Novel Tension Transducer for Surgical Flaps.

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Technology description

Summary

The innovators have designed a novel surgical instrument to reliably measure the pulling force in skin flap closures to effectively and aesthetically close skin flaps.

Description

The crux of the design involves the mounting of an ultra-thin and highly sensitive force sensor onto an ergonomically comfortable forceps which can be sterilized using ethyl alcohol. The force sensor is a piezo-resistive sensing device in which the resistance is inversely proportional to the applied force. The swinging arm design of the instrument translates the tissue pulling force onto the force sensor. The force sensing resistor is embedded in the amplifier in such a way that the output voltage of the amplifier is inversely proportional to the resistance change in the force sensor. The amplifier voltage will be calibrated into units of force and displayed on a monitor and simultaneously collected.

Institution

University of Pittsburgh

联系我们

叶先生

电 话：021-65679356

手 机：13414935137

邮 箱：yeyingsheng@zf-ym.com