

Study and conception of a device dedicated to wireless neuromuscular stimulation

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These last decades the world has known a major development in the medical sector in general and in the well-being of personnel in particular, where the appearance of neuromuscular stimulators have responded to the various treatment of therapy.

A large number of dysfunctions within the nervous system cannot be resolved by conventional classic therapeutic without side effects. To resolve this problem, a Neuromuscular Stimulator technology is used, where the applications of electrical stimulation are several.

In this work, we present a neuromuscular stimulator dedicated to the realization of two main functions: an analgesic function which makes it possible to numb a part of the body and another which provides muscle massages and other functions such as: capillarization and aesthetics.

The electrical impulses generated by this device are transmitted by electrodes placed on the part of the skin to be treated. Its working principle is helping the brain to produce a higher rate of a substance called beta-endorphin, and this by generating very specific frequencies, which have been delivered through the Arduino Uno card, which made our task faster and more efficient.

Physiotherapy departments tend to use neuromuscular stimulators, but the need for an effective device is highly valued by users.

Topics

Session D. Biomedical optics and sensors technology

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