1st Edition 11/20

Glucocorticoids and Bone Health

Protecting Bone Health

Bone health is an important part of your general health. When the structure of bone becomes weaker and less dense there is an increased risk of breaking. This is osteoporosis. It can lead to a higher risk of a bone breaking from a minor incident (such as a bump, fall or trip). Early diagnosis and management of osteoporosis can help protect bone health and reduce the risk of breaking a bone.

Glucocorticoids and Bone Health

Glucocorticoids (sometimes called corticosteroids, steroids or cortisone) reduce inflammation and are prescribed to treat many medical conditions, including asthma and arthritis. Glucocorticoids are effective treatments and the most commonly prescribed are prednisolone and dexamethasone.

However this medication can also have an impact on bone health and lead to an increased risk of osteoporosis. Therefore it is important to protect your bone health while taking glucocorticoids.

Glucocorticoids and their effect on bones

Bone is living tissue – older bone is constantly removed by bone resorbing cells and is replaced with new bone made by bone forming cells. This process keeps the skeleton strong. Glucocorticoids can slow down cells that form new bone and result in the bones gradually losing some strength and can be prone to fracture. Glucocorticoids may also interfere with the absorption of calcium in the intestine and the way that the kidneys manage calcium. Hormone levels may also be reduced and impact other factors that are important for maintaining bone health, such as vitamin D.

Do all glucocorticoids affect bones?

This depends on how the medication is prescribed in terms of dose, how often, and how long.

- Glucocorticoids injections may affect the bones if the injections are frequent. Injections given directly into the joint to treat arthritis do not significantly effect bones.
- Dose – taking glucocorticoids at higher doses (7.5mg or more per day) for at least three months lead to a higher risk of osteoporosis and fracture.
- Intermittent high doses (tablets) taken for short periods (less than three months) or lower doses (2.5mg –7.5mg daily) may increase the risk of fracture in some people.
- Glucocorticoid tablets are usually at a higher dose than in asthma 'puffers' or in skin creams, and are therefore more likely to affect the bones. However, using an asthma puffer frequently over a long period can also increase the risk of osteoporosis.

Will I need to take drugs to protect my bones while I'm taking glucocorticoids?

If you are taking glucocorticoids, for at least three months, your doctor may recommend a treatment to protect your bones. Your doctor may refer you for a bone density scan and review your bone strength before deciding whether a treatment is needed to prevent osteoporosis.

Glucocorticoids and Bone Health cont.

Other Common Risk Factors

Review other common risk factors for osteoporosis. If any risk factors apply to you – discuss these with your doctor.

Personal History	Medical Conditions	Medications
Previous fracture (from minor bump or fall)	Coeliac disease	Certain treatment for breast cancer
Family history of osteoporosis (parent/sibling)	Overactive thyroid or parathyroid	Certain treatment for prostate cancer
Loss of height (3 cm or more)	Rheumatoid arthritis	Anti-epilepsy treatment
Smoking/Excessive alcohol	Early menopause/Low testosterone	
Inadequate calcium, vitamin D or lack of exercise	Chronic kidney disease or liver disease	
Age 70 years and over	Diabetes	

Calcium. Vitamin D. Exercise

Take simple steps to help support your bone health.

Focus On	Recommended
Calcium	• 1,000 mg per day from the diet • Increasing to 1,300 mg for women over 50 years and men over 70 years • If dietary intake is low a supplement may be required
Vitamin D	• Limited sun exposure – in summer a few minutes per day, in winter slightly longer • Avoid UV index above 3 • If vitamin D deficiency is confirmed by your doctor a supplement may be required
Exercise	• Specific mix of weight bearing, resistance training and balance exercises

For more information on corticosteroids please visit the **National Prescribing Service** (PBS) www.nps.org.au