“Digital Reflexes”: Quantitation and Signatures of Superficial Reflexes via Stretchable Electronic Wearable Sensors

Title: “Digital Reflexes”: Quantification and Signatures of Superficial Reflexes via Stretchable Electronic Wearable Sensors

Invention: This invention provides a method of deep tendon reflex assessment via stretchable electronic sensors containing tri-axial accelerometers and EMG signal detection, which allows for quantitation of motion and EMG “signatures” of a specified reflex.

Background: A reflex exam is fundamental in determining neurological issues with upper and lower motor neurons. Traditionally, a standard reflex hammer technique is used to test muscle contraction on a 0-5 scale. This technique is subjectively scored, leading to many inconsistencies. Because of this, there is a need for an innovative alternative to increase performance and reliability.

Applications:

- Superficial reflex analysis
- Neurological diagnostics
- Assessment of neurological disorders such as Alzheimer’s and Parkinson’s disease

Advantages:

- Diverse in application
- Capable of wireless data storage
- Ease of access for future analysis

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