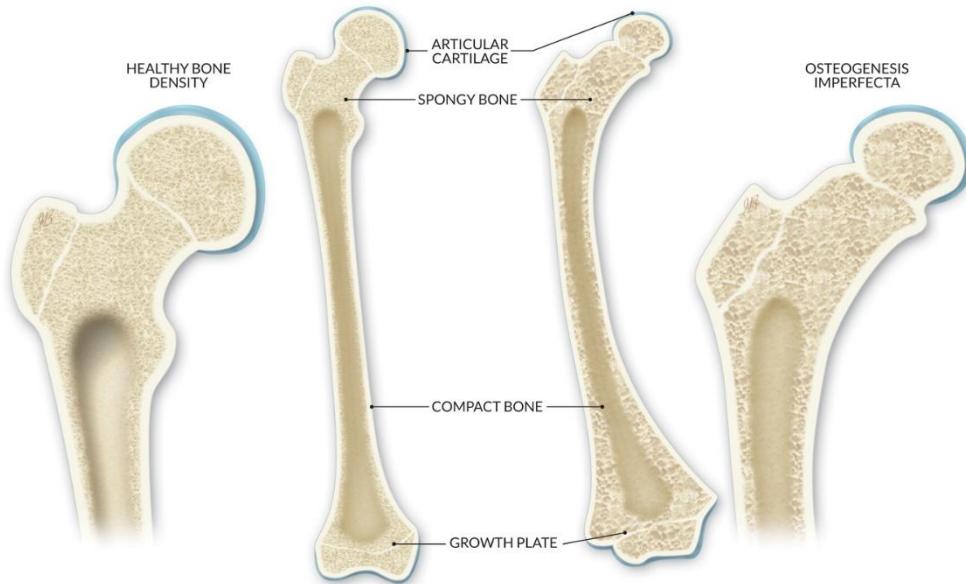


## Osteogenesis Imperfecta (OI)



### What is Osteogenesis Imperfecta?

Osteogenesis Imperfecta (OI) is a **genetic condition** that affects how the body makes **collagen**, an important protein that gives bones strength.

Because collagen is weaker or not produced properly, bones can fracture more easily.

OI is sometimes called “brittle bone disease.”

There are different types of OI – from very mild to more severe. Most children with OI grow up to live active, fulfilling lives with the right support.

## Common Signs and Symptoms

Children with OI may have:

- **Frequent fractures**, often with mild injury
- **Blue or grey tint** to the whites of the eyes (blue sclera)
- **Joint hypermobility** or loose joints
- **Muscle weakness**
- **Hearing problems** in older children or adults
- **Shorter height** than expected
- Early signs of **bone deformity** in more severe cases

Not every child will have all these symptoms.

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## How is OI diagnosed?

Diagnosis is usually made through:

- **Clinical examination**
- **History of frequent fractures**
- **X-rays**
- Sometimes **genetic testing**
- Bone density scans (DEXA) may also be used

Your child will often be under the care of a paediatric bone specialist, physiotherapist, and sometimes a geneticist.

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## How can Physiotherapy help?

Physiotherapy is an important part of managing OI.

Your child may benefit from:

### ✓ Strengthening exercises

To improve muscle strength, which helps protect bones.

### ✓ Safe activity advice

Physios advise on which activities are safer and how to stay active confidently.

### ✓ Mobility training

Helping your child move independently, including stairs, walking patterns, and balance.

### ✓ Hydrotherapy

Warm-water exercises help build strength with less stress on bones.

### ✓ Support after fractures

Guidance on mobility aids, returning to activities, and restoring confidence.

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## **Treatments your child may receive**

Management may include:

### **1. Bisphosphonate medication**

Given through hospital specialists to help strengthen bones.

### **2. Physiotherapy**

To improve strength, mobility, and confidence.

### **3. Orthotics or splints**

If joints are loose or alignment needs support.

### **4. Surgery**

Some children with more severe OI may need surgery to straighten or support bones (e.g., intramedullary rods).

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## **What activities are safe?**

Most children with milder types of OI can take part in many activities.

However, some activities carry more risk.

### **Generally safe activities:**

- Swimming
- Cycling (with appropriate bike and helmet)
- Walking
- Gentle playground play
- Supervised low-impact games

### **Activities to avoid or be cautious with:**

- Trampolining
- Contact sports (rugby, martial arts)
- High-impact jumping
- Competitive gymnastics
- Activities with high fall risk

Your physiotherapist can tailor advice to your child's specific OI type and confidence.

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### **Looking after your child at home**

- Encourage **regular activity** to build strength.
- Teach safe movement and **avoid activities with high fall risk**.
- Ensure good nutrition: **calcium, vitamin D**, and healthy diet.
- Keep home free of slip hazards.
- Allow your child to be **independent where safe**—over-protection can reduce confidence.

### **When to seek urgent medical advice**

Contact your healthcare provider or visit urgent care if your child:

- Has a suspected fracture
- Develops sudden severe pain
- Has difficulty moving a limb
- Has a fall and cannot bear weight
- Develops unusual swelling or deformity
- Experiences breathing difficulties (rare but important in some OI types)

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### **Long-term outlook**

With modern treatment, children with mild–moderate OI:

- Lead full lives

- Attend school normally
- Take part in many sports
- Develop strong coping and confidence skills

Severe OI needs closer monitoring but specialist teams provide excellent care.

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### **Support and Resources**

- **Brittle Bone Society** (UK charity)
- Paediatric bone specialist team
- Physiotherapy service
- Genetic counselling services