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About this Book

This book is designed in quick reference format to offer useful information about the main skeletal muscles that are central to sport, dance and exercise. Each muscle section is colour-coded for ease of reference. Enough detail is included regarding each muscle’s origin, insertion and action commensurate with the requirements of the student and practitioner of bodywork, movement therapies and the movement arts. It aims to present that information accurately, in a particularly clear and user-friendly format; especially as anatomy can seem heavily laden with technical terminology. Technical terms are therefore explained in parenthesis throughout the text. 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).

5 Muscles of the Forearm and Hand
- Pronator Teres
- Wrist Flexors
- Finger Flexors (Extensor Digitorum)
- Supinator
- Wrist Extensors
- Finger Extensors (Extensor Digitorum)
- Opponens Pollicis and Flexor Pollicis Brevis
- Lumbricales
- Palmar Interossei and Dorsal Interossei
- Abductor Digiti Minimi
- Opponens Digiti Minimi and Flexor Digiti Minimi Brevis
- Abductor Pollicis Brevis
- Adductor Pollicis

7 Muscles of the Leg and Foot
- Tibialis Anterior
- Extensor Digitorum Longus and Halucis Longus
- Tibialis Posterior
- Flexor Digitorum Longus
- Lumbrales
- Dorsal Interossei and Plantar Interossei
- Opponens Digiti Minimi and Flexor Digiti Minimi Brevis
- Abductor Pollicis Brevis
- Adductor Pollicis

6 Muscles of the Hip and Thigh
- Gluteus Maximus
- Tensor Fasciae Latae
- Gluteus Medius
- Gluteus Minimus
- Piriformis
- Deep Lateral Hip Rotators
- Hamstrings
- Adductors
- Gracilis
- Pectineus
- Sartorius
- Quadriceps

About this Book
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 & McCreary, 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 parenthesis [e.g. (7)] reflect agreement by two sources only, or if 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 parenthesis suggest possible or infrequent innervation.

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* 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.
Latin, *triceps*, three-headed muscle; *brachii*, of the arm.

The triceps originates from three heads and is the only muscle on the back of the arm.

**Origin**
- Long head: Infraglenoid tubercle of the scapula (area just below socket of shoulder joint).
- Lateral head: Upper half of posterior surface of shaft of humerus.
- Medial head: Lower half of posterior surface of shaft of humerus.

**Insertion**
Olecranon process of the ulna (i.e. upper posterior area of ulna, near the point of the elbow).

**Action**
- Extends (straightens) elbow joint. Long head can adduct the humerus and extend it from the flexed position. Stabilizes shoulder joint.

**Nerve**
Radial nerve, C6, 7, 8, T1.

**Basic functional movement**
Examples: Throwing objects. Pushing a door shut.

**Sports that heavily utilise this muscle**

**Movements or injuries that may damage this muscle**
Throwing with excessive force.

**Problems when muscle is chronically tight / shortened**
Extension deformity of elbow (elbow cannot be fully flexed); although not very common.

**Strengthening exercises**
- **Bench press**
- **Press-ups**
- **Dips**
- **Triceps kick-back**

**Self stretches**
- Keep your head up and elbow as far back as is comfortable, without hollowing your lower back.
- Pull your hands towards each other. Most effective when the raised elbow is against a wall.