**MUSCULOSKELETAL SYSTEM BLOCK**

**An introduction to myopathies and muscular dystrophy**

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***Objectives:***

At the end of this lecture, the students should be able to:

1. Understand the structure of the various types of muscle fibers.
2. Acquire a basic knowledge of the classification of myopathies and give examples of these disorders.
3. Understand the meaning of the term muscular dystrophy and have a basic knowledge of the incidence and clinicopathological manifestations of Duchenne's and Becker's muscular dystrophies.
4. Know the pattern of inheritance of myotonic dystrophy and its clinicopathological presentations.

***Background:***

The major components of the neuromuscular system, the peripheral nerves and skeletal muscles, act as both effectors and sensors for the central nervous system, and in doing so allow thought and sensation to give rise to physical actions and cognitive responses. The principal component of the motor system is the motor unit, which is composed of one lower motor neuron and its associated peripheral axon, neuromuscular junctions, and innervated skeletal muscle fibers. In this lecture, the student in introduced to the disorders that affect the muscle component.

***Contents:***

1. The definition of motor unit and muscle fiber types.
2. Classification of myopathies.
3. Muscle atrophy, pathological features and causes.
4. Neurogenic myopathy: definition, causes and pattern of nerve injury.
5. Duchenne and Becker Muscular Dystrophy: incidence, Clinicopathological characteristics, with special emphasis on the rule of dystrophin protein.
6. Myotonic Dystrophy: definition and main Clinicopathological features with special emphasis of inheritance pattern.

***Take home messages:***

Both the anatomic distribution of lesions and specific signs and symptoms are helpful in classifying neuromuscular diseases and in distinguishing them from diseases of the central nervous system.

***Further reading (Prescribed book):***

Vinay Kumar, Abul K. Abbas, Jon C. Aster, Robbins Basic Pathology, 9th Edition

***Key words:***

Nerves, Neuropathy, Muscle, Myopathy, Dystrophy, Neurogenic myopathy, Inflammatory myopathy, Dermaotomyositis, Polymyositis, Fiber types, Congenital myopathy, Muscle atrophy, Dystrophin