Digital Otoscope for Optimal Access, Visualization

Published date: March 17, 2017

Technology description

An otoscope is a classic handheld medical device that allows doctors to look into the ear canal and tympanic membrane (eardrum). It is used to diagnose ear infections, membrane ruptures and foreign objects.

Modern otoscopes are equipped with a camera in the funnel-shaped tip that gets inserted into the ear. However, the design is relatively bulky and unable to visualize past earwax or other obstructions. This means the view is often poor and proper diagnosis is compromised. UW–Madison researchers have designed an otoscope featuring a small camera that is mounted on a narrow tip and able to ‘look around’ obstructions such as earwax. The narrow tip also permits other medical instruments to be inserted into the ear while the otoscope is being used (e.g., a curette for removing earwax or foreign objects). A remarkable view of the tympanic membrane is achieved, facilitating proper diagnosis.

Notable features include a disposable, light-conducting speculum sleeve with distal tip smaller than 2 mm. In addition, images may be captured directly from the device and stored in the patient record in compliance with Federal law.
The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a redesigned otoscope that provides multidirectional illumination, image transfer capabilities and maximum comfort to patients.

Application area

Medical otoscope with enhanced visualization features

Advantages

Better access, illumination and visualization
Provides excellent imaging of tympanic membrane
Flexible tip is more comfortable to patients.
Looks and feels much like the conventional otoscope familiar to healthcare professionals

Institution

Wisconsin Alumni Research Foundation

Inventors

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