

## MRT-BODY WEIGHT-SUPPORTED TREADMILL TRAINING PROMOTES VERY EARLY AMBULATION IN PATIENTS IN THE INTENSIVE CARE UNIT: A FEASIBILITY STUDY

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**Introduction:** Critically ill patients with prolonged mechanical ventilation often develop Intensive Care Unit (ICU)-acquired weakness which is strongly associated with physical impairments<sup>1,2</sup>.

It has been shown that early mobilization and ambulation of patients during ICU stay improve functional recovery<sup>3-9</sup>.

However, the implementation of these interventions remains difficult, because of reduced muscle strength, the limited length of infusion lines, drains and mechanical ventilation tube.

To be able to start earlier with ambulation we developed a transportable body weight-supported treadmill (BWST) for the use in the ICU.

**Purpose:** To explore the feasibility of Body Weight-Supported Treadmill Training (BWSTT) in ICU patients.

**Method:** Twenty patients of the ICU with muscle strength m. quadriceps MRC  $\geq 2$ , sitting mobility, who had been on mechanical ventilation for more than 48 hours and who fulfilled the safety criteria for exercise according to the 'Evidence Statement for ICU Physiotherapy' were enrolled in the study<sup>10</sup>.

The BWSTT consisted of walking on a treadmill positioned at the bedside of the patient. A safety harness with a weight bearing utility supported the patients. The BWSTT was stopped if the patient was fatigued or safety criteria were violated.

**Results:** BWSTT was performed in twenty patients and 54 sessions. This study showed that BWSTT is feasible with patients in the ICU. There were no (S)AE's, the patients were very satisfied with the BWST, were not anxious (median/ (IQR ) of NRS 0-10: 0 (0-5)) and the needed number of staff was 2 persons with a median duration of 25 minutes treatment time. All participants should not have been able to walk or should have walked shorter distance without the BWST.

**Conclusions:** BWSTT is feasible and safe and facilitates early ambulation with critically ill patients in the ICU. Moreover, in order to perform BWSTT less staff is necessary compared to ambulation without BWSTT.