



## Service Priorities and Programmes Electronic Presentations

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### **Effectiveness of early and intensive body weight supported ambulatory training with different surfaces on mobility of elderly in geriatric day hospital.**

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#### **Keywords:**

ambulatory training

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improving elderly mobility

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#### **Introduction**

Ambulatory and gait training is important in improving mobility, functional activities, balance and thus fall prevention in elderly. Physiotherapy plays a crucial role in ambulatory and gait training. A unique body weight supported ambulatory training system (BWSAT) with different surfaces has been set up at Physiotherapy department of geriatric day hospital (GDH) at Pok Oi Hospital. They include ceiling hoist with adjustable body weight support, overhead harness, chest belt with thigh strips and different surfaces (uneven ground, obstacles, steps or level ground) with a designated area to walk freely without manual support. The BWSAT facilitates early and intensive walking training. Through this system, gait training, balance, proprioception and endurance training can be provided.

Mobility outcome measures were taken to assess the treatment effect of the BWSAT.

#### **Objectives**

This study aims to determine the effectiveness of early body weight supported ambulatory training on mobility of elderly among the assisted walkers attending GDH.

#### **Methodology**

88 patients (44 males and 44 females; mean age:  $81.1 \pm 9.4$  years old) attending GDH from Nov 15 to July 16 with Modified Functional Ambulatory Category (MFAC) 3 or 4 were recruited. They were referred from various specialties such as neurological, orthopedics and medical cases. Early BWSAT (up to 20% body weight supported) for half an hour session plus traditional physiotherapy training were given in each GDH attendance. Elderly Mobility Score (EMS), Timed Up and Go Test (TUG), Functional Reach (FR) and Gait speed (GS) and MFAC were measured before and after a course of GDH training.

#### **Result**

For patient group of MFAC category 3 (dependent walker) and category 4 (assisted walker), there were 54% and 50% improvement to a higher functional ambulatory

level respectively. Among the group of MFAC 3 and 4, there was a significant improvement in EMS ( $p < 0.001$ ). The mean of EMS improved from  $7.8 \pm 3.2$  to  $10.6 \pm 3.9$  with 70% of patients showed improvement after training. Positive training effect was also demonstrated in TUG, FR and GS. 41%, 44% and 56% of patients changed from failed to achievable in performing TUG, FR and GS respectively. The mean of each test improved from failed to 1) TUG:  $22.1 \pm 27.1$  sec; 2) FR:  $8.6 \pm 8.0$  cm; 3) GS:  $0.18 \pm 0.2$  m/s.