

Common fractures near the elbow joint—their treatment and nursing care

By
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The elbow joint is single hinge joint. The lower end of humerus (*Trochlea and Capitulum*) articulates with the trochlear notch of the ulna and with the superior surface of the radius. The proximal head of radius articulates with radial notch of the ulna and forms superior radio ulnar joint.

All the articular surfaces are covered with the hyaline cartilage. The bones are held firmly together by medial and lateral ligaments. Posteriorly by triceps and anteriorly the tendon of biceps and brachialis. Annular ligament encircle the head of radius with upper end of ulna. The brachial artery dividing into the radial and ulnar arteries in front. The ulnar nerve travels through a groove behind the medial epicondyle of the humerus. The medial and radial nerves are on the anterior surface (Shown in fig. 1).

Types of Fractures

(i) Supracondylar fracture of the humerus occurs in the children. Sometimes this fracture is very dangerous (Shown in fig. 2).

(ii) Fractures of the condyles or epicondyles of the humerus. These fractures may cause little or permanent damage. Especially in children where the cartilage is not ossified sufficiently to show the full extent of the fracture. Severe displacement can at first go unnoticed (Shown in fig. 3).

(iii) Fracture of Olecranon process of the ulna usually transverse fracture is found at this region (Shown in fig. 4).

(iv) Fracture of the head of the radius—These can be very minor cracks hardly visible on X-ray (Shown in fig. 4).



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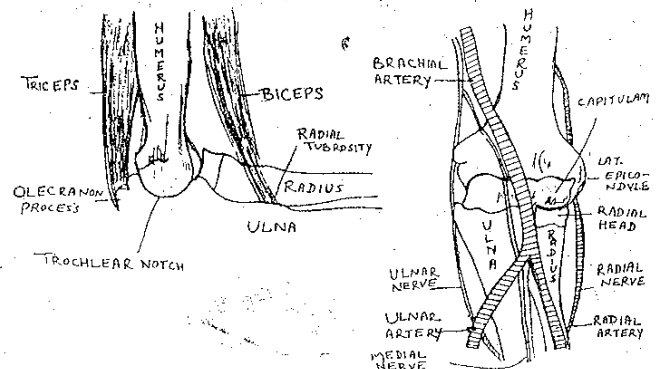


Fig. 1

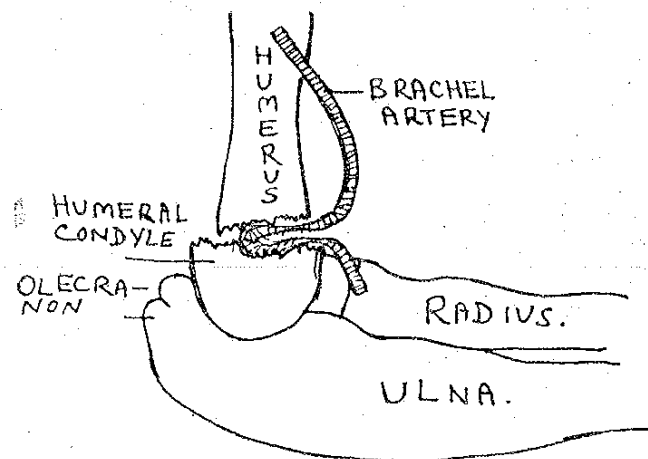


Fig. 2

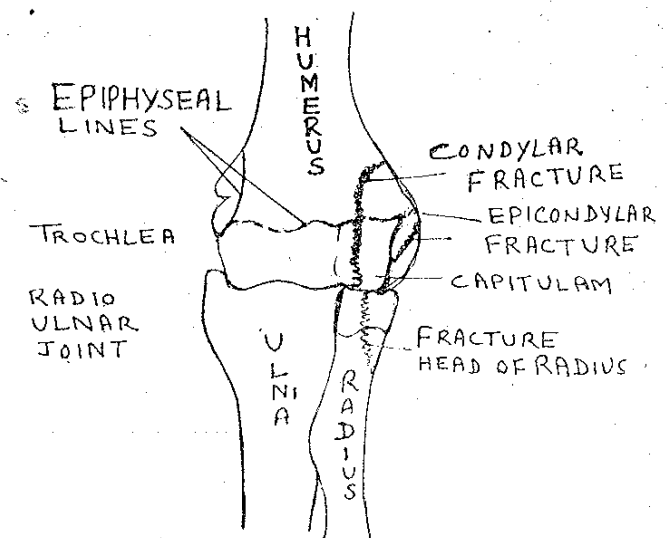


Fig. 3

(v) T & Y shaped fractures—These are self explanatory (Shown in fig. 5).

Diagnosis : The history of the patient, as to how the accident occurred will give an ideal guideline of injuries he may have. A fall on the hands, arm or elbow can cause fractures at the elbow.

Clinical Features

Common sign and symptoms which are present with any fracture such as pain, tenderness, swelling, bruising, deformity, loss of function, crepitus and unnatural movement at the fracture sites.

First Aid

This is usually best done by placing the arm in sling of the type acceptable to the patient, just leave the arm well supported in the most comfortable position.

Reassurance is also important, a fracture can be very frightening thing especially if a patient does not know how capable is his attendant.

Important point in first aid is to feel the pulse to test the circulation and sensation on the affected side. If there is no pulse it turns the injury into a dire emergency which will require urgent treatment.

Treatment of the Fractures

(a) The group of undisplaced fractures in the supracondylar region, undisplaced fracture of the Olecranon, minor cracks of the radial head and minor chips of any of the epicondyles. All these are treated by placing arm in collar and cuff sling or posterior Plaster of Paris slab with a suitable sling.

(b) The group of displaced fractures like majority of supracondylar fracture, some fracture of the radial head, T & Y shaped fractures, fractures of the humerus will require an anaesthetic and close reduction before they are immobilised. Circulation of the limb must be checked before the final degree of fixation.

(c) Most troublesome of all are the fractures which will require open reduction. They are mainly transverse fractures of the Olecranon with displacement which can be done with wires or a screw. T & Y shape fractures of lower end of humerus some times require internal fixation but good range of movement should be the aim.

Nursing Care

Pre-operative. Skin preparation is to be done according the routine of the hospital. A consent form for operation and anaesthesia should be signed by the patient or guardian of the patient. The patient and his relatives should be explained what is to be done. A nurse is usually the best person to do this.

Post-operative. Besides the general nursing care such as to watch for Blood Pressure, Temperature, Pulse, respiration, position of the operated area every 15 to 30 minutes at first, then on satisfaction the interval can be increased. Special sling (brook sling) attached to a drip stand fixed up with safety pins. A few hours like this can considerably ease some swelling. There are many jobs that the patient will find impossible to perform and here the nurse will have to help him.

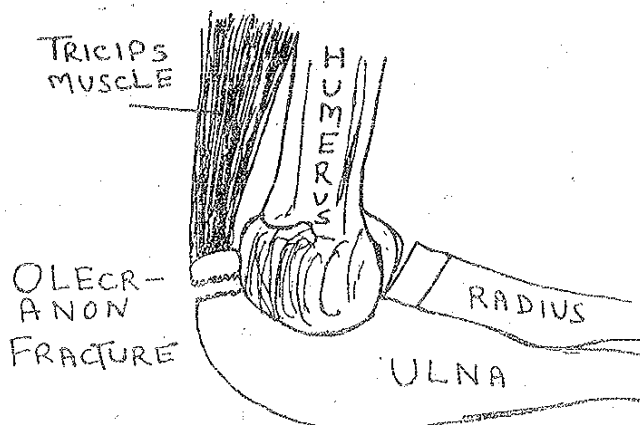


Fig. 4

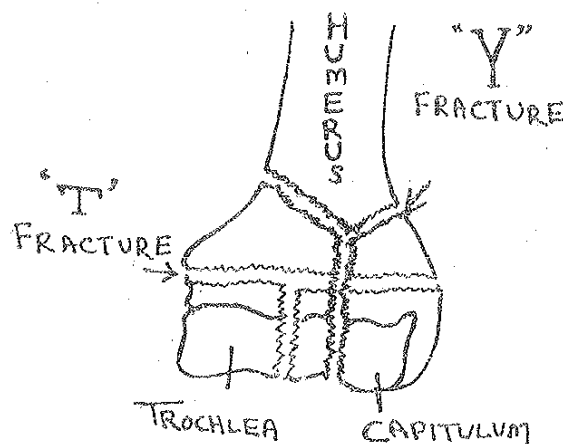


Fig. 5

Be sure that the locker is well placed so that everything can be reached without asking for a nurse and that a monkey pole is supplied to aid mobility while he is in bed.

The patient should be encouraged to move his fingers as often as possible. As well as help him to prevent muscle wasting, stiffness and to reduce swelling. It gives the patient a sense of helping himself in a some-what important way.

Strong analgesics for pain may be necessary but before giving the part should be examined to see whether the pain can be relieved in some other way, just by adjusting a bandage or chopping a piece off the plaster. This is far better than giving an injection.

It is the first duty of nurses to ensure at regular intervals that the circulation, sensation (nerve supply to the limb) movements, temperature and swelling are satisfactory. This can also be done while other observations are made. Check all mentioned observations when the patient is back from the theatre and whenever you pass from the patient's bed side.

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