

## What is microtia?

Microtia is a condition present at birth meaning the malformation of one or both ears. Microtia may be part of a genetic syndrome such as Treacher Collins syndrome or Goldenhar syndrome, or may be an isolated deformity.

Microtia takes many different forms and the term means deformation of the outer ear. The outer ear may appear malformed from a very slight degree ranging to complete absence of the outer ear.

## How common is microtia?

Microtia of one ear is present in one in every 8000 newborns. Microtia of the right ear is more commonly seen than microtia of the left ear. Microtia is more common in males than females. It is more common in the Hispanic and Asian populations. The most common form of unilateral microtia is Grade 3 (see below).

Microtia involving both ears is more rare and is present in about 10% microtia cases.

## What is the cause of microtia?

The cause of microtia is generally unknown. Genetics are thought to have a role. Some medications taken during pregnancy have also been linked as a cause of microtia.

## Are there different forms of microtia?

Microtia is graded on a scale of 1 to 4.

The external ear canal may range from very small to absent. Even in the absence of the external ear canal, most children will have a normal and functioning inner ear.

Grade 1: The outer ear is smaller than normal but looks relatively normal otherwise in appearance.

Grade 2: The outer ear is somewhat normal in appearance and the external ear canal may be small or closed.

Grade 3: The external ear canal is not present and the present ear is small and misshapen skin and cartilage. This is the most common type of microtia.

Grade 4: The external ear structure is completely absent (sometimes skin tags may be present).

## How is microtia diagnosed?

Microtia is usually diagnosed at birth with the newborn physical examination.

## How is microtia treated?

Microtia is treated with surgery. There are several staged surgical procedures to reconstruct the ear depending on the degree to which microtia is present. These surgeries are typically performed 3-6 months apart in order to allow for proper healing.

The new ear is created from the patient's own rib cartilage. After the cartilage is removed from the rib, it is formed to match in symmetry to the intact ear. The cartilage graft is then placed underneath the skin where the absent ear would be. This graft actually grows bigger as the child grows. Then, surgeries are performed to better position the ear lobe (which is usually formed from the present, affected ear that is present at birth) and elevate the ear above the skin. A skin graft is taken from the groin in order to construct the pinna (outer ear) complex. Because the new ear will involve some of the skin from the scalp, hair will be present on the ear. This is treated with a laser to diminish new hair growth.

The alternative to surgery in treating microtia is installing a prosthetic ear. The prosthetic ear is custom made and relatively realistic appearing and is removed at night while sleeping.

## At what age is surgery performed?

Surgery may be initiated as young as age 5. The reason for this age is because rib cartilage is used to construct the new external ear and it must be enough in order to do so.

## Will my child be able to hear?

If an ENT doctor and audiologist determine that the hearing on the affected side is intact, surgery on the inner ear may be done after the external ear surgeries are completed. A cochlear implant is often used to enable hearing.

## What should I expect following surgery?

Post-operatively, a gauze dressing will be placed over the ear as well as a splint that attaches by Velcro. It is important that this dressing be kept clean, dry, and intact for the first 72 hours following surgery. Under the dressing, staples or stitches may be present. After the first 72 hours, the hair may be washed.

Sometimes, antibiotics are prescribed in order to prevent infection from occurring. In some cases, pain medication is also prescribed, but most procedures are adequately

treated with over the counter Children's Tylenol. We advise no sports or swimming for two weeks after the procedure to aid in healing.

The dressing and/or stitches/staples may be removed (if it has not already come off) or trimmed at the post-operative visits.

After microtia repairs, there may be some pain at the surgical site, itchiness, and numbness. Pain is usually mild and may take weeks to months to subside. Itchiness and numbness may also occur and resolve over time.

Complications are uncommon after microtia repair. Scarring is inevitable anytime there is a cut or trauma of any kind to the skin. Some scars are barely if at all visible while some scars are disfigured, red, dark, or raised and/or form a keloid. It is of special importance to be proactive with preventing, caring, and treating scars. Scar treatment recommendations may include sunscreen, scar bandages such as silicone sheeting, scar creams or gels, and/or a scar massage.

Infection is another complication that may be seen after surgery. Signs and symptoms of infection include fever, swelling, pus drainage, pain, and redness. However, some of these signs and symptoms are normal to an extent. If there's any concern, our office should be contacted immediately. Infections resolve typically with medical treatment of oral and/or topical antibiotics.