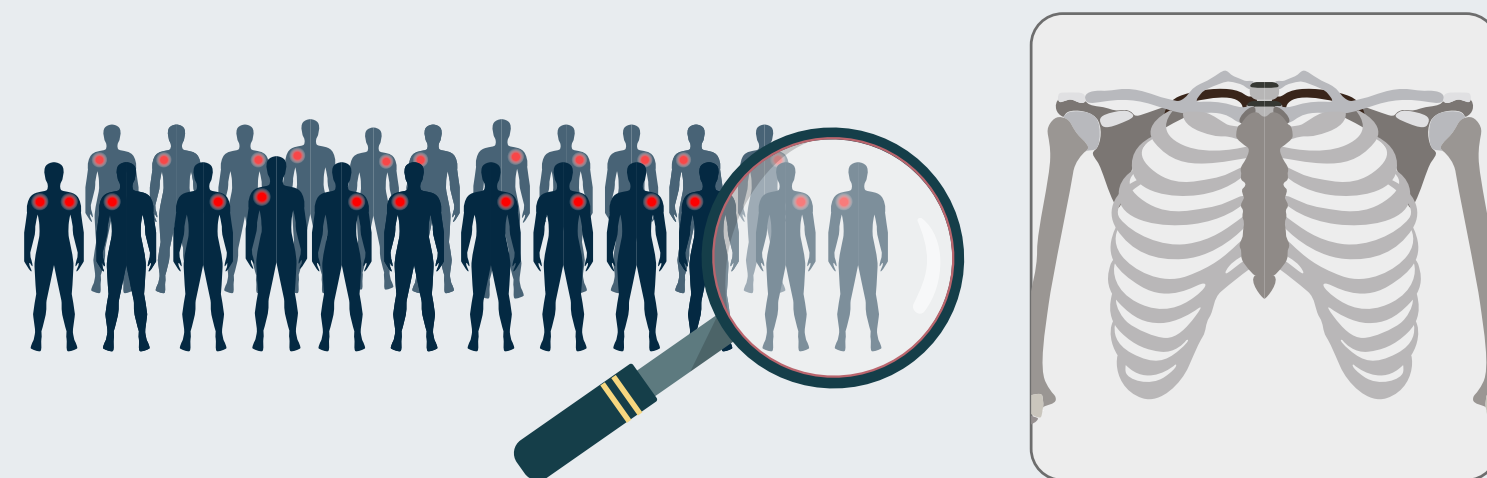


# Identifying First-Rib Stress Fractures in Overhead Throwing Athletes

First-rib stress fractures are often overlooked when diagnosing nonspecific atraumatic chronic shoulder pain in overhead throwing athletes



Study evaluated characteristic clinical features and radiographic findings of 24 cases of first-rib stress fractures in adolescent overhead throwing athletes



## Common clinical features

- ▶ Athletes reporting acute pain when throwing or swinging and symptoms such as:

**Posterior shoulder or scapular pain**



(n=17)

**Painful breathing**



(n=5)

- ▶ Mean follow-up of 7.5 months after conservative care showed:



**71% healed fractures**



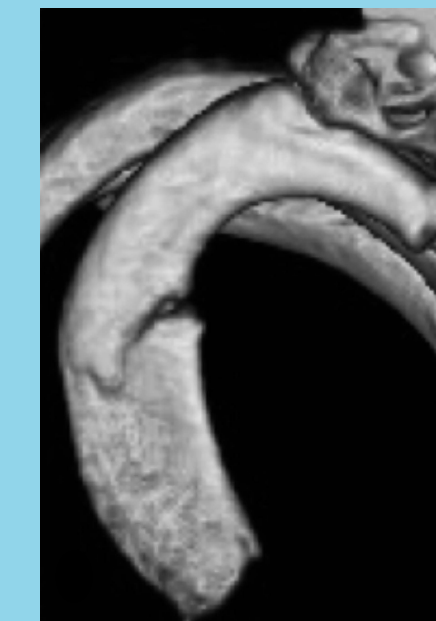
**29% nonunion fractures**



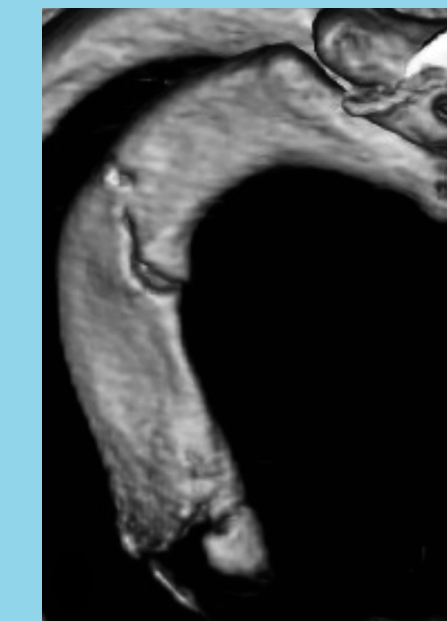
**First-rib fractures should be considered when overhead throwing athletes report acute-onset posterior shoulder pain and cervical radiographs should be used to confirm diagnosis**

## Common radiographic features

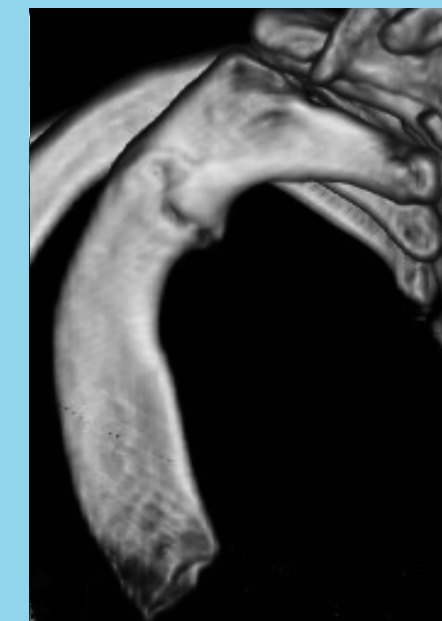
- ▶ Stress fractures were classified into 3 types:



**Groove**



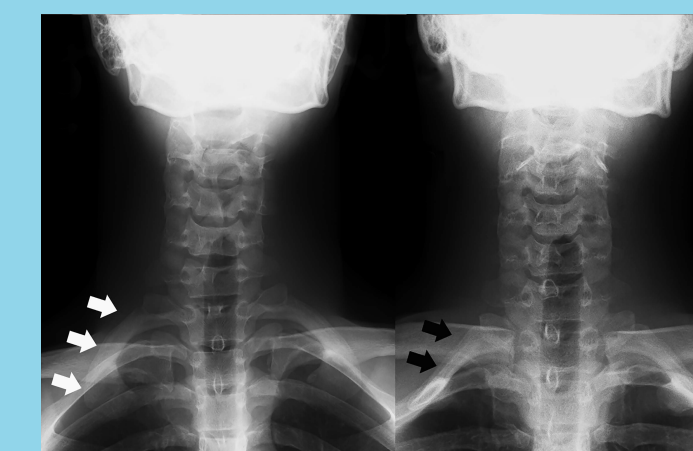
**Interscalene**



**Posterior**

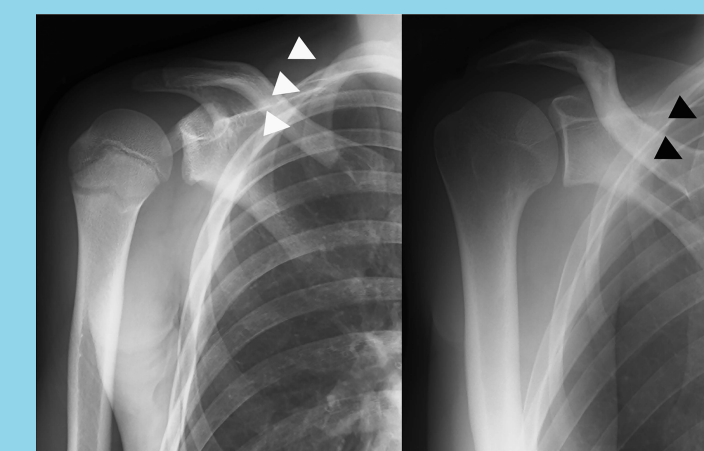
- ▶ Diagnosis of first-rib fractures should be confirmed using different radiographs:

**Cervical spine**



**97% visibility**

**Shoulder**



**46% visibility**

## First-Rib Stress Fracture in Overhead Throwing Athletes

Funakoshi et al. (2019) DOI: 10.2106/JBJS.18.01375

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