Paget's disease of bone
Paget's disease of bone
Paget’s disease of bone causes abnormal enlargement and weakening of bone. Commonly affected bones include the skull, pelvis, spine and the long bones of the arm and thigh. The cause of Paget’s disease is not fully understood. Paget’s disease of bone is not related to the skin disease that also bears Paget’s name.

Paget’s disease of 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 bone tends to affect people over the age of 50. It affects slightly more men than women.

Paget’s disease of bone is not related to the skin disease that also bears Paget’s name.

Bone growth and Paget’s disease

Our bones are living tissue that is constantly growing, rebuilding, replacing and repairing. 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 new bone also contains more blood vessels than normal bone.

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 of bone

While the cause of Paget’s disease is not known, risk factors include:

- ethnicity – it’s more common in people from England, Scotland, central Europe and Greece — as well as countries settled by European immigrants (such as Australia and New Zealand)
- age – the condition becomes more common with increasing age
- genetics – you’re more likely to develop it if you have a family history of Paget’s disease.

Symptoms of Paget’s disease of bone

Many people don’t realise they have Paget’s disease because they don’t have any symptoms, or only mild symptoms. Paget’s disease is sometimes discovered by accident when a person has a blood test or x-ray for another reason.

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

- pain and aching in your bones
- affected bones may become deformed or misshapen
- affected bones can feel warmer than the rest of your body
- if your skull is affected you may experience headaches, vertigo or tinnitus.

Complications of Paget’s disease of bone

For most people, Paget's disease progresses slowly and can be managed effectively. However in some cases, complications can arise including:

- osteoarthritis – breakdown of the cartilage inside a joint can occur in joints near bones affected by Paget’s disease, causing pain and stiffness
- broken bones – the new bone growth is weak and fragile, and is more susceptible to fracture than healthy bone
- hearing loss – caused by pressure on nerves in the ear
- numbness or tingling in the spine – caused by pinched nerves in the spinal cord
- heart disease – due to the increased number of blood vessels in the affected bones, the heart has to work harder. This usually does not result in heart failure, except in some people who already have heart disease.
Diagnosing Paget’s disease of bone

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 blood test that checks for an enzyme crucial to bone growth called alkaline phosphatase.

Treating Paget’s disease of bone

Although there is no cure for Paget’s disease of bone, there are treatments available to help you live well and manage your symptoms.

Medications

Medications used to treat Paget’s disease of bone include:

- bisphosphonates – are used to slow the progression Paget’s disease. They help the body control the bone-building process to stimulate more normal bone growth.
- pain killers (analgesics) and non-steroidal anti-inflammatory drugs (NSAIDs) – are used to provide temporary pain relief
- calcium and vitamin D – are both important for bone health. You can get calcium through your diet and vitamin D through safe exposure to sunlight. Or talk with your doctor about whether you need to consider taking supplements.

Self-management

The following strategies can help you to manage your condition:

- learn more about Paget’s disease – knowing as much as possible about your condition means that you can make informed decisions about your healthcare and play an active role in the management of your condition
- stay active – exercise helps to maintain bone health and joint mobility, as well as strengthen muscles. However, as bones are weaker and more likely to fracture, certain forms of exercise are not suitable for people with Paget’s disease. It’s best to consult a physiotherapist or an exercise physiologist for an exercise program tailored specifically for you
- enjoy a healthy well-balanced diet – this can help you reach and maintain a healthy weight and reduce your risk of other health problems. Make sure you include calcium-rich foods
- learn new ways to manage pain – there are many things you can do to manage pain, and different strategies will work for different situations. For example, heat packs can help ease muscle pain, cold packs can help with inflammation, and gentle exercise can help relieve muscle tension. Try different techniques until you find what works best for you
- stay at work – it’s good for your health and wellbeing. Talk to your doctor or allied healthcare professional about ways to help you to get back to or to stay at work
- join a peer support group – dealing with a chronic condition like Paget’s disease can be isolating. Being able to speak with others who understand your condition can be a great relief.

Surgery

Surgery is sometimes used to treat the complications of Paget's disease. If you experience pinched nerves, bone fractures, or a joint severely affected by arthritis, your doctor may refer you to an orthopaedic surgeon to discuss surgical options.

Where to get help

- Your doctor
- Endocrinologist – specialist in hormonal and metabolic conditions
- Rheumatologist – specialist in joint and muscle conditions
- Musculoskeletal Australia, National Help Line Tel. (03) 8531 8000 or 1800 263 265

References

- Paget’s disease, NHS. More information here.
- Paget’s disease of bone, American College of Rheumatology. More information here.

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More information

Bones muscles and joints

The following content is displayed as Tabs. Once you have activated a link navigate to the end of the list to view its associated content. The activated link is defined as Active Tab

- Bone muscle and joint basics
- Healthy bones muscles and joints
- Bone and bone marrow conditions
- Osteoporosis
Bone muscle and joint basics

- **Bone marrow**
  Bone marrow is the spongy tissue in the hollow centres of a person's long bones and is the blood cell 'factory'.

- **Bones**
  The adult skeleton is made up of 206 bones, which provide the structure for our bodies.

- **Choosing the right shoe**
  The right footwear can help keep your feet healthy, make your physical activity easier and help keep your body safe from injury.

- **Growth hormone**
  Some athletes and bodybuilders wrongly believe that taking synthetic growth hormone will help build up their muscles.

- **Joints**
  A joint is the part of the body where two or more bones meet to allow movement.

- **Locomotor system**
  The skeleton and skeletal muscles work together to allow movement.

- **Muscles**
  There are about 600 muscles in the human body.

Healthy bones muscles and joints

- **10 tips for getting enough vitamin D**
  A balanced UV approach is required to ensure some sun exposure for vitamin D while minimising the risk of skin cancer.

- **10 tips for safe stretching**
  Make stretching part of your life. 10 tips for safe stretching.

- **10 tips on how to eat more calcium**
  Reduce your intake of coffee, alcohol and soft drinks. 10 tips on how to eat more calcium.

- **Ageing - muscles bones and joints**
  Exercise can prevent age-related changes to muscles, bones and joints and can reverse these changes too.

- **Bone density testing**
  Most procedures that measure bone density are quick and pain-free.

- **Calcium**
  If you don't have enough calcium in your diet, your bones will eventually become weak and brittle.

- **Choosing the right shoe**
  The right footwear can help keep your feet healthy, make your physical activity easier and help keep your body safe from injury.

- **Posture**
  Bad habits such as slouching and inactivity cause muscle fatigue and tension that ultimately lead to poor posture.

- **Vitamin D**
  A balanced approach to sunlight exposure will help you get enough vitamin D while protecting against skin cancer.

- **Vitamin D - maintaining levels in winter (video)**
  Vitamin D is important for healthy bones, muscles and the nervous system.

Bone and bone marrow conditions

- **Acromegaly**
Acromegaly is caused by an excess of growth hormone in adults, which causes the overgrowth of bones in the face, hands, feet and internal organs.

- Amyloidosis
  A person with amyloidosis produces aggregates of insoluble protein that cannot be eliminated from the body.

- Bone cancer
  Bone cancer is a rare form of cancer that is treated with chemotherapy, radiotherapy or hormone therapy.

- Bone fractures
  Common sites for bone fractures include the wrist, ankle and hip.

- Fibrous dysplasia
  Fibrous dysplasia causes abnormal growth or swelling of bone, but it is not a form of cancer.

- Leukaemia
  Most children and many adults with acute leukaemia can expect to be cured, while chronic leukaemia can be successfully managed.

- McCune-Albright syndrome
  The severity of symptoms or how a child with McCune-Albright syndrome will be affected throughout life is difficult to predict.

- Multiple myeloma
  Multiple myeloma is cancer of plasma cells in the bone marrow.

- Osteomyelitis
  Osteomyelitis means an infection of bone which can either be recent or longstanding.

- Paget's disease of bone
  Paget's disease of bone is a chronic condition that causes abnormal enlargement and weakening of bone.

- Rickets
  Rickets is a preventable childhood bone disease caused by a lack of vitamin D.

- Scoliosis
  Scoliosis is an abnormal sideways curve of the spine.

- Shin splints
  'Shin splints' refers to pain felt anywhere along the shinbone from knee to ankle.

- Treacher Collins syndrome
  Treacher Collins syndrome is a genetic disorder that affects growth and development of the head, causing facial defects and hearing loss.

Osteoporosis

- Menopause and osteoporosis
  Regular weight-bearing exercise and maintaining a diet rich in calcium from childhood will help reduce bone loss at menopause.

- Osteoporosis
  A healthy, calcium-rich diet and regular physical activity throughout life can help prevent osteoporosis.

- Osteoporosis and exercise
  Exercise can reduce the risk of fractures resulting from osteoporosis by both slowing the rate of bone loss, and reducing the person's risk of falling by building muscle strength and improving balance.

- Osteoporosis in children
  Osteoporosis in children is rare and usually caused by an underlying medical condition.

- Osteoporosis in men
  Up to 30 per cent of all fractures that occur in people with osteoporosis and osteopenia, occur in men.

Muscle conditions

- Bell's palsy
  The majority of people with Bell's palsy, around 90 per cent, will recover completely with time.
Helping a child with a disability with everyday activities

If you have a child with a disability you can help improve their communication and movement by encouraging them to take part in daily activities...

Multiple sclerosis (MS)

Multiple sclerosis is not contagious, but it is progressive and unpredictable...

Muscle cramp

A muscle cramp is an uncontrollable and painful spasm of a muscle...

Muscular dystrophy

People affected by muscular dystrophy have different degrees of independence, mobility and carer needs...

Myasthenia gravis

Myasthenia gravis is an autoimmune disease that causes muscle weakness...

Polymyositis

Polymyositis is hard to diagnose and may be mistaken for muscular dystrophy...

Spinal muscular atrophy (SMA)

A child with spinal muscular atrophy type 1 rarely lives beyond three years of age...

Sprains and strains

It is important to get the correct treatment for a sprain or strain as soon as possible after the injury to help you recover quickly...

Joint conditions

- Ankle sprains
  
  Ankle sprain is a common sports injuries caused by overstretching and tearing the supporting ligaments...

- Ankylosing spondylitis

  Ankylosing spondylitis (AS) is a type of inflammatory arthritis that targets the joints of the spine...

- Arthritis explained

  People can manage their arthritis using medication, physiotherapy, exercise and self management techniques...

- Baker's cyst

  Baker's cyst of the knee don't always require active treatment and sometimes will only require observation by the treating doctor...

- Bursitis

  Bursitis is often caused by overuse and the inflammation will continue unless the particular activity or movement is stopped...

- Carpal tunnel syndrome

  Carpal tunnel syndrome can be caused by repetitive hand movements, pregnancy and arthritis...

- Developmental dysplasia of the hip (DDH)

  Around 95 per cent of babies born with developmental dysplasia of the hip can be successfully treated...

- Elbow pain

  Elbow pain can result from overuse in a range of sports or occupations...

- Hip disorders

  The hip joint is complicated to allow a wide range of motion while still supporting the weight of the body...

- Knee injuries

  Mild knee injuries may heal by themselves, but all injuries should be checked and diagnosed by a doctor or physiotherapist...

- Osgood Schlatter syndrome

  Osgood-Schlatter syndrome is a painful knee condition that affects adolescents...

- Perthes’ disease

  Most children with Perthes’ disease eventually recover, but it can take anywhere from two to five years...
- Reactive arthritis

  Reactive arthritis is a form of arthritis that occurs as a result of some bacterial infections.

**Hand and foot conditions**

- **Achilles tendonitis**
  People who run regularly seem to be susceptible to Achilles tendonitis.

- **Children's feet and shoes**
  A child learning to walk receives important sensory information from the soles of their feet, and shoes can make walking more difficult.

- **Choosing the right shoe**
  The right footwear can help keep your feet healthy, make your physical activity easier and help keep your body safe from injury.

- **Cysts - ganglion cysts**
  A ganglion cyst is the most common lump on the hand, and tends to target women between the ages of 20 and 40 years of age.

- **Diabetes - foot care**
  Good foot care and regular check-ups can help people with diabetes avoid foot problems.

- **Dupuytren's contracture**
  Dupuytren's contracture gradually causes clawing of the fingers as they are pulled towards the palms.

- **Foot - problems and treatments**
  Correctly fitted shoes help you avoid foot and leg pain or injury.

- **Foot care - podiatrists**
  Podiatrists can advise about how to choose the right shoes for your feet.

- **Foot odour - causes and cures**
  Even the most fastidiously clean people can suffer from foot odour.

- **Foot orthoses**
  People who have chronic foot or leg problems that interfere with their health may be prescribed orthoses by their podiatrist.

- **Foot problems - heel pain**
  The heel protects the structures of the foot, but heel pain is a common foot complaint.

- **Footwear for healthy feet**
  Wearing shoes that fit properly and support your feet is vital to avoid sore feet and to prevent or alleviate many common foot problems.

- **Left-handedness**
  If your child is naturally left-handed, don't try to force them to use their right hand.

- **Raynaud's phenomenon**
  Raynaud's phenomenon can be a sign of a more serious underlying condition, so see your doctor if you experience it.

- **Sever's disease**
  Sever's disease is a common cause of heel pain, particularly in the young and physically active.

**Back neck and spine conditions**

- **Back pain**
  Back pain is common. Some people will develop back pain that is persistent (lasts more than three months). There are many things that you can do to live well with back pain.

- **Back pain - disc problems**
  Most disc problems resolve without specific treatment.

- **Back pain in children**
  Children with back pain may grow into adults with chronic bad backs, so it is important to encourage sensible back care.

- **Living with persistent pain**
Pain is our built-in alarm system. It makes us aware that something might be going wrong in our body. However, there are many things you can do to deal effectively with persistent pain.

- **Neck pain**
  Treatments like physiotherapy, osteopathy or remedial massage can generally help neck and shoulder pain.

- **Scoliosis**
  Scoliosis is an abnormal sideways curve of the spine.

- **Shoulder pain**
  Shoulder pain is common in our community. The good news is that with appropriate treatment pain will improve so you can get back to doing the things you enjoy.

- **Tendonitis**
  Most cases of tendonitis recover completely, but severe untreated tendonitis can lead to rupture of the tendon.

**Treating persistent pain**

Pain is our built-in alarm system. It makes us aware that something might be going wrong in our body. However, there are many things you can do to deal effectively with persistent pain.

- **When do I need to see my doctor about persistent pain?**
  Living with persistent pain isn’t easy. Your doctor can help you balance your pain, your treatment and hurdles you encounter in life.

**Related Information**

- **Fibrous dysplasia**
  Fibrous dysplasia causes abnormal growth or swelling of bone, but it is not a form of cancer.

- **Rib injuries**
  Rib injuries may include bruises, torn cartilage and bone fractures.

- **Rickets**
  Rickets is a preventable childhood bone disease caused by a lack of vitamin D.

- **Scoliosis**
  Scoliosis is an abnormal sideways curve of the spine.

- **Acromegaly**
  Acromegaly is caused by an excess of growth hormone in adults, which causes the overgrowth of bones in the face, hands, feet and internal organs.

**Home**

**Related information on other websites**

- [The Paget Foundation](#)

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