Minimally invasive inner ear fluid aspirator for diagnosis and treatment

Technology #cu15244

Inner ear fluid is used as a diagnostic tool for certain inner ear diseases such as Meniere’s disease. Due to the complexity of the inner ear anatomy, removing the fluid requires invasive surgery that can damage the inner ear. This device is an inner ear fluid aspirator that is able to remove precise amounts of fluid for diagnosis. This device allows for unprecedented minimally invasive access to the inner ear fluid.

Controlled access to inner ear without invasive and traumatic surgery

This technology is able to navigate the complex inner ear anatomy to access the inner ear with minimal damage. Existing techniques for aspirating inner ear solution require invasive surgery that induce trauma to the inner ear round window membrane. This device traverses through the tympanic membrane and middle ear with a stainless steel device that conforms to the anatomy of the ear. The device aspirates inner ear solution through the round window membrane by releasing a hypodermic needle tip that penetrates the membrane. Fluid is drawn from the needle tip through a canal system in the device. This canal system offers control over volume and pressure of the inner fluid as it travels out.

A prototype of the technology has been developed.

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Applications:

- Inner ear fluid aspirator for disease diagnostics
- Inner ear drug delivery
- Technique to drain inner ear fluid

Advantages:

- Compact device
- Unprecedented minimally invasive access to inner ear without surgery
• Controlled fluid aspiration

**Patent Information:**

Patent Pending

Tech Ventures Reference: IR CU15244

**Related Publications:**


**Inventors**

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