



What is osteoporosis?

Osteoporosis occurs when the struts which make up the mesh-like structure within bones become thin causing them to become fragile and break easily, often following a minor bump or fall. These broken bones are often referred to as 'fragility fractures'. The terms 'fracture' and 'broken bone' mean the same thing. Although fractures can occur in different parts of the body, the wrists, hips and spine are most commonly affected. It is these broken bones or fractures which can lead to the pain associated with osteoporosis. Spinal fractures can also cause loss of height and curvature of the spine.

What is parathyroid hormone?

Parathyroid hormone is naturally produced by the body to help with the regulation of calcium. It is used to reduce the risk of broken bones in people with osteoporosis. It is given as a daily subcutaneous injection (a small injection under the skin).

Why do I need a drug treatment for osteoporosis and how does parathyroid hormone treatment work?

Drug treatments are prescribed if you have osteoporosis and are at a high risk of broken bones. These treatments help strengthen your bones and reduce your risk of having fractures. They do not help the pain that occurs when bones break.

Bone is constantly being broken down (resorption) and rebuilt (formation) by specialist bone cells. Osteoporosis occurs when this process becomes out of balance and more bone is broken down than is rebuilt. Parathyroid hormone treatment acts to increase bone formation and thereby helps strengthen bone and reduce the risk of broken bones.

Is my doctor likely to offer me parathyroid hormone treatment?

If you have had several vertebral compression fractures and are at risk of further broken bones your doctor may offer you parathyroid hormone treatment especially if you

have already tried other drug treatments. The treatment will initially be prescribed by hospital consultants with nursing support in the community because this treatment must be given by injection. Parathyroid hormone treatment is more expensive than other treatments. Decisions regarding who may be suitable for this treatment may be affected by local, national and National Institute for Health and Care Excellence (NICE) guidelines.

Which products contain parathyroid hormone?

Teriparatide (Forsteo)	
Dose	20 micrograms subcutaneous injection (under the skin) given daily for a maximum of 24 months
Licensing details	F M GIOP S

Key
F = Post-menopausal women, **M** = Men
S = shown to reduce the risk of broken bones in the spine
H = shown to reduce the risk of a broken hip
GIOP = shown to reduce the risk of broken bones in people who have osteoporosis caused by glucocorticoid ("steroid") medication.
A licensed drug has been checked for safety and effectiveness and can be prescribed by a doctor for a specific condition. Sometimes an unlicensed drug will be given at the discretion of your doctor eg those licenced specifically for women may be prescribed for men.

How can I get the most out of my drug treatment?

1. Be informed

Find out about your drug treatment so that you can be involved in decisions being made and you will know what to expect. Talk to your doctor and/or contact the Helpline at the National Osteoporosis Society if you have any questions or concerns. Ask your doctor for a copy of the Patient Information Leaflet which describes how the drug is given and the possible side effects. It is important that you gather as much information as possible and discuss any worries you may have prior to having the first injection.

2. Make sure you take (and store) the treatment correctly

Following the instructions for storing and giving yourself your parathyroid hormone treatment will ensure that it will have the most benefit for your bones. Parathyroid hormone treatment is a subcutaneous injection which you give to yourself on a daily basis, preferably at the same time each day. You may be prescribed one pen/ cartridge at a time or in multiple packs (this may depend on availability in your area).

The product prescribed is called teriparatide (Forsteo) and is supplied in a pre-filled syringe pen, similar to a diabetic injection pen with a very fine needle. This pen should last for 28 days.

If you are prescribed this treatment, a healthcare professional such as a nurse will instruct you or your carer on how to use the injection pen. You will also be given a telephone number you can call to get support and information on issues such as giving yourself the injection and storing your medicine. Teriparatide needs to be stored in a refrigerator when not in use and a new needle is required for each injection. A special travel bag with compartments for frozen gel packs can be obtained by calling the support number. This bag enables you to keep your medication out of the fridge for up to 36 hours.

3. Continue to take your treatment regularly for the correct length of time

Parathyroid hormone treatment is prescribed typically over a 2 year period so it is important that you are happy with the treatment. Although it is important that you take the treatment as instructed, missing the odd injection will probably not have an impact on your bone health in the long run but you should avoid this if you can. After completing a course of treatment with parathyroid hormone your doctor will discuss with you what treatment to switch you to for your osteoporosis. Your doctor will be able to advise you on what is best for you based on your individual circumstances.

4. Make sure parathyroid hormone treatment is for you

If you have one of the following, parathyroid hormone treatment may not be appropriate for you and you will need to discuss alternatives with your doctor: It should not be used if:

- You have had a previous allergic reaction to parathyroid hormone treatment.
- You have high blood calcium levels known as hypercalcaemia.
- You have severe kidney or liver problems..

- You have another bone disease, e.g. Paget's disease
- You have had radiation therapy to the skeleton.
- You are pregnant or breast feeding (although only licensed for post-menopausal use, occasionally it may be prescribed by specialists for younger women).

5. Lead a healthy lifestyle to keep your bones strong

Factors that can help to maintain healthy bones are a well-balanced diet with adequate calcium rich foods, safe exposure to sunlight to obtain vitamin D, regular weight bearing exercise, avoiding smoking and keeping alcohol consumption within the recommended limits. If you have been diagnosed with osteoporosis and are taking a drug treatment, you may need to boost your calcium intake up to around 1000mg a day. Your doctor can prescribe supplements of calcium and/or vitamin D if you need them.

6. Understand the risk of side effects and what can be done to reduce them

As with any drug, there are potential side effects with parathyroid hormone treatment. It is important to remember that:

- most people will not experience side effects or if they do, they are short lived.
- Not all the symptoms you may read about online or see listed on the patient information leaflet are necessarily caused by the drug. Symptoms that have been reported by patients taking part in the research trials may be included as possible side effects even if they were seen in as many people who took the placebo (dummy treatment) as those taking parathyroid hormone. So, some common conditions will often be reported in this way and people may think they are due to their treatment. We can only be sure that such symptoms are likely to be caused by parathyroid hormone if they were seen in more patients treated with parathyroid hormone than with placebo. The symptoms overleaf are those that can be thought of as "true side effects".

If you are taking medications for other conditions it is important to establish that it is not these that are causing your side effects. Talk to your doctor who may be able to suggest ways of investigating this further.

If you experience these or any other symptoms which you think may be due to this medicine, speak with your doctor or pharmacist about other treatment options.

As more research findings become available more symptoms may be found to be "true side effects" so information could change in the future.

Potential side effects	How common was it?	What can I do to reduce side effects or the risk of them occurring?
Arthralgia (joint pain)	10 in 100 in the treatment group compared to 8 in 100 in placebo group.	These may be an initial response that improve as your body adjusts to the medicine.
Headache	8 in 100 in the treatment group compared to 7 in 100 in the placebo group	Sometimes changing the time you have it e.g. moving it from morning to evening may help.
Dizziness	8 in 100 in the treatment group compared to 5 in 100 in the placebo group	Occasionally these may be longer lasting in which case speak to your doctor about other treatment options.
Depression	4 in 100 in the treatment group 3 in 100 in the placebo group	

The **National Osteoporosis Society** is the only UK-wide charity dedicated to improving the prevention, diagnosis and treatment of osteoporosis and fragility fractures. The Charity receives no Government funding and relies on the generosity of individuals to carry out its vital work.

For osteoporosis information and support contact our Helpline:

 **0808 800 0035**

 **nurses@nos.org.uk**

To become a member or make a donation:

 **01761 473 287**

 **join online at www.nos.org.uk**

To order an information pack or other publications:

 **01761 471 771**

 **info@nos.org.uk**

or download from our website at www.nos.org.uk

For further information on drug treatments for osteoporosis, such as how to decide which drug to take, see our booklet *All about Osteoporosis*. Fact sheets are available on each osteoporosis drug.

This fact sheet is one of a range of publications produced by The National Osteoporosis Society. If you would like more general information about osteoporosis see our booklet *All about Osteoporosis*.

This information reflects current evidence and best practice but is not intended to replace the medical advice provided by your own doctor or other health professional.