



PATIENT FACT SHEET

Glucocorticoid-Induced Osteoporosis



CONDITION DESCRIPTION

Treatment with glucocorticoids for inflammatory arthritis or other health problems may weaken bones.

This can lead to osteoporosis. Treatment to protect bones can help prevent glucocorticoid-induced osteoporosis. Glucocorticoids are also called corticosteroids or steroids, and include prednisone [Deltasone, Orasone], prednisolone [Prelone], dexamethasone [Decadron, Hexadrol] and cortisone [Cortone]. They may be used to treat joint diseases like rheumatoid arthritis, lupus, myositis and polymyalgia

rheumatica. Glucocorticoids may have a negative effect on bone cells. New bone may form more slowly. These drugs may also affect calcium processing and sex hormones, which also increase bone loss. Glucocorticoid-induced osteoporosis increases fracture risk. Risk factors include older age, smoking cigarettes, heavy alcohol use, small bone structure, Asian or non-Hispanic white background, family history of osteoporosis or prior fracture due to low-level injury after age 50.



SIGNS/ SYMPTOMS

Weakened bones and increased fracture risk are the main signs of glucocorticoid-induced osteoporosis.

Spine and hip fractures are most common. Patients taking glucocorticoids have a rapid loss of bone, even within the first six months of steroid treatment, and have a much higher rate of bone fractures. Osteoporotic fractures may lead to chronic pain, long-term disability and even death. Osteoporosis can be detected by bone mineral density [BMD]; dual-energy X-ray absorptiometry [DXA] is a quick, painless test to measure BMD. Pregnant women should not have DXA, as it could harm the fetus. DXA testing provides

a T-score. People with a T-score between -1.0 and -2.5 have osteopenia, or mild BMD loss. Those with a T-score of -2.5 or lower have osteoporosis. People taking glucocorticoids have an increased fracture risk at higher bone density levels than would be expected. Risk factors for glucocorticoid-induced osteoporosis that might be treatable include low levels of sex hormones like estrogen, anorexia nervosa, smoking, alcohol abuse, low calcium and vitamin D, and sedentary lifestyles. Some medications, such as blood thinners, may also increase osteoporosis risk.



COMMON TREATMENTS

Treatment of glucocorticoid-induced osteoporosis includes getting enough calcium and vitamin D.

Patients should take at least 1,200 mg of calcium and 800-1,000 international units [IU] of vitamin D daily through supplements. Blood testing can determine if patients need more vitamin D. Prescription medications approved to prevent or treat glucocorticoid-induced osteoporosis include

bisphosphonates, such as alendronate [Fosamax], risedronate [Actonel] and zoledronic acid [Reclast]. Teriparatide [Forteo] is also an approved treatment. Patients should work with their doctors to take the lowest dose of glucocorticoids necessary for any condition, and take calcium and vitamin D supplements as soon as they start these medications.



CARE/ MANAGEMENT TIPS

People taking glucocorticoids of more than 2.5 mg per day for three months are at higher risk for developing osteoporosis.

Steps to help prevent osteoporosis include weight-bearing physical activity [such as walking on most days], quitting smoking, planning strategies to prevent falls that could cause a fracture, and early DXA testing to diagnose osteopenia or osteoporosis.

A rheumatologist can use a tool called FRAX to estimate fracture risk in patients with glucocorticoid-induced osteoporosis and suggest treatment. Patients at higher fracture risk may take steps to modify activities to prevent slips or falls. Physical therapy may be helpful. A patient's main goal for management is to prevent fractures.

Updated March 2019 by Marcy Bolster, MD, and reviewed by the American College of Rheumatology Committee on Communications and Marketing. This information is provided for general education only. Individuals should consult a qualified health care provider for professional medical advice, diagnosis and treatment of a medical or health condition.