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Bed Adjustment while Treating Patients

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Background: Health care providers, especially those with direct patient contact, are one of the occupational groups most injured by WRMD. A combination of lifting heavy loads with awkward postures is most hazardous, especially for low back pain. Adjusting the bed, during performance of manual tasks, creates a more erect thus safer for the therapist's lumbar spine.

Objectives: To compare adjusted bed height between two passive manual tasks and to find an optimal topographic location to rely on when adjusting bed height.

Design: Cross-sectional study.

Methods: Eighty physical therapy students performed two specific passive movements: shoulder flexion (SF) and straight leg raise of thigh (SLR), each task executed either on a standard bed and an adjustable one. The lumbar angle was measured at the beginning and at the end of each task using a smartphone, which served as an inclinometer. The rate of perceived exertion (RPE) was measured after each task. Distances from anatomical points on the hand and pelvis to the floor were measured.

Results: The mean bed height for SF was significantly higher than for the SLR. The third knuckle hand technique and the radial styloid process of the wrist (RSP) were established as the most valuable anthropometric points to rely on when adjusting the bed height. Both tasks had higher RPE rates and the subjects experienced more of a bent back bent when performing the tasks on a standard bed height compared to an adjustable one.

Conclusions: Each manual task requires its own bed height adjustment. Moreover, it is essential that any manual task entailing lifting appears to place the therapist at risk for lower back pain as a result of awkward postures. The third knuckle and RSP are recommended as reference points when adjusting the bed height.

Biography

Dr. Deborah Alperovitch-Najenson has her expertise in ergonomics. She lectures Ergonomics in Ben Gurion University of the Negev in the department of Physical Therapy, and in Tel Aviv University in the Department of Environmental and Occupational Health. She does research in the field of Ergonomics and she guides students in their thesis.

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