will be examined during this workshop. Moreover, we will also show how to transition patients from one device to the other during the rehabilitation continuum. We will show how lower extremity rehabilitation devices for training gait and balance throughout the patient's continuum of care are implemented within different clinics. We will discuss specific needs for the different phases of the continuum (early rehab, inpatient and outpatient setting), how our devices can assess the patient and how these results can be used to guide therapy decisions.