

**Tests and procedures -  
what to expect**

Information for parents

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This leaflet is available in other formats and languages. If you require this leaflet in Braille, on audio tape or cd, in large print or another language please telephone 01904 725796.

## **Why is your child having a hearing test?**

Your child has been referred to us by a professional such as a GP, an Ear, Nose and Throat (ENT) surgeon, a Health Visitor or a teacher because either you or they are concerned about your child's hearing ability.

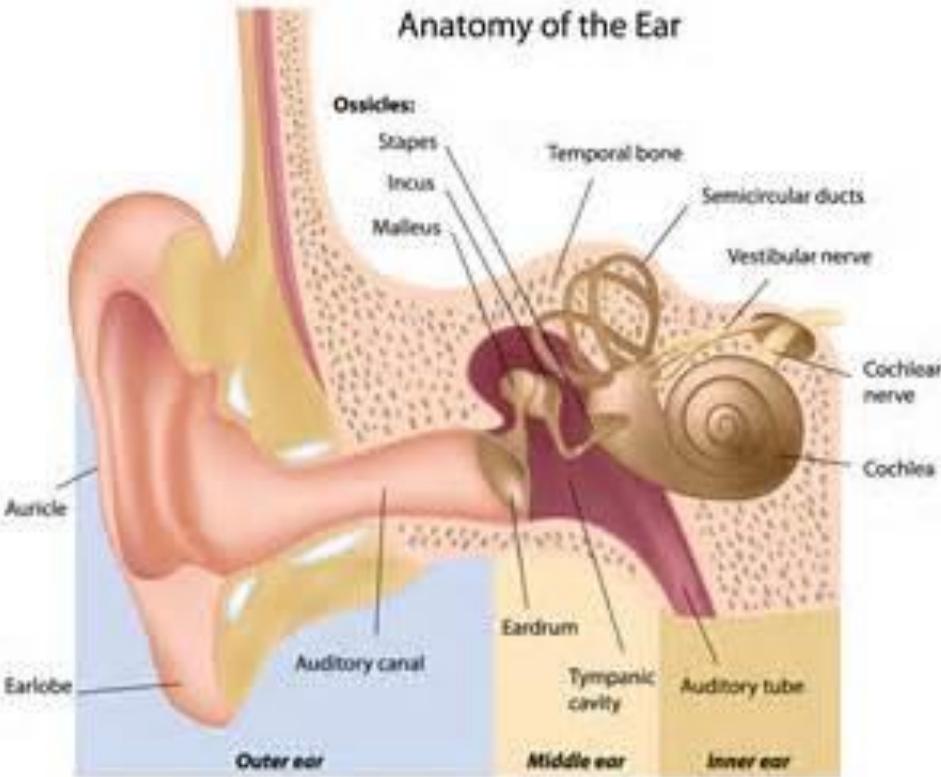
During the appointment we will try to find out as much as we can about how well your child can hear. There are a number of tests that we use depending on your child's age and ability. They are explained below.

We hope you find this leaflet useful but if you have any further questions please feel free to ask during the appointment.

Not all the tests will be undertaken at your appointment.

The audiologist will choose the correct set of tests for your child. All tests are performed by a qualified audiologist or by a student audiologist under close supervision.

# The anatomy of the ear



## **What is a hearing test?**

This is a test of your child's ability to hear a range of sounds that are associated with developing clear speech. There are a number of tests which are outlined below:

- **Visual Reinforcement Audiometry (VRA)**

In this test we teach your child to turn to sounds that are presented through a speaker, or using earphones. We use an animated toy in a box as a visual reward for turning to the sound. It is a test that works well for most children under the age of two years.

- **Performance Test/Play Audiometry**

In this test we teach your child to play a game that requires them to wait for a sound. The sounds are presented through a speaker, headphones or earphones. It is a test that works well for most children between the age of two and a half years and about seven years old.

- **Pure Tone Audiometry**

This is a test used with older children and most adults. Your child is required to wear headphones and press a button when they hear a sound.

Some children perform the above tests better than others. We can switch between each test to best suit your child.

## **More specialist tests**

- **Auditory Brainstem Response (ABR)**

This test is used as part of the newborn hearing screening programme. It can also be used with some older children and adults. The test involves testing the hearing nerve's ability to transmit a signal to the brain having been stimulated by a sound sent down the ear canal using insert earphones, a headphone or by using a bone conductor. Sticky pads (sensors) are placed on the forehead and behind each ear and used to record the activity of the hearing nerves on each side. Your child does not have to do anything, in fact the test works best when the child is asleep.

- **Otoacoustic Emissions (OAE)**

This test is also used as part of the newborn hearing screening programme. This is a sound which is generated from within the inner ear. OAEs disappear after the inner ear has been damaged, so OAEs are often used as a measure of inner ear health. This is the first test used when assessing a new born child's hearing.

We also routinely perform otoscopy, which is when we look in your child's ears with a specialised torch.

- **Tympanometry**

This is another test used to determine the condition of the middle part of the ear and measure the movement of the eardrum by gently changing the pressure in the ear canal. It lets us know a number of things, including:

- The presence of congestion behind the eardrum
- The presence of holes (perforations) in the eardrum not visible using otoscopy
- To check if grommets are working
- To see if there is a problem with one or more of the bones making up the middle ear.

## **How we send sounds to your child**

There are a number of ways to send sounds to your child's ears. The method we use will depend on the type of test and your child's co-operation.

- **Loudspeaker**

This tests the overall hearing, where both ears are likely to be listening together.

- **Insert earphones/headphones**

This tests hearing in each ear.

- **Bone conductor**

The bone conductor is placed behind the ear and plays sounds through the skull directly to both

hearing organs at the same time. This means that we are testing the better hearing cochlea (hearing organ, one for each ear). This method of transmitting sound bypasses the outer and middle parts of the ears. There are ways to test individual cochlea, but this is not normally done for young children because the task is too difficult for them. The bone conductor test tells us whether the hearing problem is conductive (a problem in the outer or middle part of the ear) or sensorineural (a problem with the hearing organ or nerve pathway), or both.

## **Risks of hearing tests and audiological procedures**

There are no known risks for the following tests, which are described above:

- Visual Reinforcement Audiometry (VRA)
- Performance Test/Play Audiometry
- Pure Tone Audiometry
- Otoscopy
- Tympanometry
- Otoacoustic Emissions

## **Risks for auditory brainstem response**

To enable a good contact between your child and the sensors used to record how well your child is hearing, we need to gently exfoliate the skin with a dry pad or fluid applied with cotton wool, and then attach a sticky

pad to that area. On some children this has the effect of reddening the skin for a few days. There are no known lasting effects.

## **Benefits of hearing tests**

If your child has a hearing problem we will be able to offer him or her help in the form of advice. If hearing aids are required this will be arranged and may include referral to other professionals such as an ENT surgeon, Speech and Language Therapist, Teacher of the Deaf, or a Paediatrician (a doctor who specialises in children's health).

Helping children hear well enables them to understand their surroundings, and importantly, hear speech. This allows them to develop their own language(s) and understanding of the world around them. Hearing well increases the number of opportunities for learning in all aspects of life, not least in school.

## **Alternatives to hearing tests**

There are no alternatives to the above hearing tests other than declining assessment.

## **Would you like to comment on this leaflet?**

Meeting the needs and preferences of patients and carers is at the centre of everything we do. We hope that you found this leaflet useful and informative.

If you would like to comment on it, please contact us via our paediatric secretary Angie Jessiman, Audiology Department, The York Hospital, Wigginton Road, York, YO31 8HE or telephone 01904 725454.

## **Teaching and Training**

York Teaching Hospital NHS Foundation Trust is involved in the teaching or training of medical staff who may be in attendance at some patient consultations. However, there is an 'opt out' option for any patient who prefers to see a doctor without training medical staff in attendance.

## **Patient Advice and Liaison Service (PALS)**

Patient Advice and Liaison Service (PALS) is located in the main entrance of the hospital. They can be contacted on telephone number 01904 726262, answer phone is available out of hours or via email [pals@york.nhs.uk](mailto:pals@york.nhs.uk).

# Our commitment to you

Our ultimate objective is to be trusted to deliver safe, effective healthcare to our community. You can find further details on our website: [www.york.nhs.uk](http://www.york.nhs.uk).



If you require further information please contact Paediatric Audiology on telephone number 01904 725454.

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