

2016-99K Novel Surgical Device for Scleral Buckling Retinal Detachment Repair

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Technology description

Novel Surgical Device for Scleral Buckling Retinal Detachment Repair

SUMMARY

UCLA researchers in the Departments of Ophthalmology and Engineering have developed a new surgical device used in retinal detachment surgery.

BACKGROUND

The retina is the light-sensitive layer of tissue that lines the inside of the eye and sends visual messages through the optic nerve to the brain. When the retina detaches, it is lifted or pulled from its normal location. If not promptly treated, retinal detachment can cause permanent vision impairment.

Two major procedures exist to correct retinal detachment, the scleral buckle, and vitrectomy. The placement of scleral buckle can be challenging and may require a skilled surgeon. The surgeon often utilizes a scleral marker or depressor to facilitate the placement of the scleral buckle. However, current technologies are decades old, and do not allow the surgeon direct visualization of all components of the procedure. The development of a novel surgical tool to aid in the placement of scleral buckles and associated drains would modernize the procedure.

INNOVATION

UCLA researchers Michael Klufas and Jean-Pierre Hubschman and colleagues have invented a novel surgical tool that aids in the placement of scleral buckles for the treatment of detached retinas. The compact tool allows the surgeon to directly visualize the sclera during the procedure allowing for more accurate and acceptable placement of both the scleral buckle and drains.

Application area

- Aid surgeons in placing a scleral buckle for the treatment of detached retinas
- The tool can be utilized to make subretinal fluid drains under direct visualization, a procedure that is currently done 'blind' in most clinics
- Can also be utilized as a teaching aid for new ophthalmic physicians

Advantages

- Low-cost as it utilizes no electronics and standard ophthalmic equipment
- Smaller form factor ideal for microsurgery
- Allows for direct visualization of the sclera during drain placement

Institution

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