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About this Book

This book is designed in quick reference format to offer useful information about the trigger points relating to the main skeletal muscles, which are central to massage, bodywork and physical therapy. The information about each muscle is presented in a uniform style throughout. An example is given below, with the meaning of headings explained in bold (some muscles will have abbreviated versions of this).

X Marks the Spot

Whilst I have included dots/markings in the regions of the most common trigger points, please note that these are not exact locations, but are approximations. A number of factors influence the exact location of any given trigger point. Myofascia is a continuum, and minor variations in, for example, anatomy, posture or weight bearing will have an impact on the location and formation of trigger points. In the clinical setting, you may well find the trigger point location varies. Varying the direction, amplitude and applicator force will also have an impact on locating the trigger point.
A Note About Peripheral Nerve Supply

The nervous system comprises:

- The central nervous system (i.e. the brain and spinal cord).
- The peripheral nervous system (including the autonomic nervous system, i.e. all neural structures outside the brain and spinal cord).

The peripheral nervous system consists of 12 pairs of cranial nerves and 31 pairs of spinal nerves (with their subsequent branches). The spinal nerves are numbered according to the level of the spinal cord from which they arise (the level is known as the spinal segment).

The relevant peripheral nerve supply is listed with each muscle presented in this book, for those who need to know. However, information about the spinal segment* from which the nerve fibres emanate often differs between the various sources. This is because it is extremely difficult for anatomists to trace the route of an individual nerve fibre through the intertwining maze of other nerve fibres as it passes through its plexus (plexus = a network of nerves: from the Latin word meaning ‘braid’). Therefore, such information has been derived mainly from empirical clinical observation, rather than through dissection of the body.

In order to give the most accurate information possible, I have duplicated the method devised by Florence Peterson Kendall and Elizabeth Kendall McCreary (see Resources: Muscles Testing and Function). Kendall & McCreary integrated information from six well-known anatomy reference texts, namely those written by Cunningham, deJong, Foerster & Bumke, Gray, Haymaker & Woodhall and Spalteholz. Following the same procedure, and then cross-matching the results with those of Kendall & McCready, the following system of emphasising the most important nerve roots for each muscle has been adopted in this book.

Let us take the supinator muscle as our example, which is supplied by the deep radial nerve, C5, 6, (7). The relevant spinal segment is indicated by the letter [C] and the numbers [5, 6, (7)]. Bold numbers [e.g. 6] indicate that most (at least five) of the sources agree. Numbers that are not bold [e.g. 5] reflect agreement by three of four sources. Numbers not in bold and in parentheses [e.g. (7)] reflect agreement by two sources only, or that more than two sources specifically regarded it as a very minimal supply. If a spinal segment was mentioned by only one source, it was disregarded. Hence, bold type indicates the major innervation; not bold indicates the minor innervation; and numbers in parentheses suggest possible or infrequent innervation.

* A spinal segment is the part of the spinal cord that gives rise to each pair of spinal nerves (a pair consists of one nerve for the left side and one for the right side of the body). Each spinal nerve contains motor and sensory fibres. Soon after the spinal nerve exits through the foramen (the opening between adjacent vertebrae), it divides into a dorsal primary ramus (directed posteriorly) and a ventral primary ramus (directed laterally or anteriorly). Fibres from the dorsal rami innervate the skin and extensor muscles of the neck and trunk. The ventral rami supply the limbs, plus the sides and front of the trunk.
**ILIOPSOAS (PSOAS MAJOR/ILIACUS)**

**Strengthening exercises**
- Hanging leg raise
- Multi-hip machine (hip joint flexion)
- Hanging leg raise

**Self stretches**
- Push right hip forward to stretch right iliopsoas. Keep low back flat and maintain upright posture.

**Greek**,

The psoas major and iliacus are considered part of the posterior abdominal wall due to their position and cushioning role for the abdominal viscera. However, based on their action of flexing the hip joint, it would also be relevant to place them with the hip muscles. Note that some upper fibres of psoas major may insert by a long tendon into the iliopectineal eminence to form the psoas minor, which has little function and is absent in about 40% of people. Bilateral contracture of this muscle will increase lumbar lordosis.

**Origin**
- Psoas major: bases of transverse processes of all lumbar vertebrae (L1–L5), bodies of twelfth thoracic and all lumbar vertebrae, T12–L5, intervertebral discs above each lumbar vertebra.
- Iliacus: superior two-thirds of iliac fossa, internal lip of iliac crest, ala of sacrum, and anterior ligaments of the lumbosacral and sacroiliac joints.

**Insertion**
- Psoas major: lesser trochanter of femur.
- Iliacus: lateral side of tendon of psoas major, continuing into lesser trochanter of femur.

**Action**
- Main flexor of hip joint (flexes and laterally rotates thigh, as in kicking a football). Acting from its insertion, flexes the trunk, as in sitting up from the supine position.

**Nerve**
- Psoas major: ventral rami of lumbar nerves, L1, 2, 3, 4. (psoas minor innervated from L1, 2).
- Iliacus: femoral nerve, L1, 2, 3, 4.

**Basic functional movement**
- Example: Going up a step or walking up an incline.

**Indications**
- Low back pain.
- Groin pain.
- Increased (hyper) lordosis of lumbar spine.
- Anterior thigh pain.
- Pain prominent in lying to sitting up. Scoliosis. Asymmetry (pelvic).

**Referred pain patterns**
- a) Strong vertical ipsilateral paraspinal pain along lumbar spine, diffusely radiating laterally 3–7cm;
- b) strong zone of pain 5–8cm top of anterior thigh, within diffuse zone from ASIS to upper half of thigh.

**Differential diagnosis**

**Also consider**

**Advice to patient**

**Techniques**
- Spray and stretch
- Dry needling
- Trigger point release