

## **Smart Strategies for Senior Health and Fitness – Dr. Nirali Patel, Physical Therapist**

### **Arthritis**

The most common type, osteoarthritis (OA), is a degenerative disease of the cartilage and bone that results in pain and stiffness in the affected joint.

- Rheumatoid arthritis (RA)—a systemic disease characterized by joint inflammation and pain—is far less common than osteoarthritis but potentially much more serious.
- It is estimated that nearly 75% of people over age 60 will experience OA.
- Rheumatoid arthritis affects about 2.1 million people in the United States.
  - However, it's important to note that osteoarthritis is not an inevitable part of the aging process.

### **Osteoporosis**

- Thinning of the bones with reduction in bone mass due to depletion of calcium and bone protein.
- It predisposes a person to fractures, which are often slow to heal and heal poorly.
- One in two women and one in eight men will suffer from an osteoporosis-related fracture in his or her lifetime.
- An estimated 20 million American women suffer from osteoporosis, and 80 percent of them don't even know it.

### **Attacking Arthritis**

#### **Essential Exercises:**

- Years ago, doctors hardly ever told an arthritis patient to "go take a hike" or "go for a swim". But not so anymore.
- Even moderate exercise can ease pain and help maintain a healthy weight.
- Exercise is critical in successful arthritis management to maintain:
  - Healthy and strong muscles
  - Joint mobility
  - Flexibility
  - Endurance

- Helps control weight
- Though you might think exercise will aggravate your joint pain and stiffness, that's not the case.
- Lack of exercise actually can make your joints even more painful and stiff because keeping your muscles and surrounding tissue strong is crucial to maintaining support for your bones.
- Not exercising weakens those supporting muscles, making your bones more prone to breaking.

#### Range-of-motion Exercises

- These types of exercises relieve stiffness and increase your ability to move your joints through their full range of motion.
- Range-of-motion exercises involve moving your joints through their normal range of movement, such as raising your arms over your head or rolling your shoulders forward and backward.
- These exercises can be done daily or at least every other day.

#### Strengthening Exercises

- These exercises help you build strong muscles that help support and protect your joints.
- Weight training is an example of a strengthening exercise that can help you maintain your current muscle strength or increase it.
- Do your strengthening exercises every other day — but take an extra day off if your joints are painful or if you notice any swelling.

#### Aerobic Exercise

- Aerobic or endurance exercises help with your overall fitness.
- They can improve your cardiovascular health, help you control your weight and give you more stamina and energy to get through your day.
- Examples of aerobic exercises that are easier on your joints include walking, riding a bike and swimming.
- Try to work your way up to 20 to 30 minutes of aerobic exercise three times a week. You can split up that time into 10-minute blocks if that's easier on your joints.

#### Tips to Protect Your Joints

- Start slowly to ease your joints into exercise if you haven't been active for a while.
- If you push yourself too hard, you can overwork your muscles and aggravate joint pain.

#### Consider these tips as you get started:

- Apply heat to the joints you'll be working before you exercise.
  - Heat can relax your joints and muscles and relieve any pain you have before you begin. Heat treatments — warm towels, hot packs or a shower — should be warm, not painfully hot, and should be applied for about 20 minutes.
- Move your joints gently at first to warm up.
  - You might begin with range-of-motion exercises for five to 10 minutes before you move on to strengthening or aerobic exercises.

- Exercise with slow and easy movements.
  - If you start noticing pain, take a break.
  - Sharp pain and pain that is stronger than your usual joint pain might indicate something is wrong. Slow down if you notice inflammation or redness in your joints.
- Ice your joints after exercising.
  - This can reduce swelling and pain. Use a cold pack on your joints for 10 to 15 minutes.
- Trust your instincts and don't exert more energy than you think your joints can handle.
  - Take it easy and slowly work your exercise length and intensity up as you progress.

#### Diet & Nutrition:

- Arthritis medications help suppress the immune system and slow the progression of the disease.
- Nutrition may provide complementary support.
- Some evidence shows that nutrition can play a role in controlling the inflammation, and possibly also in slowing the progression of rheumatoid arthritis.

#### **Foods and Nutritional Supplements Helpful in Managing Arthritis:**

- Fatty-acid supplements
  - Eicosapentaenoic acid (EPA), docosahexaenoic acid (DHA), and gamma linolenic acid (GLA).
  - Several studies point to the effectiveness of these fatty acid supplements in reducing joint pain and swelling, and lessening reliance on corticosteroids.
- Deep-sea fish
  - Salmon, tuna, herring, and halibut: sources of EPA and DHA
- Turmeric
  - A spice used to make curry dishes
  - A 95 percent curcuminoid extract has been shown to significantly inhibit the inflammatory cascade and provide relief of joint inflammation and pain.
- Ginger extract has been shown to be beneficial in terms of inflammation.
- Nettle leaf extract may inhibit some inflammatory pathways.
- A vegetarian or low-allergen diet can help with the management of rheumatoid arthritis as well.

#### **Ousting Osteoporosis with essential exercises**

##### Strength Training – Especially for the Back

- Free weights, weight machines, resistance bands or water exercises to strengthen the muscles and bones in your arms and upper spine.
- Strength training can also work directly on your bones to slow mineral loss.
- Compression fractures resulting from osteoporosis often lead to a stooped posture and increased pressure along your spine, resulting in even more compression fractures.

- Exercises that gently stretch your upper back, improve your posture and focus on strengthening the muscles between your shoulder blades can all help to reduce harmful stress on your bones and maintain bone density.

## **Diet and Nutrition**

- The treatment plan for osteoporosis always includes ensuring that there are sufficient amounts of calcium and Vitamin D in the diet.
  - **Calcium** is the major component of bones, and is therefore crucial to maintain bone density.
  - **Vitamin D** allows calcium to leave the intestine for absorption, and works in the kidneys to reabsorb the calcium that would otherwise be excreted.

## **Weight-bearing Aerobic Activities**

- Involve doing aerobic exercise on your feet, with your bones supporting your weight.
  - Examples include walking, dancing, low-impact aerobics and gardening.
- Work directly on the bones in your legs, hips and lower spine to slow mineral loss.
- Provide aerobic benefits, such as reducing your risk of cardiovascular disease.

## **Flexibility Exercises**

- Increase the mobility of your joints, another key component of overall fitness.
- Being able to bend, extend and rotate your joints helps you prevent muscle injury.
- Increased flexibility can also help improve your posture.
- When your joints are stiff, your abdominal and chest muscles become tight, pulling you forward and giving you a stooped posture.
  - Chest and shoulder stretches may be helpful, as may prone push-ups.
- Avoid stretches that flex your spine or cause you to bend at the waist.
  - These positions may put excessive stress on the bones in your spine, placing you at greater risk of a compression fracture.

## **Fall Prevention Pointers and Boosting Balance Skills**

- Time takes its toll on the bodily systems that keep us balanced and standing upright.
  - You may not see or hear as well, which can affect your coordination.
  - Nerves that carry information from your brain to your muscles may fray and deteriorate, slowing your reaction time.
  - Normal declines in muscle strength and joint flexibility can hinder your ability to stand, walk and rise from chairs.
- The odds of falling each year after age 65 in the United States are about one in three.
- In 2003, more than 1.8 million seniors were treated in hospital emergency rooms for fall-related injuries and of those treated,

more than 421,000 were hospitalized.

- Through scientific studies, researchers have identified a number of modifiable risk factors that increase the likelihood of a fall, including:
  - medication side effects
  - loss of limb sensation
  - poor eyesight
  - tripping hazards within the home
  - lack of physical activity

### **The Good News Is:**

**You needn't let the fear of falling rule your life.**

**Many falls and fall-related injuries are preventable with fall prevention measures.**

#### **Step 1:** Make an Appointment with Your Doctor

- You and your doctor can take a comprehensive look at your environment, health and medications to identify situations when you're vulnerable.
- In order to devise a fall-prevention plan, your doctor will want to know:
  - **What medications are you taking?** Include all the prescription and over-the-counter medications you take and dosages or bring them with you. Your doctor can review them for side effects and interactions that may increase your risk.
  - **Have you fallen before?** Write down the details (when, where and how you fell).
  - **Could your health conditions cause a fall?** Your doctor likely wants to know about eye and ear disorders that may increase your risk of falls. Be prepared to discuss how comfortable you are walking — describe any dizziness, joint pain, numbness or shortness of breath that affects your walk. Your doctor may then evaluate your muscle strength, balance and walking style.

#### **Step 2:** Keep Moving with Exercise

- If you aren't already getting regular physical activity, consider starting a general exercise program as part of your fall-prevention plan.
- Consider activities such as walking, water workouts or tai chi — a gentle exercise that involves slow and graceful dance-like movements.
- Such activities reduce your risk of falls by improving your strength, balance, coordination and flexibility. Be sure to get your doctor's OK first.

#### **Step 3:** Wear Sensible Shoes

- High heels, floppy slippers & shoes with slick soles and stocking feet can make you slip, stumble and fall.

- Measure feet each time you buy shoes since your size can change.
- Buy properly fitting, sturdy shoes with non-skid soles.
- Avoid shoes with extra-thick soles.
- Choose lace-up shoes instead of slip-ons, and keep the laces tied.
- Select footwear with fabric fasteners if you have trouble tying laces.
- Shop in the men's department if you're a woman who can't find wide enough shoes.
- If bending over to put on your shoes puts you off balance, consider a long shoehorn that helps you slip your shoes on without bending over.

#### Step 4: Remove Home Hazards

- Take a look around you — your living room, kitchen, bedroom, bathroom, hallways and stairways may be filled with booby traps.
- To make your home safer, try these tips:
- Remove boxes, newspapers, electrical cords and phone cords from walkways.
- Move coffee tables, magazine racks and plant stands from high-traffic areas.
- Secure loose rugs with double-faced tape, tacks or a slip-resistant backing.
- Repair loose, wooden floorboards and carpeting right away.
- Store clothing, dishes, food and other household necessities within easy reach.
- Immediately clean spilled liquids, grease or food.
- Use non-skid floor wax.
- Use non-slip mats in your bathtub or shower.

#### Step 5: Light Up Your Living Space

- As we age, less light reaches the back of eyes where you sense color and motion.
- Keep your home brightly lit with 100-watt bulbs or higher to avoid tripping on objects that are hard to see.
- Place a lamp near your bed and within reach so that you can use it if you get up at night.
- Make clear paths to light switches that aren't near room entrances.
- Consider installing glow-in-the-dark or illuminated switches.
- Place night lights in your bedroom, bathroom and hallways.
- Turn on the lights before going up or down stairs.
- Store flashlights in easy-to-find places in case of power outages.

#### Step 6: Use Assistive Devices

- Your doctor might recommend using a cane or walker to keep steady.
- Grab bars mounted inside and just outside your shower or bathtub.
- A raised toilet seat or one with armrests to stabilize yourself.
- A sturdy plastic seat placed in your shower or tub so that you can sit down if you need to.

- Buy a hand-held shower nozzle so that you can shower sitting down.
- Handrails on both sides of stairways.
- Non-slip treads on bare-wood steps.
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### **Boosting Balance Skills In 10 Minutes a Day**

#### Four Square

**An important part of the balance system is your ability to know where certain body parts are in space. Your “internal sense of spatial orientation” is helped by this exercise.**

1. Get on all fours with knees and hands 12 inches apart.
2. Keep your back flat and your head straight.
3. Lift each arm forward by itself and hold for 5 to 10 seconds.
4. Repeat with each leg, straightening it behind you but keeping it close to the ground.
5. Lift the opposite arm and leg (right arm, left leg) at the same time and hold for 10 seconds. Then repeat on the opposite side.

#### Posture Perfect

**Posture and strength are important parts of your system of maintaining balance. These exercises encourage good posture and enhance lower extremity strength.**

1. Stand with your arms resting comfortably with a countertop or sturdy table in front of you and a wall behind you.
2. Stand with your feet comfortably apart. Look straight ahead, keep your back straight and your knees slightly bent.
3. Slowly rise up on your toes.
4. Lower yourself down slowly and repeat 5 times.
5. Keep your posture the same, but this time raise the front part of your foot, lower it slowly, and repeat 5 times.
6. Finally, keep standing as you have been. Lift one leg several inches off the floor and hold for 5 seconds, lower it slowly, and repeat 5 times. Repeat on the opposite foot.

#### The Eyes Have It

**Good balance requires input from the environment to give your body the correct signals.**

**Your eyes tell your body a great deal about the space in which you need to move and balance.**

1. Sit in a stable chair with a straight back and arm rests if you need them to get up from a sitting position.
2. Focus your eyes on a target 10 to 20 feet away while you stand up slowly and then sit down again with your eyes open.
3. Repeat with your eyes closed.
4. Repeat 5 times.