

How to treat fractures around the elbow

Between 2000 and 2012, WorkSafeBC accepted more than 3300 claims for elbow fractures—70% of the claimants were male, 30% were female; their median age was 42. Almost 72% of the injuries were the result of a worksite fall, while another 20% were caused by being struck by an object or having a limb caught in equipment or machinery. The majority of these workers were employed in the construction, service, or transport industries.

Workers with elbow fractures were off work for a median of 59 days, and almost 25% went on to receive a long-term pension award, generally because they were experiencing stiffness and decreased range of motion of the joint.

Types of elbow fractures

The types of elbow fractures workers experience typically depends on their age. In working-age adults, falls on the outstretched hand may cause a fracture of the radial head, while high-energy injuries may cause a complicated multifragmented fracture of the distal humerus.

In the elderly (including those of working age), a less complicated fracture may be isolated to the olecranon. But an osteoporotic individual, in particular, may suffer a grossly comminuted fracture of the elbow as a result of a fall. In children and potentially younger workers, a fracture commonly involves the supracondylar area of the humerus or the lateral condyle, or a Monteggia fracture involving the ulna, with a dislocation of the radial head. (Both of these fractures in children should be regarded as requiring emergency treatment.)

This article is the opinion of WorkSafeBC and has not been peer reviewed by the BCMJ Editorial Board.

Clinical pitfalls

Clinical pitfalls arise around less obvious fractures, such as a fracture of the coronoid process of the radius, which may occur with an elbow dislocation. The other example of a clinical pitfall

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would be a Monteggia fracture, where the fracture of the ulna is treated, but the dislocation of the radial head is overlooked.

In either case, if the worker's injury is not fully diagnosed and treated, he or she will experience a poor outcome and likely suffer residual impairment.

Treatment considerations

Treatment of an elbow fracture is dependent on whether the fracture fragment is displaced or the elbow is dislocated. These injuries require surgical treatment.

Undisplaced fractures, especially those involving the radial head, should be immobilized for the shortest possible time to allow some of the pain and swelling to subside, and then be followed by a program of early, gentle, and active mobilization. The elbow joint can become very stiff very quickly if it's immobilized for even short periods. If the stiffness

becomes established, surgical treatment aimed at restoring movement may be ineffective.

Rehabilitation protocol

The key to the worker's successful rehabilitation is fracture stabilization and early motion. Immobilizing his or her elbow—even for a short time—will result in joint stiffness and loss of movement. Therefore, once the fracture is stable, the worker should be encouraged to move the joint and return to daily activities, as noted above. Those with undisplaced and stable fractures, such as undisplaced fractures of the radial head, may need only minimal immobilization of the joint and should start moving the elbow area as soon as it's comfortable to do so.

In addition to elbow movement, the worker's rehabilitation should also emphasize movement of other joints of the affected upper limb. Movement of the shoulder and wrist joints together with use of the hand will reduce the complications of frozen shoulder and finger stiffness—complications that could produce a greater degree of physical impairment than the fracture itself. A good way to promote these activities is by encouraging the worker's early return to work in a suitably protected environment.

For further information or assistance regarding a working patient with a fracture around the elbow, contact a medical advisor at your nearest WorkSafeBC office.

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