

# Science and Hearing Loss

Coms/film 20A Audio Production

Csus spring 2022

# Damage-blocking Gel

- Biodegradable gel is applied to middle ear.
- Keeps acute hearing loss from becoming permanent by blocking kill signals from stress-injured sensory cells.

# Injectable Gel

- Injected into the ear.
- Transforms from liquid to gel at body temperature.
- Slowly releases microparticles; anti-inflammatory steroid into the inner-ear cells.
- This reduces swelling and damage.

# Neuro-Pharmacology

- A pill.
- Improves the precision and timing of the brain cells that process sound and theoretically restores hearing.

# Gene Therapy

- Injectable virus.
- It carries a gene to support cells in the inner ear.
- The gene instructs the cells to convert into hair cells that make hearing possible.
- This reverses hearing loss.

# Stem Cells

- Converts malleable stem cells in the ear into hair cells in cochlea.
- Restores hearing loss.