Endpoint control in fast point-to-point elbow rotations:

Pinter, I.J.

2012

document version
Publisher's PDF, also known as Version of record

In our daily live we make countless fast goal-directed movements under a large variety in external conditions. When we want to grab a pack of milk to take a sip our starting position, the placement of the pack, and the weight of the pack vary each time we grab. Hence, the required joint torques vary as well. It has been proposed that the brain only plans and controls movement endpoints, leaving the generation of required joint torques to the viscoelastic properties of the musculoskeletal system. The experiments described in this thesis were setup to investigate whether detailed knowledge on external load is used to control point-to-point elbow rotations. Additionally, a simulationstudy is described that illustrates how the level of simplification used to model the viscoelastic properties of the musculoskeletal system affects conclusions on motor control derived from measured responses to external load perturbations.

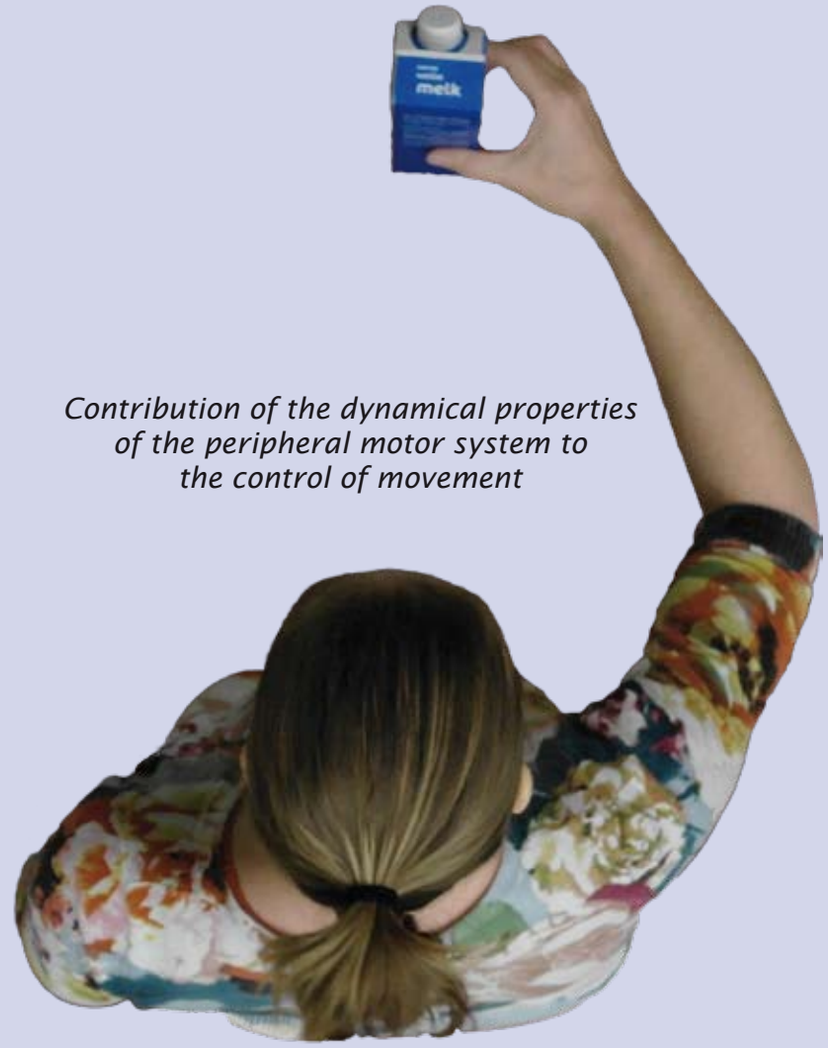
MOVE TO IMPROVE

VU University Research Institute MOVE is a collaboration between researchers of the Faculty of Human Movement Sciences, VU University Medical Center and the Academic Centre for Dentistry Amsterdam. The research carried out within MOVE is related to human movement and health, with an emphasis on prevention and recovery of injury and disorders of the (neuro-)musculoskeletal system, on optimal recovery of tissue and function, and on motor control and coordination. MOVE aims at fundamental, multidisciplinary and translational research, especially in the fields of (oral) regenerative medicine, rehabilitation and sports. www.move.vu.nl

ISBN: 978-90-8891-392-1

Endpoint control in fast point-to-point elbow rotations - Ilona Pintér

Endpoint control in fast point-to-point elbow rotations



Contribution of the dynamical properties of the peripheral motor system to the control of movement

Ilona Pintér