FRACTURE

TEXT A

A bone fracture is the medical definition for a broken bone. A broken bone or bone fracture occurs when a force exerted against a bone is stronger than the bone can bear. This disturbs the structure and strength of the bone, and leads to pain, loss of function and sometimes bleeding and injury around the site.

Our skeleton is made up of bones. Bones are a type of connective tissue, reinforced with calcium and bone cells. Bones have a softer centre, called bone marrow, where blood cells are made.

Different types of fracture include:

- **Closed (simple) fracture** – the broken bone has not pierced the skin.
- **Open (compound) fracture** – the broken bone juts out through the skin, or a wound leads to the fracture site. Infection and external bleeding are more likely.
- **Greenstick fracture** – a small, slender crack in the bone. This can occur in children, because their bones are more flexible that an adult's bones.
- **Hairline fracture** – the most common form is a stress fracture, often occurring in the foot or lower leg as a result of repeated stress from activities such as **jogging or running**.
- **Complicated fracture** – structures surrounding the fracture are injured. There may be damage to the veins, arteries or nerves, and there may also be injury to the lining of the bone (the periosteum).
- **Comminuted fracture** – the bone is shattered into small pieces. This type of complicated fracture tends to heal more slowly.
- **Avulsion fracture** – muscles are anchored to bone with tendons, a type of connective tissue. Powerful muscle contractions can wrench the tendon free and pull out pieces of bone. This type of fracture is more common in the knee and shoulder joints.
- **Compression fracture** – occurs when 2 bones are forced against each other. The bones of the spine, called vertebrae, can have this type of fracture. Older people, particularly those with osteoporosis, are at higher risk.

TEXT B

First aid for bone fractures

Good first-aid care of fractures is important. Moving the broken bones can increase pain and bleeding and can damage tissues around the injury. This can lead to complications in the repair and healing of the injury later on.

First aid for fractures is all about immobilising (limiting movement of) the injured area. Splints can be used for this. Control any external bleeding.

Complicated breaks where a limb is very deformed may need to be realigned before splinting – only paramedics or medical staff should do this.

Fractures of the head or body such as skull, ribs and pelvis are all serious and should be managed by paramedics.

If you suspect a bone fracture, you should:

- Keep the person still – do not move them unless there is an immediate danger, especially if you suspect fracture of the skull, spine, ribs, pelvis or upper leg.
- Attend to any bleeding wounds first. Stop the bleeding by pressing firmly on the site with a clean dressing. If a bone is protruding, apply pressure around the edges of the wound.
- If bleeding is controlled, keep the wound covered with a clean dressing.
- Never try to straighten broken bones.
- For a limb fracture, provide support and comfort such as a pillow under the lower leg or forearm. However, do not cause further pain or unnecessary movement of the broken bone.
- Apply a splint to support the limb. Splints do not have to be professionally manufactured. Items like wooden boards and folded magazines can work for some fractures. You should immobilise the limb above and below the fracture.
- Use a sling to support an arm or collarbone fracture.
- Raise the fractured area if possible and apply a cold pack to reduce swelling and pain.
- Stop the person from eating or drinking anything until they are seen by a health care professional in case they need surgery.
- In an emergency, call triple zero (000) for an ambulance.

TEXT C

Treatment of bone fractures

Broken bones heal by themselves – the aim of medical treatment is to make sure the pieces of bone are lined up correctly. The bone needs to recover fully in strength, movement and sensitivity. Some complicated fractures may need **surgery** or surgical traction (or both).

Depending on where the fracture is and how severe, treatment may include:

- splints – to stop movement of the broken limb
- braces – to support the bone
- plaster cast – to provide support and immobilise the bone
- traction – a less common option
- surgically inserted metal rods or plates – to hold the bone pieces together
- pain relief – to reduce pain

TEXT D

Operation procedure for bone fractures

A cast made from plaster of Paris is one of the most common ways of immobilising a limb. This cast is made from a preparation of gypsum that sets hard when water is added. Depending on the location and severity of the fracture, the operation procedures can include:

- **Closed or simple fractures** – the 2 ends of the broken bone are lined up and held in place. The limb is thoroughly bandaged, then the wet plaster is applied. Sometimes, once the plaster is dry, the cast is split into 2 and the 2 halves are re-bandaged on the outside. This allows for any swelling that may occur.
- **Open or compound fractures** – these are thoroughly cleaned in the operating room to remove debris before being set, because a broken bone exposed to the open air may become infected.
- **Long bones** – long bones such as the bone of the thigh (femur) are difficult to keep aligned. In adults these are often treated by internal nailing. A child may need traction for a couple of days before setting the bone in a cast. Once the 2 ends of bone start to show signs of healing, the leg and hip joint are immobilised in plaster of Paris. In other cases, pins are inserted above and below the fracture and secured to an external frame or 'fixator'. This is done under a general anaesthetic

Self-care after a bone fracture

Follow your doctor's advice, but general suggestions include:

- Until the cast has set properly, avoid direct heat such as hot water bottles.
- Rest the limb as much as possible.
- Use the techniques shown to you by nurses to walk or manage day-to-day activities. For example, you risk further injury if you use crutches incorrectly.
- Avoid any lifting or driving until the fracture has healed.
- If the skin under the cast is itchy, don't poke anything between the cast and your limb (such as a coat hanger or pencil). Instead, use a hairdryer to blow cool air into the cast.
- Don't get your cast wet, as wet plaster becomes soft and does not provide the necessary support. Wet plaster can also irritate your skin. When showering, wrap the cast in a plastic bag and tape it directly to your skin, to keep the area watertight.
- See your doctor immediately if you have swelling, blueness or loss of movement of the fingers or toes, pins and needles, numbness or increased pain.

Questions 1-7 For each question, 1-7, decide which text (A, B, C or D) the Information comes from. You may use any letter more than once. In which text can you can find information about.

1. Initial care for fracture?
2. avoid direct heat after a plaster cast application?
3. Definition of fracture?
4. Broken bones heal by themselves
5. Fractures of the head or body should be managed by paramedics.
6. most common form is a stress fracture
7. In an emergency, call triple zero (000) for an ambulance

Answer the questions,8-14, with a word or short phrase from the texts. Each answer may include words, numbers or both.

8. The lining of the bone is called as ?
9. What will help to to blow cool air into the cast.?
10. A less common option for the treatment of bone fracture?
11. where is the blood cells are made in bones
12. what is the most common ways of immobilising a limb?
13. Which bones are difficult to keep aligned after a fracture?
14. What will help to to stop movement of the broken limb?

Questions 15-20. Complete each of the sentences, 15-20, with a word or short phrase from one of the texts. Each answer may include words, numbers or both.

15. A child may need _____for a couple of days before setting the bone in a cast
16. the aim of medical treatment is to make sure the pieces of ____are lined up correctly
17. Raise the fractured area if possible and apply a _____to reduce swelling and pain.
18. Moving the _____bones can increase pain and bleeding
19. When showering, _____the cast in a plastic bag and tape it directly to your skin, to keep the area watertight.
20. Use a _____to support an arm or collarbone fracture