

THE TRUTH ABOUT WORKING OUT WITH OSTEOPOROSIS

Spoiler alert: You're not as fragile as you might think! Use these exercises and guidelines to safely build strength and balance to decrease the risk of falls and fractures. [Make no bones about it.](#)

By Wayne Seeto • Edited by Amanda Altman

OSTEOPOROSIS IS HARD ON AGING BONES, MAKING THEM FRAGILE AND PRONE TO FRACTURE. According to the National Osteoporosis Foundation, one in two women and up to one in four men over the age of 50 will break a bone due to osteoporosis. The good news is that an osteoporosis diagnosis doesn't mean your clients can't stay strong and fit. You just need to adapt their workouts.

Your main goal when working with clients in this category is to help them avoid fractures. Since fractures are most often the result of falls, fall prevention is a top priority. I help my clients build strength and stability by introducing them to safe movement patterns, both during workouts and movements of daily life. When working with clients on the osteoporosis spectrum, I focus on the following elements:

SPINE-SPARING LOADS AND MOVEMENTS

to improve muscular strength and endurance, emphasizing the mid-back and hip extensors for improved stability. Since spinal fractures occur more easily in these clients, I avoid significant flexing or twisting of the spine.

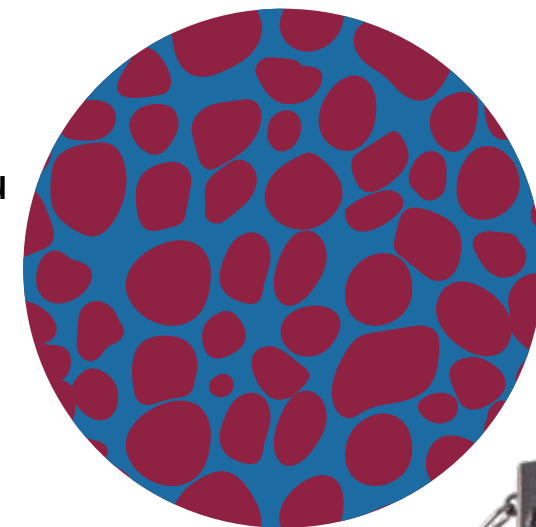
IMPROVING BALANCE, including somatosensory, vestibular and visual input, while maximizing joint mobility.

SLOWING THE RATE OF BONE LOSS using weight-bearing exercises and lifestyle counseling.

IMPROVING FUNCTIONAL MOVEMENTS, such as squatting, hinging, lunging, pushing, pulling and carrying (i.e., gait patterns).

My approach is to always start slow to safely build balance and strength over time. I like using the Reformer/Tower, which allows movement in all planes and positions. The springs and pulleys let you customize tension and placement; you can manipulate lines of pull to challenge postural muscles and proprioception based on your client's needs, while accommodating movement restriction like flexion and improving functional movement competency.

Clients who are discouraged by the limitations of their diagnosis will be surprised by how much they can do using this workout. Not to mention how fit they can get—and how great they will feel. **PS**



GENERAL GUIDELINES

PROPS Set of extension straps; sticky pad (if needed); Sitting Box

REPS Based on movement quality and the client's capabilities, but generally around 8–10. Stop if fatigue is compromising.

TIPS

- More frequent exercise is more effective in reducing falls; two to three hours a week (including 15 to 20 minutes of balance training per session) is ideal.
- Design the programming based on age, baseline fitness level, T-Score and FRAX fracture risk score, balance, strength, endurance, motivation, posture, vision, prior fractures and any other medical conditions.
- Ensure clients have medical clearance before exercising.
- For these exercises, focus on maintaining a neutral spine and pelvis, unless otherwise indicated.

TOWER

SUPPORTED EXTENSION

APPARATUS SETTING Leg (heavy) springs attached above shoulder height, with extension strap attached to each spring to form a loop

BONE-PROTECTING BENEFITS

- Improves balance control in an easy two-leg stance.
- Reduces the risk of falling by promoting postural retraining and flexibility in the thoracic spine.

START Stand facing the Tower with your feet hip-width apart. Place your hands on top of the springs near the extension strap with your elbows bent to your sides and the extension strap just under your armpits (use a sticky pad to keep the strap in place if needed). Move away from the Tower to create enough spring tension to support your weight, allowing your torso to hinge backward.

MOVE Exhale as you extend your spine over the extension strap; inhale to return.

TIPS Keep the spinal articulation of your vertebrae at or above the level of the extension strap. Choose a breath pattern that facilitates full rib-cage expansion and segmental articulation. As flexibility improves, lower the extension strap down your spine to increase the range of motion.

ADVANCED Once balance control is achieved, place your hands on your forehead or behind your head throughout. To progress further, add a squat before lifting your arms in a Y shape with the extension.



FACILITATED HIP HINGE

APPARATUS SETTING Heavy springs attached above shoulder height, with extension strap attached to each spring to form a loop

BONE-PROTECTING BENEFITS

- Provides a low/medium-level proprioceptive challenge to build balance.
- Teaches a spine-sparing hinge movement pattern.
- Strengthens the back extensors to maintain spinal posture.
- Prepares the body for healthy functional movement patterns.

START Stand facing away from the Tower with your feet hip-width apart. Place your hands on your forehead (or hips), with the extension strap around the front of your pelvis/hips. Hinge your torso slightly forward.

MOVE Inhale as you flex at your joints to hinge forward while maintaining your neutral alignment; exhale to return.

TIPS Choose a breath pattern that facilitates full rib-cage expansion and encourages hip joint articulation. Maintain a sense of length through your spine.

MODIFICATION Bend your knees as needed to isolate the movement in your hip joints.

ADVANCED Add a squat, flexing at your hip, knee and ankle joints while maintaining neutral alignment. Or try a back tap, stepping one leg back to tap your foot behind your body while you bend your front knee and lean forward into a lunge.

GEAR GUIDE

Merrithew™ V2 Max Plus Reformer, Reformer Extension Upgrade - V2 Max, and High-Precision Gearbar
(\$4,299, \$515 and \$260 respectively; merrithew.com)



PUNCHES

APPARATUS SETTING Springs attached at shoulder height, starting with light (arm) springs and progressing to heavy (leg)

BONE-PROTECTING BENEFITS

- Challenges balance while integrating the upper and lower body to prevent falls.
- Strengthens the shoulder girdle and spinal flexors without flexing the spine.

START Stand facing away from the Tower with your feet hip-width apart and hands in an overhand grip on the handles. Lean forward, bending your elbows by your sides with your hands slightly forward of your shoulders. Keep your elbows at shoulder height or higher while maintaining scapular and neck stability.

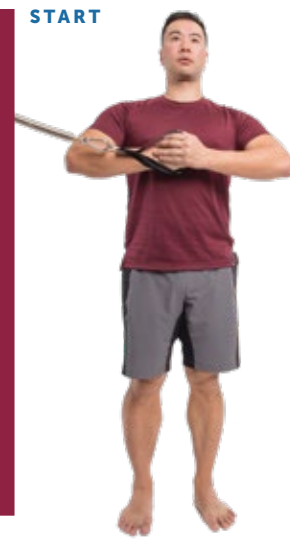
MOVE Exhale as you extend your elbows and reach your arms forward to shoulder height in a punching motion; inhale to return.

TIPS Maintain a sense of length in your spine throughout. Keep your body weight forward to maintain balance.

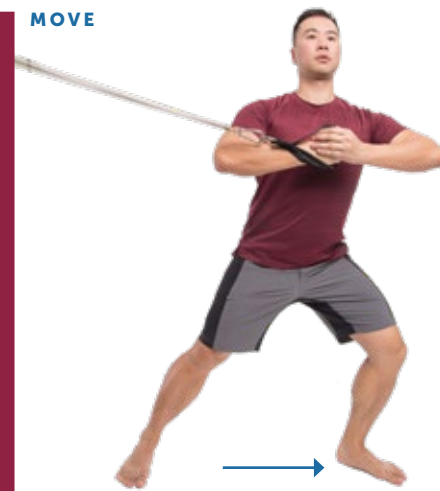
ADVANCED Step one leg forward into a lunge during the punch, and then return; alternate legs.



START



MOVE



SIDE LUNGES

APPARATUS SETTING Light springs attached at shoulder height

BONE-PROTECTING BENEFITS

- Safely challenges balance while encouraging upper- and lower-body integration.
- Builds strength in the shoulder girdle and lateral spinal flexors without flexing the spine.
- Promotes balance-building weight-transfer and step patterns.

START Stand sideways next to the Tower with your feet hip-width apart. Hold the front handle with both hands in front on your sternum, bending your elbows to your sides.

MOVE Exhale as you step your outer foot into a side lunge, keeping your other leg straight; inhale to return. After the set, repeat on your other side.

TIPS Keep your body upright throughout, allowing your weight to shift to the side with your hands close to your chest.

ADVANCED Step in a slightly different direction to challenge balance and weight transfer.

REFORMER

SECOND-POSITION WEIGHT TRANSFER

APPARATUS SETTING

2–3 heavy springs (with carriage stopper positioned so pelvis remains neutral, if possible); can also be done using a jumpboard

BONE-PROTECTING BENEFITS

- Builds foundational proprioception.
- Enhances strength and endurance in the glutes, quads and calves.
- Helps with basic weight transfer and step patterns.

- Provides weight-bearing activity while allowing the upper torso to safely release.

START Lie on the Reformer with your arches parallel and hip-width on the footbar. Push the carriage halfway out.

MOVE Exhale as you lift one leg to tabletop while keeping the carriage still; inhale as you return your foot to the footbar. Repeat on your other side.

TIPS To decrease the vertical compression load on the spine or compression into the shoulder rests, slide down to the bottom of the carriage and hold the bottom edge or the grip mats under your torso. To keep the carriage still, engage your glutes and quads, and then transfer the weight to your support leg before bringing your other leg to tabletop. To prevent lateral shifting of

your pelvis and spine, brace your leg abductors and obliques.

ADVANCED During the press-out, transfer to one leg, and then return the foot when the carriage is back on the stopper.



FOREARM KNEE STRETCHES

APPARATUS SETTING 1–2 heavy springs (with the carriage stopper positioned so the pelvis remains neutral, if possible); Sitting Box on the rail between the carriage and wooden platform

BONE-PROTECTING BENEFITS

- Relieves wrist compression.
- Promotes dissociated hip patterns.
- Builds isometric core strength.
- Enhances shoulder girdle mobility for push patterns.

START Kneel on the carriage with your feet against the shoulder rests and forearms on the Box. Your knees should be over your hips and your shoulders over your elbows. (If you feel like you're slipping, place a sticky pad under your forearms or hold the back of the Box with your hands.)

MOVE Exhale as you extend your knees as far as possible while keeping your pelvis and spine neutral and knees on the carriage; inhale to return.

ADVANCED Do Forearm Shoulder Presses: Flex your shoulders to push the carriage out as far as possible while maintaining neutral alignment, and then return. Keep your hips flexed over your knees throughout.



STANDING DOUBLE-ARM PULL

APPARATUS SETTING
1 spring; carriage stopper in position 1

BONE-PROTECTING BENEFITS

- Encourages balance control while performing a functional pulling pattern in a squat position.
- Builds strength and endurance by challenging the

posterior chain to maintain position against resistance.

- Reinforces posture retraining of the upper torso.

START Facing the footbar, stand inside the well between the carriage and the frame with your feet wide. Bend your knees and hinge forward to place

your hands on top of the shoulder blocks with your pelvis and spine neutral.

MOVE Exhale as you extend your shoulders to pull the carriage out; inhale to return.

TIPS Keep equal weight in both feet, allowing your elbows to bend as needed to keep your body still.

Before adding this exercise, make sure your client is able to hinge and squat.

ADVANCED Keep your elbows straight to increase the lever load and allow the torso to hinge during the pull and release.

START



MOVE



OVERHEAD PRESS ON LONG BOX

APPARATUS SETTING 1–1½ springs; footbar in position 2 or lower (based on terminal shoulder flexion); carriage stopper positioned so elbow can be flexed with pelvis and spine in neutral, if possible; Long Box on carriage

BONE-PROTECTING BENEFITS

- Focuses on the torso and neck as well as scapula mobility and strength.
- Emphasizes the push pattern of the arms in an overhead position.

START Lie facedown on the Long Box with your head toward the footbar. Place your hands shoulder-width apart on the footbar with your rib cage off the Box, elbows bent and legs long and externally rotated (or flexed).

MOVE Exhale as you extend your elbows to press the carriage out; inhale to return.

TIPS If having your rib cage off the Box is uncomfortable, place a soft cushion under your ribs. Focus on upward rotation and slight elevation and abduction of your scapula during the overhead press, and then reverse as you return home.



WAYNE SEETO is a Merrithew™ Master Instructor Trainer and an integral member of the internal programming, education and presenting team, specializing in STOTT PILATES®, STOTT PILATES® Rehab and Halo® Training. He provides instructor training for both fitness and clinical/rehabilitation certifications, both domestically and internationally. Originally from Brisbane, Australia, he has been based at the Merrithew Corporate Training Center in Toronto since 2003 and is a recognized leader in his field.

Wayne received his bachelor's in occupational therapy from the University of Queensland, Australia, and his master's in science (Physiotherapy) at McMaster University, Canada. He has presented on behalf of Merrithew at symposia and industry events all over the world, and is featured in Merrithew fitness and education videos.

Wayne's clients range from elite athletes to people focusing on general fitness, rehab and post-rehab work. He sees private clients at the Merrithew client studio and is on staff at Athletes' Care, a private practice physiotherapy clinic in Toronto, working with patients who have acute, subacute and chronic orthopaedic, neuromusculoskeletal injuries and sports injuries. For more information, visit athletescare.com and stotpilates.com/studio/instructors.