

HOW DENTAL PROFESSIONALS CAN HELP TO DETECT OSTEOPOROSIS?

Suggestions of possible association of osteoporosis and oral bone loss first appeared in 1960. Recent studies have shown that there is a correlation between skeletal mineral bone density and the density of the jawbone.

Even though, DEXA test remains most commonly used, recent studies suggested that incidental findings on dental panoramic radiographs may be used as a tool to detect patients with low bone mineral density.

Panoramic radiograph is one of the common types of radiographs used in dentistry. This type of radiographic image gives a broad overview of the entire mouth. Panoramic radiograph includes information about the teeth, upper and lower jawbone, sinuses, and other hard and soft tissues of the head and neck. Panorams are often prescribed by dentists to identify the location of impacted teeth and suspected tumors.

Various studies have demonstrated that individuals with osteoporosis have altered morphology of the mandible on panoramic radiographs. Several mandibular indices based on panoramic radiographs have been developed to allow determination of mandibular bone mass to discriminate individuals with osteoporosis from those without osteoporosis.

Even though, diagnostic accuracy of mandibular indices is still not perfect and the dental panoramic radiograph cannot be taken as osteoporosis screening tool alone, panoramic radiograph could be evaluated by dentists and dental hygienists for signs of bone loss.

Osteoporosis is a preventable disease. As technology develops, dentists and dental hygienists may become ideally situated to observe and monitor bone loss in their patients (regardless of age or gender), which may be a sign of bone loss in other parts of the body. Dental professionals should be encouraged to refer patients suspected of being at risk for osteoporosis—based on medical history, including risk factors, and results of clinical and x-ray examination—to their primary-care physician for a complete health assessment.

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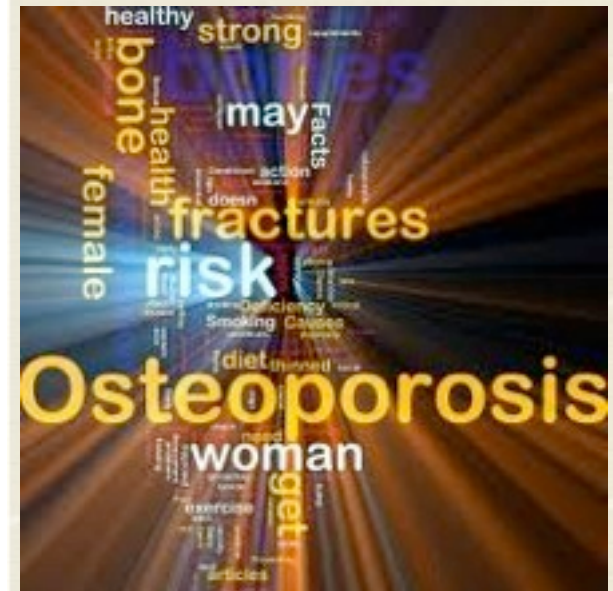
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DETECTING OSTEOPOROSIS ON DENTAL RADIOGRAPHS

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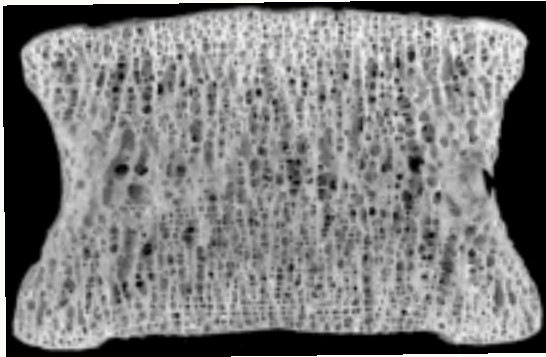
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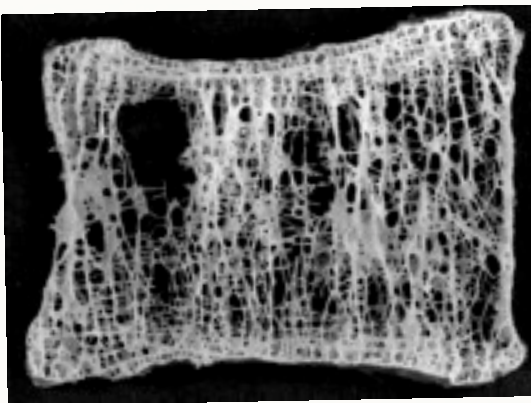
<http://whatcausesosteoporosis.net/>

Bone is a living, growing tissue. Bone is a rigid connective tissue that constitutes most of the mature skeleton.

Osteoporosis is a chronic disease characterized by low bone mass and a failure in structural integrity. With this loss of structural strength comes the increased likelihood of fracture, especially of the hips, spine, ribs, and wrists, though the entire skeleton is at risk.



Healthy bone



Osteoporotic bone

<http://mccormickdc.com/wp-content/uploads/03.jpg>
<http://mccormickdc.com/wp-content/uploads/04.jpg>

WHO IS AT RISK?

Osteoporosis affects more than 75 million people in the United States, Europe and Japan and causes more than 8.9 million fractures annually worldwide.

Women are more likely than men to develop osteoporosis. This is because women generally have smaller, thinner bones than men have and because women can lose bone tissue rapidly in the first 4 to 8 years after menopause because of the sharp decline in production of the hormone estrogen.



http://socialscielite.blogspot.com/2009_04_01_archive.html

Although, not everyone with low bone mass develop osteoporosis, everyone with low bone mass is at higher risk for the disease and the resulting fractures.

RISK FACTORS TO CONSIDER

- Age and Gender
- Family history
 - Lifestyle
- Medications
- Body type
- Age of menopause



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BONE DENSITY ASSESSMENT

Currently, DEXA bone density test of the hip and the spine is the most recognized. A DEXA scanner is a machine that produces two X-ray beams, each with different energy levels. One beam is high energy while the other is low energy. The amount of X-rays that pass through the bone is measured for each beam. This will vary depending on the thickness of the bone. Based on the difference between the two beams, the bone density can be measured.

<http://www.drhmri.com/Services/DEXA.aspx>

