

# Muscle Memories

## The Pectoralis Minor Story

BY JOSEPH MUSCOLINO, D.C.

When I was given an opportunity to write a column on my favorite muscle, how could I refuse? I have come to appreciate pectoralis minor as the most fascinating muscle in the human body, and for the role it plays in postural distortion patterns and thoracic outlet syndrome. So, let's take a closer look at it!

### Attachments and Actions

The pectoralis minor is located in the pectoral region and is smaller than the pectoralis major, hence its name. It is located entirely deep to the pectoralis major and attaches superiorly to the coracoid process of the scapula, and then divides into three slips that attach to ribs 3 through 5. Attaching to the scapula and the ribcage, the pectoralis minor has the ability to move both of these attachments. We usually think of the scapula as the more mobile attachment, and in fact, when the ribcage is fixed and the pectoralis minor contracts and shortens (i.e., concentrically contracts), the muscle has the ability to pull the scapula toward the costal (cost means rib) attachment. This means that it can protract, depress, and downwardly rotate the scapula at the scapulocostal (scapulothoracic) joint. It can also laterally and upwardly tilt the scapula. When the scapula is fixed and the pectoralis minor concentrically contracts, it pulls ribs 3 through 5 up (elevation of these ribs at the sternocostal and costospinal joints). Elevation of ribs is an important component of inspiration. Therefore, the pectoralis minor also functions as an accessory muscle of inspiration.

### Palpation

To be able to accurately work the pectoralis minor, one needs to accurately determine its location by palpation. Even though the pectoralis minor is deep to the pectoralis major, palpating it through the pectoralis major is extremely easy. Have the client seated with the hand in the small of the back; the therapist stands behind and to the side of palpation. Locate the concavity in the lateral end of the clavicle and then drop inferiorly from there to the coracoid process of the scapula (figure 1a); from there, drop just off the coracoid process inferiorly and you will be on the pectoralis minor. To engage the pectoralis minor so that it becomes palpably firmer and easy to distinguish from the pectoralis major, simply ask the client to move the hand away from the small of the back (figure 1b). This motion causes extension of the arm at the shoulder joint, which in turn requires downward rotation of the scapula at the scapulocostal joint (the scapula and ribs are coupled together). Because the



figure 1a

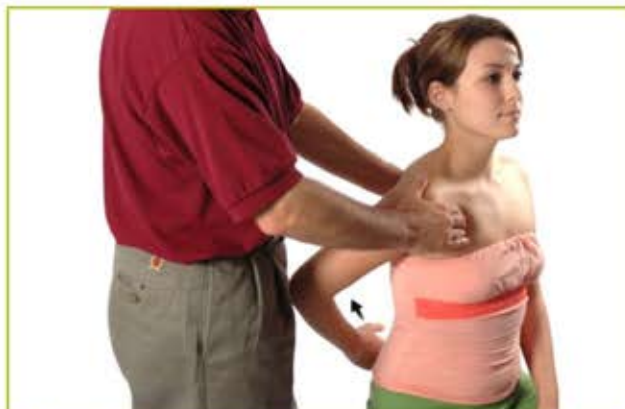


figure 1b



figure 1c

### Role in Posture

The pectoralis minor often plays a major role in posture. Given that the majority of our activities are usually performed downward in front of us, contraction of the pectoralis minor also causes downward rotation of the scapula, which in turn causes the head to tilt forward, creating a rounded shoulder posture.

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