

# Electromyographic Analysis of the Activities of the Abdominal Muscles during Gait

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## Abstract

The purpose of this study was to investigate the electromyographic (EMG) activities of the abdominal muscles during gait. Ten normal male subjects (mean age, 22 years) were examined. The activities of the abdominal muscles were recorded and analyzed with a Muscle Tester ME 3000 P. Bipolar surface electrodes were placed on both sides of the rectus abdominis and the oblique muscles. The rectus abdominis muscles showed two peaks of activity, the first at mid-stance and the second at mid-swing phase. Both sides of the oblique muscles had continuous action. Electromyographic analysis of the activities of the abdominal muscles during gait has been studied by very few investigators. Carlsoo et al. described the activities of the abdominal muscles as well as those of the lower extremities, but they did not analyze their data quantitatively. Our results suggest that the abdominal muscles act along with the pelvic muscles to stabilize the pelvis at both the stance and swing phase. This study will provide a basis for the analysis and treatment of abnormal gait.

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