INTRODUCTION. This case evaluates a cadaver with a protruding left clavicle and an accessory muscle, dissected by Doctor of Physical Therapy Students. RESOURCES. An 89-year-old male cadaver with anatomical variation. Cause of death was Parkinson’s Disease. DESCRIPTION. An atypical protrusion of the medial head of the clavicle, extending anteriorly 3 cm from sternal clavicular end, and bony growth attaching to the manubrium was discovered. Students’ review of literature found multiple clavicular abnormalities including congenital clavicular pseudoarthrosis, and Cleidocranial dysplasia syndrome, although none matched this deviation. Rare sternoclavicular dislocations could result in atypical presentations of the clavicle. Students speculated this anatomic variation could result in sternoclavicular joint hypomobility impairing typical scapulohumeral rhythm. When removing the pectoralis minor on the contralateral side, an accessory muscle, also known as Subclavius Posticus, was found attaching to the inferior clavicle and costal cartilage of the first rib to the superior border of the scapula. This muscle, Subclavius Posticus, exhibits an incidence of 8.9% in 124 cadaver dissections. A kyphotic posture was also speculated with the accessory Subclavius Posticus muscle. In addition, a supraspascular nerve compression may have occurred limiting movements of abduction and external rotation. Students found high-resolution MRI may help evaluate compression of the supraspascular nerve secondary to an accessory Subclavius Posticus muscle. Subclavius Posticus could result in limitations in scapular posterior tilting and upward rotation. Anatomic variation found in the clavicle and subclavius posticus would likely result in impaired scapulohumeral rhythm resulting in impaired humeral elevation above 90 degrees. SIGNIFICANCE. The anatomic variations of an irregular left clavicle and a right accessory Subclavius Posticus muscle encouraged students to critically analyze these irregularities and hypothesize clinical presentations.