

# FAQs for AuD Students

If the hearing aid or earpiece does not fit easily into the ear canal, is it necessary to create a new impression?

Yes. If the earpiece is too tight in the canal, send the laboratory a new impression for a remake and possible tapering of the canal for ease of insertion.

When would you recommend using a canal lock? Would you use it to resolve feedback due to poor retention or is it more than this?

A canal lock style earpiece can be used to help with feedback if going from a canal style to a canal lock. However, the canal lock is mainly used for cosmetics rather than retention.

If a custom shell or earpiece does not fit, do you recommend trimming the impression in the problematic area? If so, how do you correctly identify the problematic area and trim or modify it on the new earpiece impression?

We do not recommend that you trim the impression in any way. Determine where the problem is, mark the impression and send it to the laboratory with a detailed explanation of the problem.

If a patient has more occlusion after a response adjustment, do you recommend just opening the vent? I've been lead to believe that a deep impression can minimize the occlusion effect. In other words, will a deep earpiece impression that rests on the bony portion of the ear canal prevent the occlusion effect caused by ear canal cartilage vibrating from the user's speech?

While it is true that a deep canal will help with occlusion, the majority of people will not be able to tolerate a deep fit. Increased venting will help with occlusion in most cases.

When would you recommend using a Libby Horn or bore?

If you are using an analog hearing instrument and fitting a high frequency hearing loss.

Which patients are best served by using a soft shell/mold in the ear canal? Which patient's are best served by using a hard shell/mold in the ear canal?

In general, we recommend hard materials for softer ear textures (such as the elderly). We recommend soft vinyl materials for infants and young children and silicone materials for older children or adults with a firm ear texture and a severe to profound hearing loss.

Remakes have not solved the feedback problem (feedback with facial movement). What do you suggest?

Try taking an open-jaw impression using a bite block. Use a high viscosity impression material. Order the earpiece with a long canal. Taper the canal for mandibular action.

Patient is having discomfort in certain areas. What do you suggest?

When sending a new impression to the laboratory, make sure you mark the sore areas on the impression. Consider changing the earpiece style/material to alleviate the sore area. Do not use soft silicone on older patients to avoid abrading the skin.

How can CICs be modified to maximize gain if the patient insists on this model?

Please refer to a hearing aid manufacturer for their expertise.

My patient has a deep concha and curve in the canal causing discomfort during insertion/removal. How would you suggest solving this?

Tapering the canal will help with insertion/removal process. If possible, avoid fitting in the “deep concha” area and instead use a canal-lock or canal only style.

Full and half-shell earpieces fall out of the ear due to a shallow concha. How can this problem be remedied?

Use a wire retention adapter (tubing coated flexible wire attached to the earpiece and bent around the pinna). Also, consider changing the earpiece style to better accommodate the anatomy (i.e. a partial skeleton style with retention in the helix).

A first time hearing instrument user needs moderate gain but is very sensitive to the sound of their voice. What can be done to make the initial fitting more successful?

As far as the earpiece fitting, use as open a style as the hearing loss will allow. Choose a large variable vent for flexibility, if the anatomy of the ear will allow this.

What is Splead™ and how do you do it?

The SPLEAD method is a handy technique for mixing ear impression materials that reduces the chance of contamination. We've found that products containing sulphur (often found in latex gloves and hand lotions) will react with silicone impression materials and prevent proper setup. Spleading is recommended for Silicone Singles and other silicone-type materials. [Here's how to Splead](#)

## ***Proper Impression Technique***

One of the most common subjects that Westone speaks about all around the country is that of proper impression technique. A good impression is the pattern that is required to get great-fitting earpiece. Without accurate impressions, it is nearly impossible to manufacture a quality earpiece.

Below are a series of commonly asked questions and answers regarding impression technique. There are many possible answers to these common questions. The answers depend on several variables including, but not limited to, the quality of materials used; unique situations with ear shape and size; etc. Still, we have done our best to provide precise answers according to our experience and knowledge.

1. What impression material do you recommend? Soft or stiff? Why? Would you use the same material for pediatric fittings vs. adults? There is no simple answer to this question. Each material has its advantages and drawbacks. Silicone is highly accurate and stable with very little deviation from the ear to the finished product. Depending on the viscosity of the material and the particular impression tool used, it can expand the ear more than the powder/liquid material. Powder/liquid material has less chance of expansion IF mixed in the proper proportions and syringed into the ear in a timely manner. However, the critical ratio of powder/liquid and heat make it very susceptible to distortion. We are opposed to bulk powder/liquid, which leaves the measuring in the hands of the dispenser. Any of the materials used on adults can be used in a pediatric fitting as well.

2. Do you recommend any special techniques or tools? Would you recommend the same techniques for a pediatric patient vs. an adult patient? Should you use the same technique for all hearing instruments (BTE, ITE, CIC, etc.)?

The tool you use would depend on the type of impression material used. The Silicast™ syringe or The Best™ Syringe (with the disposable tip for infection control) for silicone material. The impression gun is used for the VPS (vinylpolysiloxane) cartridge material. There are two types of impression guns, the manual gun and the electric gun. Westone currently offers the manual gun and a rechargeable electric gun: the NEW cordless Injector Control™ . Each of our guns are

compatible with either the 48ml or the S-50 impression material cartridges. The Injector Control offers the convenience of a cordless system. The battery fully charges in under 2 hours and will dispense approximately 30 cartridges with a single charge. The absence of the need to "re-cock" the gun prevents troublesome wrinkles and voids that are common to impressions made with cartridge materials. The impression technique does not vary with the age of the patient. We require a full, complete impression of the ear, regardless of age.

### 3. Do you recommend open or closed mouth? Move jaw? Why?

A common debate in the industry these days involves that of impression technique and whether or not one should have the patient move their jaw during the process, or keep the jaw stationary with a Bite Block™ in place. For many years our position at Westone has been to have the patient move their jaw with a "chewing" motion in order to replicate the patient's natural jaw positions. However, it appears from the abundance of research on the topic that mandibular movement during the impression taking process causes changes in the ear canal that may contribute to fit problems.

Based on the latest information, we feel that open-jaw impressions using a Bite Block™ definitely have a place. There are some conditions that certainly warrant an open-jaw impression. These may include patients with a history of feedback/loose fit problems, significant jaw movement, or retention problems. Research also indicates that using a higher viscosity impression material will improve acoustic seal and is the preferred material when taking open-jaw impressions. Our Pink Silicast®, Blue Silicast® and Silicone Singles® are ideal for this application.

In cases involving the fit of musicians (particularly horn players) whose mouth/jaw position is usually in a set position, we would recommend an impression technique that would replicate that specific mouth position. In cases where the patient has a sensitivity and cannot tolerate a tight fit, a closed-jaw impression may be preferable to avoid causing the patient further discomfort.

Our new position? Open-jaw impressions taken with a Bite Block are favorable in the majority of fittings. In keeping with our efforts to provide the best for each patient, we may move off of this position on a case by case basis, depending on the physical and acoustic characteristics of each individual patient.

As always, regardless of the technique used, the accuracy of the earpiece/earplug fit relies largely on the accuracy of the impression provided to the laboratory.

#### 4. Do you recommend a syringe or a gun?

The question of using a syringe versus a gun is usually one of personal preference. From a manufacturing perspective, we are looking for uniformity and consistency in the impressions, i.e. a complete, full impression of the ear lacking any major voids or underfilled areas. In an ideal world, all impressions submitted would be made using the correct impression technique (for either the syringe or the gun) and the impression would be full and complete.

The original powder/liquid impression materials were sold in bulk. This allowed impression consistency "du jour" as the mix from the same person could vary from day to day, not to mention the variations possible from person to person. Excessive summertime weather conditions could also drastically affect the finished impressions. The early "accelerator" silicones that came out definitely solved the "transportation issues" of powder/liquid materials. However, as people became more and more familiar with them, they started "tweaking" the recommended mixing methods to get the impressions to cure quicker, thus expanding the ear more. This then led to production difficulties for the manufacturers, e.g., how much is the right amount of wax to put on each impression to make it the best fit possible. Two-part silicones address this problem by requiring equal amounts of base and catalyst. However, this still did not address the mixing time prior to the material being placed in the syringe, which can have an effect on ear expansion. Cartridge materials address this issue, but the lower viscosity causes less expansion than older techniques.

The next step in the "lets try and make everybody's impression technique the same" is the electric impression gun. This eliminates the variable of hand strength. Anyone who has seen someone's hand shake during the end of the trigger pull on a manual gun has to ask how much control of the tip is really there. The electric gun addresses this by giving you complete control over speed as well as tip placement. While this by no means solves all the problems associated with trying to get everyone's impressions to be exactly the same, we can look back and see that tremendous progress has been made to standardize the impression taking process. Our recommended techniques apply to BTE's since we make the custom earmolds for that type of instrument. We refer you to the hearing aid manufacturers for their recommendations on other instruments (ITE, CIC, etc.).

#### 5. What is your recommendation for eardams or oto-blocks?

Our PROS™ eardams are the best we've come across. [Click for more information.](#)

6. Do you use any studies or research to support your ideas?

We base our suggestions and recommendations on almost 50 years of experience in the hearing healthcare field and the manufacture of earmolds in our laboratories. So, while we don't have any formal studies to send to you, we feel very confident in the accuracy and consistency of our recommendations.

Thanks for thinking of Westone!