

Behind this ever growing trend of Yoga: The do's and don'ts for Breast Cancer

By Marize Ibrahim, Oncology PT at Jewish General Hospital, Montreal



A practice around three thousand years old¹ and rooted in the Indian philosophy, yoga has become a growing trend in North America and Europe. Yoga is a practice associated with physical postures, breathing techniques and meditation² and one found to have a positive physical and psychological impact on cancer survivors, particularly for breast cancer³. While yoga is a practice that is recommended by physicians and physical therapists and perceived to be beneficial with little to no harm, this view certainly needs to be challenged when recommending the activity for breast cancer patients and survivors. With breast cancer being the most prevalent among women in the Western world⁴ and with the growing trend in the practice of yoga, its safety needs to be considered with women who have undergone chemotherapy, undergoing hormonal therapy and with metastatic disease.

Treatment for breast cancer has the potential to interfere with the bone mineral density of women. In pre-menopausal women, chemotherapy-induced ovarian failure coupled with adjuvant ovarian suppression may result in a drastic effect on bone mineral density loss.⁵ Hormonal therapy in hormone-sensitive cancers, such as estrogen receptor or progesterone receptor positive tumors⁶ also contribute to bone mineral density changes. Although the endocrine therapy tamoxifen is associated with bone mineral density preservation in post-menopausal patients, in the pre-menopausal women, it is associated with a decrease in bone mineral density⁷⁻⁸. With age and natural ovarian failure, post-menopausal women are often prescribed adjuvant aromatase inhibitors (AI), which further exacerbates the estrogen depletion and thus increasing the risk of osteopenia, osteoporosis, and fractures⁹.

Healthy menopausal women experience yearly bone loss rate of 2% for 4-8 years¹⁰. Bone loss for women treated for breast cancer can reach 2.6-7.7%¹¹ with a 40% incidence of osteoporosis and 30% increase in fractures¹². Empirical evidence¹³ has shown the adverse events found in the musculoskeletal system associated with yoga including fractures,¹⁴⁻¹⁶ ligament tears,¹⁷⁻¹⁹ joint injuries, fibrocartilage injuries, lumbar disc annular tears²⁰ and myositis ossificans²¹. Upon review of

non-oncology related cases, it was found Pranayama²²⁻²⁵ followed by Hatha yoga²⁶⁻²⁸ and Bikram yoga^{29, 30, 31} to be associated with the reported adverse events. Seeing as up to 80% of osteoporosis remains undiagnosed in the breast cancer population, 12 perhaps we all need to think about the impact of excessive axial and vertebral flexion, rotation, torsion and shearing forces during certain yoga positions and their long-term impact on the bones of women with a history of cancer.

Now let's imagine this scenario for a moment: Introducing specific yoga postures including the sirsasana (headstand), the paschimottanasana (seated forward bend), or the parivrtta anjaneyasana (spine twisting lunge)¹³ to a woman whose ovaries have been annihilated from suppression, causing a decrease in estrogen levels that is further fueled by her endocrine treatment and is unaware of the quality of her bones. Perhaps a recipe for disaster?

To further complicate matters, bone metastasis opens another Pandora-box of questioning when it comes to yoga positions. Patients undergoing treatment with a noted progression in their disease are encouraged to continue being active; however bone lesions should not be taken lightly when exercise is involved. Whether lesions are osteolytic, osteoblastic or mixed with both lytic and blastic features,³² fractures may occur with a fall or injury, but a weak bone can also break during everyday activities³².

In summary, as any exercise practice, yoga is not without any risk. Although it has been shown to be beneficial for a variety of conditions including improving one's quality of life and psychological health in breast cancer patients,¹³ appropriate positions need to be adapted and taken into consideration. Such adaptations and considerations are particularly important for breast cancer patients who have had multiple treatments compromising their bone density or for those who present with bone metastasis. When yoga is recommended, we must be aware and cautious of the movements that have the potential to increase women's risk of fractures and in turn, minimize the risk of musculoskeletal injury.



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