Safe yoga poses for clients with osteoporosis

It is estimated that one in two women over the age of 50 will have an osteoporosis-related fracture in her lifetime, and many times, the first indication of osteoporosis is a fracture. Safe yoga classes can improve the quality of life for osteoporosis clients. In particular, you should know what osteoporosis individuals should not be doing when practicing yoga or other forms of exercise. The correct selection of yoga postures can help ensure participant safety.

Bone Up On The Facts

Osteoporosis is a silent, systemic skeletal disease characterized by low bone mass and microarchitectural deterioration of bone tissue, with a consequent increase in bone fragility and susceptibility to fracture. Four out of five women in the United States are diagnosed with osteoporosis at some point during their lifetime—50 percent of women over age 45 and 90 percent of women over age 75 are affected.

Osteoporosis accounts for more than 300,000 hip fractures annually, according to the National Osteoporosis Foundation. In addition, complications such as post-surgical thrombosis result in the death of an average of 24 percent of people with hip fractures. Almost 25 percent of people suffering from a hip fracture will end up in a nursing home.

Exercise plays a vital role in the prevention and treatment of osteoporosis. However, choosing the right kind of exercise is crucial. Participants should be advised to include both weight-bearing and resistance exercises in their workout routine. Yoga can serve as both types of exercise for the prevention and management of osteoporosis. Yoga requires muscles to contract around bones, actively stressing insertion points, which encourages bone maintenance. By strengthening the muscles, mobilizing the joints and providing balance training, yoga aids in reducing the risk of falls, injuries and fractures.

Holistic Help

Yoga is the original self-improvement program. Holistic in nature, yoga incorporates controlled breathing techniques, postures (asanas), movements/poses (asana), and meditation (dhyana) for a balanced and effective method of physical training.

Benefits of Yoga for People with Osteoporosis

The physical and psychological benefits of yoga are well-documented. A few of the known benefits that relate specifically to osteoporosis are:

- Improved muscle strength and flexibility
- Improved joint range of motion
- Improved posture
- Increased strength and resiliency
- Improved kinesthetic awareness
- Improved balance
- Improved integrated movement
- Decreased pain

By focusing inward, participants become aware of how their bodies move and react to physical and emotional stimulation. The benefits of yoga are synergistic—as posture improves, students see improvements in circulation, respiration, digestion and elimination. So, while not always directly related to osteoporosis, the benefits of practicing yoga for those over the age of 50 are impressive. In a recent survey, more than 60 percent of health clubs now offer yoga and see it as a continuing exercise trend.

Yoga Countermeasures for People with Osteoporosis

A traditional yoga class includes spinal flexion, extension, lateral flexion and rotation. Some yoga postures require abstraction and adduction of the leg, and some are weight-bearing through the waist. Since these are all areas of potential risk for those with osteoporosis, some modifications of traditional poses are necessary to ensure participant safety. Generally speaking, yoga poses that open up the front of the body (spinal extension), such as Cobra (Bhujangasana), standing back extensions and Camel pose (as an advanced option), are beneficial for yoga students with osteoporosis. Poses that close the front of the body (spinal flexion), such as backward bending, put osteoporotic patients at risk and should be avoided. Flexion at the spine...
compresses the anterior aspect of the vertebral, which is the area where most spinal fractures occur. Those with osteoporosis should be advised to remove spinal flexion postures, such as standing forward bends (Utthanasana), Child’s pose (Balasana) and seated forward bends (Paschimottanasan) from their yoga practice.

Abdominal crunches are another often overlooked form of spinal flexion that should not be performed by participants with osteoporosis. Instructors may mistakenly feel that because the participant is lying supine when performing an abdominal crunch, there is sufficient support for the spine to avoid injury. While this may be true with regard to muscle injuries, the act of spinal flexion, even in the supine position, places too much compressive force on the anterior spine to justify this risk for people with osteoporosis.

Lateral bends and twists such as Naulas pose (Parasana) can also compress the spine and increase the risk of fracture. In addition, any yoga pose that requires forward bending in combination with twisting is especially dangerous for this population and should never be performed. This category would include pose such as seated head to knee pose (Janu Sirsasana).

Risk Factors for Osteoporosis

- Age: Older people have a greater risk of developing osteoporosis than younger people.

- Gender: Women are at greater risk than men.

- Family History and personal history of fractures as an adult: Young women whose mothers have a history of vertebral fractures also seem to have reduced bone mass.

- A personal history of a fracture as an adult increases your fracture risk later because the area of healed bone is generally weaker.

- Race: Caucasian and Asian women are most likely to develop osteoporosis. However, black and Hispanic women exhibit a significant risk for developing the disease.

- Bone structure and body weight: Smaller-boned and thin women are at greater risk.

- Marfanoid/menopausal History: Exogenous estrogen due to menopause or surgery increases your risk of developing osteoporosis. In addition, women who stop menstruating before menopause because of conditions such as anovulation or hysterectomy, or because of excessive physical activity, may also lose bone tissue and develop osteoporosis.

- Lifestyle: Cigarette smoking, drinking too much alcohol, consuming an inadequate amount of calcium, or eating little or no weight-bearing exercise, increases your chances of developing osteoporosis.

- Medications and chronic diseases: Medications can be a significant risk factor in the development of osteoporosis. Osteoporoids, to treat chronic medical conditions, and side effects of chemotherapy and corticosteroids for cancer, due to severe disorientation of corticosteroids, can also damage bone and lead to osteoporosis. Endocrine disorders such as hyperthyroidism, Cushings syndrome, and gonadal-intestinal disorders cause osteoporosis, too.

Before asking students to perform any poses requiring spinal abductions and adduction at the hip joint, check with their physicians, as this activity should be approached on an individual basis. While most specialists recommend these moves for the prevention of osteoporosis or to delay its onset, their safety is of utmost concern.

Movement Recommendations

Spinal extension and abdominal strengthening exercises should be included in your osteoporosis student’s practice. These poses increase muscular strength around the spine, improve posture and promote spinal decompression. Yoga students who use a chair or wall for support during balance exercises to maintain stability and avoid falls. Abdominal strengthening exercises can be accomplished without spinal flexion by movement of the lower extremities with the spine stabilized. Exercises and poses such as supine alternate leg lowering or modifications of Cat pose (Paripurna Navasana) are appropriate. Lowering both legs at the same time is not recommended due to the difficulty of maintaining a neutral spine position, especially in those with weak abdominal.

Yoga teachers can provide osteoporosis students with guidance for safe activity choices both in and out of yoga class. Advise students to avoid high-impact activities that include running and jumping. Also, avoid activities or equipment where the risk of falling is increased, such as minitampolines and slide boards. Unfortunately, the very things that help to maintain strong bones in people who are not osteoporotic are some of the most risky activities for people who do have osteoporosis. A moment or two spent teaching clients to "mind the spine" when lifting heavy objects or performing other activities that place strain on the spine will extend the lessons of yoga practice all the time.

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REFERENCES


Sample Postures Appropriate for Patients with Osteoporosis

1. Supine shoulder press — Lie on your back with your knees bent and feet hip-width apart. Keeping neutral spinal alignment, inhale and press the back of your shoulders down toward the mat. Release on the exhalation.
   **Purpose:** Strengthens shoulder girdle, stretches front of shoulders

2. Rib lift — Same position as shoulder press. Inhale and lift your rib cage off the floor, allowing your back to extend. Release on the exhalation.
   **Purpose:** Strengthens back extensors, stretches anterior muscles

3. Supine bridging — Lie on your back with your knees bent and feet hip-width apart. Inhale and lift your hips off the mat, taking care not to let the knees open out. Engage your transverse abdominis and lengthen the lower back. Exhale and release.
   **Purpose:** Strengthens core muscles, stretches quads

4. Alternate prone leg extension — Lie facedown on the mat with head supported on your hands. Inhale and lift one leg off the mat, lengthening the leg out from the hip as you lift. Keep the natural lumbar curve by engaging the abdominals. Release on the exhalation.
   **Purpose:** Strengthens hip extensors and lower back

5. Modified Cobra — Lie facedown on the mat resting on your forearms, with your hands under your shoulders. Inhale and extend your spine, lifting the upper body as one unit. Exhale only as far as your back extensor muscles can handle. Do not force with your arms. Release on the exhalation.
   **Purpose:** Stretches anterior muscles, relieves compression of thoracic vertebrae

6. Tree pose — Place one foot on the inside of the opposite leg only as far up the leg as you can without rotating your spine. Keep hips facing forward and lengthen the spine. Use a chair or wall for support.
   **Purpose:** Challenges balance, builds stability of the ankle, knee and hip joints

7. Warrior II — Stand with legs wide apart. Bend the left front knee while keeping the back right leg straight. The right foot should be turned slightly to the outside. Make sure that you do not allow the front left knee to extend beyond the toes. Inhale and raise your arms to shoulder level. Keep your breastbone lifted and abdominals engaged.
   **Purpose:** Strengthens legs, opens chest, mild back extension

8. Legs up the wall pose — Restorative posture. Use blankets or bolsters as needed.
   **Purpose:** Decompresses spine, improves circulation, aids relaxation

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