Patterns of Ambulatory Activity in Subjects With and Without Intermittent Claudication

Reference:

Scientific Literature Reviews

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Podiatric Relevance:
For podiatric physicians, it is particularly vital to keep close tabs on those patients with a history of peripheral arterial disease (PAD), in order to monitor disease progression and appropriately refer for further work-up by a vascular specialist. This could mean the difference between wound healing and amputation in our diabetic patients.

Methods:
The ambulatory activities of subjects between the ages of 50-90 years were evaluated with a step activity monitor (StepWatch3, Cyma Inc). Patients were divided into two groups for comparison; those with documented symptomatic intermittent claudication, and those without, matched for certain demographic factors. Screening tests for each participant included ABI’s, medical history, a 6-minute walk test, and walking impairment questionnaire. Each person was then given an activity monitor to be worn during waking hours for seven consecutive days. Important measurements included ambulatory stride rate, time of ambulatory activity, and short-burst versus endurance ambulation.

Results:
Low cadence ambulation was found to be much more prevalent in the symptomatic population. In general, subjects with intermittent claudication took 26% fewer strides with 15% less time spent ambulating each day when compared to the control group. Patients with PAD also had trouble maintaining a cadence above a threshold of 15 strides/min, noted in both short-bursts and sustained activity.

Comments:
The data collected in this study demonstrate the modification of behavior that takes place as patients live with intermittent claudication. The authors suppose that this behavior develops as patients try to avoid eliciting symptoms brought on by activity. As a result, people slow the rate at which they walk, or avoid it all together. The authors hope to use this information to develop more effective home exercise regimens for people with PAD, by not only having them ambulate more, but also supplementing more periodic bursts of rapid cadence.