

## Paget's disease of the bone

Paget's disease of the bone is a chronic condition that causes abnormal enlargement and weakening of bone. Any part of the skeleton can be affected, but the most common sites include the skull, spine, pelvis, thigh bone, shin and the bone of the upper arm.

Paget's disease of the bone tends to affect people over the age of 50 years. It affects slightly more men than women, and up to 4 per cent of Australians over the age of 50 years.

Paget's disease of the bone should not be confused with an unrelated skin disease that also bears Paget's name and is usually associated with an underlying cancer.

### Bone growth and Paget's disease

Healthy bone tissue is maintained by cells called osteoblasts and osteoclasts. The osteoblasts build new bone, while the osteoclasts help to dispose of old bone.

In a person with Paget's disease, the balance between these two groups of cells is disturbed. The osteoblasts become overactive and too much bone tissue is produced, leading to enlargement. The abnormal growth means that the new bone tissue is weak and unstable.

The reason for this accelerated bone growth is unknown. Genetic and environmental factors, such as a virus, are suspected.

### Risk factors for Paget's disease

While the cause of Paget's disease is unknown, risk factors tend to include:

- **Race** – people of Anglo-Celtic background are more likely to develop the condition, particularly those living in Britain, Australia, New Zealand and Western Europe.
- **Age** – the condition becomes more common with increasing age.
- **Genetics** – there is a family history in up to 30 per cent of cases.

### Symptoms of Paget's disease

Many people do not realise they have Paget's disease because they have no symptoms, or only mild symptoms.

Depending on how severe the condition is, symptoms may include:

- Stiffness in the joints
- Painful aching in the bones
- Aches and pains becoming more acute during the night
- The bone appears bent or thickened
- The affected site is significantly warmer than the rest of the body
- Bowing of the leg bones (if the legs are affected)
- Headache and increased head size if the skull is involved
- Bone fractures.

### Complications of Paget's disease

Paget's disease can lead to further complications, including:

- **Osteoarthritis** – a form of arthritis that can occur in joints nearby to bones affected by Paget's disease
- **Broken bones** – the new bone growth is weak and fragile, and is more susceptible to fracture than healthy bone
- **Deafness** – caused by pressure on the auditory nerves
- **Disorders of the inner ear** – such as tinnitus (ringing in the ears) or vertigo (a type of dizziness)
- **Numbness or paralysis** – caused by deteriorating vertebrae pinching the nerves in the spinal cord
- **Increased workload on the heart** – due to an increased number of blood vessels in the affected bones, leading to increased blood flow through the bones. This usually does not result in heart failure, except in some people who already have heart disease.

## Diagnosis of Paget's disease

Paget's disease is often discovered by accident during x-rays taken for some other reason. The diagnosis can be confirmed by further x-rays, bone scans or by a particular blood test that checks for an enzyme crucial to bone growth called alkaline phosphatase.

## Treatment for Paget's disease

Although there is no cure for Paget's disease of the bone, there are treatments available to ease some of the symptoms, which include:

- **Drugs acting on the bones** – such as bisphosphonates to slow the progression of the condition. Bisphosphonates help the body regulate the bone-building process to stimulate more normal bone growth
- **Analgesics and non-steroidal anti-inflammatory drugs (NSAIDs)** – to alleviate pain
- **Calcium and vitamin D** – a diet rich in calcium and safe levels of sun exposure to ensure adequate vitamin D levels, or supplements of both, may be prescribed for overall bone health. It is best to discuss your calcium and vitamin D requirements with your doctor – high amounts of calcium in the blood are common in Paget's disease and need to be carefully monitored to avoid causing other medical problems.
- **Surgery** – may be required to relieve pinched nerves or bone fractures, or to replace a joint severely affected by arthritis.
- **Exercise** – helps to maintain skeletal health and maintain mobility in the joints and strength in the surrounding muscles. However, as bones are weaker and more likely to fracture, certain forms of exercise will be inappropriate for people with Paget's disease. It is best to consult a physiotherapist or an exercise physiologist for an individually prescribed exercise program.

## Where to get help

- Your doctor
- Endocrinologist – specialist in hormonal and metabolic conditions
- Rheumatologist – specialist in joint and muscle conditions

## Things to remember

- Paget's disease of the bone causes the abnormal enlargement and weakening of bone.
- Commonly affected sites include the skull, pelvis, spine and the long bones of the arm and thigh.
- The cause is not fully understood.
- Paget's disease of the bone should not be confused with an unrelated skin disease that also bears Paget's name.

**This page has been produced in consultation with, and approved by:**

Arthritis Victoria incorporating Osteoporosis Victoria

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