From RJW's section of CMCC's 1948 text:

MUSCLE PALPATION.

Muscle palpation is employed as an additional check on the findings of osseous palpation. An acute subluxation is simply a persistence of a normal movement of the spinal column and is maintained as an acute subluxation only through spasticity of intrinsic spinal muscles. If this subluxation persists, there will be subsequent changes in the intervertebral disc with the nucleus pulposus shifting away from the side of compression. Further persistence will result in the shortening of the muscles and ligaments on one side and their elongation on the other side. For these reasons muscular contractions are the most reliable indication of acute subluxations, but their importance is gradually diminished in old chronic conditions.

To avoid complications of terminology the term "rotators" is used to include the rotator muscles, the deepest layer of the multifidus, and lesser fibres with the same function. The word "Intertransversarii" is used to include not only these muscles but also sections of the semisplnalis, the levator costae and other small fibres with the same function of lateral bending of the spine.

In order to detect abnormal contractions of these small muscles through palpation we must first be well acquainted with their anatomical positions and the direction of their fibres. Then we must compare the relative tone of bilateral pairs of these muscles. In palpation of the rotators we must glide along the side of the spinous process, then place the middle finger over the insertion of the muscle and carry the skin with the fingers up and down over the muscular fibre. This palpation must be extended along the entire length of the muscle out to the transverse process. If there is Inequality of one in the bilateral muscles, the most spastic one will present a cord-like sensation under the finger tips and a slight enlargement along its entire length. Another important finding is that abnormal contraction of a muscle will result in paresthesias, especially at its insertion, and a slight tenderness over its entire length. If a rotator muscle is contracted much more than its opponent, the spinous process will be drawn toward that side. This will give not only rotation of the vertebra on the one below but also a slight tilting with the low side opposite this contraction. The same disrelatlonship can be accomplished by an abnormal contraction of the intertransversarius on the opposite side to result in an approximation of the transverse processes and consequent rotation of the vertebra along the plane of the articular surfaces.

Palpation of the intertransversarius fibers must be done by placing the middle finger over the body of that muscle and then gliding the fingers back and forth perpendicular to the spinal column over the entire length of that muscle. In the midthoracic region these muscles will be located opposite the spinous process above the subluxated vertebra. In the lower thoracic and lumbar regions this muscle will be located directly opposite the spinous process involved. However, these muscles are located much deeper and the palpator must use considerably more pressure than is necessary in palpating the more superficial muscles.

The findings in muscle palpation give the palpator additional check on his findings from osseous palpation and will eliminate to a great extent the misleading normal deviation of bent spinous

processes. If the spinous process is bent, the palpator would be tempted to consider it as an actual subluxation. But additional checks of muscle palpation will obviate these false interpretations.

A pressure over a contracted muscle will usually result in its relaxation or in a contraction of its opponent, so that the mechanical correction can be accomplished without muscular interference. This would mean that the contact for corrective adjustment be made over the area of greatest contraction so that the relaxation is attained first and then the corrective thrust given with practically no opposition. If the rotator muscle is the primary offender, a spinous process or lamina contact would be indicated. If, however, an intertransversarius contraction is the primary offender, then a transverse process contact would be indicated.

Occasionally a vertebra will be found subluxated in such a way that the most efficient contact must be made on the concave side of a curvature. Since counter-pressure is nearly always used, the effects of exaggerating the rotation will be offset by the increased efficiency of the movement. Occasionally a vertebra will be found subluxated so that the necessary correction must necessarily accentuate the curvature. Since they are usually acute subluxations, it is preferable to adjust them as indicated and give secondary attention to the curvature.

In the upper thoracic region there are several extrinsic muscles which may be misleading at first. Fibres of the trapezius are often quite spastic, but palpation along that abnormal contraction will extend beyond the transverse processes. This check over the entire length of a contracted muscle should obviate any confusion between contraction of intrinsic and extrinsic muscles.