Motor unit's and their relation with Electromyogram (EMG)

Motor unit:
A single motor neuron and its axon innervate not only just a muscle fiber, but also several muscle fibers; these fibers constitute the motor unit. The number of muscle fibers in a motor unit varies are present. It is one motor unit of cat leg muscles that has approximately 120–165 fibers are present in one motor unit.

Electromyography (EMG):
A motor unit activity is recorded by inserting a coaxial electrode into the muscle of interest that is to be studied. Next, the electrode is connected to an electromyograph, electromyography (EMG) and a recording of muscular activity, known as an electromyogram, is obtained during muscular activity. This recording is called an electromyogram (EMG).

A hypodermic hollow needle can be made into a coaxial electrode by introducing an insulated inner wire into it. Possible changes are recorded from the small volume of the muscles in the immediate vicinity of the needle tip. Thus, it has been observed that most of the electrical activity is observed from active fibers near the electrodes. Sometimes, surface electrodes are used instead of deep muscle coaxial electrodes. In this recording method, two surface electrodes are placed at a reasonable distance on the skin overlying the muscle to be studied. Muscle’s at a reasonable distance.

When the muscle is at rest, no action potential is recorded; however, as soon as the muscle becomes active, action potentials results are recorded. The potential recorded during activity is as a result of the asynchronous discharge of motor neurons in the vicinity of the electrodes. During minimal voluntary activity, only a few number of motor
units are discharged, and as voluntary effort activity increases, the more number of units are activated. This is called motor unit recruitment of motor units.

The Gradation of muscular activity is a function of the part of the function of a number of activated motor units activated. Electromyographic studies are clinically important in the diagnosis of motor unit disorders, including peripheral nerve injuries, and neuromuscular disorders, such as myotonia and myasthenia gravis. 

Comment [A4]: Redundant phrases make a sentence wordy. Being economical in writing enhances clarity (in terms of meaning) and readability of the sentence. Here, the phrase “so on and so forth” is not required as this is implied by the use of “including.”