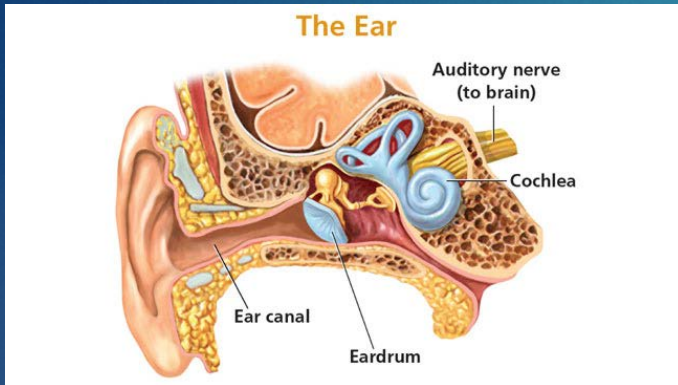
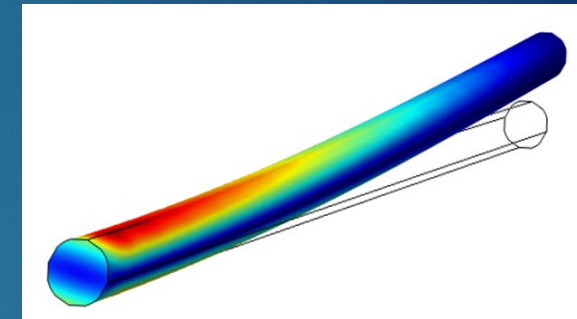


Simulating a Cylindrical Cantilever using COMSOL to potentially replace Damage Hair Cells in the Cochlea

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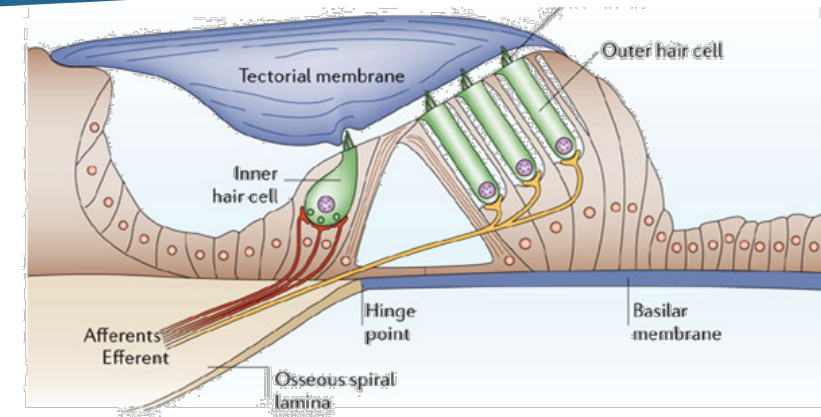
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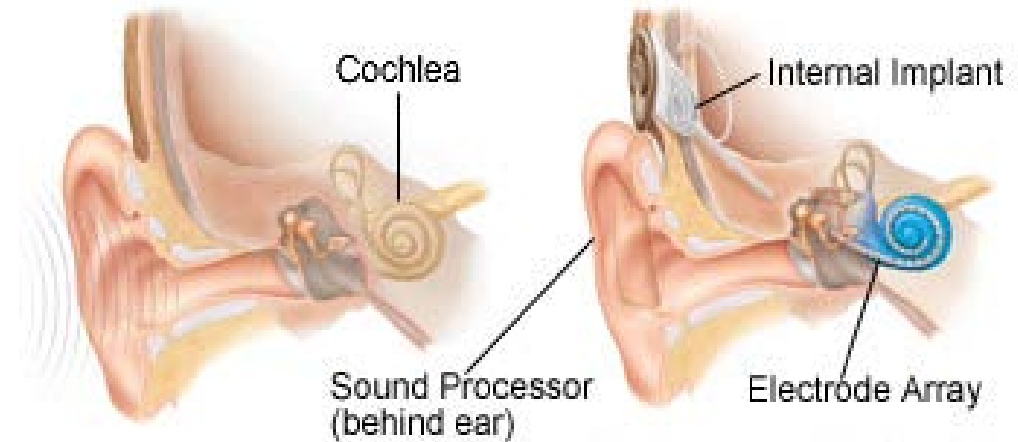
Hearing loss

- ▶ On average, three of every thousand people in the United states are functionally deaf.
- ▶ Damage of the hair cells in cochlea is the most common cause of hearing loss.
- ▶ No hair cells, no electrical signal to the brain



What is being done

- ▶ Cochlear implants
 - Invasive, expensive, and parts need to be replace.
- ▶ Hearing aids
- ▶ No hair cell treatment or surgery



Approach

- ▶ Used a computer program (COMSOL Multiphysics)
- ▶ Simulated a cylindrical cantilever
- ▶ Measured frequency output response
- ▶ Measured current

