

# Muscle Shortening In Paraspinal Muscles Must Be Treated

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Treatment, when limited to painful peripheral muscles, can fail if the pain is perpetuated by shortening in paraspinal muscles (at the same segment levels) that compresses the nerve root.

*Prolonged shortening in paraspinal muscles generally defies reflex stimulation and necessitates definitive treatment to decompress the nerve root and thereby break the vicious circle.* Traction or manipulation are commonly tried methods, but they often disappoint. In such cases, we have found that accurate and repeated needling of the paraspinal muscles can effectively lead to their release.

In intractable pain of radiculopathic origin, tender bands in myotomal muscles supplied by both anterior and posterior primary rami require attention. For example, crepitus and pain may develop in the patella and knee, but tender palpable bands can be demonstrated in the quadriceps femoris muscles, as well as in the paraspinal muscles at the same segmental levels (i.e. at L2-L4).

Paraspinal muscles must be individually palpated for contracture and, if necessary, deeper muscles examined by needling. Each painful constituent muscle (e.g. the semispinalis thoracis) can be identified and treated.

Even when symptoms appear localized to one level, the entire spine needs examination. For instance, back pain is most common at L5-S1 levels, but more often than not, higher segmental levels (especially D4, 8, 10, and L2) are involved. After L5-S1, L2 is the second most frequently affected spinal level.

- At involved dermatomes, the skin is often cooler, and trophedema may also be found.
- *Palpitation with the palm.* Shortening in paraspinal muscles can be found by palpation with the palm, using the thenar and hypothenar eminences. With the patient prone, *palpate for spinous processes that are more prominent. If tender, needle the paraspinal muscles on both sides of the process, about one centimeter from the midline.*
- Shortening in paraspinal muscles is also confirmed by needle exploration. When paraspinal muscles at consecutive segmental levels are needled, *resistance to needle penetration is substantially increased at the involved level(s)* as compared to the levels above and below.
- “The invisible lesion.” Occasionally, the needle encounters a shortened muscle that seems bony-hard and cannot be penetrated to the depth reached at other levels. Penetration then is only possible by applying some considerable force, and after repeated “pecking”. When the needle finally enters the dense contracture, the patient experiences the intense cramp described above. This gradually diminishes as the needle-grasp is liberated.

The treatment of chronic pain depends on its nature. A source of nociception must be eliminated, inflammation may need rest to permit healing, and anti-inflammatory drugs may be indicated. In neuropathic pain associated with muscle shortening, the release of the shortening usually provides relief. Ordinarily, analgesics or simple physical therapies such as heat or massage, or perhaps more effective measures such as stretching and cooling with ethyl chloride sprays or TENS, may suffice. But in stubborn pain when simple methods prove ineffective, IMS techniques are indicated.

