Osteoporosis, Bone Health, and Fall Prevention

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NY PHYSICAL THERAPY & WELLNESS

About NY Physical Therapy & Wellness

- Award-winning provider of physical therapy and occupational therapy services in New York – Best of Long Island 2020
- Celebrating 22 years – over 100 employees across 16 locations in Nassau County, Suffolk County, Queens, and the Bronx
- Offer In-Home Physical Therapy, Teletherapy, Neuro Physical Therapy, and Occupational Therapy
- Our motto: ***Friendly, Dedicated, Professional***
- Our mission: ***Helping you!***

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About the Speakers

Brianna Knox, MS OT, OTR/L, CFPS
Clinical Director, Occupational Therapy Division

- Received her Masters of Occupational Therapy from NYIT and is a licensed therapist in NY State
- Prides herself on providing efficient and effective evidence-based interventions to all clients to promote health, well-being, productivity and quality of life in all areas of occupation
- Believes authentic therapeutic relationship is needed for successful treatment and is an essential component, which allows her clients to share and engage with the therapeutic environment
- Specializes in treating individuals across the lifespan and her clinical interests include neurological and upper extremity orthopedic conditions
- When not treating patients, she loves traveling, the outdoors, and connecting with nature, as well as spending time with family and friends

About the Speakers

Dr. Eric Lawler, PT, DPT, OCS
Clinical Director, In-Home Therapy

- Joined NYPT in 2013 and became Clinical Director of our Levittown location.
- Transitioned into Clinical Director of our In-Home PT division in 2020
- Received his Doctor of Physical Therapy from NYIT
- Is a Certified Orthopedic Clinical Specialist (OCS), and has continued in orthopedics throughout his career
- Eric is skilled in hands-on techniques including spinal manipulation, Kinesio taping, specialized joint mobilization, and proprioceptive neuromuscular facilitation (PNF) stretching techniques
- He enjoys participating in prevention programs for ACL and UCL tears.

What is Osteoporosis?

- Osteoporosis is defined as a skeletal disorder characterized by compromised **bone strength** predisposing someone to increased risk of **fracture**
- Bone is a living tissue that is constantly being broken down and replaced
- Osteoporosis causes **bones to become weak and brittle** — so brittle that a fall or even mild stresses such as bending over or coughing can cause a fracture

Facts About Osteoporosis

- Osteoporosis related fractures most commonly occur in the **hip, forearm, wrist or spine**.
- Osteoporosis is thought of as a disease of women, however one-third of all vertebral compression fractures and hip fractures occur in men

- **An estimated 44 million Americans in the U.S are at risk**
  - 34 million have low bone mass or osteopenia
  - Another 10 million are already living with osteoporosis
  - With baby boomers now in their 50's, problem will continue to increase
  - **1.5 million fractures in the U.S are the result of osteoporosis**

Risk Factors of Osteoporosis

- **Age**
  - With age, bone loss increases and the growth of new bone slows
  - As time goes by this increases your risk of osteoporosis
- **Sex**
  - Females are at greater risk due to a lower peak bone mass
  - However, males are still at risk, especially over 70 years of age
- **Body frame size**
  - Slim, thin boned women and men at greater risk
  - They have less bone to lose compared to larger boned women and men
- **Race**
  - White or Asian women are at highest risk
- **Family history**
  - Having a parent or sibling puts you at greater risk

Risk Factors of Osteoporosis Continued

- **Changes to hormones**
  - Low levels of certain hormones can increase your chances of developing osteoporosis
    - Low estrogen levels in women with premenopause and after menopause
    - Low levels of testosterone in men However, the gradual decrease of testosterone with aging is probably not a major reason for loss of bone
- **Diet**
  - A diet low in calcium and vitamin D can increase your risk for osteoporosis
- **Other medical conditions & medications**
  - Endocrine and hormonal diseases, gastrointestinal diseases, rheumatoid arthritis, certain types of cancer, HIV/AIDS, and anorexia nervosa can increase your risk
  - Long-term use of certain medications may make you more likely to develop bone loss and osteoporosis

Lifestyle Impacts

A **healthy lifestyle** can be important for keeping bones strong!

- **Factors that contribute to bone loss include:**
  - Low levels of physical activity and prolonged periods of inactivity can contribute to an increased rate of bone loss. They also leave you in **poor physical condition**, which can increase your risk of falling and breaking a bone
  - Excessive dieting or poor protein intake may increase your risk for bone loss and osteoporosis
  - Chronic heavy drinking of **alcohol** is a significant risk factor for osteoporosis
  - Studies indicate that **smoking** is a risk factor for osteoporosis and fracture.
    - Researchers are still studying if the impact of smoking on bone health is from tobacco use alone or if people who smoke have more risk factors for osteoporosis

Signs & Symptoms of Osteoporosis

Osteoporosis is known as a **“silent” disease**

- Typically you will NOT have symptoms in the early stages of bone loss
- **Once your bones become weak, you might show symptoms including:**
  - Back pain
  - Loss of height over time
  - Stooped posture/Increased kyphosis
  - A bone that breaks more easily than expected
  - Muscle weakness
  - Reduced aerobic capacity
  - Declines in functional abilities

How can Physical & Occupational Therapy Improve Life with Osteoporosis?

Exercise plays a integral role in the treatment of Osteoporosis.

Since bone is a living tissue, exercise can make bones stronger!

Both Physical & Occupational Therapy can help you with the following:

- Build muscle mass and strength and improve coordination and balance which can help lower your chance of falling
- Improve daily function and delay loss of independence
- Teach you **safe ways of moving** and carrying out daily activities
- Recommend specific exercises to strengthen and support your joints with a program tailor to you

How can therapy improve endurance?

- Activities that improve your endurance are often referred to as aerobics, this is because they increase both your breathing and heart rate
- **Endurance helps to keep you healthy by:**
  - Improving your fitness and increasing your ability to perform the tasks you need to do every day
- Endurance exercises improve the health of your heart, lungs, and circulatory system

What types of activities improve endurance?

- **Activities that Build Endurance:**
  - Walking, Jogging, or Running
  - Climbing Stairs
  - Cycling
  - Swimming
  - Simulating/Playing a Sport ie: Tennis, Pickleball, Basketball etc.

- **Goal:**
  - Work on endurance at least 2 days a week
  - Be active as much as possible throughout the day and avoid sitting

How can therapy improve strength?

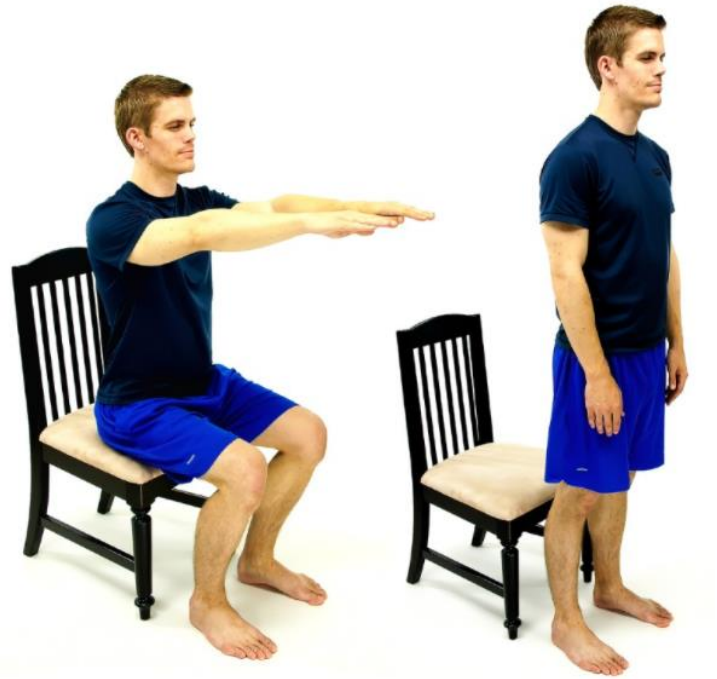
- Strength training or resistance training plays a big role in helping you stay independent and make everyday activities feel easier
- Strength allows us to complete activities such as getting up from a chair, climbing stairs, and carrying groceries

- **Keeping your muscles strong can help with:**
  - Balance and prevent falls and fall-related injuries
  - Additionally, stronger bones lead to decreased risk of fracture if you do fall

What types of activities improve strength?

- **Activities that Build Strength & Bone Density:**
  - **Weight bearing exercises:**
    - Squats
    - Lunges
    - Push Ups
    - Step Aerobics
    - Plank

- **Goal:**
  - Work on strengthening at least 2 days per week
  - **Major Muscle Groups:**
    - Chest, Back, Arms, Legs, & Abdominals



How can therapy improve balance?

- Balance exercises help prevent falls
- Many lower-body strength exercises also will improve your balance
- By maintaining good balance as you age you can help to prevent risk of fracture and other injuries.

What types of activities improve balance?

- **Activities that Build Balance:**
  - Standing with Eyes open/Closed
  - Standing on one foot
  - Heel to Toe Walking
  - Tai Chi
  - Yoga

- **Goal:**
  - Work on balance at least 2 days a week

How can therapy improve flexibility?

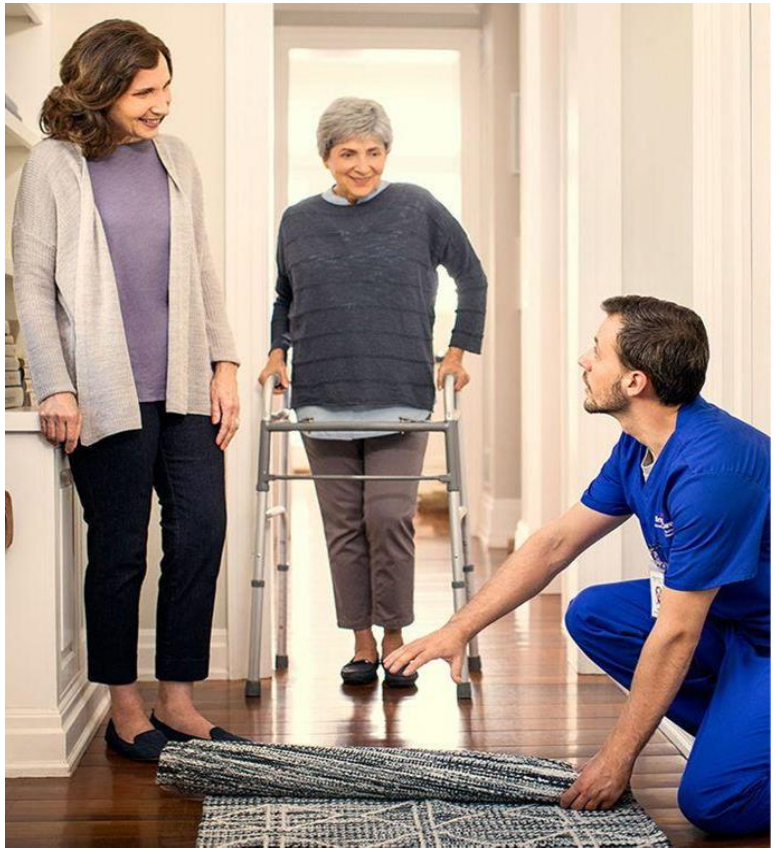
- Stretching can improve your flexibility and keep your muscle and joints limber

- **Flexibility will make it easier for you to:**
  - Reach down to tie your shoes
  - Look over your shoulder when you back your car out of the driveway

What types of activities improve flexibility?

- **Activities that Build Flexibility:**
  - Static Stretches
  - Dynamic Stretches
  - Yoga
- **Goal:**
  - Try to stretch for at least 5 to 10 minutes after every workout
  - Hold each stretch for 10 to 30 seconds

Additional ways therapy can help with Fall Prevention



- **Home Environment Modifications:**
  - Remove Area rugs
  - Decrease clutter
  - Night Lights
  - Non-stick mat the bathtub/shower
  - Grab bars
- **Cognitive Skills Training**
- **Transfer Training**

Resources

- Request an appointment: Scan the QR Code Here!
- Questions/comments: rachel@nyphysicaltherapy.net – Rachel Booth, Practice Marketing Director
- More information: www.nyphysicaltherapy.net
- Follow us on social media for more updates, tips and fun:

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Thank You!

Questions?

Additional Resources

The US. Department of Health and Human Services. (n.d.). *Osteoporosis overview*. National Institutes of Health. Retrieved March 27, 2022, from https://www.bones.nih.gov/health-info/bone/osteoporosis/overview

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