Methods

Participants grasped the handle of an IMT2 two degree of freedom robot (In-Motion Technologies Inc.) as they reached from a start position to a movement target, located 20 cm away. The robot applied a velocity-dependent force to the hand during movement, according to eq. 1.

$$F_x = k\,[v_y] \tag{1}$$

In eq. 1, x and y are lateral and sagittal directions, F_x is the applied robot force in the left-right direction, v_y is hand velocity in the forward-backward direction and k=14 Ns/m.