



WEARABLE MUSCLE TISSUE TENSIO METER WITH BILATERAL WORK AND POWER MEASUREMENT

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The measurement of tissue tension for muscles, muscle tissues, ligaments and tendons (henceforth muscle tissue) has substantial value in the fields of orthopedics, athletics, rehabilitation, and ergonomics. Typically, such studies are done in a laboratory environment, for example, on a treadmill, and muscle tissue tension is deduced by making a measurement of force on a portion of a limb removed from the muscle tissue against a force-sensing plate and then determining force on the muscle tissue by geometric calculation using quasistatic or dynamic biomechanical model.

The Invention

UW Madison researchers have developed a wearable device for measuring tendon and muscle tensions that can provide real-time tension and work measurements outside of the laboratory environment. It employs a shear wave tensiometer that can directly measure muscle tissue tension and can be combined with motion tracking to provide a wearable tensiometer that can provide real-time work measurements for particular muscle tissue. By eliminating the indirect measurements provided by force plates and the like, improved work and tension information can be provided in an outdoor environment in real time for more sophisticated studies and potentially biofeedback.

Additional Information

For More Information About the Inventors

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Tech Fields

- [Medical Devices : Diagnostics & monitoring tools](#)

For current licensing status, please contact Jeanine Burmania at jeanine@warf.org or 608-960-9846