

Diabetes Care. 2016 May;39(5):801-7. doi: 10.2337/dc16-0081. Epub 2016 Mar 10.

[Metabolic Syndrome Components Are Associated With Symptomatic Polyneuropathy Independent of Glycemic Status.](#)

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**Abstract**

**OBJECTIVE:** Previous studies demonstrate that the metabolic syndrome is associated with distal symmetric polyneuropathy (DSP). We aimed to determine the magnitude of this effect and the precise components involved. **RESEARCH DESIGN AND METHODS:** We determined the symptomatic DSP prevalence in the Health, Aging, and Body Composition (Health ABC) study (prospective cohort study, with subjects aged 70-79 years at baseline), stratified by glycemic status (glucose tolerance test) and the number of additional metabolic syndrome components (updated National Cholesterol Education Program/Adult Treatment Panel III definition). DSP was defined as neuropathic symptoms (questionnaire) plus at least one of three confirmatory tests (heavy monofilament, peroneal conduction velocity, and vibration threshold). Multivariable logistic and linear regression evaluated the association of metabolic syndrome components with DSP in cross-sectional and longitudinal analyses. **RESULTS:** Of 2,382 participants with neuropathy measures (mean age 73.5 ± 2.9 years, 38.2% black, 51.7% women), 21.0% had diabetes, 29.9% prediabetes, 52.8% metabolic syndrome, and 11.1% DSP. Stratified by glycemic status, DSP prevalence increased as the number of metabolic syndrome components increased (P = 0.03). Diabetes (cross-sectional model, odds ratio [OR] 1.65 [95% CI 1.18-2.31]) and baseline hemoglobin A1C (longitudinal model, OR 1.42 [95% CI 1.15-1.75]) were the only metabolic syndrome measures significantly associated with DSP. Waist circumference and HDL were significantly associated with multiple secondary neuropathy outcomes. **CONCLUSIONS:** Independent of glycemic status, symptomatic DSP is more common

in those with additional metabolic syndrome components. However, the issue of which metabolic syndrome components drive this association, in addition to hyperglycemia, remains unclear. Larger waist circumference and low HDL may be associated with DSP, but larger studies with more precise metabolic measures are needed.

PMID: 26965720