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# Change in Blood Pressure while Sitting up from a Supine Position and Standing up from a Sitting Position

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## Abstract

The purpose of this study was to investigate the change in blood pressure while sitting up and standing up to obtain basic data for the management of risk in the clinical physical therapy setting. The subjects in Experiment 1 ( sitting up ) were 9 healthy young people (  $21.6 \pm 0.7$  years old ) and those in Experiment 2 ( standing up ) were 11 healthy young people (  $24.4 \pm 6.1$  years old). Systolic ( SBP ) and diastolic blood pressures ( DBP ) were measured beat by beat at the right radial artery with a continuous blood pressure measuring apparatus while the subjects were sitting up or standing up. The maximal value of SBP while sitting up increased. The minimal values of SBP and DBP decreased significantly compared with those at rest. The maximal values of SBP and DBP increased and the minimal values of SBP decreased significantly while standing up from a sitting height of 20 cm. Blood pressure fluctuated in a range of about 40mmHg in the process of sitting up and standing up. These results indicate that physical therapists should manage the risk of changes in blood pressure carefully when they have their patients practice sitting up and standing up.

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