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ASSIGNMENT FOR VIVA..dental sec A 2nd semester

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

(ii) what are the symptoms and treatment of bone fractures?

Ans:1:

SHOULDER ELBOW WRIST FRACTURE:-

★ 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 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 FractureThe 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, 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, 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.

ANS:2

★TREATMENT :

- Bone healing is a natural process which, in most cases, will occur automatically. Fracture treatment is usually aimed at making sure there is the best possible function of the injured part after healing.

- Treatment also focuses on providing the injured bone with the best circumstances for optimum healing (immobilization).
- For the natural healing process to begin, the ends of the broken bone need to be lined up – this is known as reducing the fracture.
- The patient is usually asleep under a general anesthetic when fracture reduction is done. Fracture reduction may be done by manipulation, closed reduction (pulling the bone fragments), or surgery.
- Immobilization – as soon as the bones are aligned they must stay aligned while they heal. This may include:

Plaster casts or plastic functional braces – these hold the bone in position until it has healed.

Metal plates and screws – current procedures may use minimally invasive techniques.

Intra-medullary nails – internal metal rods are placed down the center of long bones. Flexible wires may be used in children.

External fixators – these may be made of metal or carbon fiber; they have steel pins that go into the bone directly through the skin. They are a type of scaffolding outside the body.

Usually, the fractured bone area is immobilized for 2-8 weeks. The duration depends on which bone is affected and whether there are any complications, such as a blood supply problem or an infection.

- Healing – if a broken bone has been aligned properly and kept immobile, the healing process is usually straightforward.
- Osteoclasts (bone cells) absorb old and damaged bone while osteoblasts (other bone cells) are used to create new bone.
- Callus is new bone that forms around a fracture. It forms on either side of the fracture and grows toward each end until the fracture gap is filled. Eventually, the excess bone smooths off and the bone is as it was before.

- The patient's age, which bone is affected, the type of fracture, as well as the patient's general health are all factors which influence how rapidly the bone heals. If the patient smokes regularly, the healing process will take longer.
- Physical therapy – after the bone has healed, it may be necessary to restore muscle strength as well as mobility to the affected area. If the fracture occurred near or through a joint, there is a risk of permanent stiffness or arthritis – the individual may not be able to bend that joint as well as before.

- Surgery – if there was damage to the skin and soft tissue around the affected bone or joint, plastic surgery may be required.

