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Device for Spinal Dural Repair

Tech ID: 32412 / UC Case 2021-716-0

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INVENTORS

- » Choi, Elliot
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OTHER INFORMATION

CATEGORIZED AS

- » **Medical**
 - » Devices
 - » Disease: Central Nervous System
 - » Disease: Musculoskeletal Disorders
 - » Other

RELATED CASES

2021-716-0

BRIEF DESCRIPTION

Dural tear is a frequent and costly complication of spinal surgery, which can cause cerebrospinal fluid (CSF) leakage, triggering additional, serious post-operative difficulties. Researchers at UC Irvine have developed a new method and device to mitigate dural tears in a rapid, safe, and water-tight manner

SUGGESTED USES

» This method can be applied to repair dural tears from spinal surgery or injury to minimize CSF leakage and other post-operative complications

FEATURES/BENEFITS

- This device features a collagen patch applied subdural to the tear, which is unique from current on-market collagen patch repair technology. ·Subdural placement and manipulation of the collagen patch will plug dural tears, leading to a “watertight” seal.
- The collagen patch device can be customized to repair dural tears of varying sizes and in different locations, making it a diversely applicable solution.
- The “watertight” application circumvents issues with common sealants used in surgical intervention, which have poor compatibility to aqueous environments.
- The collagen patch is anchored in place rather than sutured, avoiding the time-consuming and technical challenges associated with suturing.

FULL DESCRIPTION

Dura matter tears are a complication associated with spinal surgery, occurring in up to 10% of all procedures. Surgical intervention for dural tears generally have good outcomes, but incomplete repair can cause CSF leakage and lead to further complications ranging in severity from headaches and nausea to intracranial hemorrhage. Common methods to repair dural tears include suturing, surgical sealants, titanium clips, and grafts from various tissue or synthetic material. All of these methods repair tears above the dura and carry risk for CSF leakage or require surgical intervention at a separate site with additional surgical time and cost.

Researchers at UC Irvine have designed a new method to repair dura tears using a novel collagen patch which can be placed in a subdural location and adjusted to accommodate damage of varying size and location. This method comprises a unique collagen patch which can be manipulated with a specialized syringe to place the patch snugly beneath the dural tear. The collagen patch is then anchored into place and sealed to make the repair more watertight, preventing leaks and securing the patch. The patch can be easily manipulated and adjusted, making it an efficient and scalable repair method. Furthermore, collagen is already in use in surgical procedures, confirming its properties as a safe material for medical intervention.

PATENT STATUS

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Published Application	WO 2022/256436	12/08/2022	2021-716

Additional Patent Pending

STATE OF DEVELOPMENT

This device is currently in prototyping.

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

► [Treatment Of Inherited Retinal Disease](#)

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