
ANALYTICAL MANUAL TRAINING TECHNIQUES FOR M. SERRATUS ANTERIOR

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Abstract: In manual healing massage techniques and kinesiotherapy analytical exercises, there is no complete information on the targeted effects on separate parts of the m.serratus anterior. It is a protractor, a blade abductor, a helping muscle in the inspiratory breathing movements and participates in the training of the pectoral muscles. Its complex function defines it as muscle, which should be emphasized in shoulder girdle disease, postural abnormalities, pulmonary diseases, peripheral nerve damage, etc. Based on a study of the various techniques available for stretching, healing massage and analytical training, we offer a complex impact on m.serratus anterior. To perform the techniques, we use a tool to work on the muscles around the blade. M..serratus anterior has three parts: m.serattus anterior superior, m.serratus anterior intermedius et inferior. The fibers of the lower part are directed medial-caudal position, the fibers of the middle part are located more horizontally and the upper part moves in the medial direction towards the collarbone. The location of the individual parts and fibers helps to target the muscle. The healing massage methodology includes the following techniques: crunching is available for the serratus anterior muscle. For its crushing, the patient is in a lateral lying position, his arm is lifted and placed behind the head that opens the axillary well. The masseur is behind the patient's back. The well-defined muscles are treated with a pinching technique. In poorly expressed hypotrophic muscles, it is crushed by pressure on the ribs with the cushions of the spread fingers in the intercostal area. The innervation of the muscles starts with roots C5,6,7 , n.thoracicus longus which ends in the axilla under the medial third of v.axillaris and goes down along the serratum anterior muscle of the chest. To perform a therapeutic effect on the individual parts of the muscle, we instruct the patient to perform analytical exercises at the same time and then perform an autostretching at the time the therapist uses the muscle-processing tool. We urge the patient to perform inspiration to activate muscle function. Inspiratory muscle training is used to better strengthen the muscle.

Keywords: analytical exercises, m.serratus anterior, a tool

1. INTRODUCTION

In manual healing massage techniques and kinesiotherapy analytical exercises, there is no comprehensive information on purposeful impact on individual parts of m.serratus anterior. Figure 1 shows the insertions of the muscle, it has three parts:

- ✓ m.serratus anterior superior,
- ✓ m.serratus anterior intermedius
- ✓ m.serratus anterior inferior

The fibers of the lower part are medial caudal direction, the fibers of the middle part are located horizontally, and the upper part moves in the medial direction for the first ribs. The location of the individual parts and fibers helps to target the muscle.

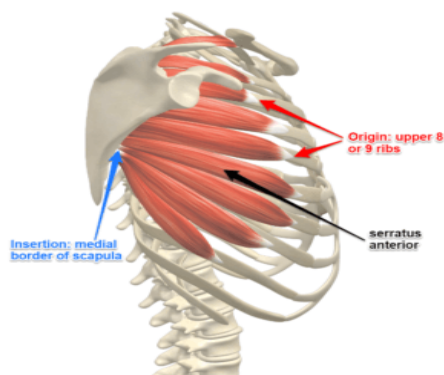


Fig.1 m.serratus anterior-insertions

It is a protractor, a blade abductor, a helping muscle in the inspiratory breathing movements and participates in the training of the pectoral muscles. The innervation begins with roots C5,6,7, n.thoracicus longus enters the axilla below the medial third of v.axillaris and descends on the teeth of the anterior cognitive muscle lying on the chest wall.

Its complex function defines it as muscle, which should be emphasized in shoulder belt disease, postural abnormalities, pulmonary diseases, peripheral nerve damage, etc.

2. MATERIALS AND METHODS

The method of healing massage includes the following techniques (Kraev, 2005): For its crushing, the patient is in a lateral position, his arm is lifted and placed behind the head that discovers the axillary well. The masseur is behind the patient's back. The well-muscled muscles are stiff. Under weakly hypotrophic muscles, it is crushed by pressure on the ribs with the pads of the fingers spread in the intercostal are.

The kinesi therapist should know the typical pattern of localization of trigger points and areas of muscular irradiation, and in particular m.serattus anterior to process them. Figure 2 shows two three trigger points for eliminating pain and restoring muscle function.

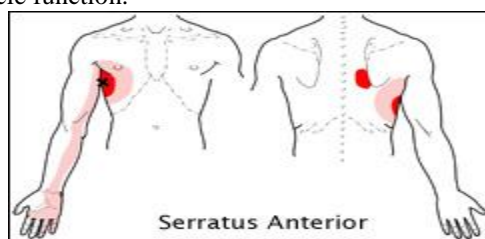


Fig.2 Typical pattern of localization of trigger points and irradiation zones (m.serratus anterior)

Variations of standard stretching techniques:

- ✓ Starting position: Patient: Seating, arm behind the body, inner arm rotation. (Dimitrova, 2008). Therapist: Stand upright on the opposite side of the muscle, stabilizing the patient's shoulder and arm with his chest and abdomen. Manual grip: One hand of the therapist catches the latero-dorsal side of the patient's arm just above the elbow and holds the arm internally rotated and fully adducted. His other hand covers the ventral side of the shoulder. Movement: The therapist progressively and completely moves the patient's blade in the cranial, dorsal and medial direction by moving the arm.
- ✓ The stretching can be done by a seat or a side lying. When seated, the therapist stands behind the patient. With one hand he stabilizes the chest in the area of the sternum. With the other, he holds the patient's elbow folded and pulls the arm to extension and horizontal adduction so as to draw the blade to the retracted. When stretching from a side lying position, the patient is lying on the untreated side. (Popov, 2018). The therapist faces him. With his caudally placed hand he fixes the thoracic portion, immediately medial from the blade, the other covers the patient's shoulder. The stretching is in the direction of the shoulder retraction.

Sample Analytical Exercises for Impact on the Three Parts:

- ✓ SP Standing Exercises with a closed kinematic circuit with slight overload stimulate the co-contraction of the rotary cuff and blade stabilizers. Methodological Guidelines (MG): If there are no contraindications, performing a slight displacement of the body forward and left-right stimulates the muscles to control movement (Popov, Dimitrova 2007).
- ✓ SP. standing. Training of m.serratus anterior with elastic placed on a metal pole behind the patient's one upper limb is in the extension of the shoulder joint, slight flexion in the elbow joint, the other is extensible in the elbow joint, flexion about 120 degrees in the shoulder joint is performed of the blade by keeping the body tilted. MG: In terms of rotation, the upper limb is in a neutral position. Exercise is called "Apple taker".
- ✓ SP. knee-to-palm support. The exercise is "Tilt and push back" to strengthen the upper rotary blades. on the knee-palm support, the blades are pulled back and the seat is retracted. The patient pushes the floor down and without moving his palms. MG: Cares for maintaining the physiological curvature of the lumbar spine.
- ✓ SP. standing. Upper limbs in flexion 90 degrees in shoulder joints, extension of elbow joints, fists are placed on a wall. MG: Push the chest on to the chest. There is an external rotation in the shoulder joints and returns to sp.

- ✓ SP. standing upper limbs are smeared 110 degrees in the shoulder joints, hands hold the two ropes of the gladiator close to each other. MG: Protraction is maintained and caution is not to be kifosis on the chest. The ropes are pulled down in front of the body to the lower abdominal area.
- ✓ SP. standing. Training m.serratus anterior by. A short elastic is placed on the back of the palms, the forearms are placed on a roller on a wall. Gradually the upper limbs move in flexion in the shoulder joints. MG: elbows should not be taken away. The exercise can progress with the support of a large inflatable ball. The patient maintains his hands in a constant isometric contraction.

3. CONCLUSION

The study shows that on the three parts part superior, part intermedius and part inferior are influenced by using a different position of the upper limb. We believe that a complete stretching combined with healing massage techniques (fig.3) with a tool (5) followed by analytical gymnastics for m.serratus anterior and breathing exercises, because it is a helping inspirational muscle, should be included to fully restore the function of m.serratus anterior.



fig.3 Stretching on m.serratus previously combined with healing massage techniques with a tool
The patient inhales optimally using inspiration with bent lips for inspiratory muscle training.

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