### Glucocorticoid-Induced Osteoporosis

**Treatment**

- **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.

### Common Treatments

- **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.

- **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.