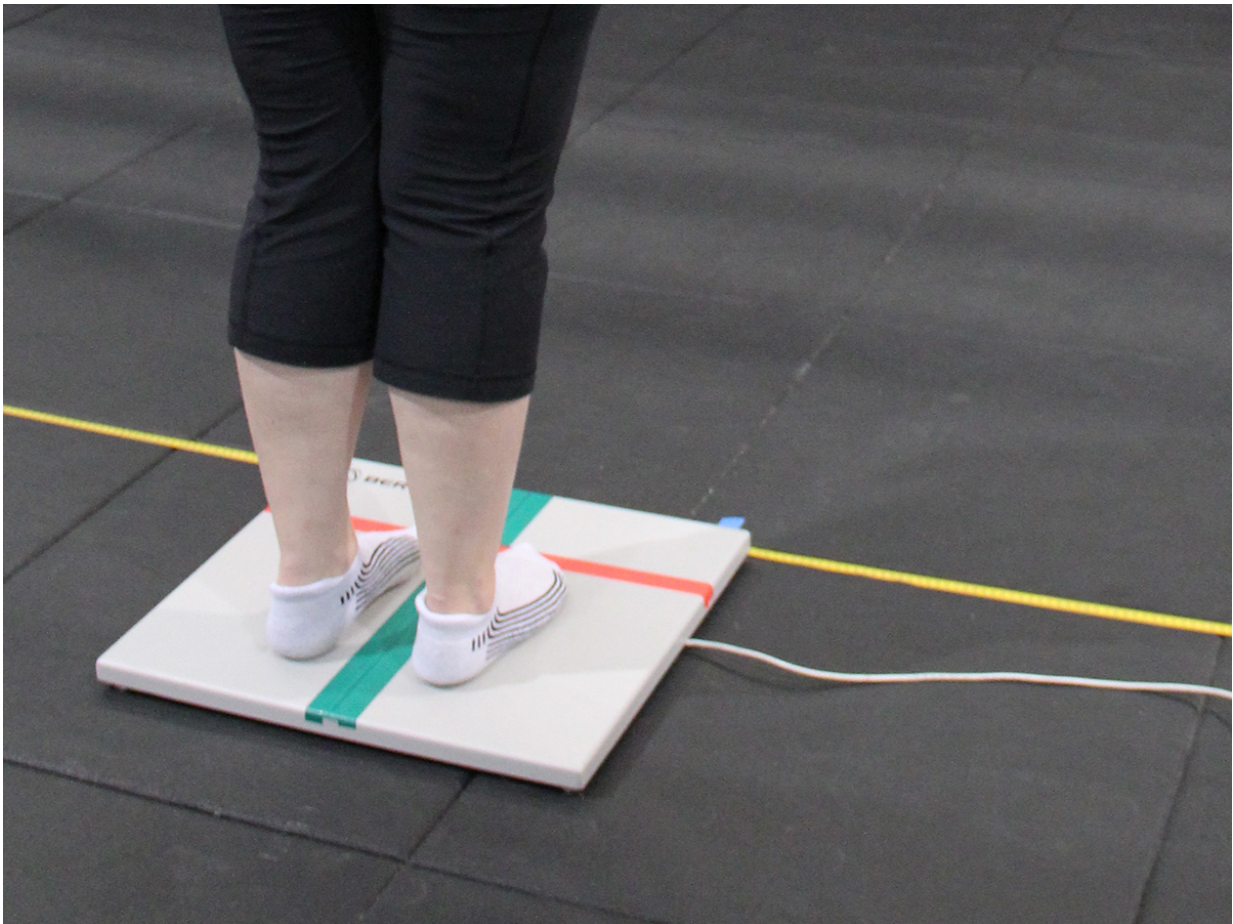


Balance, gait negatively impacted after chemotherapy treatment

June 8 2017



Credit: Ohio State University Medical Center

A single chemotherapy treatment can result in a significant negative

impact on walking gait and balance, putting patients at an increasing risk for falls, according to a new study involving breast cancer patients conducted by researchers at The Ohio State University Comprehensive Cancer Center - Arthur G. James Cancer Hospital and Richard J. Solove Research Institute (OSUCCC - James).

Up to 60 percent of [patients](#) experience [chemotherapy](#)-induced peripheral neuropathy (CIPN), nerve damage that impacts feeling in the hands or feet; however, when and to what extent this damage impacts functional abilities has been largely unknown.

This new study is the first to objectively measure the functional abilities of [cancer](#) patients during and after taxane-based chemotherapy. Researchers followed 33 patients with stage I-III breast cancer, assessing functional performance (standing balance and gait) and patient-reported outcomes at five timepoints spanning before [treatment](#) began up to three months post-treatment completion.

Researchers observed a 28 percent increase in side-to-side sway (medial-lateral) after just one chemotherapy treatment. That increased to 48 percent with cumulative chemotherapy exposure. Patients also demonstrated a 5 percent reduction in walking speed after three cycles of chemotherapy.

"This is not simply a quality of life concern—CIPN can impact a patient's ability to receive treatment at all, limiting the potential for a cure. For patients who have great difficulty with neuropathy, we often have to modify their treatment regimen to make it tolerable—sometimes the therapy has to be ceased entirely," says Maryam Lustberg, MD, MPH, senior author of the study and director of [breast cancer](#) survivorship services at the OSUCCC - James. "We need to make these treatments more tolerable to patients so they can get the full benefit of the treatments."

Lustberg and her colleagues report that taxane exposure is also associated with worsened sensory symptoms and poorer postural control. There was also an association between patients' balance and self-reported sensory symptoms.

The study was published online ahead of print in the medical journal *Breast Cancer Research and Treatment* April 3, 2017.

Significant Clinical Problem

CIPN leads to pain, falls and difficulty walking as well as performing activities of daily living. Although symptoms can improve with time, up to 30 percent of patients have persistent symptoms that last at least six months.

Researchers say the study provides initial support for the feasibility and potential utility of implementing objective measures of physical function into the oncology clinic.

"Cancer survivors are at a significant increased risk for falls, and the incidence rate of falling after chemotherapy is a serious concern for survivors' long-term quality of life," adds Lustberg. "Our study provides new insights on how taxane-based chemotherapy can impact fundamental aspects of patient function. These new insights can help us develop better strategies to help patients combat these challenges and, in some cases, choose a different therapy to treat the disease but with reduced side effects."

The OSUCCC - James is expanding this research to assess CIPN in colorectal [cancer patients](#) receiving taxane-based chemotherapy.

Integrating Gait, Balance Testing Into Clinical

Practice

Study co-author Ajit Chaudhari, PhD, associate professor of physical therapy, orthopedics, mechanical engineering and biomedical engineering at The Ohio State University Wexner Medical Center says the study was an important first step in achieving better long-term outcomes after cancer and provides a new tool for integrating gait and balance screening into clinical care.

"We have created an easy-to-use clinical tool that has strong potential to quickly help clinicians identify patients—very early on—who are developing a chemotherapy reaction that impacts gait and balance," says Chaudhari. "It's no longer good enough for someone to just 'survive' cancer because many patients have decades of life ahead of them. It is critical to do everything we can to make the rest of their lives as productive and enjoyable as they want it to be."

More information: Scott M. Monfort et al, Gait, balance, and patient-reported outcomes during taxane-based chemotherapy in early-stage breast cancer patients, *Breast Cancer Research and Treatment* (2017). DOI: [10.1007/s10549-017-4230-8](https://doi.org/10.1007/s10549-017-4230-8)

Provided by Ohio State University Medical Center

Citation: Balance, gait negatively impacted after chemotherapy treatment (2017, June 8) retrieved 5 May 2024 from <https://medicalxpress.com/news/2017-06-gait-negatively-impacted-chemotherapy-treatment.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.
