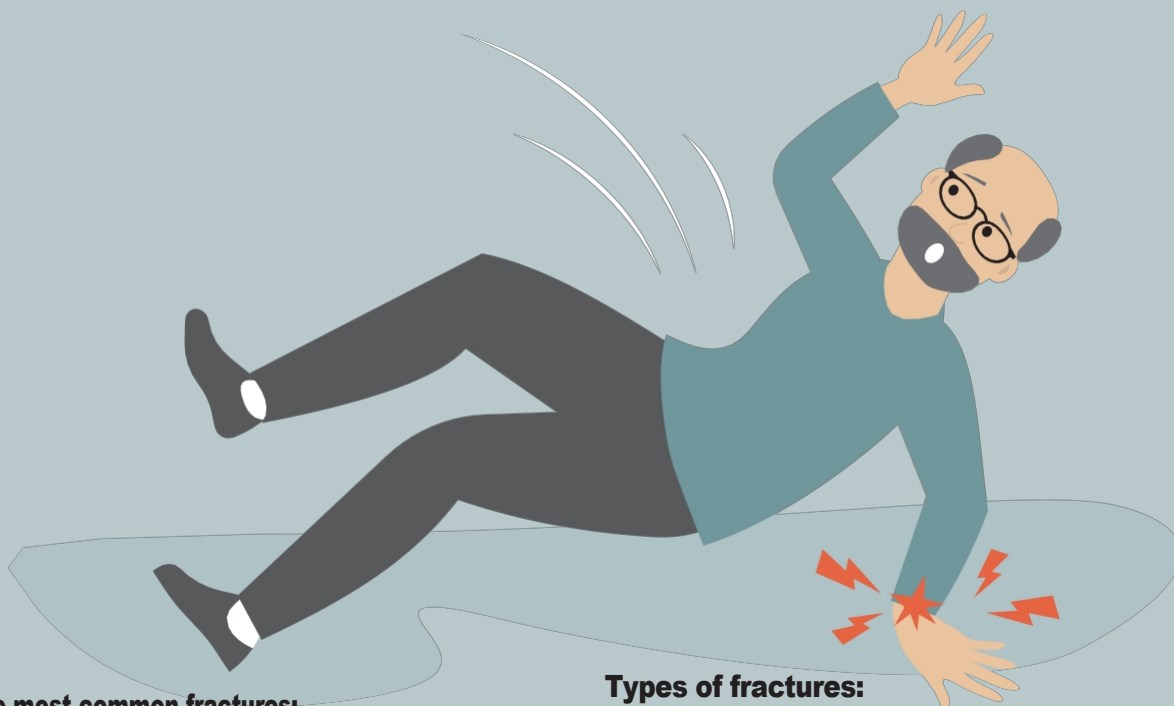




First aid

Basics of first aid for broken bones

An adult human being usually has 206 bones. If a bone is subjected to direct or indirect force that exceeds its load limit, it can break – resulting in a fracture. Since your care clients can also suffer a bone fracture at any time, you should know what first aid measures to take in the event of bone fractures.

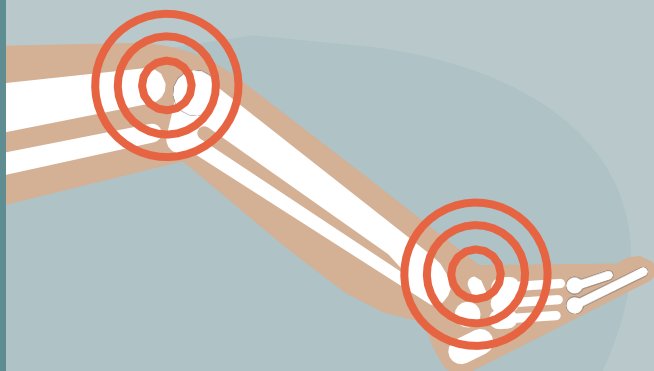


The most common fractures:

- Fractures of the radius in the forearm are often the result of a fall onto the hand.
- Thigh bone fractures usually occur near the hip joint in older people with osteoporosis, usually as a result of a fall.
- Humerus fractures are also common.
- Tibia or fibula fractures often result from accidents.

Types of fractures:

- **Complete fracture:** The fragments are no longer connected to each other.
- **Incomplete fracture:** The bone is only partially broken.
- **Pathological fracture:** A fracture of a bone weakened by osteoporosis, tumour or other pathological changes
- **Comminuted fracture:** A bone fracture with more than 6 fragments
- **Open fracture:** A wound or bone fragments are visible at the fracture site.
- **Closed fracture:** No visible wound: recognisable, for example, by abnormal mobility, buckling, rubbing or grinding noises during movement. Swelling, pain with restricted movement, bruising and protective posture are uncertain signs of a fracture.





Signs and symptoms:

The signs of a bone fracture can vary depending on the type and severity of the fracture, but typical symptoms may include:

- **Pain:** Severe pain at the fracture site, which may increase with movement or touch.
- **Swelling:** Swelling or a lump may appear at the fracture site.
- **Bruising:** Bruising may develop around the fracture site.
- **Deformity:** The affected area may be deformed or appear to be in an unnatural position.
- **Restricted movement:** Difficulty or inability to move the affected limb normally.
- **Numbness or tingling:** Numbness or tingling may occur, especially if nerves near the fracture site are affected.
- **Bone fracture noises:** In some cases, a bone fracture may be accompanied by an audible crack.
- **Bleeding:** Open fractures may cause external bleeding.

If you suspect that someone has a broken bone, it is important to seek medical help immediately. Until professional help arrives, you can try to stabilise the injured area and reassure the person affected. However, do not attempt to treat or manipulate the fracture yourself, as this could aggravate the injury.



Broken bones are an emergency

Every fracture must be treated as an emergency, as in addition to the bone, surrounding tissue, blood vessels and nerves may also be damaged.

veins, and in the worst case even organs. This can lead to significant blood loss and life-threatening shock. If you suspect a fracture, you should call the emergency services immediately.



First aid measures:

If, for example, you find a care client lying on the floor, you should initiate the following first aid measures:

- Remain calm and try to reassure the person concerned.
- First check their vital signs (consciousness, breathing and pulse).
- Then call the emergency services immediately. Describe the situation and the condition of your care client.
- If their vital signs are normal, stay with the injured person and try to make the time until the emergency services arrive as bearable as possible for them. They will usually already have adopted a position that minimises pain. Help them by supporting this position with soft padding.
- Only move your care recipient if it provides relief.
- Cover the wound of an open fracture with a sterile dressing or bandages.
- A closed fracture can be treated carefully with cold compresses until the emergency services arrive to reduce pain and swelling.
- Remember to keep the patient warm at all times – cover the patient.
- If the patient is unconscious, place them in the recovery position and continuously monitor their vital signs.
- In the event of cardiac arrest, begin resuscitation immediately.



NOTE: The injured person often loses consciousness because the sudden pain leads to circulatory collapse. In this case, pay particular attention to their vital signs, as fainting is a protective reaction of the body.



Special case: "Skull fracture"

With approximately 206 bones, it is clear that different bone fractures each have their own specific characteristics that need to be taken into account.

Skull fractures are a special case. Even relatively minor head injuries (e.g. lacerations) can have dramatic effects because the scalp and facial area are highly vascularised, resulting in severe bleeding and swelling. Conversely, there are skull injuries that cause few symptoms but are nevertheless dangerous, such as skull base fractures: these are sometimes only noticeable due to slight bleeding from the ear or may even remain without any external signs.



Different symptoms of skull fractures

- Visible bleeding from head wounds, nose or ear
- Visual disturbances (e.g. double vision)
- Temporary disturbances of consciousness
- Motor or sensory disturbances (not only in the head area, but throughout the entire body)



If you experience any of the above symptoms, immediate action is required:

- Check vital signs.
- Call the emergency services immediately, describe
If possible, describe the circumstances of the injury and the patient's condition.
- In the event of a (suspected) skull injury, you should place the unconscious or confused patient in the recovery position until the emergency services arrive. A sitting or lying position with the upper body raised is beneficial for conscious patients.
- All patients with skull injuries – including those who are conscious – should be monitored continuously, as their condition can change rapidly.
- If available, cover open wounds with sterile dressings. If you do not have anything sterile, use material that is as clean as possible.



Special case: spinal fracture

After a fall with pain in the spine, you must always consider the possibility of injury. If neurological symptoms (e.g. tingling, numbness, weakness, paralysis, sensory disturbances, bladder/rectal disturbances), a relevant spinal injury is very likely. Neurological deficits usually affect areas of the body below the level of injury.



From a medical point of view, the following applies:

After an accident involving the spine, a spinal injury must be assumed until proven otherwise.
Call 112 immediately. If one of your care clients has fallen and is experiencing pain in the spinal area, you should always consider the possibility of an injury. If neurological signs such as

- nerve failure or
- tingling,
- numbness,
- weakness,
- paralysis,
- sensory disturbances,
- Bladder/bowel dysfunction

then a vertebral fracture is very likely. These fractures are usually found below the injury and never above it! From a medical point of view, any patient who has been involved in an accident of this kind should be assumed to have a spinal injury until the contrary is proven by subsequent diagnostics. Therefore, always call the emergency services.



PLEASE NOTE: if your care recipient is conscious and responsive, they should not move. However, if they are unconscious, immediate life-saving measures should also be taken, measures must be taken, as these always take precedence.



First aid principles:

Do **not** move the patient; manually stabilise the **head/neck in a neutral position**, no flexion/rotation.



Calm, keep warm, monitor (consciousness, breathing, circulation).



Do **not** give food/liquids.



Do **not** remove **helmets** (except in cases of acute respiratory distress and only if trained to do so).



Unconscious but breathing: place in the recovery position only if necessary to secure the airways – do so as gently as possible, protecting the cervical spine.



No normal breathing: start resuscitation – securing the airway is a priority, even if this could theoretically cause movement of the cervical spine.

