PATIENT GUIDE TO
OSTEOPOROSIS

SOUTH TEXAS
SPINAL
CLINIC

FRACTURE PREVENTION CLINIC

A FRACTURE LIAISON SERVICE

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WHAT IS THE FRACTURE PREVENTION CLINIC?

Welcome to the Fracture Prevention Clinic at South Texas Spinal Clinic

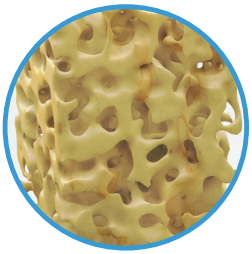
We will continually strive to assist you in reaching and maintaining bone health to help prevent future fractures. If you are older than 50 and have had a fracture or if your doctor feels you will benefit from a bone health evaluation, our Fracture Prevention Clinic can help.

This booklet will serve as your guide through the journey. It will help you understand more about osteoporosis and how to minimize the risk of another fragility fracture. Your active participation and positive attitude will help you reach your destination.

This booklet will give you basic information about maintaining bone health. At no time does this information replace your doctor's advice and orders. If you have questions, please call your doctor.

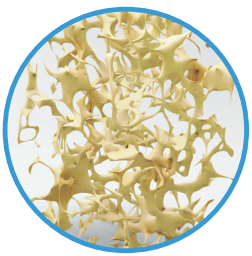
This booklet is your guide to the Fracture Prevention Clinic. Bring this booklet with you to all appointments.

WHAT IS OSTEOPOROSIS?



Normal Bone

Osteoporosis is a bone disease in which the mesh-like structure inside the bone becomes damaged. It literally means "porous bones". The bone structure may be thin if either too much bone tissue has been lost or if not enough bone tissue has been made. When the internal strands of the bone become too thin (lose density), the bones become weak and can fracture or break easily.



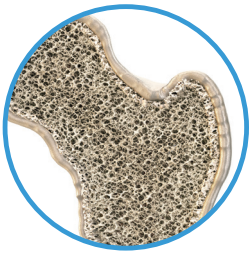
Osteoporotic Bone

When a bone with osteoporosis is broken, it is called a "fragility fracture". Though fragility fractures can occur anywhere in the body, the most common occurrences are in the wrist, hip, and spine.

Osteoporosis Untreated

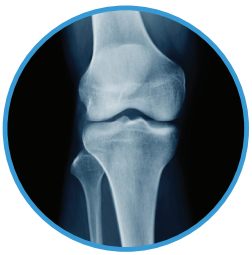
Many people don't realize they have fragility fractures. If left untreated, fractures due to osteoporosis could lead to serious complications

DID YOU KNOW?



Bone Fibers

The interior of your bones is made up of bone fibers that crisscross each other in layers.



Fiber Alignment

The fibers are precisely aligned to carry the forces of tension and compression. This allows your bones to be both lightweight and strong.

Fun Fact

When architect Gustave Eiffel was looking for a way to make his famous tower both strong and lightweight, he modeled it after the structure of the human femur (thigh bone).

Bones Are Continually Changing

Your bones are not like the dry white bones you see in skeletons at Halloween. Bones are made up of living tissue; every cell is alive in your bones, and they are continually changing. Old dead cells are carried away and replaced by new healthy cells. The cells that carry old bone away are called osteoclasts. The cells that replace old bone with new are called osteoblasts.

How Aging Affects Change

When you were a child, your bones grew rapidly. In fact, children only need about two years to completely replace their bone cells. Bones continue to grow in density through your late 20s. At that time, the amount of old cells removed was equal to the amount of new healthy cells being created. This keeps a healthy "bone bank account".

If you have osteoporosis, you have a negative bone balance in your bone bank account.

In your mid-30s, however, the removal and replacement of cells can begin to get out of balance. Unlike children, the adult body can take 7 to 10 years to replace all the bone cells. As you continue to age, your body becomes less capable of replacing the cells that were lost, and thus the bones become thinner. Bone loss is normal, and not everyone will develop osteoporosis.

Fragility Fractures

The most common result of having osteoporosis is a fragility fracture. More than 1.5 million people suffer a fragility fracture each year. The severity of the fracture depends on where it is located, the most common locations being the wrist, spine, and hip.

Spinal Curvature

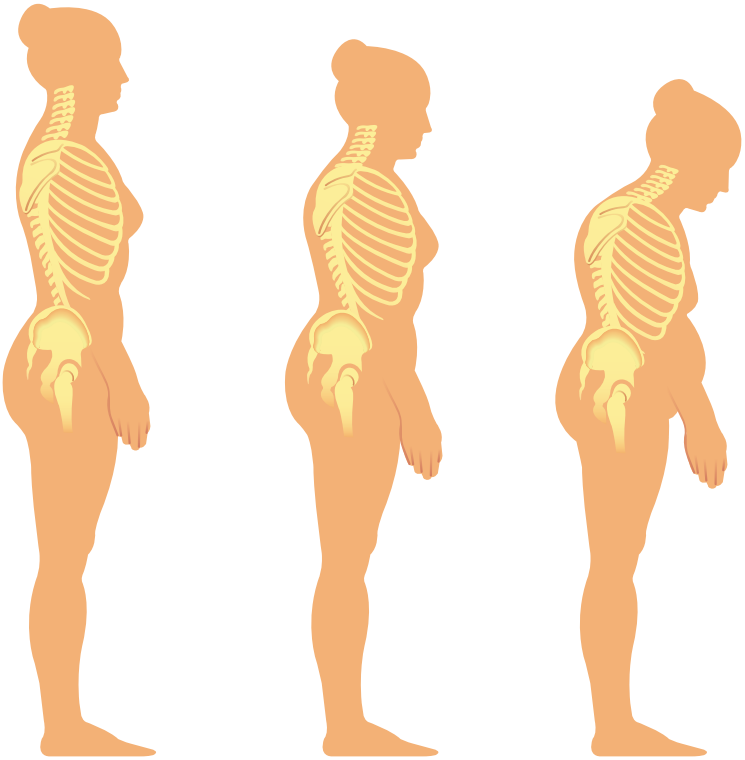
Even if a fracture does not occur, the spinal bones (vertebrae) may become weak and crush together. As this happens, the spine curves, which can result in back pain, height loss, and difficulty breathing because there is less space under the ribs.

Loss of Mobility

Osteoporotic bones take a longer time to heal than healthy bones. Fragility fractures can have a dramatic effect on your quality of life. With time, medication, and physical therapy, patients can often regain bone strength.

LONG-TERM EFFECTS OF OSTEOPOROSIS

Have you lost height since your 20s?



FACTORS AFFECTING OSTEOPOROSIS

The following can increase your risk of developing osteoporosis:

Age: The older you get, the greater the risk

Race: If you are white or of Asian descent

Gender: One out of two women and one out of four men are likely to develop osteoporosis

Family History: If someone in your family has had osteoporosis or a hip fracture

Lifestyle: Inactive lifestyle

Diet: A diet low in calcium and vitamin D

Frame size: The smaller your frame, the greater your risk

Certain medical conditions: Having type 1 diabetes, rheumatoid arthritis, or inflammatory bowel disease (GERD)

Sex hormones: A reduction of hormones. In women, estrogen loss occurs primarily during and after menopause; in men, testosterone loss occurs gradually. A diet rich in calcium and vitamin D becomes particularly important during these years.

Smoking: Recent studies have shown a direct relationship between tobacco use and decreased bone density. In addition, most studies on the effects of smoking suggest that smoking increases the risk of having a fracture. Not all studies support these findings, but the evidence is mounting.

Eating disorders: Anorexia or bulimia

When your loved one or friend has osteoporosis, you can help.

Family and friends can help in many ways. By becoming more knowledgeable about osteoporosis, you may actually be helping yourself. Because heredity is one of the risk factors of the disease, accompanying your family member may give you important information about avoiding fragility fractures in your future.

- If possible, come to the initial appointment. This will help you better understand osteoporosis, the different treatment options, and how you can help.
- Help your family member or friends by providing accountability regarding medication, exercise, and diet.
- Help your family member or friends avoid falls.

Fall Prevention Indoors

- Keep walkways clear of cords, clutter, etc.
- Place items within easy reach.
- For items out of reach, use a long-handled grabber.
- For items in high places, use a step stool with handrails.
- Use nonskid rubber backing on area rugs, bathroom rugs, and shower mats.
- Place handrails or grab bars in the shower and by the toilet.
- Place and use handrails on both sides of all stairways.
- On hardwood or uncarpeted floors, avoid using slippery wax.
- Wear only shoes with nonskid soles.
- Use only shower/tub seats with nonskid legs.
- At night, turn on the lights. Place a night-light between your bed and the light switch.
- Keep your phone with you at all times in case you need help.

Fall Prevention Outdoors

- Use handrails when going up and downstairs or escalators.
- Walk on grass if walkways look slippery.
- Wear boots in the winter and low-heeled shoes. Shoes with rubber soles provide better traction.
- Use an assistive device like a walker or cane, as needed.
- Keep your hands free by wearing a shoulder bag, fanny pack, or backpack.
- Keep walkways, porches, and driveways free of leaves, snow, trash, and clutter.
- In public places, watch out for polished marble or tile floors that may be slippery.

FACTORS AFFECTING OSTEOPOROSIS

Medical Conditions

Rheumatoid Arthritis
Hyperparathyroidism
Hypogonadism
Hyperthyroidism
Stroke
Inflammatory Bowel Diseases
Celiac Disease
Bariatric Surgery
Autoimmune Hepatitis
Anorexia Nervosa
Alcoholic Cirrhosis
Vitamin D Deficiency
Total Parenteral Nutrition
Lactose Intolerance
Multiple Sclerosis
Wheelchair-Bound
Parkinson's Disease
Diabetes
Chronic Kidney Disease
Insulin-Dependent
Organ Transplants
Long-Term Corticosteroids (≥ 5mg and ≥ 3 months or more)

Medications

Cytotoxic Drugs
Lithium
Aromatase Inhibitors
Long-Term Heparin
Gonadotropin-Releasing Hormone Agonists
Depo-Provera
Lupron
Anticonvulsants
Selective Serotonin Reuptake Inhibitors (SSRIs)
Thiazolidinediones (TZDs)
Long-Term Proton Pump Inhibitors (PPIs)

Smoking and Osteoporosis

The longer you smoke and the more cigarettes you consume, the greater your risk of fracture in old age.

Smokers who fracture may take longer to heal than nonsmokers and may experience more complications during the healing process.

- Multiple studies suggest that exposure to secondhand smoke during youth and early adulthood may increase the risk of developing low bone mass.
- Significant bone loss has been found in older women and men who smoke.
- Compared with nonsmokers, women who smoke often produce less estrogen and tend to experience menopause earlier, which may lead to increased bone loss.
- Quitting smoking appears to reduce the risk of low bone mass and fractures. However, it may take several years to reduce a former smoker's risk.

For more tips, visit the
Bone Health & Osteoporosis Foundation
website at: **www.bonehealthandosteoporosis.org**

FACTORS AFFECTING OSTEOPOROSIS

Calcium

Dairy products, such as milk, yogurt, and cheese, are all good choices for adding calcium to your diet, but other foods are rich in calcium as well.

- Fortified juices, cereals, and oatmeal
- Salmon and sardines with bones
- Beans and legumes
- Certain nuts, such as almonds
- Dark leafy greens, such as broccoli and bok choy

Vitamin D

- Fish, such as salmon, tuna, and herring
- Milk and yogurt—regardless of whether it's whole, nonfat, or reduced fat/fortified with vitamin D

Dental Care

It is imperative that you let your dentist know if you are on any osteoporosis medications. Some medications that prevent bone loss may negatively affect healing after certain dental procedures. You and your dentist will want to discuss options based on your medications.

CONTACT NUMBER, INITIAL VISIT, AND HELPFUL LINKS

Initial Visit

During your first visit, we will review your medical history, the history of your recent fracture, evaluate your risks for another fracture, and discuss treatment options.

Questions Your Doctor May Ask

- Have you had a bone density test before? If so, please let us know when it was done, and bring a copy for our records.
- Have you ever been told you have bone loss, osteoporosis, or osteopenia?
- Do you take calcium or vitamin D supplements?
- Have you had any other broken bones after age 50?

South Texas Fracture Prevention Clinic:
(210) 293-2926

PATIENT FINANCIAL SERVICES AND GUIDELINES

THESE SCANS WILL HELP...

Hospital and Doctor Bills

The services provided by the Fracture Prevention Clinic are considered a medical necessity by most insurance providers because of the risk of future fractures. Your insurance will likely cover these expenses. If you are uncertain, please contact your insurance provider to find out which services are covered.

Health Insurance

If you do receive a bill, be sure to forward it to your insurance provider to have that portion paid first. Some insurers provide 100 percent of coverage for these preventive services.

Patient Responsibility

Deductibles, coinsurance, copays, and other balances are due when you receive services.

X-Rays

An X-ray can help your doctor determine if you have had any fragility fractures of the spine.

Bone Density Scan

If the prior tests indicate probable loss of bone density, we will make arrangements for you to have a bone density scan if one has not been done in the past two years. This will help your doctor confirm a diagnosis of osteoporosis and document the severity of bone loss.

You will need to wear loose-fitting, comfortable clothing without metal fasteners or buttons, preferably clothing with an elastic waistband or drawstring. Sweats or exercise clothing is ideal. Bone density tests are noninvasive. This means no needles or instruments are placed through the skin or body. The test usually takes about 15 minutes and uses very little radiation. You are actually exposed to 10 to 15 times more radiation when you fly round trip between New York and San Francisco.

Similar to an MRI, you will lay on the DEXA table while the staff positions you for optimal alignment. A maximum of three scans will be taken to determine your bone health.

PHYSICAL EXAM, LAB WORK, AND BONE SCREENING

TO UNDERSTAND YOUR CURRENT BONE HEALTH, YOUR DOCTOR WILL USE A COMBINATION OF THE FOLLOWING METHODS:

Medical History

Your doctor will ask you questions in order to obtain a thorough and accurate medical history. In particular, you will be asked questions relating to any personal history of fracture, family history of fracture, and other risk factors for osteoporosis. It is important to let your doctor know the medications you have been taking during the last 10 years because some are known to increase an individual's risk for low bone mass and fractures.

Physical Examination

Your doctor will give you a limited physical exam with emphasis on the spine. Many fragility fractures go unnoticed by patients. Loss of height is sometimes an excellent marker for the presence of vertebral fragility fractures.

Laboratory Tests

Some lab tests are specific to bone health. We will check your medical records to see if any of these have been performed in the last six months. If so, we will not repeat the tests. If not, we will need to perform the lab work.

THERE ARE TWO CATEGORIES OF OSTEOPOROSIS MEDICATIONS.

Antiresorptive Medications: Slow Bone Loss

Antiresorptive medications include bisphosphonates, calcitonin, denosumab, estrogen, and estrogen agonists/antagonists. Because your bones are continually losing old tissue and replacing it with new tissue, these medications can help decrease the bone loss that occurs. The goal for patients is to slow bone loss and continue to make new bone at the same pace. These treatments can often help to prevent worsening bone loss and will reduce the risk of fracture.

For a more comprehensive list of medications, visit the Bone Health & Osteoporosis Foundation website.

Anabolic Medications: Increase the Rate of Bone Formation

Anabolic medications increase the rate of bone formation. They are in a distinct category of osteoporosis medications called anabolic drugs. Currently, teriparatide (FORTEO) and abaloparatide (TYMLOS) forms of parathyroid hormones remodel and rebuild bone. romosozumab (EVENITY), a sclerostin inhibitor, holds onto bone as well as grows bone. The goal of treatment with anabolic medication is to build a healthy "bone bank account" and reduce the risk of breaking bones.

PREVENTION

WITH OSTEOPOROSIS, THE BEST DEFENSE IS A STRONG OFFENSE: A HEALTHY DIET AND EXERCISE!

Diet and Nutrition

Nutrition and osteoporosis are closely linked. Two key nutrients in preventing osteoporosis are calcium and vitamin D. Calcium is a key building block for your bones, while vitamin D allows your bones to absorb the calcium.

Exercise

The amount of exercise your bones can handle will vary from person to person.

Check with your healthcare doctor before beginning any exercise regimen! Please read the attached "Moving Safely" guidelines from the Bone Health & Osteoporosis Foundation.

Follow-Up Visits

You will be scheduled for a follow-up about two weeks after your initial visit. At that time, your doctor will help evaluate your treatment and continue the planning process of care.

Helpful Links

Bone Health & Osteoporosis Foundation:
www.bonehealthandosteoporosis.org

National Bone Health Alliance:
www.nbha.org

SOUTH TEXAS
SPINAL CLINIC

FRACTURE PREVENTION CLINIC

Medical professionals strive to reach and maintain bone health to help prevent future fractures.

This booklet will be your guide to help you understand bone diseases, prevention, and procedures.

If you are concerned about your bone health or your doctor refers you, the South Texas Fracture Prevention Clinic will help determine your bone health with excellent care.

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www.SouthTexasFracturePreventionClinic.com
www.SpinalDoc.com

Modeled After Wake Forest University Fracture Liaison Service.