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### Association Between Meeting Physical Activity Guidelines with Ambulation, Quality of Life, and Inflammation in Claudication

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There is limited information available on how many patients with peripheral artery disease and claudication meet the physical activity time-intensity guidelines, and whether doing so is associated with better ambulation, health-related quality of life (HRQoL), and vascular outcomes. Additionally, it is not clear how many daily steps are necessary for patients with claudication to meet the physical activity time-intensity guidelines. **PURPOSE:** To determine if meeting the 2018 physical activity guidelines was associated with better ambulatory function, HRQoL, vascular function, and inflammation than failing to meet the guidelines in patients with claudication. Secondly, we determined the optimal number of total daily steps and the optimal number of daily steps taken at a moderate cadence that are needed to meet the physical activity guidelines in peripheral artery disease patients with claudication. **METHODS:** Five hundred seventy-two patients were assessed on their daily ambulatory activity for one week with a step activity monitor, and were grouped according to whether they achieved less than 150 minutes of moderate intensity physical activity per week (Group 1=Do Not Meet Guidelines; n=397), or whether they were above this threshold (Group 2=Meet Guidelines; n=175). **RESULTS:** Treadmill peak walking time (mean±SD) was significantly higher ( $p<0.001$ ) in Group 2 (709±359 sec) than in Group 1 (427±281 sec). Physical function HRQoL score was significantly higher ( $p<0.001$ ) in Group 2 (61±22%) than in Group 1 (44±21%). High-sensitivity C-reactive protein was significantly lower ( $p<0.001$ ) in Group 2 (3.6±4.5 mg/L) than in Group 1 (5.9±6.1 mg/L). Finally, ( 7,675 total daily steps and 1,660 steps taken at a moderate cadence were the optimal thresholds associated with meeting the physical activity guidelines. **CONCLUSIONS:** Patients with claudication who meet the 2018 physical activity guidelines for US adults had better ambulation, HRQoL, and vascular outcomes than those who failed to meet the guidelines. From a practical standpoint, patients with claudication best achieved the physical activity guidelines by taking at least 7,675 total daily steps, and at least 1,660 daily steps at a moderate cadence.

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