Posterior Elbow Dislocation

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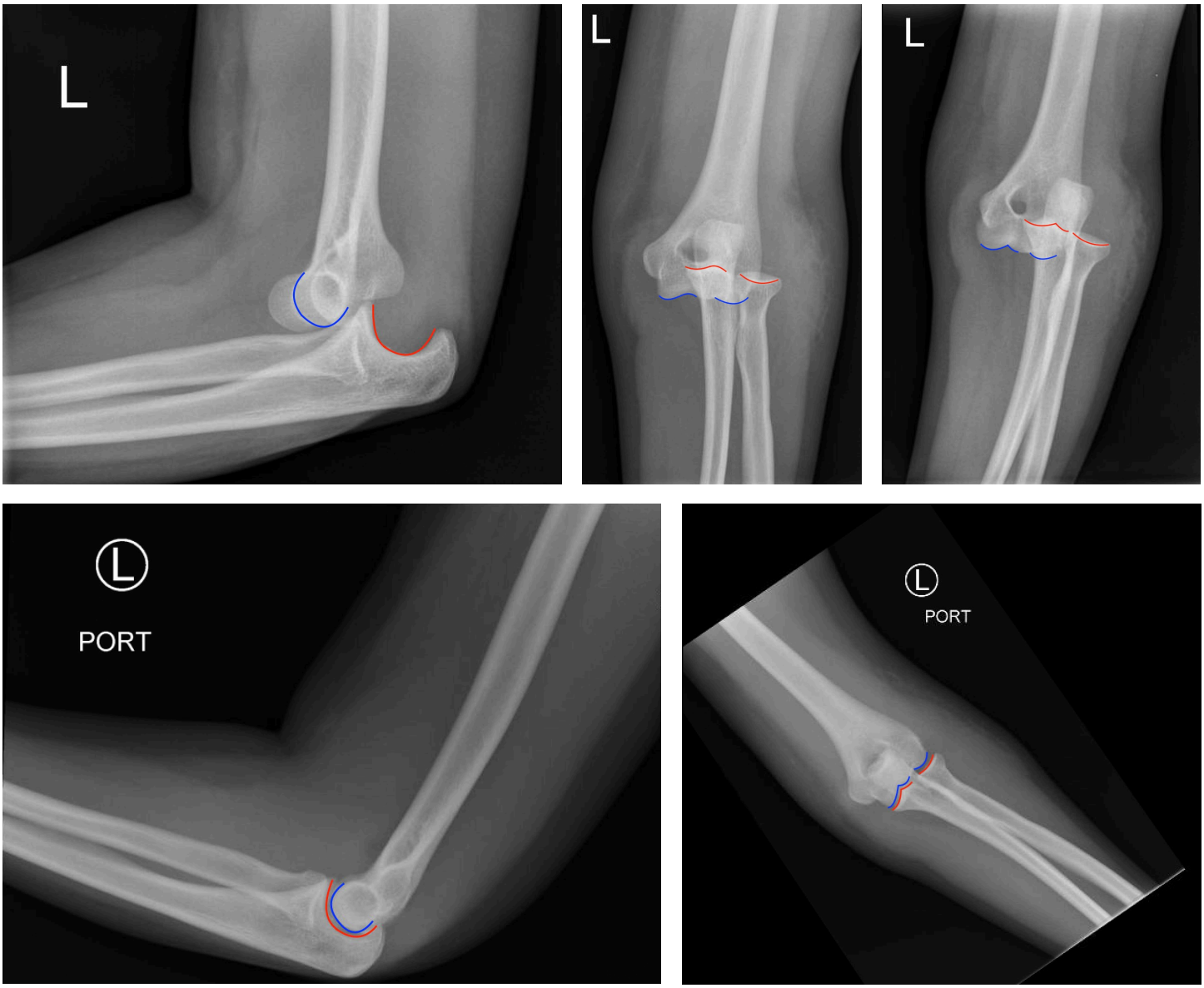

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History of present illness: A 15-year-old female presented with left elbow pain. While competing in a high school wrestling match, she extended her left arm to brace a fall and had immediate onset of sharp pain. She denied weakness or numbness of her left arm. She had no past medical history.

Significant findings: Elbow dislocations are classified by the position of the radio-ulnar joint relative to the humerus.[1] Images 1, 2, and 3 show a left posterior elbow dislocation; the radius and ulna (red lines) are displaced posteriorly with respect to the distal humerus (blue line). The lateral view of the elbow most clearly shows this: trochlear notch of the ulna (red line) is empty and displaced posteriorly relative to the trochlea (blue line). There is no associated fracture. Images 4 and 5 show the elbow status-post reduction, demonstrating proper alignment of the distal humerus (blue line) with the radius and ulna (red lines).

Discussion: Traumatic dislocations of the elbow are relatively uncommon in pediatric patients, with a peak incidence at 13 to 14 years.[1] Dislocations are usually posterior and occur after forced abduction and extension of the elbow.[1] It is important to evaluate for an associated fracture or avulsion, which occurs in over 50% of pediatric elbow dislocations. Fractures most commonly involve the medial epicondyle, radial head and neck, or coronoid process.[1] One should also consider a neurovascular injury to the ulnar or median nerve or to the brachial artery or its branches.[1]

Posterior elbow dislocations should be reduced as soon as possible.[1] Patients should receive adequate sedation and/or analgesia. One method of reduction is the "puller" technique, during which a practitioner stabilizes the humerus, while a second practitioner applies force against the anterior forearm, with gentle traction distally.[1] Post-reduction neurovascular reassessment is important. After successful reduction, patients can be immobilized in a posterior long arm splint.

Topics: Orthopedics, ortho, elbow dislocation, elbow injury, upper extremity, posterior elbow dislocation

References:

1. Stans, AA. Dislocations of the elbows. In: Beaty JH, Kasser JR, eds. *Rockwood and Wilkins' Fractures in Children. 7th ed.* Philadelphia: Wolters Kluwer; 2010:594-601.