**Glossary/Definition Muscular System**

**Acetylcholine**: from MOD ENG MED. Meaning; a molecule released by neurons at the neuromuscular junction that causes muscle contraction.

**Acromion**: from Greek akros, **extreme** AND in Indo-European roots + mos, **shoulder**. Meaning; The outer end of the scapula to which the collarbone is attached.

**Actin**: MOD ENG MED. Meaning; a protein that forms (with myosin) the contractile filaments of muscle cells.

**Action potential**: A short-term change in the electrical potential on the surface of a cell in response to stimulation, and then leads to the transmission of an electrical impulse (nerve impulse) that travels across the cell membrane.

**Adenosine triphosphate (ATP)**: MOD ENG MED. Meaning; an adenosine-derived nucleotide, C_{10}H_{16}N_{5}O_{13}P_{3}, that contains high-energy phosphate bonds and is used to transport energy to cells for biochemical processes.

**Aerobic**: from Greek aero, **air** AND bios, **life**. Meaning; living or occurring only in the presence of oxygen. ‘Plants, as other aerobic organisms, require oxygen for the efficient production of energy.’

**Anaerobic**: from Greek an, **not** AND aero, **air** AND bios **life**. Meaning; requiring the absence of or not dependent on the presence of oxygen. ‘Anaerobic exercise requires short sudden bursts of energy’.

**Antagonist**: from Latin antagonista. Meaning; A muscle that counteracts the action of another muscle, the agonist. ‘Moving through a complete range of motion will strengthen the agonist and stretch the antagonist muscle.’

**Contractility**: the capability or quality of shrinking or contracting.

**Contraction**: The process in which a muscle becomes or is made shorter and tighter.

**Creatine phosphate**: from Greek, kreas, **flesh** AND, potasschen. Meaning; an amino acid occurring in vertebrate tissues, particularly in muscle.

**Deltoid**: from Greek, delta, **triangular** AND eidos. Meaning; a lateral muscle of the shoulder, between the scapula and the humerus that helps flex the shoulder and abducts the arm.

**Elasticity**: from Greek elastos, **ductile/ flexible**. Meaning; the ability of tissue to regain its original shape and size after being stretched, squeezed, or otherwise deformed. Muscle tissue is generally regarded as elastic because it is able to change size and shape and return to its original condition.

**Endocrine**: from Greek endo, **within** AND krnein, **to separate**. Meaning; relating to endocrine (hormone secreting) glands or the hormones secreted by them.

**Endomysium**: from Greek endo, **within** AND mys, **muscle**. Meaning; the fine connective tissue sheath surrounding a muscle fibre.
**Invagination:** from Latin *in*, *within* AND vagina, *sheath*. Meaning; an infolding of the outer layer of cells of an organism or part of an organism so as to form a pocket in the surface, as in the embryonic development of a gastrula from a blastula.

**Epimyseum:** from Greek, epi AND mys, *muscle*. Meaning; around groups/ bundles of muscle cells.

**Erector spinae:** L, erigere, to erect, spina, spine, reflectere, to bend back. Meaning; a large muscle that originates near the sacrum and extends vertically up the length of the back.

**Excitability:** from Latin excitare, *to arouse*. Meaning; the property of a cell that enables it to react to irritation or stimulation, such as the ability of a nerve or muscle cell to react to an electric stimulus.

**Extensibility:** from Latin extendere, *stretch out*. Meaning; Capability of being extended or protruded.

**Fascicle:** from Latin fasciculus (a diminutive of fascis), *bundle*. Meaning; a small bundle of fibres.

**Fibromyalgia:** from Latin fibra, *fibre* AND Greek mys, *muscle* AND algia *pain*. Meaning; a syndrome characterized by chronic pain in the muscles and soft tissues surrounding joints, fatigue, and tenderness at specific sites in the body.

**Filaments:** from Latin *filum, thread*. Meaning; A slender threadlike object or fibre, esp. one found in animal or plant structures.

**Fixators:** from Latin fixare, *to fix*. Meaning, Muscles which steady parts of the body to give prime movers firm base on which to work.

**Fulcrum:** from Latin fulcrum, *bedpost/ to support*. Meaning; The point on which a lever rests or is supported.

**Gastrocnemius:** from Greek gastroknemia, *calf of the leg* : gastro-, *belly (from its belly-like shape)*; see gastro- + kneme, *leg*. Meaning; The largest, most prominent muscle of the calf of the leg, the action of which extends the foot and bends the knee.

**Gluteus maximus:** from Latin gluteus + maximus, *largest*. Meaning; the largest of three muscles of each buttock, that extend, abduct, and rotate the thigh.

**Hyperplasia:** from Greek hyper, *beyond* AND plasis, *formation*. Meaning; an abnormal increase in the number of cells in an organ or a tissue with consequent enlargement.

**Hypertrophy:** from Greek hyper, *beyond/ exceeding* AND trophia, *nourishment/growth*. Meaning; a non-tumorous enlargement of an organ or a tissue as a result of an increase in the size rather than the number of constituent cells.

**Integumentary:** Latin integumentum. Meaning; A natural outer covering or coat, such as the skin of an animal or the membrane enclosing an organ. ‘Almost all early integumentary systems have some kind of laminar bone or cartilage as a base layer.’
**Intercalated:** from Latin intercalāre, *to insert*. Meaning; to interpolate or insert. ‘To keep the lunar calendar synchronized with the solar year, an extra month was intercalated in summer as necessary, in so-called ‘embolismic’ years.’

**Ion:** from Greek ιός, *something that goes*. Meaning; An atom or a group of atoms that has acquired a net electric charge by gaining or losing one or more electrons.

**Lactic acid:** from ENG MOD MED. Meaning; a compound formed in the body in anaerobic metabolism of carbohydrate and also produced by bacterial action in milk.

**Lymphatic:** from Latin lympha andicus, *form*. Meaning; of or relating to lymph, a lymph node, or a lymphatic vessel.

**Masseter muscle:** from Greek masseter, *one who chews*. Meaning; the thick rectangular muscle in the cheek that functions to close the jaw. It is one of the four muscles of mastication.

**Metabolism:** from Greek metabole, *change* and ismos, *process*. Meaning; the complex of physical and chemical processes occurring within a living cell or organism that are necessary for the maintenance of life.

**Mitochondria:** from Greek mitos, *thread* and khondrion, *little granule*. Meaning; Spherical or rod-shaped organelles found within the cytoplasm of eukaryotic cells, and are referred to as the powerhouse of the cell since they act as the site for the production of high-energy compounds (e.g. ATP), which are vital energy source for several cellular processes.

**Muscular fibrosis:** from Latin musculus, *muscle* and fibra and osis, *condition*. Meaning; the formation of fibrous tissue as a reaction or as a repair process, in muscle tissue.

**Myofibrils:** from Greek mys, *muscle* and fibrilla, *small fibre*. Meaning; one of the threadlike longitudinal fibrils occurring in a skeletal or cardiac muscle fibre.

**Myoglobin:** from Greek mys, *muscle* and globus, *ball*. Meaning; the oxygen-transporting protein of muscle, resembling blood hemoglobin in function but with only one heme as part of the molecule and with one-fourth the molecular weight.

**Myosin:** from Greek mys, *muscle* and in, *within*. Meaning; the most common protein in muscle cells, a globulin responsible for the elastic and contractile properties of muscle and combining with actin to form actomyosin.

**Neuromuscular junction:** from Greek νευρόν, *neuron* and Latin musculus, *muscle*. Meaning; the area of contact between the ends of a large myelinated nerve fibre and a fibre of skeletal muscle.

**Pectoralis major:** from Latin pectus, *breast*. Meaning; a large muscle of the upper chest wall, which acts on the joint of the shoulder.

**Perimysium:** from Greek peri, *around* and mys, *muscle*. Meaning; the fibrous sheath enveloping each of the primary bundles of skeletal muscle fibres.

**Pericytes:** From Greek peri, *around* and cyte, *hollow vessel/cell*. Meaning; one of the elongated, contractile cells found wrapped about precapillary arterioles outside the basement membrane.
**Rectus abdominis:** from Latin *Rectus*, *straight* AND Greek *abdominis*, *abdominal*. Meaning; a muscle with origin from the pubis, with insertion into the xiphoid process and the fifth to seventh costal cartilages, and whose action flexes the vertebral column and draws the chest downward.

**Rectus femoris:** from Latin *rectus*, *straight* AND *femoris*, *thigh*. Meaning; a muscle with origin from the ilium and the acetabulum, with insertion into a tendon of the quadriceps muscle of the thigh.

**Regeneration:** from Greek rendered, *regeneration* (palingenesia), *again* AND *genesis*, *birth*. Meaning; regrowth of lost or destroyed parts or organs. ‘These receptors are involved in the regulation of metabolism, embryogenesis, tissue regeneration, and cell proliferation.’

**Sarcolemma** from Greek *sarx*, *flesh* AND *lemma* AND *sheath*. Meaning; plasma membrane of a muscle cell / fibre.

**Sarcomeres**; from Greek *sarx*, *flesh* AND *meros*, *part*. Meaning; One of the segments into which a fibril of striated muscle is divided.

**Sarcoplasmic reticulum**; from Greek *sarx*, *flesh* AND *plassein*, *to mold* AND Latin *reticulum*, *little net*. Meaning; a network of tubules and sacs in skeletal muscle fibres that plays an important role in muscle contraction and relaxation by releasing and storing calcium ions.

**Sphincters**; from Greek *sphingein*, *to bind*. Meaning; a ringlike muscle which closes a natural orifice or passage.

**Sternocleidomastoid**; from Greek *sternon*, *chest* AND *kleis*, *key* AND *mastos*, *breast* AND *eidos*, *form*. Meaning; a muscle of the neck that is attached to the mastoid process of the temporal bone and to the superior nuchal line and by separate heads to the sternum and clavicle.

**Striated**; from Latin *striatus*, *striped*. Meaning; something that is striped, is marked by parallel lines, or has structural lines. ‘These Gaucher cells had voluminous pale basophilic cytoplasm with a crinkled, striated appearance.’

**Striations**; from Latin *striatus*, *striped*. Meaning; the state of being striated or having striae.

**Synergists**; from Greek, *syn*, *with* AND *ergein*, *to work*. Meaning; an organ, agent, or substance that augments the activity of another organ, agent, or substance. ‘This may require co-ordination of groups of muscle synergists within one limb, or between several limbs, trunk, head, and eyes.’

**Thermogenesis**; from Greek *thermē*, *heat* AND *genesis*, *origin*. Meaning; generation or production of heat, especially by physiological processes.

**Tibialis anterior**; from Latin *tibia*, lower leg AND *anticus*, *in front*. Meaning; one of the anterior crural muscles of the leg, situated on the lateral side of the tibia.

**Tonicity**; from Greek *tonikos*, *stretching*. Meaning; the state of tissue tone or tension; in body fluid physiology, the effective osmotic pressure equivalent. ‘It is because the solution has the same tonicity as blood.’

**Transverse tubules**; from Latin *transversus*, *oblique*. Meaning; structures in myofibers which run transversely to the long axis of the myofibrils in skeletal and cardiac muscle.
**Trapezius:** from Greek trapezion, *small table*. Meaning; a large, flat, triangular superficial muscle of the shoulder and upper back.

**Triceps brachii:** from Latin triceps, *three-headed* AND brachium, *arm*. Meaning; a large muscle that extends the entire length of the posterior surface of the humerus.

**Visceral:** from Latin viscus, *internal organs*. Meaning pertaining to the viscera, or internal organs in the abdominal cavity. ‘Thoracic and abdominal visceral involvement and hepatosplenomegaly were absent.’