

With Foot Checks, Walking Safe for Diabetics

BY HEIDI SPLETE

RIO GRANDE, P.R. — Exercise does not increase foot ulcer rates in adults with diabetic peripheral neuropathy, based on data from 79 adults aged 50 years and older.

The American Diabetes Association recommends moderate physical activity for people with diabetes, but the organization also recommends that people with diabetes and neuropathy limit weight-bearing activity to reduce the risk of foot ulcers.

"This was based on a long-standing assumption that repetitive mechanical stimulation, which the feet endure during walking, would lead to foot ulcers in those with neuropathy, an assumption that has remained untested since rat foot pad studies in the 1970s," said Dr. Joseph LeMaster of the University of Missouri-Columbia.

Previous studies have shown that people with diabetes who walk regularly can reduce their risk of developing complications such as cardiovascular disease, Dr. LeMaster said.

To determine whether regular walking increased the risk of foot ulcers, Dr. LeMaster and his colleagues conducted a randomized, controlled trial known as Feet First, in which 41 adults received an intervention that included leg strengthening and balance exercises, directions for a self-guided walking program, and telephone support every 2 weeks. Dr. LeMaster presented the results at the annual meeting of the North American Primary Care Research Group.

Both the intervention group and a control group of 38 adults received foot care education, regular foot checks, and eight sessions with a physical therapist, but the control group received no additional exercise intervention. The average age of the patients was 66 years, and 51% were women (Phys. Ther. 2008;88:1385-98).

After 6 months, the average number of total daily steps taken was not significantly different between the two groups, although the total steps decreased by 13% in the control group. But participants in the intervention group increased the steps taken during a 30-minute exercise session by 14% from baseline, compared with a 6% decrease in the control group.

Although the activity level was less than the researchers hoped for, the results suggest that the intervention helped prevent a decrease in activity, Dr. LeMaster said.

Overall, 22 lesions occurred in the intervention group and 14 in the control group after 6 months, but this difference was not significant. This number increased to 27 lesions in the intervention group and 21 in the control group after 12 months. The total of 48 lesions excluded 9 lesions that resulted from trauma during self-care (such as cutting a toe while trimming a toenail).

The overall ulcer rates were similar between the groups at 6 months, but by 12 months the rate of weight-bearing full-thickness plantar lesions was higher in

the control group, compared with the intervention group (five lesions vs. one).

"We conclude that intervention achieved a modest increase in daily ambulatory activity," Dr. LeMaster said. "Prescribing these patients a carefully monitored program in which they gradually increase walking over several months is probably safe," he said. But he noted that careful attention to footwear and regular foot checks are important.

The study was limited by wide confidence intervals, "so we can only draw preliminary conclusions about the effect of the intervention on foot ulcers," he said.

But gradually increasing activity is the key to success for diabetic neuropathy patients, he said during a question-and-answer session. When asked what clinicians can tell diabetic neuropathy patients about increasing activity, he emphasized using a pedometer to ensure

a gradual increase in activity. Ulcers are more likely to occur when someone has been inactive and tries to increase activity too quickly, he said.

The Feet First study was sponsored by the Robert Wood Johnson Foundation. Dr. LeMaster and his colleagues have received funding from the National Institutes of Health for a follow-up study that will involve working more closely with patients to increase activity. ■

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