ASSIGNMENT FOR VIVA..dental sec A 2nd semester

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Q1. (i) write a note on shoulder elbow wrist fractures?

**Answer:**

There are many bones in the shoulder and elbow joints that can fracture, or break, as the result of a fall, sports injury, or accident. Physicians at NYU Langone can identify the type of fracture that has occurred and determine the extent of the injury.

Our experts may classify a fracture as closed, meaning that the broken bone remains beneath the skin, or open, meaning that a fragment of bone breaks through the skin. X-rays and other [diagnostic imaging tests](https://nyulangone.org/conditions/shoulder-elbow-fractures/diagnosis) can provide additional information about the nature of a fracture.

In a displaced fracture, bones are separated into two or more pieces that don’t remain in contact with each other. A nondisplaced fracture occurs when the pieces of the broken bone don’t separate and the bone fragments remain in place.

An injury that causes a broken bone in the shoulder or elbow may also injure muscles, tendons, ligaments, and nerves that surround the shoulder or elbow joint.

Shoulder and elbow fractures require immediate care in order to heal and prevent permanent damage to the bone or surrounding soft tissues. If you’ve been injured, our doctors recommend going to the nearest emergency room.

**Types of Shoulder Fractures**

The shoulder is a ball-and-socket joint that has the greatest range of motion of all the body’s joints. It consists of three bones: the clavicle, or collarbone; the scapula, or shoulder blade; and the proximal humerus, which is the rounded uppermost part of the arm bone. These bones intersect to form two joints in the shoulder. A fracture can occur in any of the bones in the joint.

Muscles, tendons, and ligaments surround and stabilize the joint and help prevent the bones from moving out of place. These may also be injured when a fracture occurs.

**Clavicle Fracture**

The clavicle, also called the collarbone, is a long bone that connects the shoulder blade to the breastplate, or sternum. A broken collarbone is the most common type of shoulder fracture.

Symptoms include a sharp pain at the site of injury, swelling, and bruising. You may find it difficult to move your arm, and movement may cause a painful grinding sensation where the ends of the broken bone rub against each other.

A broken collarbone may also cause the shoulder to sag downward, and a bump may be visible beneath the skin where the bone has fractured. If the fracture is caused by a high-impact injury such as a car accident, the bone may stick through the skin, which is referred to as an open fracture.

**Scapula Fracture**

The scapula, or shoulder blade, is a large, flat, triangular bone on your back that connects the humerus, or upper arm bone, and the clavicle, or collarbone. The shoulder blade is well protected by surrounding muscles and doesn’t break easily, but a high-energy, direct impact—as might result from a car or motorcycle accident—can cause the bone to fracture into two or more pieces.

Symptoms include significant, sharp shoulder pain when you attempt to move the arm, as well as swelling, bruising, and tenderness in the skin over the injury. Shoulder blade fractures are rarely open fractures, and they may not require surgery to heal.

**Proximal Humerus Fracture**

The proximal humerus is the rounded upper part of the arm bone that rotates within the shoulder socket. This bone may fracture because of an impact from a fall or car accident, or as a result of a [shoulder dislocation](https://nyulangone.org/conditions/shoulder-dislocation), in which the humerus is forced out of the joint socket.

Symptoms include severe pain, limited motion in the shoulder, swelling, tenderness, and a cracking or popping sound, called crepitus, when you attempt to move the arm.

This type of shoulder fracture is more common in people with [osteoporosis](https://nyulangone.org/conditions/osteoporosis-low-bone-mass), a condition that causes bones to become weak and brittle and increases the risk of any type of fracture. Osteoporosis affects more women than men, and twice as many women as men experience a proximal humerus fracture each year, most often as the result of falls.

**Types of Elbow Fractures**

The elbow is a hinge joint that allows you to move your forearm—which extends between the elbow and the wrist—back and forth, as well as rotate the palm to face up or down. The elbow connects the upper arm, or humerus, to the radius and ulna, the bones that make up the forearm. A fracture may occur in one or more of the bones that form the elbow.

Less commonly, an injury to the elbow may also pull the bones of the joint out of place, compromising the stability and range of motion of the joint. This is called a fracture dislocation.

**Olecranon Fracture**

The olecranon is an extension of the ulna, one of the two bones in the forearm. When you bend your arm, it forms the point at the tip of the elbow. The olecranon is not covered by any muscles or ligaments, so it’s especially vulnerable to fracture if the elbow makes direct contact with a hard surface.

The olecranon fractures most commonly as a result of a strong, sudden contraction of the triceps muscle, located above the elbow, during a fall. The muscle contraction, called an eccentric contraction, is sometimes so strong that the force overwhelms the olecranon, resulting in a break in the bone.

Symptoms include sharp pain, an inability to extend the elbow, swelling, and tenderness. The broken bone may also cause a visible protrusion beneath the skin.

**Radial Head Fracture**

The radial head is the part of the radius bone in the forearm that meets the humerus within the elbow joint. A radial head fracture may occur if you put your hand out to break a fall. The force of impact may travel through the radius and push the radial head into the bottom of the humerus with such force that it fractures.

Dislocating your elbow, a type of injury in which the bones of the joint become separated, can put stress on the radial head and lead to a fracture.

Symptoms include pain when you try to extend the elbow, swelling, and difficulty rotating your forearm. For example, turning your palm up or down may be painful.

**Distal Humerus Fracture**

The distal humerus is the rounded bottom part of the bone that connects the elbow to the shoulder. In the elbow, it rotates against the radial head and ulna, forming the upper part of the joint. Fractures of the distal humerus are relatively uncommon, but may occur as the result of a hard blow to the elbow, falling directly onto a bent elbow, or putting out your hand to break a fall while the elbow is extended straight.

Symptoms include intense pain, tenderness, and swelling in and above the elbow. You may not be able to extend the elbow, or the joint may feel weak or unstable, especially if you attempt to pick up an object or put weight on the affected arm.

**Wrist Fracture :**

* Wrist fractures usually result from a fall on an outstretched hand.
* The fractured wrist is painful, swollen, and tender and sometimes becomes stiff and persistently painful.
* Doctors can usually identify these fractures on x-rays, but occasionally, computed tomography is needed.
* Often, the bone fragments can be put back in place (reduced) by manipulation, then held in place by a splint, but sometimes surgery is required.

Usually, the wrist is fractured when people fall on an outstretched hand (to break the fall), with the wrist bent back. As a result, the radius breaks near the wrist, and the broken end of the radius is displaced up, toward the back of the hand. This type of fracture is called a Colles fracture. Sometimes the wrist is obviously out of position. If the force of the impact is great, the two ends of the broken radius are jammed into each other, and the bone appears shortened. Often, part of ulna is also fractured. Colles fractures are common among older people, especially if they have [osteoporosis](https://www.msdmanuals.com/home/bone%2C-joint%2C-and-muscle-disorders/osteoporosis/osteoporosis), which weakens bone.

Less often, the wrist is fractured when people fall with the hand bent forward or when the back of the wrist is hit—for example, with a hockey or lacrosse stick. The broken end of the radius is displaced down, toward the palm side of the wrist. This type of fracture is called a Smith fracture.

### Wrist Fractures: Colles and Smith:

| Wrist fractures include* **Colles fracture:** The wrist is fractured when people fall on an outstretched hand, with the wrist bent back. The larger forearm bone (radius) breaks near the wrist, and the broken end of the radius is displaced up, toward the back of the hand.
* **Smith fracture:**The wrist is fractured when people fall with the hand bent forward. The broken end of the radius is displaced down, toward the palm side of the wrist.
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 (ii) what are the symptoms and treatment of bone fractures?

**Answer :**

**Signs and Symptoms of a Bone Fracture**

The signs and symptoms of a bone fracture will depend on the severity and location of the injury. Generally, the symptoms include:

* Pain
* Swelling
* Difficulty moving
* Bruising
* Altered normal limb alignment

Additionally, the injured area may be tender or feel warm. In the case of an open fracture, the bone can be seen from the skin. Sometimes, a person may not realize they have a fracture.

**Bone Fracture Treatment**

Once the doctor has confirmed the exact location and type of fracture—usually through an x-ray—he or she will develop a treatment plan. There are several different ways to treat a bone fracture.

* **Immobilized cast.** A plaster or fiberglass cast will be placed around the fracture once the bone has been aligned. The bone cannot move when in this type of cast, which promotes proper healing.
* **Functional cast or brace.** This type of cast allows for limited but controlled movement, and is only applicable to some, usually minor, fractures. Sometimes a fracture is severe enough that it requires more than a cast or brace.
* **External fixation.** A surgeon will insert screws and wires into the bone, which then attach to a metal bar on the outside of the skin. This device stabilizes the bone while it heals. Once the fracture heals, the removal of the screws and external device can usually be done in a doctor’s office without anesthesia.
* **Open reduction and internal fixation.** A surgeon will realign (reduce) the broken bone into its normal position and then affix metal plates or special screws to hold it in place. In some cases, a metal rod will be inserted down the center of the bone to stabilize it. The screws and plates are typically left in the bone once the fracture has healed, but may be removed in some situations.
* **Traction.** This treatment uses weights, pulleys, and ropes to gently realign a broken bone. Traction is typically used as a temporary measure in the event that a person must wait to have surgery.