

## **MEDICAL ART PROSTHETICS**

### **THE AESTHETIC EAR PROSTHESIS**

This guide is prepared to introduce the option of wearing an aesthetic ear prosthesis within the context of all the options currently available to patients and parents of children with microtia.

#### **INTRODUCTION**

In the United States roughly 1 in 6000 children is born with microtia. The decision to try to correct or normalize the look of the affected side(s) with surgery or a prosthesis can be a difficult one. Parents of young children are encouraged to seek advice from other parents and support groups, especially before they make any decisions involving surgery.

The 3 treatment options for microtia are: surgical reconstruction, prosthetic restoration and the choice of no treatment. All 3 options have advantages and disadvantages and none should be dismissed without consultations with specialists from each area of expertise. Finally, it is helpful to hear the opinions of other parents or patients who have already had experience with the surgical or prosthetics options or who have opted for no treatment.

#### **SURGICAL RECONSTRUCTION**

Surgical reconstruction of the ear is considered by the plastic surgery community as one of the most technically difficult procedures to execute with a lasting successful result. This means a surgically reconstructed ear that heals and remains healthy, develops good definition and elevation from the head and which remains natural looking throughout the individual's life. Success seems to rely on both the surgeon's skill and aesthetic awareness.

Surgeon selection is therefore critical. Parents are encouraged to be very assertive in their consultations with surgeons; requesting examples of what the surgeon considers long term success stories. The surgeon will usually offer evidence of their results in the form of a portfolio of before and after photos. How else can a parent feel resolved in their decision to select this surgeon and this treatment option for their child? Children's own awareness of their ear difference and motivation to undergo surgery might seem helpful, but the selection of the surgeon and responsibility in the final decision for electing surgery must rest with the parents.

Surgical reconstruction is not always accomplished in one operation. It depends on the technique used. Some surgeons use the child's own rib cartilage to sculpt the underlying structure. Other surgeons use implantable porous polyethylene, a plastic material shaped and inserted under the skin. Whether living cartilage or polyethylene is used, it should be remembered that the very first attempt at surgical reconstruction

is the most critical. This is because the trauma of surgery causes scar tissue to form; a natural process where the skin becomes thicker and tighter. The presence of scar tissue then makes subsequent attempts to correct failed reconstructions much more challenging for the surgeon. Therefore, if reconstruction is the desired treatment choice then finding the most skilled and experienced EAR reconstructive surgeon the FIRST time is very important. Prestigious institutions and highly credentialed surgeons inspire confidence, but parents must maintain a laser like focus on the actual patient results. Be prepared to travel across the country or even out of the country to find the right surgeon. Families, children and adult patients may decide to decline surgical reconstruction on the basis of medical risks, time involved, and costs or for other personal reasons. For them there is always the choice to wear a prosthesis.

#### **PROSTHETIC RESTORATION**

Terms like "prosthetic restoration", "prosthetic ear", "auricular prosthesis" or "ear prosthesis" all refer to the same thing: an artificial ear that has been created with special biomaterials like medical silicone to look like living tissue – tissue that looks like the patient's own skin. It should also be understandable that ear prostheses are designed to lie on top of the skin, not implanted under the skin. Prosthetic restoration of the ear is possible for all grades of microtia.

There is great variability in the design of ear prostheses. Some ear prostheses are designed to slip over existing microtia tissue or the tissue configuration left from previous surgical reconstructions (Figs. 1, 2, 3). Some ear prostheses are attached to the skin with adhesive (Figs. 4, 5, 6). Some are designed to attach to abutments (pegs) anchored in the skull (Figs. 7, 8, 9), and some are even stabilized by attaching them to eyeglasses. All silicone ear prostheses or “auricular” prostheses are removable – they do not become part of the body. No matter the method of attachment, the prosthesis is put on and taken off by the patient on a regular basis, usually daily, in order to maintain hygiene of the skin and cleanliness of the prosthesis.

## CHOOSING YOUR ARTISTIC SPECIALIST

The beauty of the artistically-created ear prosthesis is that it is not detectable as a prosthetic replacement. The unwitting observer perceives it as a natural ear, because it has the same shape as the unaffected ear with the same soft fleshy look, curvilinear anatomical structures and vascular pink tones as the unaffected ear. However; creating highly life-like ear prostheses is a technique-sensitive specialty honed by experience, so choosing an ear prosthetics specialist is like selecting an ear reconstructive surgeon. In the United States ear prosthetics are offered by hospitals, clinics, dental offices, etc., but there are very, very few individuals truly skilled as artists, trained in silicone ear restoration

and committed as credentialed career silicone facial prosthetics specialists. Like choosing a surgeon, the prosthetics candidate must be prepared to interview the artist-prosthetist and travel if necessary to find the very best results. It cannot be over emphasized how important it is to see samples of the practitioner’s ear prosthesis results.

## EAR PROSTHESIS OPTIONS

The conventional adhesive-retained ear prosthesis:

This simple prosthesis is available without any surgery. This is especially helpful to see how the prosthesis looks when shaped to fit over existing ear tissue. The adhesive-retained ear prosthesis is also appropriate as an interim measure if additional time is needed in deciding whether to undergo surgical reconstruction or to have an implant-retained prosthesis. The prosthesis in this situation might just help bolster a child’s self-confidence through pivotal school years or trying periods, especially if the family has not yet found a surgeon who has inspired their confidence or assured them that a successful surgical outcome was highly probable. Many of our clients have become very comfortable with and adept at using their adhesive-retained ear prostheses.

Sometimes it is possible to create a “slip-over” type prosthesis that is molded over and around an unaltered microtia ear or over a previously surgically reconstructed ear that is not acceptable in appearance to the

patient or parent. Because of the intimate fit of this type prosthesis adhesive might be needed only as an extra measure of security or to help seal the edges of the prosthesis. The slip-over prosthesis provides an opportunity to give a more normal look to the affected ear. For example, improved definition of the helix (rim) of the ear is often incorporated into the prosthesis to match the unaffected side. The added helix and adjacent anatomical definition blended into the existing shape creates a more natural look when viewed from the side and a more symmetrical balanced silhouette when viewed from the front or back. Admittedly, the reliance on adhesive can be challenging and burdensome for a child and family. However, this type prosthesis can introduce the nature and benefits of the prosthesis option without having to commit to reconstructive surgery or osseointegration, both of which result in permanent scarring and sacrifice of the child’s own natural soft tissue. In other words, with the adhesive or slip-over prostheses there is no pain and no bridges have been burned.

The implant-retained ear prosthesis option is now widely accepted and recommended by physicians and facial prosthetists for patients who elect to wear a prosthesis as their preferred lifetime choice. This option should be explored by individuals who are not likely to receive a successful long-term surgical reconstruction of their ear or those tired of living with the look of their failed or suboptimal surgical reconstruction.

An implant-retained prosthesis should be explored by those whose priority it is to have the most natural and symmetrical

prosthetic ear restoration, and are ready to have their own microtia tissue or surgical reconstruction completely removed. It should be considered by those who cannot or do not want to master adhesive attachment. In other words it is an excellent choice for those ready to embrace the idea of being a lifetime prosthesis wearer, and who are cleared by their doctor to have placement of the screw fixtures.

The implant-retained prosthesis does not require any adhesive. It has magnets or clips that attach securely to fixtures that are surgically installed in the temporal bone. Placement and removal are easy as a snap and click.

The information in this booklet is provided as an introduction to the options available. Clearly, there can be many factors and each individual's case is unique.

Medical Art Prosthetics, LLC has been involved in the field of auricular prosthetics since 1985, having the longest track record of aesthetic results by independent medical artists in the United States. We collaborate with all specialties, and we train surgeons in the placement of Cochlear Vistafix fixtures when requested. We welcome the opportunity to answer questions and provide whatever support we can. We want patients and families to make well-informed decisions and have access to our services across the United States should a beautiful ear prosthesis be their wish.

MEDICAL ART PROSTHETICS, LLC

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