postoperative LOS, modified functional ambulation category (MFAC) upon discharge, and discharge destination were documented. **Results:** Over the 6-month period, nine eligible patients were recruited in the programme. A total of 14 clients (comprised of five males and four females) were enrolled. The mean age at recruitment was 64 ± 3.7 years. Fifty-five per cent of patients started ambulation training at postoperative Day 3. The median LOS in ICU was 3 days. The median postoperative LOS was 8 days, which was shorter than the reported LOS of 9 days in the Surgical Outcome Monitoring and Improvement Program Report 2011. All the patients were able to attain mobility level at MFAC VII (outdoor walker) and were discharged home. No adverse event was noted during the intervention period.

**Conclusion:** This preliminary report demonstrated that early mobilisation in ICUs in a busy Hong Kong hospital environment was safe and potentially beneficial to the critically ill patients undergoing HBS. Therefore, the putative benefits in critically ill patients suffering from acute respiratory failure is worthwhile for further study so as to expand our knowledge about the effectiveness of early mobilisation in ICU.

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**Navigating exercise programme for promoting an exercise habit of diabetic patients in a primary healthcare setting**

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**Background and purpose:** In Hong Kong, diabetic mellitus (DM) is one of the major noncommunicable diseases. A healthy lifestyle, which includes regular exercise, is a pivotal element in DM management. However, helping patients to establish a regular exercise habit in terms of ensuring exercise compliance is a real challenge to the medical professional. A physiotherapist has an important role in fostering patients to develop a regular exercise habit. A navigating self-weight management exercise programme using telephone coaching with empowerment by exercise coaching has progressively been commenced in the NTWC since June 2011 to facilitate DM patients to adopt behavioural changes in their sedentary life style. Such a navigating programme is implemented to identify the risk of the DM patients and establish a regular self-exercise habit for a good control of DM risk factors. The objectives of this programme were as follows: (1) to empower DM patients to establish an exercise habit and (2) to facilitate DM control through a self-exercise programme.

**Methods:** Type II DM patients with a body mass index (BMI) of over 27.5 were recruited. This programme with two training sessions and a 6-month telephone follow-up was launched from June 2011 to December 2012. The contents included individual consultation, physical assessment, risk identification, goal setting, education talk, and exercise skill training. In addition, the regular telephone coaching helped the patients go through the stages (from the preparation stage to the maintenance stage) of their behavioural changes.

The clinical outcomes were collected at baseline, and 6 months and 12 months after the programme. The exercise habit was evaluated by Short-International Physical Activity Questionnaire (IPAQ). The effect of weight management was monitored by BMI, whereas the DM control was evaluated by the change of glycated haemoglobin (HbA1c), which was retrieved from the clinical management system. A pre- and a post-quiz were conducted for checking the exercise knowledge of participants. A patient satisfaction survey was conducted to collect the patients’ feedback.

**Results:** A total of 403 clients were enrolled. As reflected from the Short-form-IPAQ, the total physical activity score increased from 4925 ± 6922 MET-min/wk prior to the programme to 7194 ± 11,863 MET-min/wk after the programme (p < 0.05). In addition, significant curtailing of the sitting activities was observed from 1962 ± 1096 min/wk prior to the programme to 1720 ± 882 min/wk after the programme (p < 0.05). Moreover, BMI (from 30.3 ± 2.8 to 29.7 ± 2.9 kg/m², p < 0.05) and HbA1c (from 7.4 ± 0.1% to 7 ± 0.9%, p < 0.05) were also reduced significantly. Furthermore, there was a statistical significant advancement in the exercise knowledge (from a 61% preprogramme to 82% postprogramme, p < 0.05). Besides, the patient satisfaction survey showed that 97% participants had positive feedback towards the programme.

**Conclusion:** The navigating exercise programme using telephone coaching had significant positive effect in establishing a more active lifestyle, weight management, and DM control for DM patients.

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**Efficacy of whole-body vibration training on body function, activity, and participation poststroke: A systematic review**

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**Background and purpose:** A systematic review was undertaken to determine whether whole-body vibration (WBV) training was effective in enhancing body function, activity, and participation compared with conventional therapy or active exercise in individuals with stroke.

**Methods:** An extensive search using major electronic databases (MEDLINE, CINAHL, PEDro, PubMed, PsycINFO, and Science Citation Index) was conducted to identify relevant articles. Experimental studies that examined the effects of WBV on outcomes related to body functions, activity, and participation were included in this review. The methodological quality of each selected randomised controlled trial (RCT) was rated using the PEDro scale. The results of the selected articles were extracted and synthesised.

**Results:** Among 1782 articles screened, 10 articles (9 studies) totalling 341 patients satisfied the selection criteria and were included in this review. Eight of these studies were RCTs, whereas one was a quasiexperimental study. Methodological quality was “excellent” for one RCT (PEDro score: 9–10), “good” for five (score: 6–8), and “fair” for two (score: 4–5). Three studies (two RCTs) examined the effects of a single session of WBV. Five RCTs examined the effects of a WBV programme spanning 3–12 weeks. No consistent benefits on bone turnover, leg muscle strength, functional mobility, balance, activities of daily living, and societal participation were found. No serious adverse event was reported.

**Conclusion:** This systematic review showed that research on WBV in stroke patients is relatively scarce. Available evidence does not support the use of WBV in enhancing body function, activity, and participation after stroke. More good-quality WBV trials are required to investigate further the therapeutic value of WBV in stroke patients.

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**Transmission of vertical whole-body vibration with different frequencies and postures in healthy young adults**

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**Background and purpose:** Whole-body vibration (WBV) could be a viable and inexpensive alternative for enhancing physical functioning. The transmissibility of WBV signals is known to be affected by vibration frequency, amplitude, and posture assumed on the platform. Studies investigating the transmissibility of WBV with a combination of varying vibration frequencies and postures have been lacking. The aim of this study was to investigate the effect of vibration frequencies and postures on the transmissibility of WBV.

**Methods:** Fifteen healthy young adults (8 men and 7 women, mean age 30.1 ± 4.4 years) participated in this study. Participants were asked to assume six different postures (erect standing, semisquat, deep squat, tiptoeing, forward lunge, and single-leg standing) under different vibration conditions (amplitude: 1 mm; frequency: 20 Hz, 30 Hz, or 40 Hz). Triaxial accelerometers were attached to the participants’ ankle (medial malleolus), knee (tibial tuberosity), hip (greater trochanter), lumbar spine segment (L3), and forehead to record the accelerations of the WBV signals at the respective body parts. Transmissibility of WBV at each anatomical site was then calculated by dividing the acceleration at the specific body part by the acceleration measured at the platform. For each body part, the main effects of posture and frequency on transmissibility and their interactions were
analysed using a two-way analysis of variance with repeated measures. A contrast analysis was performed using Bonferroni paired t tests if any overall significant result was found.

Results: The main effects of both frequency and posture, as well as the frequency × posture interaction effect, were found to be significant at all anatomical sites (p < 0.001). Resonance was observed at the ankle joint across all WBV frequencies studied, with transmissibility at >1.0. A post hoc analysis showed that an increasing vibration frequency was associated with a lower level of transmissibility at all body parts measured, except the ankle joint, where the transmissibility was enhanced as WBV frequency was increased. In general, lower WBV frequencies (20–25 Hz) resulted in a more faithful transmission of the vibration signals (transmissibility closer to 1.0) compared with higher frequencies. Compared with other postures, tiptoeing generally yielded a significantly lower transmissibility at ankle, knee, and lumbar spine, whereas erect standing led to a significantly higher transmissibility at the forehead.

Conclusion: Both vibration frequency and posture affect the transmissibility of WBV at all anatomical sites measured. The significant interaction effects found indicate that vibration frequency and posture should be considered together when prescribing WBV. Lower frequencies (20–25 Hz) may be preferable as they resulted in a better transmissibility in common target areas of treatment such as the hip and lumbar spine. WBV of higher frequencies should be avoided among people with ankle pathology due to an amplification of signals related to resonance.

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