
OSTEOPOROSIS



Health Care Quality Units

Disclaimer

The information presented today is to increase your awareness of these physical and/or behavioral health conditions or situations. It is not intended to replace advice or instruction from your health care practitioner or your agency policy.

Objectives

Upon completion of this program, the participant will be able to:

- ❑ Define Osteoporosis.
- ❑ Identify risks for developing Osteoporosis and fractures.
- ❑ Recognize body changes related to Osteoporosis.
- ❑ List treatments and preventative measures for Osteoporosis.

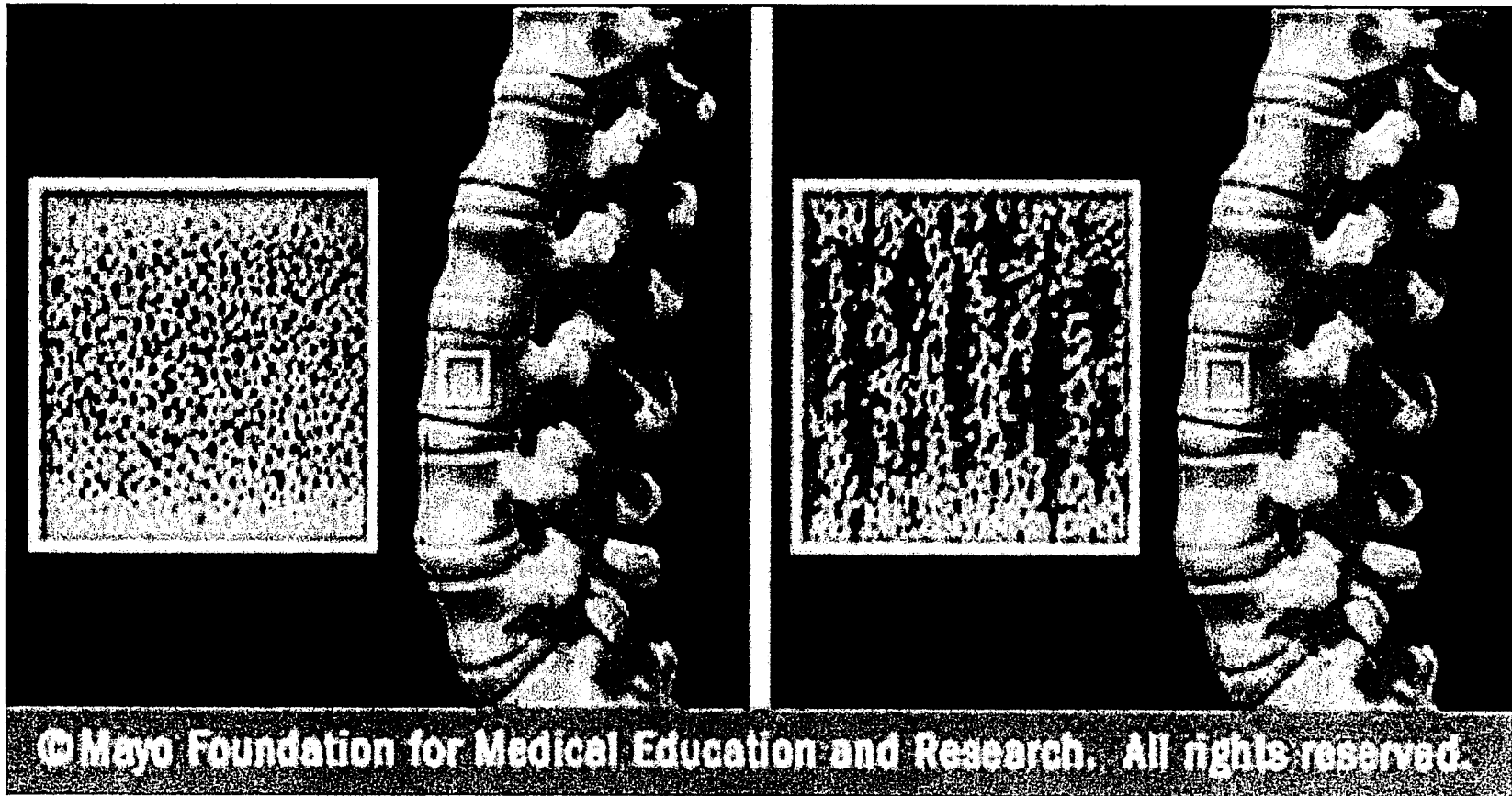
Definition of Osteoporosis

- A skeletal disorder characterized by compromised bone strength, predisposing a person to an increased risk of fractures.
- Bone strength primarily reflects the integration of bone density and bone quality.

Bone Remodeling

- A continuous process of skeletal breakdown and renewal that continues throughout life.
 - The renewal of bone is responsible for bone strength.
- Old bone is removed by cells in the body called osteoclasts, or resorption, and new bone is created by osteoblasts, or formation. In Osteoporosis this process is unbalanced and more old bone is removed than is replaced by new bone, resulting in weak, brittle bones.

Normal Bone/Osteoporotic Bone



Osteoporotic Fractures

- Osteoporosis is responsible for more than 1.5 million fractures annually, including:
 - 700,000 vertebral fractures
 - Over the age of 50, 1 in 5 women has at least one vertebral fracture.
 - 300,000 hip fractures.
 - 250,000 wrist fractures.
- 8 million women are estimated to have Osteoporosis.

Impact of Vertebral Fractures

- Loss of height
- Chronic and/or acute back pain
- Gastrointestinal and/or respiratory difficulties
- Depression/loss of self esteem
- Impact on activities of daily living

Osteoporosis Risk Factors

- Previous osteoporotic fracture
 - Five times greater risk of having another fracture within a year.
- Advanced age
- Caucasian or Asian descent
- Thin, small body build
- Family history of Osteoporosis
- Low intake of calcium and vitamin D

Osteoporosis Risk Factors (Continued)

- Postmenopausal women
- Lack of physical activity or exercise
- Smoking
- Excessive alcohol or caffeine intake
- Impaired eyesight (increases risk for falling)
- Gender
- High protein intake

Osteoporosis Risk Factors (Continued)

- Anticonvulsant therapy
- Diseases of the small intestine
- Chronic diarrhea
- Certain medical diagnoses (i.e., Rheumatoid Arthritis and respiratory diseases) that may require treatment with high doses of steroids over prolonged period of time.

Risk Factors To Develop Fractures

- Low bone mineral density
- History of fractures as an adult
- Tendency to fall
- Impaired vision
- Limited physical activity

Associated Body Changes

- Kyphosis – A curvature of the spine due to compression fractures of the vertebrae.



Associated Body Changes (Continued)

- Height loss
- Protruding abdomen
- Decreased lung capacity
- Reflux

Diagnosis

- Bone Density Test, or Dexa Scan
 - Non-invasive test that calculates a score for bone mineral content.
 - Compares bone mineral content score (T-score) to that of a normal 30 year old adult.

Prevention

- Exercise

- Being active can help with developing flexibility, strong muscles and balance.
- It can also decrease the risk of a fall.
- Weight-bearing exercises are known to strengthen bones.

Exercise (Continued)

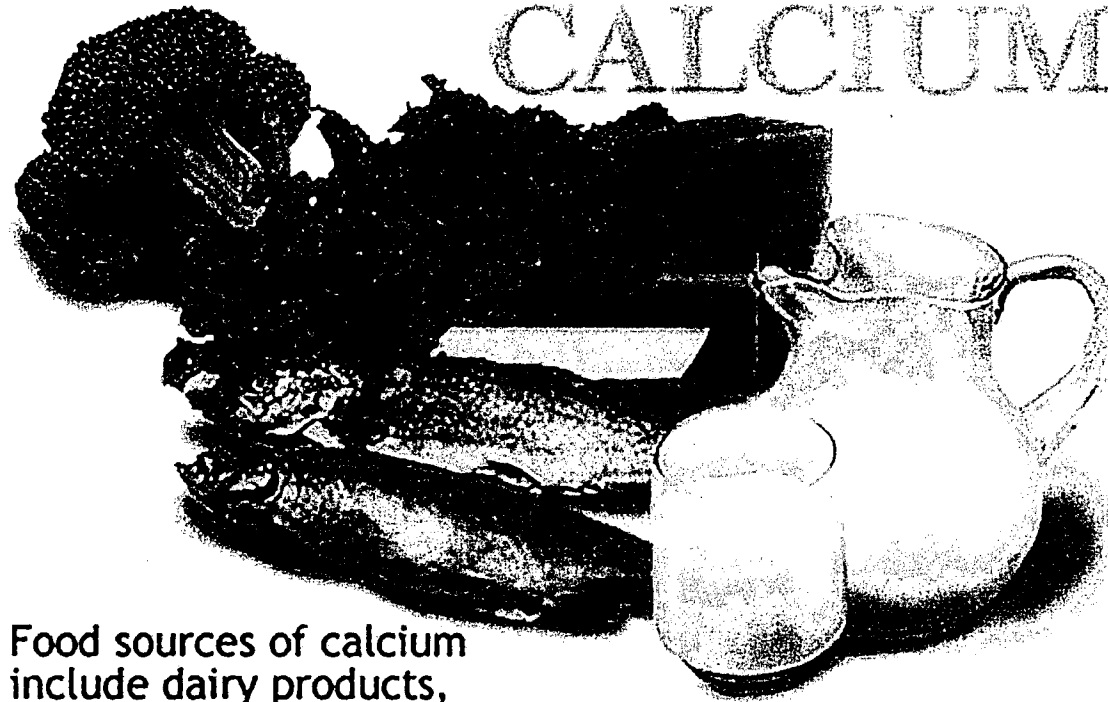
- Weight-bearing exercises are:
 - Walking
 - Dancing
 - Jogging

Prevention

- Hormone replacement
- Smoking cessation
- Medication
- Nutritional dietary intake with adequate amounts of calcium and vitamin D

Calcium Tips

minerals
CALCIUM



Food sources of calcium include dairy products, green leafy vegetables, and salmon, and sardines

 ADAM.

Calcium Tips (Continued)

- Two or more servings of calcium rich foods per day
- Use calcium fortified products (i.e., juices and cereals)
- Check for calcium content on food labels

Calcium and Vitamin D

- Women ages 11-24: 1200-1500 mg/day
- Women ages 25-50: 1000 mg/day
- Women 51 and older: 1200 mg/day
- Pregnant/Lactating: 1200-1500 mg/day
- Post-menopausal on HRT: 1200 mg/day
- Post-menopausal not on HRT: 1500 mg/day

Calcium and Vitamin D (Continued)

- Daily calcium recommendations include both dietary and supplement combined
- Vitamin D: 400 – 800 units/day

Calcium Rich Foods

- Dairy products (one quart of milk contains 1100mg of calcium).
- Lactose intolerance is not a reason to avoid dairy consumption
 - Use lactaid milk, tablets, yogurt and other lactose-hydrolyzed products
- Soybeans
- Tofu

Calcium Rich Foods (Continued)

- Seafood
 - Shellfish
 - Sardines
 - Oysters
 - Shrimp
- Dark green vegetables
 - Broccoli (6 cups of broccoli = 1 8-oz glass of milk)
 - Okra
 - Kale

Screening

- Good indicators for osteoporotic vertebral fracture screening are:
 - Height loss – 2 inches or more is a great indicator
 - Kyphosis (“S” curve of the spine)
 - Back pain

Treatment

- Calcium and vitamin D supplements
- Medications
 - Antiresorptive medications (i.e., Fosamax, Actonel or Boniva) slow bone loss.
 - Forteo is an injectable medication that stimulates bone metabolism.
 - HRT- Once the estrogen level drops in post-menopausal women, bone loss increases.

Fall Prevention Tips

- Adequate lighting, especially on stairs and at the bedside
- Keep objects off stairs
- Proper handrails on stairs
- Grab bars in bathroom for toilet and tub/shower
- Non-skid mats in tub/shower
- Use cane or walker if needed
- Wear proper shoes with non-skid soles

Fall Prevention Tips (Continued)

- Keep walkways clear of clutter.
- Keep a clear pathway in rooms.
- Keep electrical cords out of the way.
- Secure, or do not use, throw rugs.
- Use safety when needing to reach an object. Do not stand on an unsteady chair or stool.
- Wear glasses if needed.

Osteoporosis Research

- Research for prevention and treatment is ongoing.
- Gene that controls bone density has been identified.
- In the future, this can lead to bone building therapeutics.

Statistics

- Genetics accounts for 80% of variance in peak bone mass.
 - Responsible genes are largely those related to body size.
- In a sample of over 1,000 women surveyed:
 - 86% never spoke to their PCP about Osteoporosis.
 - 33% took steps to prevent, or slow, the onset.
 - 17% who have had a fracture due to Osteoporosis never fully recovered

How Risk Factors Affect Consumers

- Having a history of fractures, a tendency to fall or being accident prone.
- Have a low body weight, or are underweight, despite personalized diets and supplements.
- Visual impairment caused by various visual deficit diagnoses.
- Inadequate physical activity – many chairbound consumers are unable to participate in weight-bearing exercise.

Points To Remember

- Osteoporosis is NOT a normal part of aging.
- Extra care should be used when handling consumers with Osteoporosis.

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Questions

1. Osteoporosis is a skeletal disorder characterized by compromised bone strength, predisposing a person to an increased risk of fractures. True False
2. There are only about 200 women in the US that have a diagnosis of Osteoporosis. True False
3. Three risk factors for having Osteoporosis are: advanced age, thin, small body build and family history of Osteoporosis. True False
4. The Bone Density Test or Dexa Scan is a non-invasive test that calculates a score for bone mineral content. True False
5. Exercise is not a good prevention strategy for Osteoporosis. True False
6. Nutritional dietary intake with adequate amounts of calcium and vitamin D is a good way to prevent Osteoporosis. True False
7. Women ages 25-50 should have about 1000 mg/day of calcium and vitamin D. True False
8. Osteoporosis is a normal part of the aging process. True False
9. Consumers are at risk for Osteoporosis if they: have a history of fractures, have low body weight and receive inadequate physical activity. True False
10. Its important to consume two or more servings of calcium rich foods per day. True False

SUBMIT & GENERATE CERTIFICATE

