

# 2019-018 A NOVEL DEVICE FOR THE MEASUREMENT OF THE STRENGTH OF THE ORBICULARIS OCULI MUSCLE

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## Technology description

### SUMMARY

UCLA researchers in the Department of Ophthalmology have developed a novel device that measures the strength of the orbicularis oculi muscle.

### BACKGROUND

The orbicularis oculi muscle is a circular muscle around the eyes that allows the eyes to close. Many physiological conditions, such as thyroid eye disease and facial nerve palsy, can lead to dysfunction and weakening of the orbicularis muscle. Currently, the existing devices that can measure the strength of the orbicularis oculi muscle suffer from a number of drawbacks, most notably user measurement error as well as requiring the use of two hands by the clinician.

### INNOVATION

A novel tool was developed to measure the strength of orbicularis oculi muscle that provides predictable and accurate results across the range of medical professionals administering the test. It consists of an eye speculum that is attached to two steel bars and a force sensitive resistor. The force sensor measures the force of orbicularis when the patient is asked to close their eyes with the lid speculum sitting under the eye lids. The device is compact for portability, and can be easily operated using only one hand. The measurement can be of great value to physicians and nurses for assessment, management and following progress of the medical conditions.

## Application area

Measuring the strength of orbicularis oculi muscle

## Advantages

Simple design and easy to make

Compact and portable

Accurate and repeatable across numerous test administrators

Institution

[University of California, Los Angeles](#)

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