Distal Humerus Fractures - Supracondylar Fractures, Children

You have a *fracture* of your elbow. This means the elbow is broken. When fractures are small, they may be treated *conservatively*. That means that only a sling or splint may be required for two to three weeks. In these cases, the elbow may be put through early range of motion exercises to prevent the elbow from getting stiff. This gives the best chance of having an elbow that works normally again. The ligaments of the elbow are usually quite strong, so tears of the ligaments without fracture are uncommon.

DIAGNOSIS

The diagnosis of a fractured elbow is usually made by examination and x-ray. X-rays may be required before and after the elbow is fixed or put into a splint or cast. X-rays are taken after to make sure the bone pieces have not moved to a bad position.

TREATMENT

This fracture is treated according to the grade and type of fracture present. The types of fractures are:

- **Minimal or no displacement** - This means the fracture is stable. The bones are in good position and likely will remain there. This fractures requires splinting of the elbow at 90 degrees for the child's comfort. Complications are rare.
- **Angulated fractures which are not completely displaced.** This fracture requires the extremity to be *immobilization* (held in place so it does not move). It is held in place with a long arm splint from the *axilla* (pit of the arm) to the *metacarpal heads* (the knuckles of the hand). These children need hospitalization to look for possible nerve or vessel damage.
- **Completely displaced fractures** - These fractures require immediate orthopedic referral. There is the possibility of *neurovascular* (nerve or vessel damage) injuries and compartment syndromes. Initial treatment includes *closed reduction* (the fragments are manipulated into good position without an operation). This is followed by pin fixation or *open reduction* (an operation is performed to get the broken bone back into position), if the closed reduction was unsuccessful.

COMPLICATIONS

- **Nerve injuries** may occur in elbow fractures. They usually resolve and rarely result in any *residual* (after healing) disability.
- **Arterial injuries** - injury to the brachial artery is the most common. Because of *collateral flow* (blood flow in other blood vessels), a brachial artery injury may be missed because normal pulses are present.
- **Cubitus Varus** - this is a cosmetic **(improve appearance)** complication in which the bone heals improperly and results in a “gunstock” deformity. This deformity comes from healing of the fracture in poor position. Correct reduction of the boney fragments (break apart) prevents this cosmetic problem.
- **Compartment Syndrome** - Forearm compartment syndromes (the sequela of which is Volkmann's contracture) rarely occur in a fracture which is timely reduced and splinted. The diagnosis is made clinically (by examination) with the child having a tense forearm and severe pain.

HOME CARE INSTRUCTIONS

- Only take over-the-counter or prescription medicines for pain, discomfort, or fever as directed by your caregiver.
- If you have a splint held on with an elastic wrap or a cast and your hand or fingers become numb or cold and blue, loosen the wrap and reapply more loosely. See your caregiver if there is no relief.
- You may use ice for twenty minutes, four times per day, for the first two to three days.
- Use your elbow as directed.
- See your caregiver as directed.

When you have an elbow fracture, it is important to carefully monitor the condition of your arm. It is impossible to predict the amount of swelling that may occur. Therefore carefully follow all instructions, and be aware of the possibility that you may need to seek immediate medical care.

SEEK IMMEDIATE MEDICAL CARE IF:

- There is swelling or increasing pain in elbow.
- You begin to lose feeling in your hand or fingers, or develop swelling of the hand and fingers.
- You get a cold or blue hand or fingers on affected side.

MAKE SURE YOU:

- Understand these instructions.
- Will watch your condition.
- Will get help right away if you are not doing well or get worse.

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