



Cal/OSHA, DOT HAZMAT, EEOC, EPA, HAZWOPER, HIPAA, IATA, IMDG, TDG, MSHA, OSHA, and Canada OHS Regulations and Safety Online Training

Since 2008

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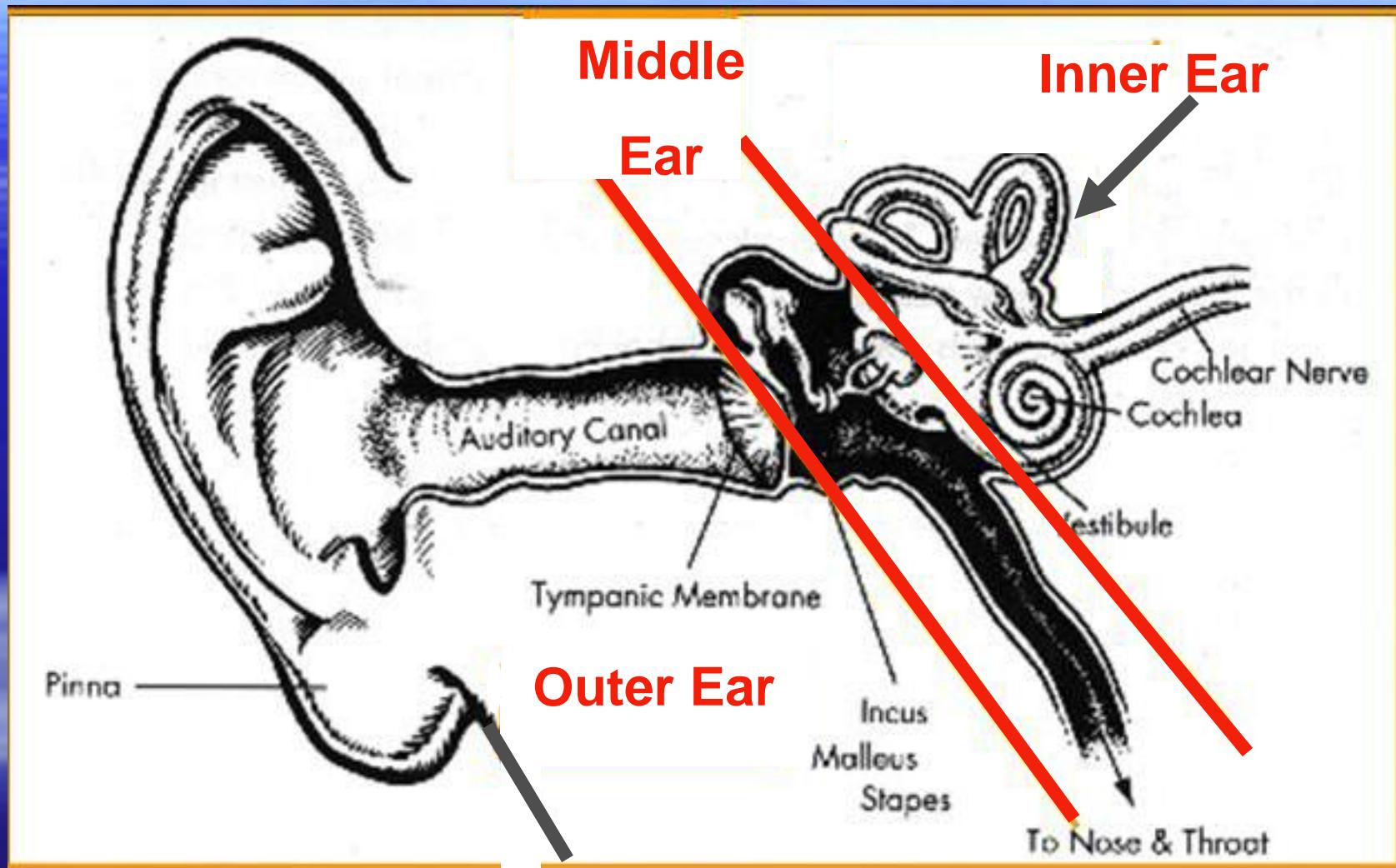
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HOW NOISE EXPOSURE AFFECTS YOU

**SOUND ENERGY
TRAVELS IN A WAVE
FORM**



Three Sections of Your Ear



Courtesy of 3M Corporation: PENDING

**The fluid in your inner
ear moves hair cells
which send signals to
your brain**

Normal Hair Cells

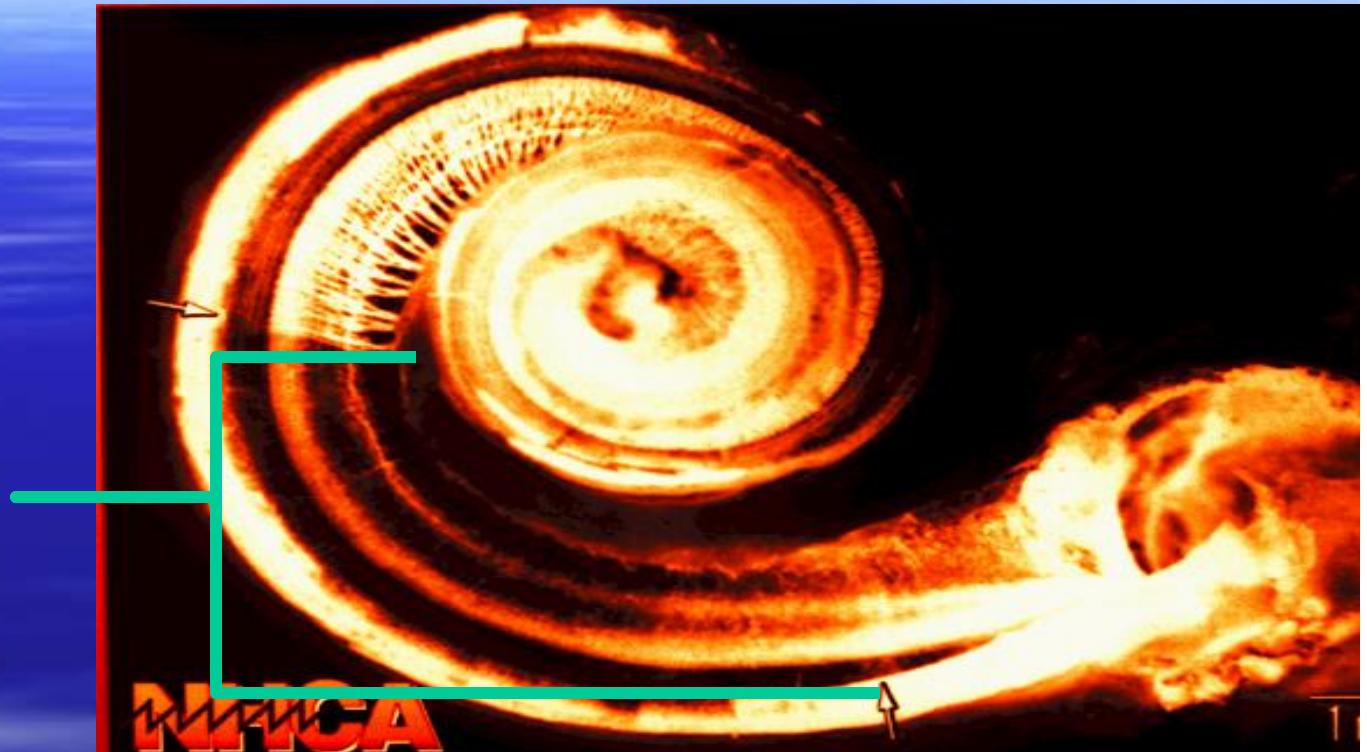


Courtesy of National Hearing Conservation
Association: PENDING

When **your** hair cells
are damaged
these signals become
weak or stop
completely

Damaged / Missing Hair Cells

The ability to
hear is
gone from
this area



Courtesy of National Hearing
Conservation Association: PENDING

Typical Sources

Noise Level (dB)

Rocket launch	180
Jet takeoff (at 200 ft)	120
Surface drill	100
Bulldozer	90
Air conditioning unit	60
Quiet office	40
Broadcast studio	20

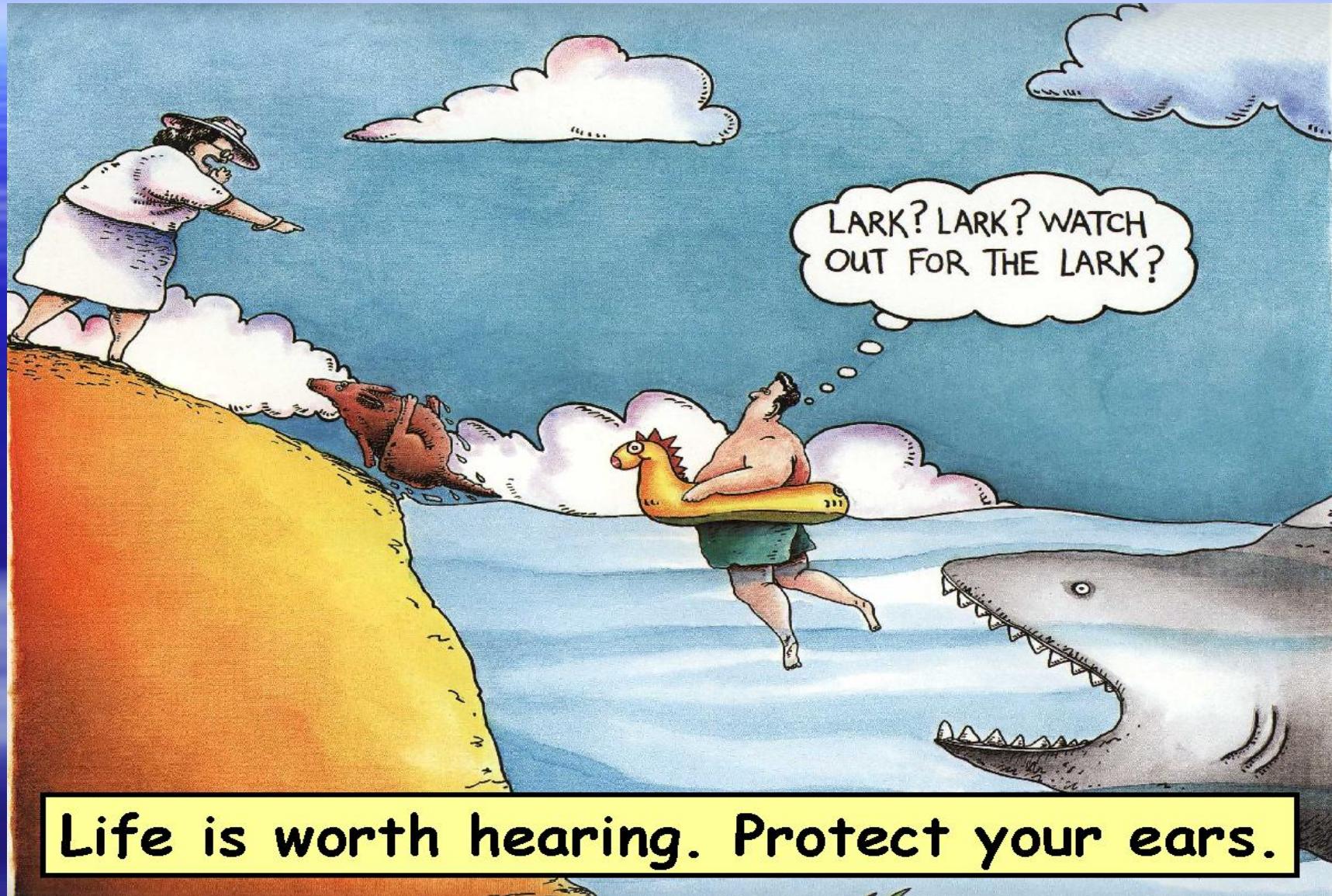
Do You Know That

- A gun blast or rocket launch can cause
 - Permanent hearing loss
- Very loud music can cause
 - Temporary hearing loss
- Occupational noise exposure can cause
 - Hearing loss at a younger age

Noise exposure may also cause

- Stress
- High blood pressure
- Distraction
- Sleep loss
- Lost productivity

Loss of Ability to Communicate



Life is worth hearing. Protect your ears.

Courtesy of AERO Corp: PENDING

Results of Hearing Loss

- Degrades and even destroys the quality of **YOUR** life by
 - Interfering with **YOUR** ability to hear sounds of nature and music
 - Limiting **YOUR** ability to communicate with family, friends and co-workers
 - Leading to **YOUR** withdrawal from social situations
 - Causing **YOU** to place the blame on others
 - Lowering **YOUR** self-esteem leading to isolation and depression

**NOISE EXPOSURE
IS DETERMINED BY
HOW
LOUD THE SOUND IS
AND
HOW LONG YOU
ARE EXPOSED TO IT**

MSHA's Table of Permissible Noise Exposures

Number of Hours Per Day	Average Sound Level (dBA)
8	90
4	95
2	100
1	105
$\frac{1}{2}$	110
$\frac{1}{4}$	115

AN IMPORTANT CONCEPT:

**FOR EVERY INCREASE IN THE
AVERAGE SOUND LEVEL OF 5
DECIBELS (dB)**

**THE ALLOWABLE EXPOSURE TIME
IS REDUCED BY 50 %**

**49% of Metal/NonMetal
Miners Have Hearing
Impairment* by Age 50
Compared with 9% of the
General Population**

***An average 25 dB hearing loss at 1, 2, 3, and 4 kHz**

**Source: Prevalence of Hearing Loss for Noise
Exposed Metal/Nonmetal Miners (NIOSH, 1997)**

**90% Of Coal Miners Have
Hearing Impairment* by
Age 51 Compared with
10% of the General
Population**

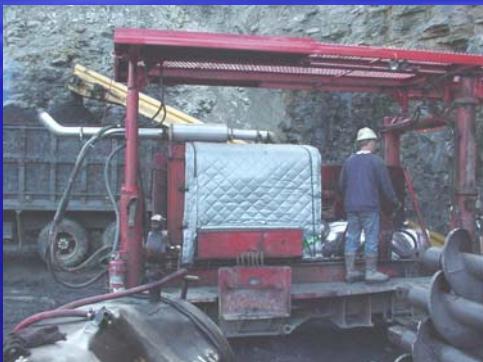
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**Source: Analysis of Audiograms for a Large Cohort
of Noise-Exposed Miners (NIOSH, 1996)**

IT ALL COMES DOWN TO THIS

Protect Your
Hearing Now

OR Wear this
Later



Courtesy of Starkey Laboratories: PENDING



**Daddy's Home ©
By Wayne Collett**

Your Children can whisper to you now.

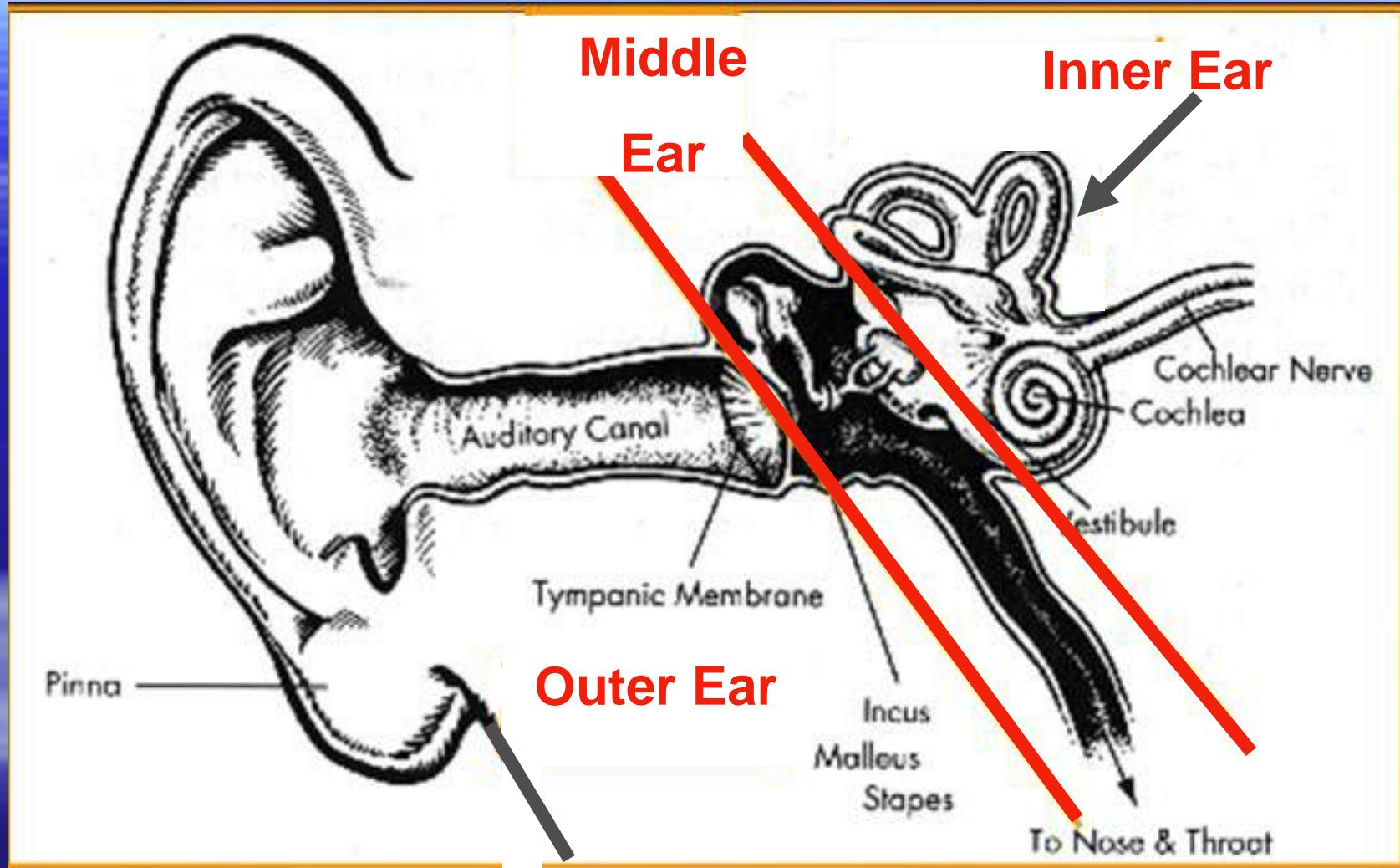
Don't make them shout at you in the future

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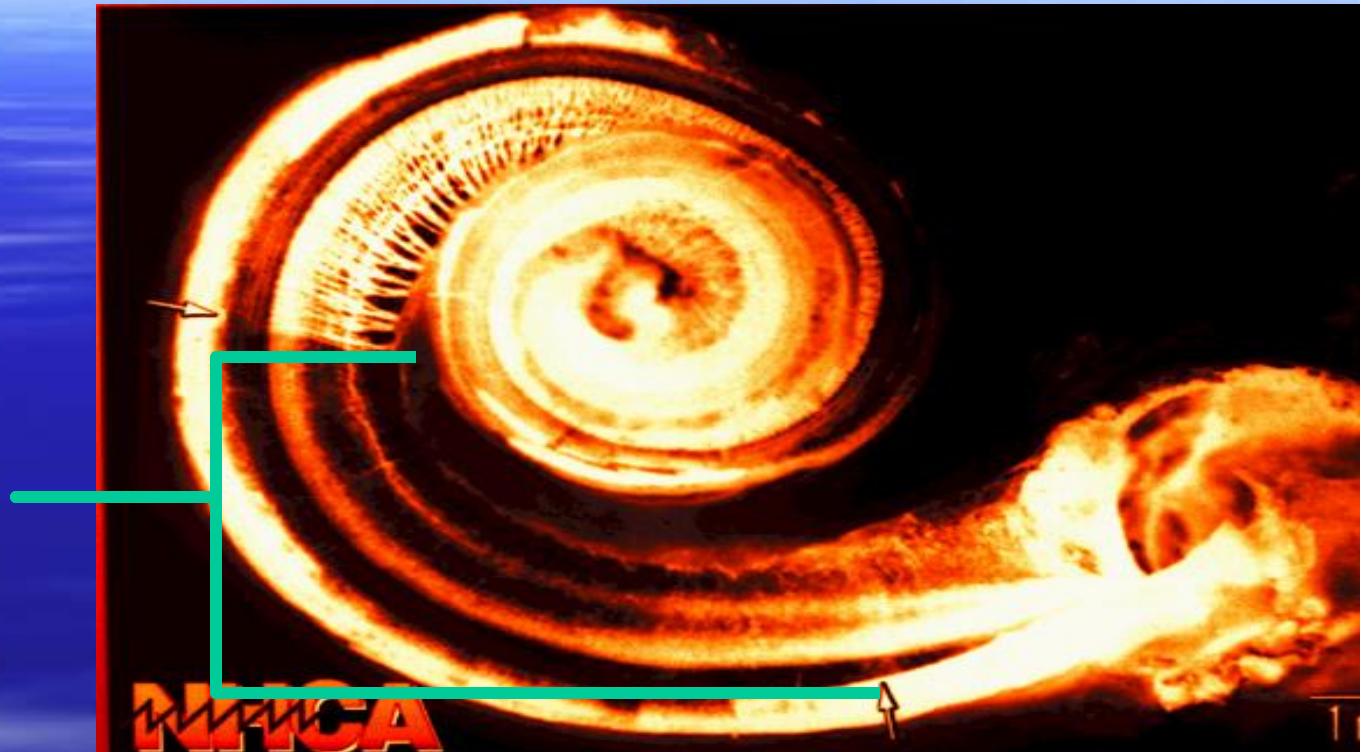


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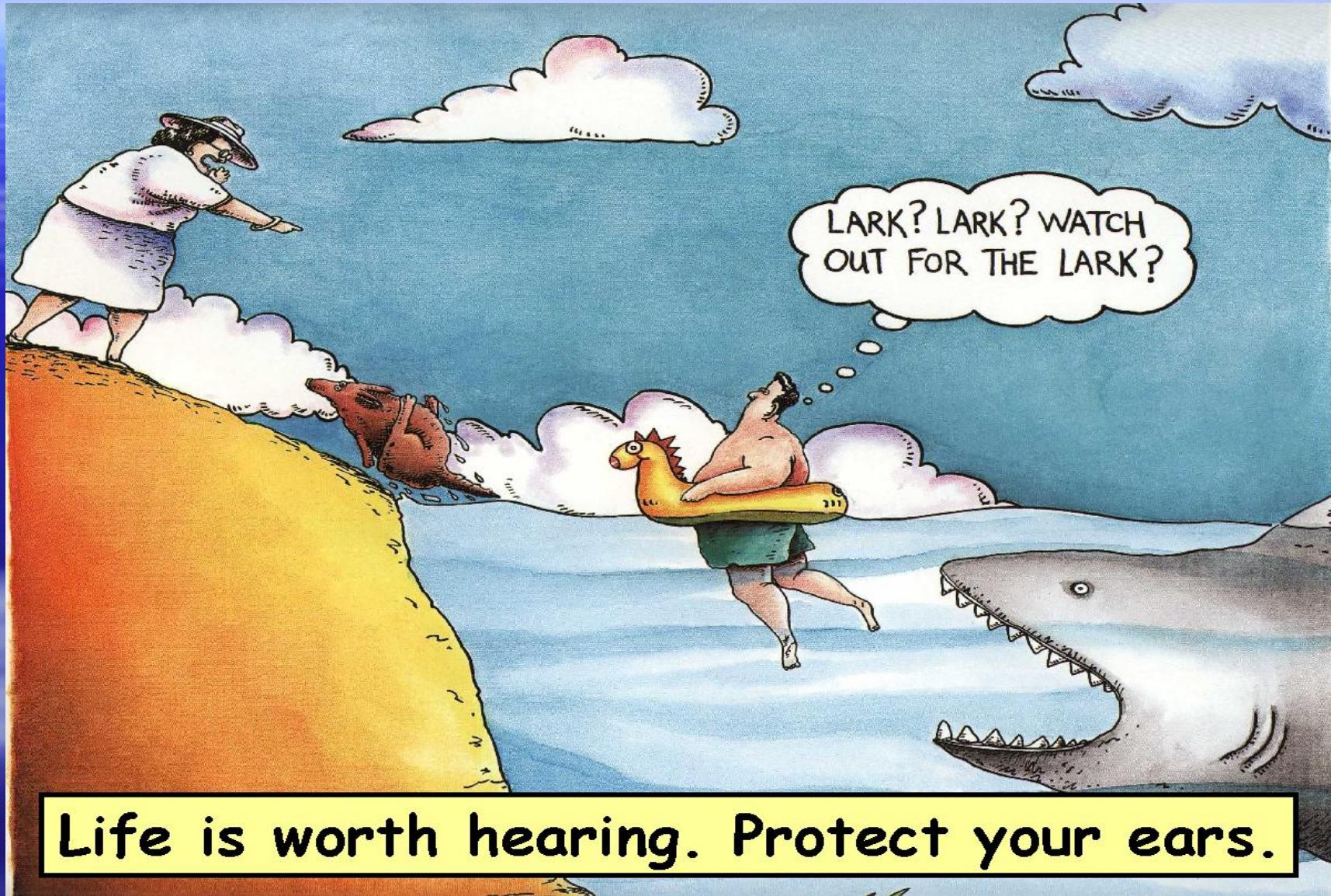
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