

# THE BIONIC EAR SHOW

is an educational, fun and interactive show that promotes safe listening. During the show you can learn how the sound travels through the ear to the brain, become a sound wave and much more

deafness research uk

# BIONIC EAR SHOW



## OUTER EAR



You can tell where sound is coming from to within an angle of 1 degree.

The visible part of the ear (Pinna) is as unique as a fingerprint unless you are an identical twin!

The folds of the Pinna help you identify whether sound is coming from above or below.

## MIDDLE EAR



The bones in the middle ear can vibrate up to 2,000 times a second! (2,000hz)

The Hammer, Anvil and Stirrup are the smallest bones in your body.

The ear canal is shaped like a traffic cone, large at one end and small at the other. This helps direct sound onto the ear drum.

## INNER EAR



You have two types of sensory cells in the cochlea, 13,000 outer hair cells that detect the sounds...

The cochlea (part of the Inner ear) is 3.5cm long and the same diameter as a 5 pence piece.

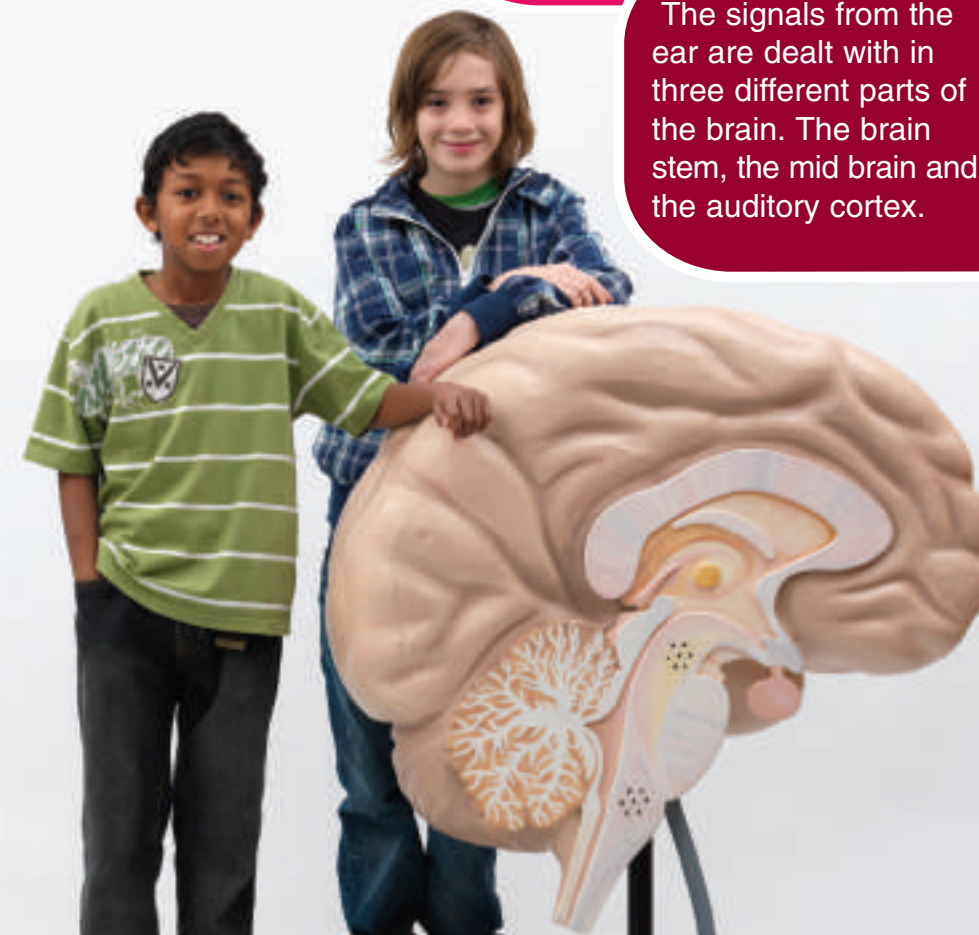
...and 3,000 inner hair cells that make the signal stronger.

## BRAIN

Linking all these hair cells are 30,000 nerves going directly to the brain.

The left side of the brain specialises in speech so a stroke can leave you able to hear, but unable to understand language.

The signals from the ear are dealt with in three different parts of the brain. The brain stem, the mid brain and the auditory cortex.



## ABOUT DEAFNESS RESEARCH UK

Deafness Research UK is the only national charity in the UK dedicated to finding cures for deafness and other conditions such as tinnitus.

There has never been a more exciting time for research. We are on the threshold of truly revolutionary developments in genetics, pharmacology, digital technology, and many other disciplines which, over the next decade, could dramatically improve the quality of life for millions of deaf and hard of hearing people in this country and around the world.

Scientists are now predicting that, within the next five to ten years they will be able to slow the advancement of the most common forms of deafness – age-related hearing loss. Within the next ten to fifteen years there could even be a cure for deafness and Deafness Research UK is at the forefront of this work.

Our scientists are also identifying genes that cause deafness and counselling the families affected; making hearing aids and cochlear implants more effective; investigating the causes of childhood glue ear so that non-surgical treatments can be developed and much more besides.

If you are diagnosed with either a hearing loss or tinnitus, contact Deafness Research UK's Advisory Service by calling our national freephone number: 0808 808 2222 or email us at: [info@deafnessresearch.org.uk](mailto:info@deafnessresearch.org.uk)

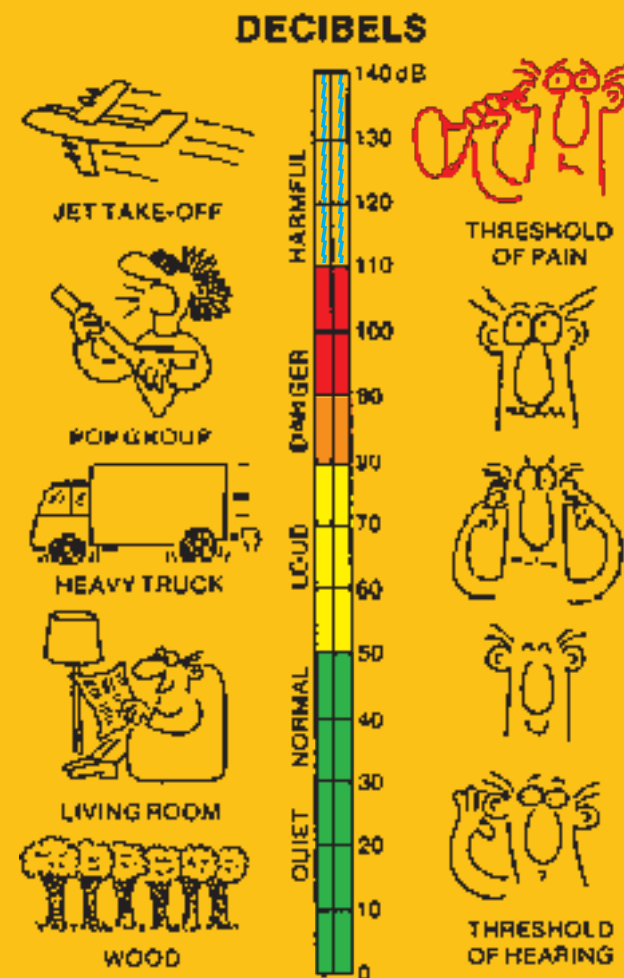
**TO BOOK THE BIONIC EAR SHOW PLEASE CALL LAURA ON 020 7679 8951 OR EMAIL HER AT [bionicearshow@deafnessresearch.org.uk](mailto:bionicearshow@deafnessresearch.org.uk)**

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Registered charity number: 326915  
Company limited by guarantee number: 1927658

## NOISE LEVELS



**MP3 players generally have a maximum volume of 100dB (depending on the model). Listening at 100dB for just 15min per day can cause you permanent hearing damage! Turn down the volume! Even a small reduction can help you protect your hearing!**

## TEN TOP TIPS

1. If you have problem ears, keep them dry!
2. Never poke anything into your ears – including cotton buds.
3. Protect your ears from loud noise.
4. To keep ears clean – wash the visible part of the ear (the pinna).
5. Rinse hair in fresh water when bathing.
6. Put a drop/spray of olive oil into each ear once a week if you have dry, itchy ears.
7. Avoid the common problem of ear pain when flying by chewing gum, swallowing water or yawning regularly, particularly while the plane is descending.
8. Don't ignore an ear problem.
9. If you suspect your hearing is not what it used to be, consult your doctor as soon as possible.
10. Don't be afraid to discuss any concerns you might have about your ears with a health professional.

**If you think you may have a problem with your hearing, contact Deafness Research UK's Advisory Service on 0808 808 2222**

## WORD SEARCH PUZZLE

x	s	b	q	u	v	h	w	a	v	e	s	l	p	u	r
e	c	o	c	h	l	e	a	s	w	g	h	x	j	i	p
b	o	e	w	e	e	a	v	e	s	p	a	m	g	a	r
v	w	g	a	a	r	a	d	a	b	a	n	r	r	e	i
e	y	l	r	r	h	q	r	n	l	a	m	t	e	i	p
l	a	x	b	i	o	n	i	c	c	y	t	d	f	d	i
l	i	s	g	n	r	n	a	x	r	b	e	e	p	e	l
y	s	s	l	g	n	t	g	a	n	f	l	q	w	a	x
h	e	s	t	t	e	t	b	e	b	t	e	s	b	f	a
a	l	c	v	e	n	r	a	e	l	e	p	h	a	n	t
p	l	t	s	e	n	d	f	a	x	c	h	o	t	e	d
p	d	o	o	r	b	e	l	l	c	r	o	w	h	s	c
g	o	b	u	b	p	a	h	a	b	a	n	g	e	s	a
g	m	i	n	l	u	f	e	x	o	o	e	x	g	t	o
a	m	n	d	f	r	p	l	h	o	h	u	y	w	i	l

bang	cochlea	hear	sound
bat	deaf	horn	telephone
beep	deafness	listen	tobin
bionic	doorbell	pinna	waves
bones	elephant	show	wax

## COLOURING IN PAGE

Colour in the black and white hearing aid below and send it to us together with your contact details. Each month we will put the most colourful and funky version on our website. Check if you were the winner of the month at [www.bionicearshow.org](http://www.bionicearshow.org)

