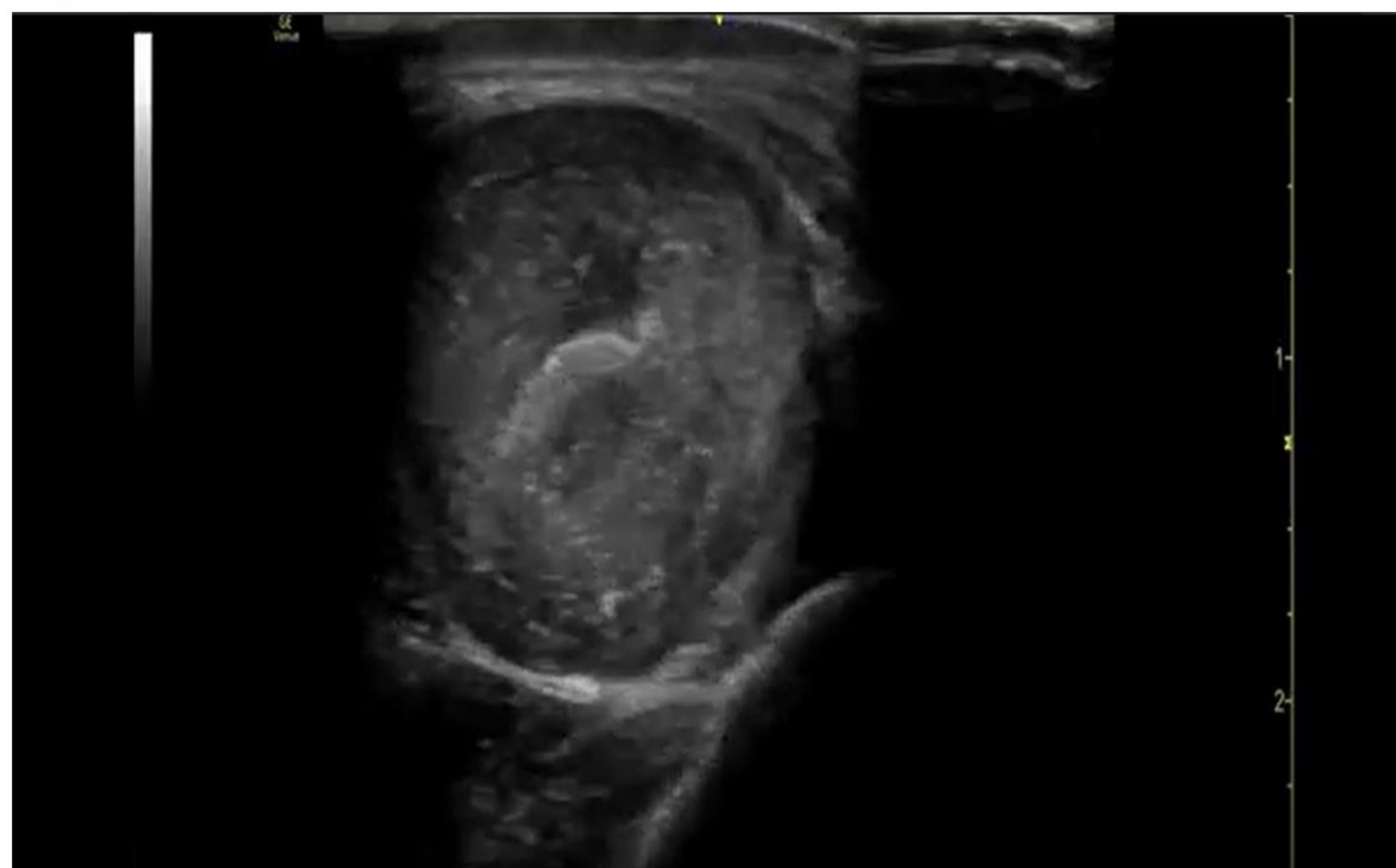


## Introduction

- Point of care ultrasound has shown demonstrable utility in the diagnosis of numerous soft tissue pathologies.
- This case demonstrates the use of point-of-care ultrasound aiding in the diagnosis of exercise-induced compartment syndrome ultimately requiring fasciotomy.

Figure 1



Note. Proximal R forearm extensor musculature

Figure 2



Note. Distal R forearm extensor musculature

## Case Report

A 28-year-old right hand dominant male presented to the Emergency Department with three days of progressive pain and paresthesias of the right hand and forearm. He is employed as a welder and was reported working on a pull-start type boat motor prior to onset. No trauma or welding injuries were reported.

The patient was in extreme distress with pain to the dorsal right forearm which demonstrated a region of induration and edema near the lateral aspect of elbow extending to the distal forearm. Radial pulse was noted to be thready, and the distal aspect of the right digits were cool to the touch.

Point-of-care ultrasound over the proximal area of interest revealed a circular soft tissue abnormality of homogenous echotexture with loss of normal fibrous structures surrounded by a hyperechoic border (**Figure 1**). Normal echotexture returned as the scan was advanced distally (**Figure 2**).

Orthopedic surgery was consulted. MRI demonstrated myositis of the extensor musculature of the mid and upper forearm in the extensor carpi ulnaris without discrete abscess.

Review of operative report revealed outpouching of tissue contained in the carpal tunnel, an extensor carpi ulnaris described as “dusky and darkened but not dead”, and a small amount of edema but normal appearing muscle of the extensor digitorum communis muscle. Pathologic specimens returned with findings consistent with acute compartment syndrome.

Patient requested discharge post-op. No follow-up has been documented.

## Discussion

- Case reports have been documented in literature of exercise induced compartment syndrome of the forearm [1,2,3]. However, little can be found in highlighting use of soft tissue point-of-care ultrasonography aiding diagnosis.
- In this particular case, it is thought that progressive edema from heat exposure and mechanical overuse provided a nidus for compartment syndrome.
- A confounding element in this case is the lack of objective compartment pressures. However, operative findings paired with history, physical, and ultrasonographic findings resulted in prompt surgical intervention in this case.

## Conclusion

- In the hands of an experienced user, point-of-care ultrasonography can greatly aid in confident and timely diagnoses of many dangerous pathologies.
- In this case presentation, proper use of POC ultrasound resulted in swift diagnosis and intervention for the patient in a time-sensitive manner, possibly avoiding significant long-term disability for the patient.

## References

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