Treatment Options for Microtia

Deciding which option is best for treating your child's microtia depends on many factors. These include the size of the small ear, the possibility of surgically creating an ear canal and what you and your child prefer. Talking openly with your healthcare providers, family members and your child will guide you in making the best choice. The three treatment options for microtia include leaving the ear as it is, using an artificial (prosthetic) ear and surgery to build a new ear (surgical reconstruction).

Making an artificial ear (prosthesis)

An artificial ear can be made from silicone. We will make a mold of your child's other ear to use as a template. This can be done when your child is at least 6 years old. It is most often done when a child is 8 to 9 years old. The prosthetic ear is made by a provider who specializes in making prosthetics (anaplastologist).

There are 2 ways to secure the ear prosthesis to your child's head:

- **Adhesive retained prosthesis:** special glue is used to attach the prosthetic ear over the microtia. No surgery is needed.
- **Implant retained prosthesis:** surgery is required to remove the small ear and place titanium implants. Several months later another surgery is required to attach posts to the implants. The prosthetic ear will attach to these posts using a system of magnets and clips.

In both cases, you or your child will attach the ear in the morning and remove it at night.

Surgical reconstruction

There are 2 types of surgeries used to create a new ear. The type of surgery depends on the material that is used to create the new ear.

1. Rib reconstruction

Rib reconstruction uses your child's own cartilage and skin to make a larger ear. This is called "autologous" reconstruction. Two surgeries are needed. Your child will need anesthesia for each.

- **First surgery:** In the first surgery, cartilage is taken from your child's rib cage and carved to create the new ear. The small ear is often used to make the ear lobe of the new ear. This surgery takes about 5 hours. Your child will need to stay in the hospital for 2 nights after surgery.
- **Second surgery:** the new ear will be lifted from the side of your child's head by using a skin graft from their groin to line the back of the ear. We will also take some extra rib cartilage to help position the ear properly. This surgery takes about 3 hours. Your child will be able to go home on the same day as this surgery.

To Learn More

- Otolaryngology
  206-987-2105
- Ask your child's healthcare provider
- seattlechildrens.org

Free Interpreter Services

- In the hospital, ask your nurse.
- From outside the hospital, call the toll-free Family Interpreting Line, 1-866-583-1527. Tell the interpreter the name or extension you need.

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2. Synthetic (alloplastic) reconstruction

The second type of reconstruction is done using a premade synthetic ear framework made of a material called polyethylene. The framework is used to create the new ear. It is covered by your child's tissue and tissue that holds organs in place (fascia) from the surrounding area. Skin grafts taken from the other ear, scalp or upper thigh are also used to cover the ear.

This reconstruction can generally be completed in a single surgery that lasts about 8 hours. Because the surgery is long, your will likely stay overnight in the hospital.

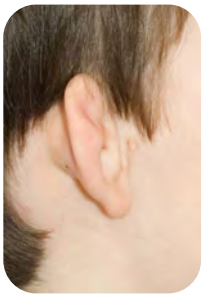
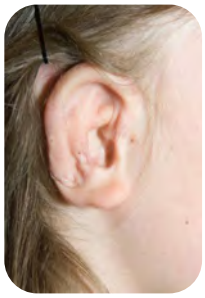
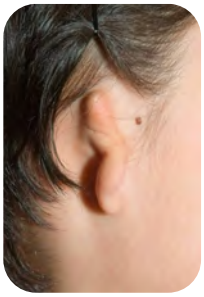
What are the advantages and disadvantages of the treatment options?

Observe (no treatment)	Details	Advantages	Disadvantages
	No treatment	• No risk	• How ear looks and psychosocial issues

Prosthesis	Details	Advantages	Disadvantages
	Adhesive-retained	• How ear looks • No surgery	• Daily care needed • Ear may fall off • Ear cannot be worn in pools or hot tubs (chlorinated water) • Expensive and often not covered by insurance • Ear does not change color with sun exposure; need to have ears for different seasons
	Implant-retained  	• How ear looks • Secure retention	• Appearance of implant site • Daily care of implant sites needed • Often not covered by insurance • Ear cannot be worn in pools or hot tubs (chlorinated water) • Ear does not change color with sun exposure; need to have ears for different seasons • Requires 2 surgeries. Microtic ear will be removed • Need lifelong access to prosthetic ears • Unable to pursue other forms of reconstruction in the future • Harder to repair narrow or missing ear canal (atresia)

Reconstruction	Details	Advantages	Disadvantages
	Autologous rib 	• How ear looks • Secure retention	• How ear looks • Requires 2 to 3 surgeries • Possible complications • Requires cuts (incisions) at child's chest and groin

Examples of rib reconstruction

Before	After
	
	

	Details	Advantages	Disadvantages
	Polyethylene	• Fewer problems where skin and tissue are taken • Less variability in new ear shape	• Requires 1 to 2 surgeries • Foreign body • Possible complications • Harder to integrate with atresia repair

Example of reconstruction with synthetic material

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