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Article

## **Cerumen Management for Hearing Aids**

Nothing damages an ITE, ITC, or CIC style hearing aid faster than ear wax accumulating in the sound port. Every time the device is inserted into the ear the canal tip acts like a plow, scooping cerumen right into the sound outlet where it can cause all sorts of problems, such as weak or distorted sound, intermittence, or complete instrument failure requiring receiver replacement.

Ear wax is a natural healthy occurrence of the human body, so the only methods for eliminating wax from the hearing aid are either a proactive approach – trying to keep the wax out, or a reactive approach - trying to remove the wax once it is in.

In this article, we'll look at a few proactive approaches, as well as pros and cons of using each. I'll even give you my pick as to which device I prefer, and why.

### **Wax spring:**

The wax spring is a small metal device that fits inside the sound outlet port tubing (receiver tubing). Calling this device a spring doesn't really do it justice as it isn't a spring at all. But it looks like a spring in the sense that it is one piece of metal wound in a circular spring fashion. If you take a good look at it under a microscope (or if you're near sighted vision is very good) the shape will resemble a bee's nest.

The purpose of this device is to keep ear wax from entering the sound port by blocking and collecting it inside the receiver tubing before it reaches the sound port where it can cause damage. The spring design allows sound out while the device blocks and collects wax. The spring can be installed in seconds using tweezers and pushing the spring into the receiver port. It is very effective and will keep almost all debris from entering the receiver, but it can get clogged rather quickly and need replacement. Replacement can be performed by pulling the used spring out and inserting a new one.

Pros and Cons:

The Wax Spring is small and can be used in short canals or CICs when there isn't enough space for other options. It can be installed in seconds in the office, so if a patient comes in with a wax problem they can leave with a solution. The downside is the device will absolutely need replacement at some point. It is intended to trap and collect wax and debris and there is no method of maintaining the device (other than maybe a vacuum pump – more on that in a future article) – replacement is the only option, and that should be performed in the office.

### **Flip-Top Wax Guard**

The Flip-Top Wax Guard (also referred to as a Toilet Seat Wax Guard) is a device that uses a small door to cover the sound outlet port at the canal tip to keep the wax out. The door has a hinge on one end so it can open and expose the sound outlet for cleaning. A space around the circumference of the door allows sound from the receiver to be

delivered unaffected. This type of wax guard is typically installed from the manufacturer, however someone with good repair and modification skills can install in the office.

Typically, any cerumen will collect on the outside of the door, blocking it from entering the sound outlet port, or receiver. To clean, the user would simply open the door and brush away the wax.

Pros and Cons:

The nice thing about the Flip-Top Wax Guard? – It is a permanent component. It doesn't need replacement and it will work the same way in several years as it does when it is new. And it is easy to use. I also like the idea of keeping the wax completely external to the hearing aid. The downside is the user's commitment to cleaning their hearing aid every day. If any cerumen has a chance to accumulate, it can push around the opening of the wax guard and migrate into the receiver

### **C-Guard**

The C-Guard is a special wax protection device which uses an acoustically transparent membrane and a special receiver with a barometric relief vent. The idea is for the cerumen to collect on the membrane and then be wiped off daily by the user. The membrane is made to be replaced occasionally by the user. This is a system installed by the manufacturer.

Pros and Cons:

The C-Guard is easy to maintain by just wiping daily – definitely a plus. The user replaceable membrane though could be a pro or con depending on who is doing the replacing. Some users can handle a chore like this with ease, while others may experience problems. Plus keeping track of small parts and a special tool for installing them could also be a headache. The special receiver and relief vent are a bit of a drag for me. I always think about future repairs and modifications and anytime you have special parts involved your options are limited.

So, my favorite wax guard protection is (drum roll please.....): The Flip-Top Wax Guard. I like the fact that there are no replacement parts, and if used daily will keep everything out of the sound outlet port. It is a proven system that has been around for a long time.

However I do need to give an honorable mention to the Wax Spring because there are times when the Flip-Top Wax Guard cannot be used, such as with most CIC devices. Sometimes there isn't enough room in the canal to accommodate it. Therefore, the Wax Spring is at times a logical option – given the fact it will eventually need replacing.

Next time, we'll look at reactive approaches to cerumen in hearing aids, and how those methods can interact with wax protection systems.

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