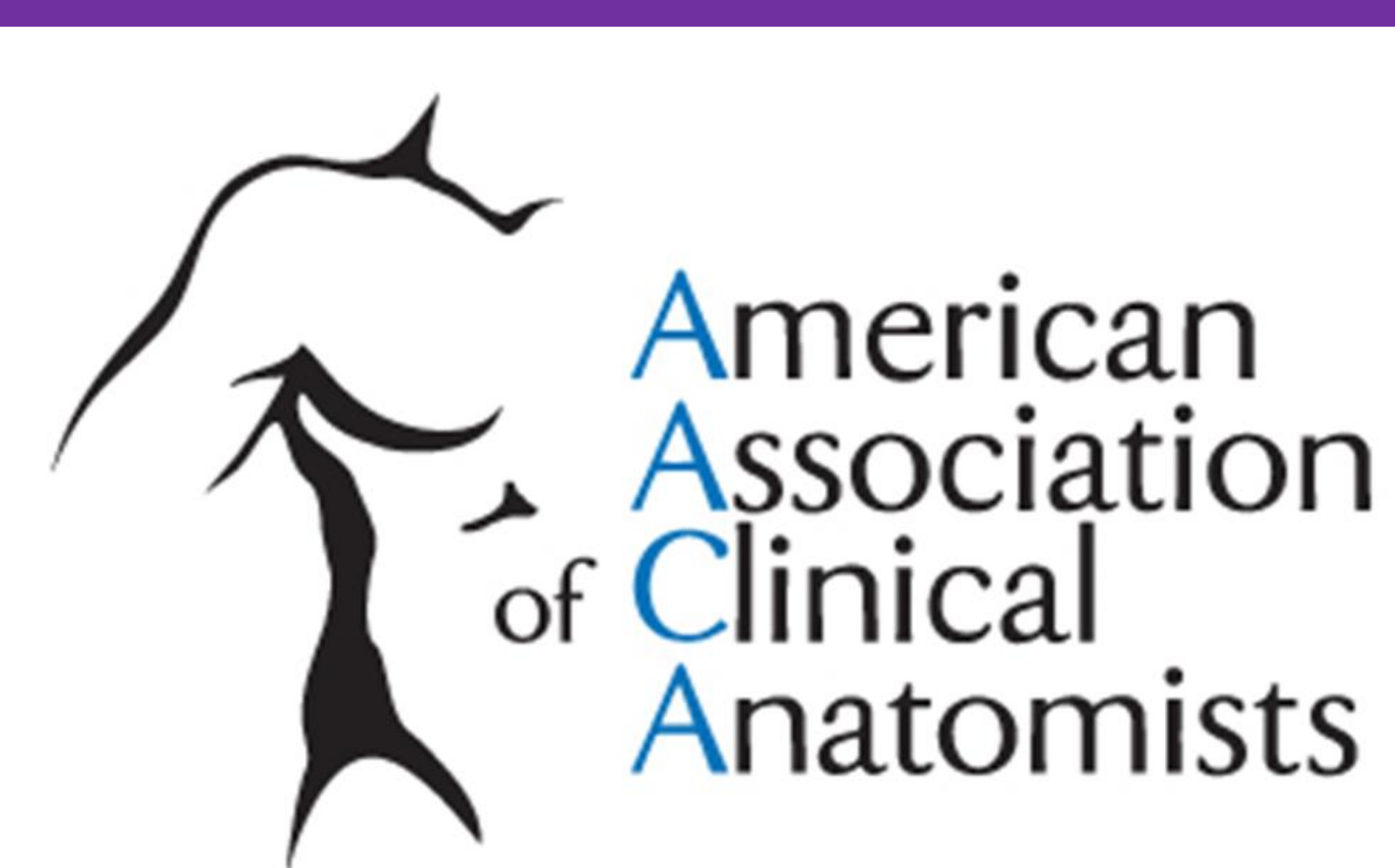


Anatomic Variation of Musculocutaneous Nerve

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INTRODUCTION

Physician Assistant students discover anatomic variation of the musculocutaneous nerve.

RESOURCES

A 75-year-old female embalmed cadaver with a left upper extremity variation of musculocutaneous nerve not piercing through the coracobrachialis and three branches originating from the median nerve.

DESCRIPTION

Dissection of the upper extremity revealed the musculocutaneous nerve not piercing through the coracobrachialis muscle. Students discovered three separate branches extending off the median nerve to innervate the coracobrachialis, biceps brachii, and brachialis muscles. Review of literature found this specific anatomic variation has a prevalence ranging between 1.5 to 15%. Variability in the origin of the musculocutaneous nerve not piercing through the coracobrachialis increases the susceptibility to damage as the nerve fibers are not protected by the biceps brachii muscle. Exploratory and traumatic surgical interventions can result in clinicians performing invasive procedures without prior knowledge of anatomical variation. Furthermore, anatomic variation of the origin of the musculocutaneous nerve arising from the median nerve could result in variability in the nerve roots supplying muscles of the anterior arm. Variability in the branches arising from the median nerve could result in atypical nerve root distribution to the muscles of the anterior compartment of the arm. This inconsistency could result in atypical myotome clinical presentations.

SIGNIFICANCE

Variation in the musculocutaneous nerve requires clinicians to have an in depth understanding of neural pathways and function. Typical anatomy and anatomic variation must be considered to safely evaluate and perform invasive procedures of the upper extremity. Variations in the musculocutaneous nerve could explain atypical clinical presentation and procedural outcomes.



Figure 1: Musculocutaneous Nerve Variation

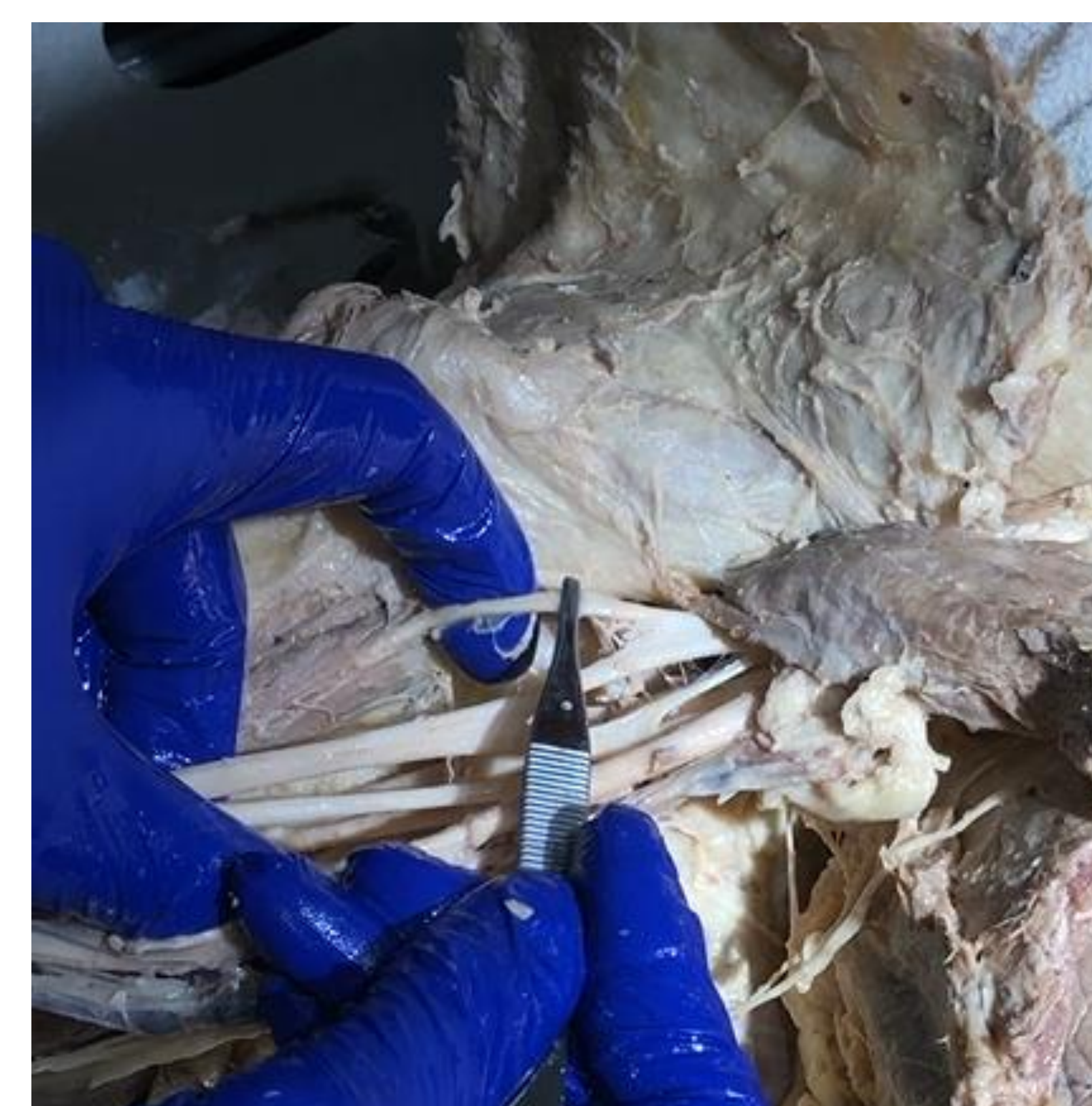


Figure 2.1

Typical Musculocutaneous Nerve Pathway Piercing Coracobrachialis.

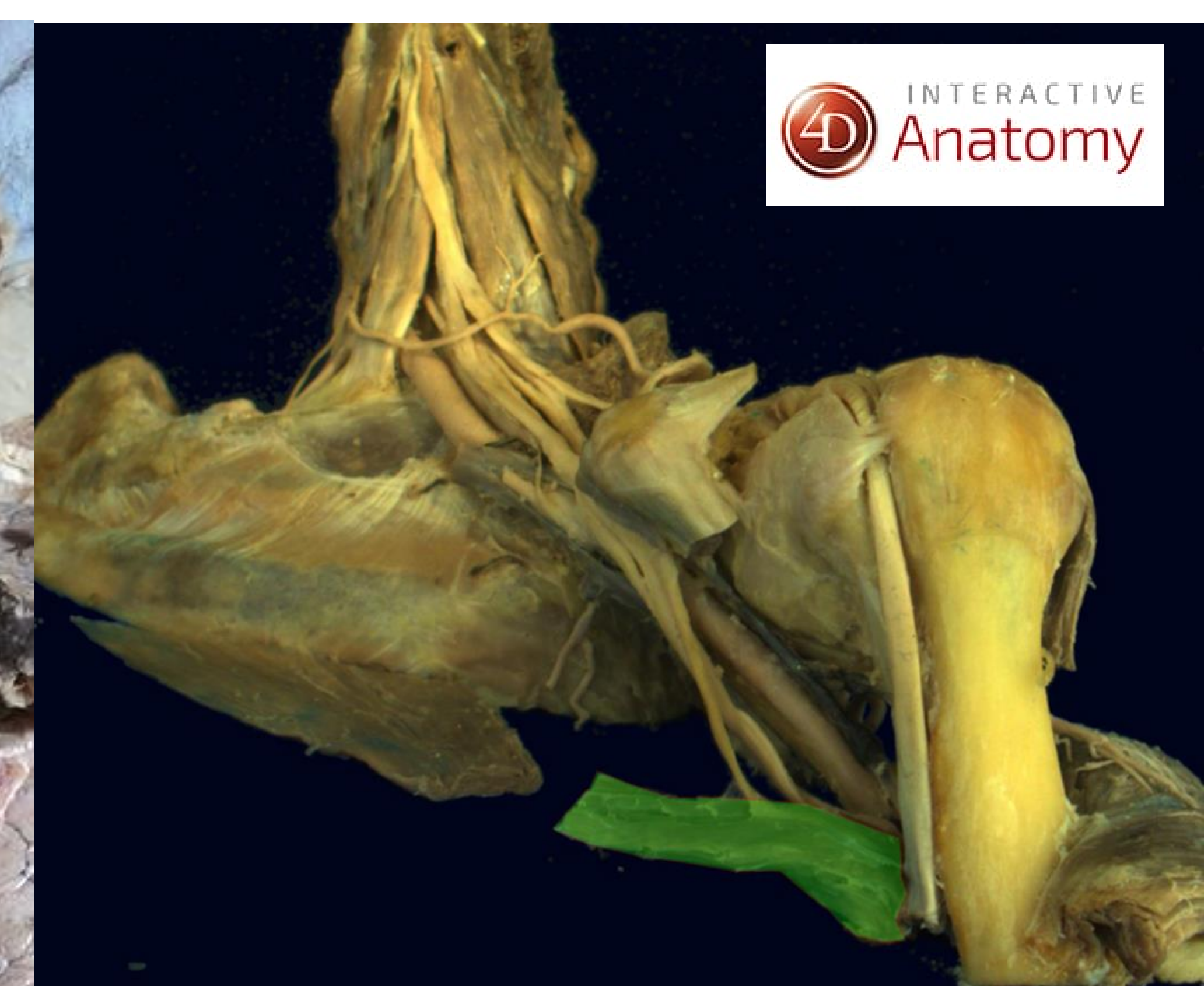


Figure 2.2



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