

Clinical History

43 year old male presents with thumb pain following injury

Pain is centered at the metacarpal-phalangeal joint of the thumb



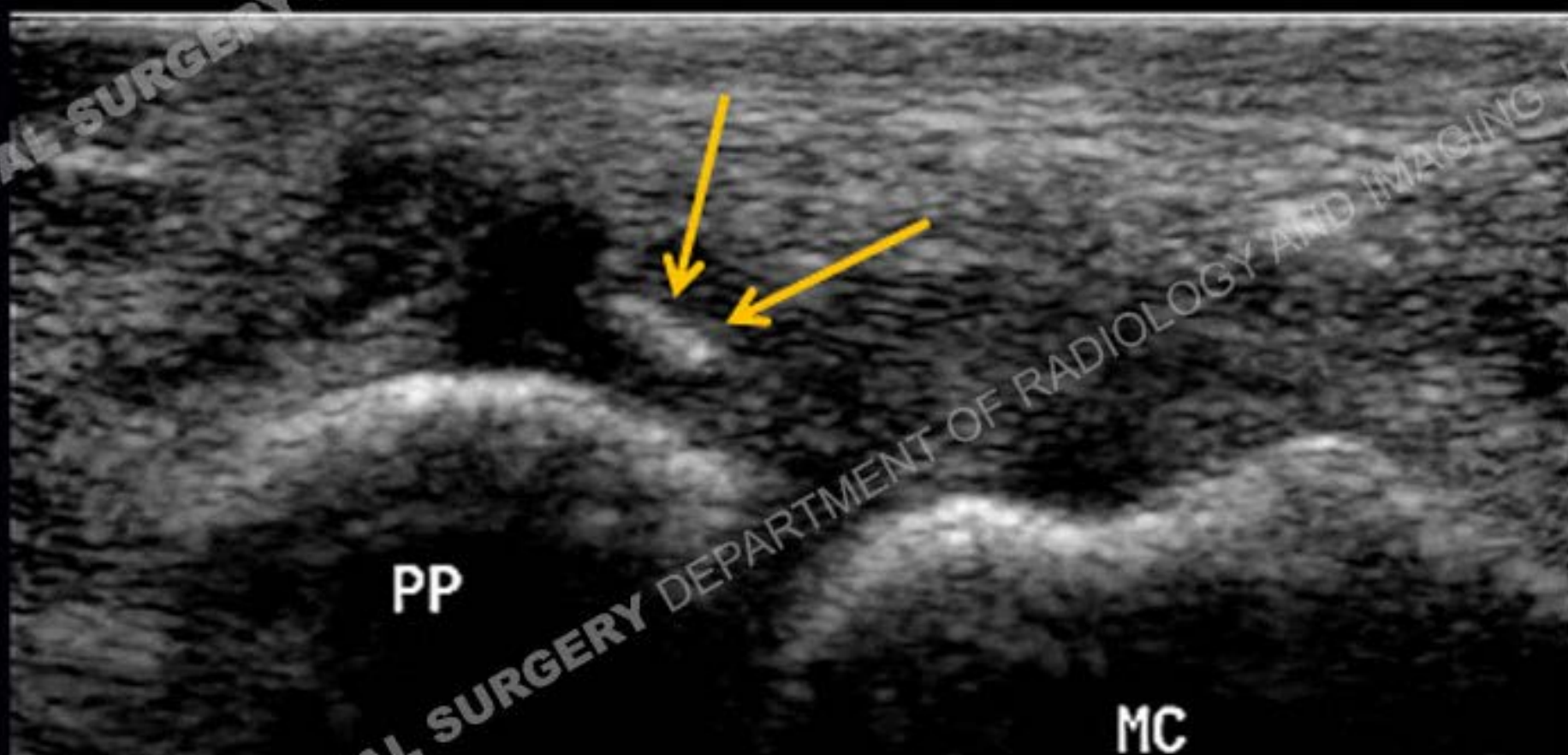
Physical Examination

Examination demonstrates abnormal mobility at the metacarpal-phalangeal joint of the thumb and soft tissue swelling at the ulnar aspect

Tear of the ulnar collateral ligament (UCL) of the thumb was suspected

The patient was sent for an ultrasound examination to characterize the integrity of the ulnar collateral ligament





Ultrasound image longitudinal to the course of the UCL demonstrates a small echogenic fragment reflecting an avulsion fracture (arrows) from the proximal phalanx (PP). MC- 1st metacarpal head.



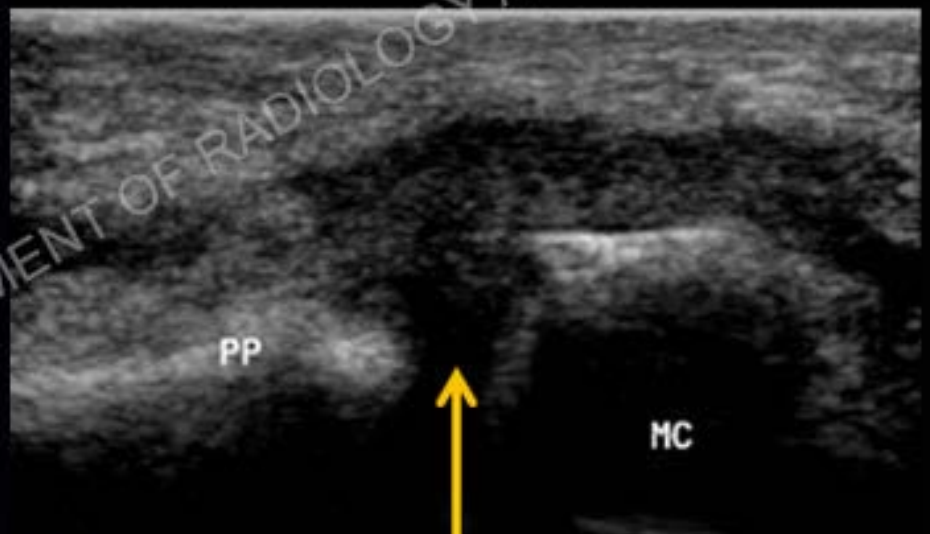
Additional longitudinal images demonstrate an anechoic gap at the UCL attachment site to the proximal phalanx (yellow arrows) reflecting a full thickness but non-displaced ligament tear. Red arrow- avulsion fracture fragment.



Radiographs demonstrate a subtle avulsion at the base of the proximal phalaynx of the thumb (arrows) correlating with the sonographic finding.



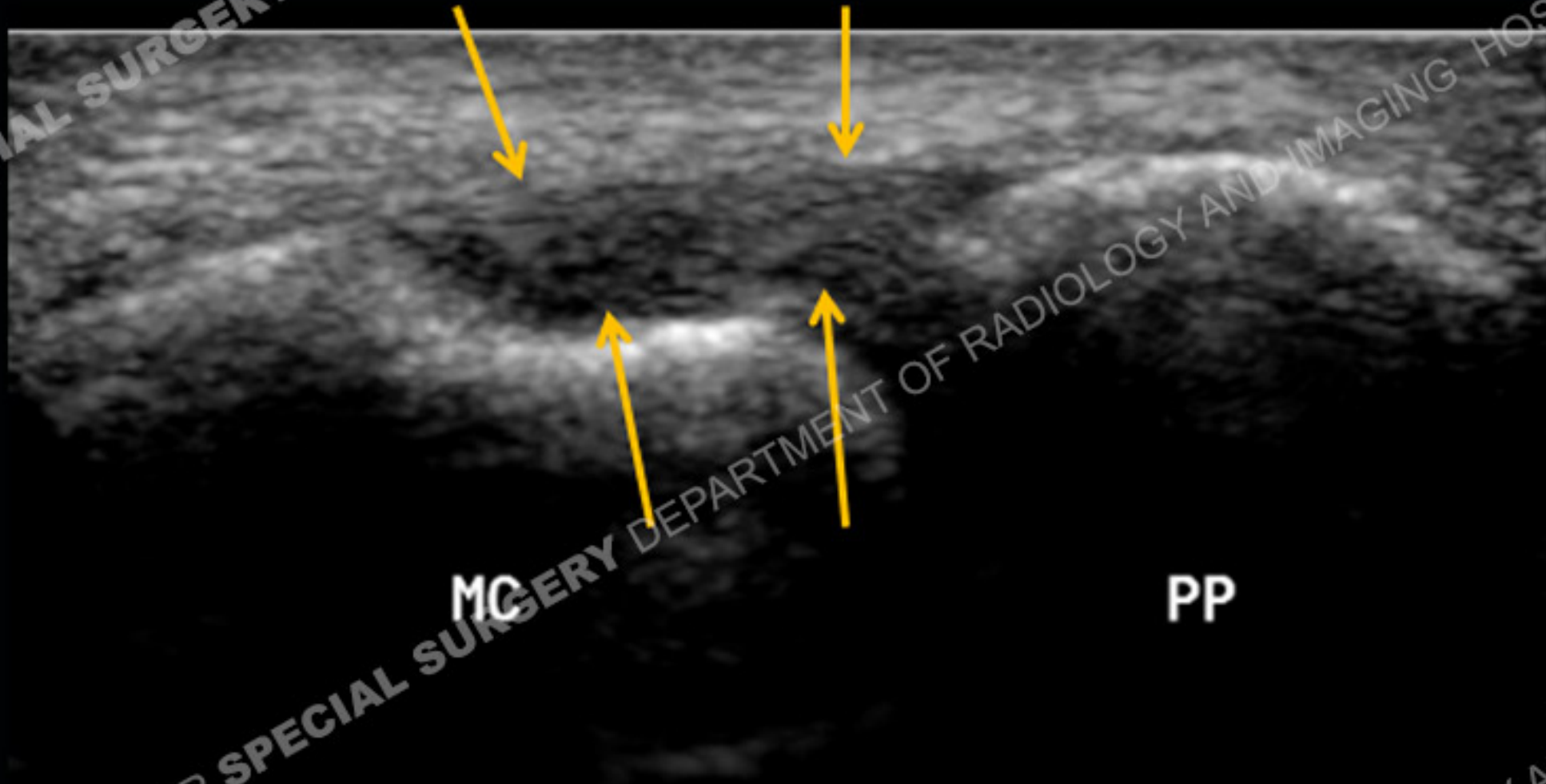
a



b

Two images of the joint space with (a) rest and (b) Mild valgus stress on the joint demonstrating abnormal widening of the joint during the stress maneuver consistent with full-thickness tear of the UCL.

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Comparison image from another patient demonstrating the normal appearance of the UCL (arrows). MC - 1st metacarpal, PP - proximal phalanx.

Diagnosis: Complete tear of the ulnar collateral ligament of the thumb with avulsion

Represents a very common thumb injury, most commonly occurring with skiing or after falls

Injury results from forced hyperextension or abduction of the MCP joint

Injuries to the ligament range from strain to partial or full-thickness tears



Discussion

While MRI has historically been the imaging study of choice for evaluating the ulnar collateral ligament, ultrasound will often quickly make the diagnosis and should be considered when this diagnosis is suspected.

It is important that complete tears are detected early so that prompt surgical correction may be performed.

