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Editorial OMICS International

Skeletal Muscle and its Structure-Function Relationship

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Editorial

A classic example of a biological structure-function relationship is Skeletal muscle which is a contractile tissue of the body derived from mesodermal layer of embryogenic germ cells. Skeletal muscle is responsible for bringing about movements within certain organs as well as the body as a whole and generation of force. During synaptogenesis, nerves attach to fibers.

The axons in connection with each fiber attempt for control until each fiber is synapsed with only one axon. This feature has a strong impact on the fiber. Nerves arrive at neurovascular hila and at this point cardiac stimulation of the nerve is most important especially for physical therapists. All muscles of the body: skeletal muscles attached to the skeleton, cardiac muscles of the heart or smooth muscles of the viscera share a few basic properties, like irritability, contractility, extensibility or elasticity. Skeletal muscles not only help in motion but while performing their action they also uphold the posture of the body and bring about heat production. The regular arrangement of the contractile proteinaceous filaments or myofilaments give the muscle fibre a cross striated appearance. Long muscles of the body are red or slow twitch fibres in which contraction is slow but sustained, hence fatigue resistant. On the other hand white fibres are fast twitch in which contraction is fast but less sustained and so easily fatigued. Muscles can be categorized according to vascular pedicles which enter the muscle and their dominance. This has surgical significance in defining which muscle will endure when used as grafting in plastic and reconstructive surgery.

A muscle can be shortened to one half of its normal resting length and can be strained twice as far as it can be shortened. Hypertrophy of a muscle is an outcome of the growth of each muscle cell and not an increase in the number of the cells.

We are happy to release the Special issue on Muscle Research of this Journal. In this issue we have tried to cover the embryological aspects of renal anomalies [1,2], the vital role of pelvic muscles in the male and female reproductive system [3] and toxic effects of insecticides on testicular activity. Ossification of inter-clinoid ligaments of the skull [4] is also studied. The issue also covers Cadaveric dissection [5] in Anatomy with its ethical aspects and dissection rule ethics.

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