Factsheet Bone problems and HIV

Key points

- When your bones are thinner, a trip or fall can result in a broken bone.
- Exercise and other lifestyle changes are good for your bones.
- People aged 50+ and women who have had the menopause should have their bone health checked regularly.

Bone is living tissue with new bone constantly replacing old bone throughout your life. However, if the creation of new bone doesn't keep up with the removal of old bone, your bones become less dense and lose some of their strength. Following a minor trip or fall, the bones may be more likely to break.

It is normal for the process of bone creation to slow down as you get older, making bone problems more common in older people. Bone problems are especially common for women who have gone through the menopause. People living with HIV may experience these problems as they get older.

Osteoporosis is the medical term for this condition. It means that the bones are less dense, have lost some of their strength and there is a greater risk of a fracture (a broken bone).

You might be told that you have low bone mineral density or osteopenia. This means that (some of) your bones are less dense than is normal for your age. It doesn't necessarily mean that you will develop osteoporosis or have a fracture. But it's a warning sign that you can make lifestyle changes to reduce the risk of problems occurring.

Your lifestyle and bone problems

Changes to your lifestyle can reduce your risk of osteoporosis.

Exercise regularly. Any weight-bearing exercise and activities that promote balance and good posture are beneficial for your bones, but walking, running, jumping, dancing and weightlifting are particularly helpful.

Don't smoke.

Drink less alcohol. Consuming more than two alcoholic drinks a day is associated with lower bone density. In addition, being under the influence of alcohol can also increase your risk of falling.

Include calcium in your diet. Good sources of calcium include dairy products, dark green leafy vegetables, soya products, nuts, bread, and fish where you eat the bones (such as sardines and pilchards). You can use this online tool to find out if you have enough calcium in your diet.

Make sure you get enough vitamin D. Most people get their vitamin D from the action of summer sunshine on their skin. If you have dark skin, don't get outside often, or usually cover yourself up, you may want to get advice from your doctor about taking a daily vitamin D supplement. Oily fish (like sardines and mackerel) and cod liver oil are also good sources of vitamin D.

If you have low bone mineral density or osteoporosis, the same lifestyle changes can help prevent the problem getting worse. Your doctor can give you advice on physical exercise that is safe for you. Exercises to improve your balance and build muscle strength will help to prevent falls.

There are other measures you can take to prevent falls. Wear low-heeled shoes with nonslip soles and check your house for electrical cords, rugs and slippery surfaces that might cause you to trip or fall. Have your eyes checked regularly, keep rooms brightly lit, install grab bars just inside and outside your shower door, and make sure you can get into and out of your bed easily. Your healthcare team can give you advice on preventing falls.

Who is at risk?

Osteoporosis can happen to anyone, but you are at increased risk as you get older. This is the same for people living with HIV as for other people.

Women are more likely to develop osteoporosis than men, especially after the menopause. Hormonal imbalances (such as too little oestrogen, too little testosterone or too much thyroxine) raise the risk of osteoporosis.

People who have a sedentary lifestyle, have a poor diet, who drink excess alcohol or who smoke are at greater risk. There's information on ways you can reduce your risk in the previous section.

Having a parent or sibling with osteoporosis puts you at greater risk, especially if one of your

parents has had a fractured hip. High doses of some medications can also contribute to bone loss. These include corticosteroids like prednisolone and hydrocortisone.

Breaking a bone after a simple fall from a standing height may be a warning sign that bones have lost strength. It's important to get your bone health checked if this occurs.

Bone problems in people living with HIV

Rates of osteopenia and osteoporosis are higher in people living with HIV than in the general population. It's possible that HIV itself or the body's response to HIV may contribute to bone problems. In addition, many people living with HIV smoke, drink, don't get enough exercise or have other risk factors for bone problems.

> *"Any weight-bearing exercise and activities that promote balance and good posture are beneficial for your bones, but walking, running, jumping, dancing and weightlifting are particularly helpful."*

In addition, some anti-HIV medications can have an impact on the bones, especially in the first year of treatment. Changing your HIV treatment is usually only recommended if you have other risk factors for bone problems. There's more information on this below, in the section on 'treatment and management'.

Symptoms

There is usually no warning that you have osteoporosis. It is usually only diagnosed when a bone is fractured after a minor fall. But osteoporosis can cause tiny fractures in the vertebrae of your spine – these can cause back pain, a loss of height over time, and a hunched forward posture.

Diagnosis and monitoring

Guidelines from the British HIV Association recommend that, in people living with HIV, everyone over the age of 50 and all women who have gone through the menopause should be assessed every three years for their risk of having a fracture. This involves taking information on your age, weight, lifestyle and medical history.

If this assessment suggests that you are at increased risk, your bone density should be measured by a machine that uses low levels of X-rays to determine the proportion of mineral in your bones. During this painless test, you lie on a padded table as a scanner passes over your body.

Usually the bones in your hip and spine are checked.

Treatment and management

For people who have an increased risk of fracture, the lifestyle changes described earlier in the factsheet are recommended. You may be advised to take calcium and vitamin D supplements.

Additionally, you may be prescribed osteoporosis medications called bisphosphonates. They include alendronic acid *(Fosamax)* tablets, taken either daily or weekly. Another medication is zoledronic acid *(Aclasta),* an intravenous infusion (drip) usually given once a year.

If you have been diagnosed with osteoporosis, you should talk with your doctor about whether your bone health could be improved by changing your anti-HIV drugs. There is a link between the anti-HIV drug tenofovir disoproxil fumarate (*Viread*, also in the combination pills *Truvada, Atripla*, *Eviplera* and *Stribild*) and small losses of bone density, usually during the first year of taking the drug. Protease inhibitors, boosted with ritonavir, may also raise the risk.

If you are a woman experiencing symptoms of the menopause, an additional benefit of hormone replacement therapy (HRT) is that it lowers the risk of fractures while you are taking HRT.

The medical speciality which deals with our bones and joints is called rheumatology. It's best for the doctors treating your bone health and your HIV to liaise about your healthcare. (In order for this to happen, you need to give your permission.) You can also ask your doctors and pharmacists to check that there are not any drug-drug interactions between the different medicines you are taking.

Other sources of information

For more information, you may find the website of the UK's National Osteoporosis Society helpful: www.nos.org.uk. You can also contact their helpline team on 0808 800 0035.

Find out more

Nutrition Information booklet

Eight ways to look after your health Basic leaflet with pictures

Menopause and HIV Simple factsheet

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