



Drug treatments for osteoporosis: Teriparatide

Teriparatide (also known as parathyroid hormone treatment) is a drug treatment for osteoporosis. It can help to strengthen bones, making them less likely to break. It's available as a daily injection, which you give yourself just under the skin.

You may be offered teriparatide if you have had many spinal fractures and are at a high risk of breaking another bone. This will usually be after you've tried a more common drug treatment, or if other treatments aren't suitable for you.

Who is this fact sheet for?

This information may be helpful if you (or someone close to you):

- have osteoporosis or a high risk of fractures (broken bones), and want to know how teriparatide can help
- want to understand the advantages and disadvantages of teriparatide, including the possible side effects.

It includes the following information:

- What is teriparatide?
- Why do I need a drug treatment?
- What does teriparatide do and how does it work?
- Who can have teriparatide?
- How is teriparatide given?
- How will my treatment be monitored?
- What are the possible side effects?
- Making a decision about treatment
- More ways to look after your bones
- Getting more information and support

What is osteoporosis?

Osteoporosis is a condition where the bones become weaker and break easily, even after a minor bump or fall. You might hear these breaks described as fragility fractures. The terms 'fracture' and 'broken bone' mean the same thing.

Fractures can affect almost any bone, but they are most common in the wrists, hips and spine. It's these broken bones that can cause pain, rather than osteoporosis itself. Spinal fractures can also cause height loss and a curved spine.

What is teriparatide?

Teriparatide is a drug treatment for osteoporosis. It is sometimes known as parathyroid hormone treatment or by the brand names Forsteo®, Movymia®, Terrosa® and Teriparatide Teva®. Teriparatide is a type of medication called an anabolic agent.

Why do I need a drug treatment?

Doctors follow guidelines when deciding whether to offer treatments. If your doctor has recommended teriparatide, this means your risk of breaking a bone is high enough to need a drug treatment.

Teriparatide can help to strengthen and protect your bones, making you less likely to break a bone in the future.

It's your choice whether to have teriparatide or not. There's information on page 5 to help you decide.

What does teriparatide do and how does it work?

Teriparatide can help make your bones stronger and reduce your risk of broken bones, especially spinal fractures.

Bones are made up of living tissue. The inside of our bones is constantly being broken down and rebuilt by specialist bone cells. As long as this process is in balance, your bones should stay healthy and strong.

But if the process becomes out of balance, our bodies can start to break down more bone than we build. This can cause the bones to become weaker and more likely to break easily.

Teriparatide can help restore the balance and make your bones stronger. It contains a hormone called parathyroid. Parathyroid hormone is made by the body to help control calcium levels in the blood. Teriparatide acts like or 'mimics' parathyroid hormone inside your bones. It works by stimulating the cells that build bone. This is different to how other osteoporosis drug treatments work.

You may still break a bone while taking teriparatide. If this happens, it doesn't necessarily mean the drug isn't working. No medication can stop all fractures, but taking teriparatide will make them much less likely.

Teriparatide isn't a pain-relieving medicine, so it won't reduce the pain caused by broken bones. But there are other treatments and ways to manage pain. There's information about these on our website at theros.org.uk/pain

Who can have teriparatide?

Teriparatide may be suitable if you have osteoporosis. You might be offered it as a first treatment if you have had many spinal fractures or are at a high risk of breaking another bone. This will usually be after you've already tried a different drug treatment for your bones, or if other drugs aren't suitable for you.

It is licensed for use in women who have been through the menopause, and for men. Doctors will occasionally offer it to younger women.

You will be prescribed teriparatide by a specialist at a hospital.

When is teriparatide not suitable?

Teriparatide may not be suitable if you:

- have ever had an allergic reaction to teriparatide
- have a high blood calcium level (hypercalcaemia)
- have severe liver or kidney problems
- have another bone disease, such as Paget's disease
- have had radiotherapy to your bones
- are pregnant or breast-feeding.

How is teriparatide given?

Teriparatide involves giving yourself an injection, just under the skin, every day.

You'll be given instructions and shown how to give yourself the injections. If you can't do them yourself, a family member or carer can do them for you. Make sure you know who to contact if you have any problems.

You can have the injection in your stomach area (abdomen) or your thigh. You can also have the injection in the outer area of your upper arm, but only if someone else does this for you.

The injections look like a diabetic injection pen and the needle is very small. They will have already been filled with the dose of the drug you need when you get them. This type of pen should last for 28 days.

Make sure to check the instructions before you take your injection. You'll need to use a new needle for each injection. In your prescription, you may get one injection at a time or multiple packs. This may depend on the availability in your area or on the product you've been prescribed.

After you've used a needle, it should be disposed of correctly and safely. You should have a small, plastic bin with a lockable lid. If you haven't got one, ask your doctor or pharmacist for a prescription for a special sharps bin.

Take your medication regularly

Teriparatide is prescribed for a maximum of two years.

It's important to try to have your injection at the same time, every day. But if you forget, take your injection as soon as you remember that same day.

If you miss the odd injection, this shouldn't affect your bone health in the long term. But try to avoid this if you can. If you often forget to take your medication, talk to your doctor.

How to store your medication correctly

Teriparatide needs to be stored in a fridge. How long your medication can be out of the fridge depends on the brand. Always check the patient information leaflet that comes with your treatment for specific information.

You'll need to use a travel bag designed to keep medication cool if you're travelling a long distance or in hot weather. It may be helpful to use cool gel packs. This will help to keep your medication at the right temperature until you have access to a fridge.

You may be able to buy a special travel bag online. You could also ask your doctor or pharmacist if the company who makes your medication provides travel bags.

How will my treatment be monitored?

You will not need regular appointments while you're taking teriparatide. Your doctor probably won't need to see you again until your treatment finishes, unless you ask for an appointment to discuss your medication or general bone health.

Do speak to a doctor or pharmacist if you have any problems with your treatment. They may be able to suggest ways to help manage any side effects (see below). You should also contact them if you're struggling to take your injections.

If you break a bone while having teriparatide, speak to your GP. Breaking a bone doesn't necessarily mean your treatment isn't working. But it may be a good idea to have a bone health assessment.

After about two years on teriparatide, you should have a formal treatment review. Ask your doctor when this should happen if you're unsure.

You may have a bone density scan as part of your review, which will give your doctor some information about your bone strength. But they will need to consider other things as well, such as whether you've broken any bones since starting on teriparatide.

While there's no way to prove for certain that your treatment is working, research has shown that teriparatide does lower the risk of broken bones, particularly in your spine.

After your review, it's likely your doctor will advise you to start a different drug treatment.

Your doctor can advise you on what's best for you, based on your own situation.

What are the possible side effects?

As with any drug, teriparatide can sometimes cause side effects. The most common side effects are listed on page 4.

It is important to remember that in general, side effects are less common than many people think. Most people on teriparatide don't have any problems. Even if you do get side effects at first, they usually improve quickly and there are ways to manage them.

For a full list of possible side effects, look at the patient information leaflet that comes with your treatment. If you don't have a copy, ask your doctor or pharmacist for one.

It's important to understand that many of these problems aren't caused by the drug. When a medicine is first tested, the people taking it have to report anything unusual to the researchers. The problems they report are often just as common in people who aren't taking the drug.

The problems listed on page 4 are the main side effects that were seen more often in people taking teriparatide, rather than a dummy drug.

If you do get side effects that don't go away, it may help to:

- make sure the problem isn't caused by something else, including any other medication you're taking
- tell your doctor or pharmacist, who may be able to help find out what is causing the problem
- ask your doctor or pharmacist about other treatments that may suit you better.

Possible side effects of teriparatide:

The following table has information on the main side effects and how common they are. For example, less than 1 person in every 10 people who take teriparatide will get symptoms of low mood. The other 9 in every 10 people who take the drug will not have this problem.

Side effect	How common is it?
Feeling faint or dizzy	Less than 1 in 10
Headache	Less than 1 in 10
Low mood (depression)	Less than 1 in 10

What can I do about the side effects?

Some side effects may improve as your body gets used to the medicine. Sometimes changing the time you have your medication can help. For example, moving it from morning to evening.

Making a decision about treatment

Some people worry about starting a new drug treatment and find it hard to make a decision. You might be concerned about possible side effects, or wonder if you really need treatment. Or you might not like taking medication in general.

It's important to learn all you can about your treatment options, so you can decide what's right for you. Talk to your doctor so that you fully understand your situation. Make sure you read – and understand – any information they give you, as well as the leaflet that comes with the treatment.

No-one can make you have a drug treatment if you don't want it. But do take the time to understand the benefits and possible risks – both of taking teriparatide, and of not taking teriparatide.

Take care when visiting online forums or chat groups on social media. Reading about people's experiences can be helpful. But you may not always see a balance of views online. People are more likely to seek support for bad experiences than good ones. This can make it seem that everyone has problems with drug treatments. In reality, most people have no side effects at all.

If you do feel worried, before or during your treatment, talk to your doctor or pharmacist, or contact our specialist Helpline nurses.

Why have I been offered teriparatide?

If you've been offered teriparatide, this means your risk of breaking a bone is high enough that your bones would benefit from a drug treatment. For you, the benefits of taking this drug are likely to outweigh any possible risks. In other words, your risk of health problems if you do have treatment is smaller than your risk of breaking a bone if you don't have treatment.

Your doctor will have considered lots of things before recommending teriparatide, including:

- how likely you are to break a bone without treatment
- whether injections are suitable for you
- any other health problems you have
- any other medications you take
- the treatments available at your local hospital or GP surgery
- your own thoughts and feelings about treatment.

Teriparatide may be better than other osteoporosis drug treatments at strengthening bones and reducing the risk of fractures in some people. This is because it works in a different way (see page 2). It might be a good option for people who have very weak bones and have had spinal fractures.

Teriparatide is one of the more expensive osteoporosis drug treatments for the NHS. There are other treatments that work well, which most people are offered. Your specialist will discuss what is the best option for you.

If you have any questions about the treatment you've been offered, speak to your doctor. They can explain why they've recommended teriparatide and tell you about any other treatments that might be suitable.

Think about the advantages and disadvantages

As with any treatment, there are advantages and disadvantages to taking teriparatide. You should think about these when deciding to have teriparatide, and about what's important to you.

Here are some of the main things to consider.

Advantages

- It can help to reduce your risk of broken bones, including in your spine.
- It's given as an injection, which is helpful if tablets are a problem for you.
- Side effects are usually mild and improve after a few weeks of treatment.

Disadvantages

- As with all medications, some people get side effects (see page 4).
- Some people don't like the idea of injections.
- You'll have to give yourself an injection, at about the same time every day.
- You'll need to keep the drug cool when travelling (see page 3).

What will happen if I don't have a drug treatment?

If you decide not to take a drug treatment, it is likely that your bones will get weaker over time. This means your chance of breaking a bone will increase.

Some people may never break any bones, while others may break several. Everyone's risk is different, so it's important to understand your own situation and make the decision that's right for you.

Is there a natural alternative to medication?

People often want to know if they can improve their bone strength without taking a drug treatment. The lifestyle changes listed below are all important for your bones. But if you have a high risk of broken bones, there isn't good evidence that any non-drug approaches will improve your bone strength enough to reduce the chance of breaking a bone.

More ways to look after your bones

As well as having a drug treatment, a healthy lifestyle is important for your bone health. This includes:

- a well-balanced, varied and calcium-rich diet
- safe exposure to sunlight, so that your skin makes vitamin D
- regular weight-bearing impact exercise and muscle-strengthening exercise
- not smoking
- not drinking more than the recommended levels of alcohol
- taking steps to lower your risk of falling, as falls can lead to broken bones.

Calcium and vitamin D

Getting enough calcium and vitamin D is very important for your bones.

While you're having a drug treatment, your doctor may advise you to:

- aim to consume around 1,000mg of calcium a day
- take a daily 20 microgram (20µg or 800 IU) supplement of vitamin D.

This is more than the usual recommended amount, to make sure you are getting enough for your bones. Your doctor may sometimes recommend higher or lower doses, depending on your own situation.

For more information on healthy living, including our calcium and vitamin-D rich food choosers, tips for preventing falls, and our films and fact sheets on how to exercise safely for your bones, visit our website at theros.org.uk/healthy-bones

Getting more information and support

We hope this fact sheet will help you feel more informed and confident when discussing your bone health with your medical team.

For more information about osteoporosis and bone health, including fact sheets on all available drug treatments, visit our website at theros.org.uk/info or order more of our printed publications.

If you need more information or support, talk to your healthcare professional. You can also call our specialist Helpline nurses with any questions or concerns about bone health or living with osteoporosis, for free, on **0808 800 0035** or email them at nurses@theros.org.uk



Content reviewed: January 2024

This information is based on the latest evidence and clinical practice. It should not replace advice from your own healthcare professionals.

To give us feedback on this fact sheet, email us at health.info@theros.org.uk

We provide our information free of charge. To make a donation or become a member, visit theros.org.uk or call **01761 473 287**.

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 theros.org.uk/info

 **01761 471 771**

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To contact our specialist nurses:

 **0808 800 0035**

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