

Cerumen management requires skill, knowledge, and a cautious approach

By Alan L. Lowell and Luis M. Valdes

With the passage of time progress is inevitable. For those of us who provide hearing healthcare, progress means offering new technologies, implementing new procedures, and expanding our services to our patients. Ultimately, progress requires us to make changes in our practice model to keep pace with consumer demands.

It is helpful to look back to where our profession was when we started and where it is today so that we can more effectively navigate where we want to be positioned in the future. Who thought 35 years ago that clinicians would be fitting instruments so small they would fit completely in the ear canal and yet accommodate multiple user programs? Who back then could have imagined the vast array of fitting algorithms and the amazing versatility that today's hearing instruments offer—or that an average retail price for a pair of hearing aids would be around \$4000?

Advances in technology over the past three decades have created the need for more and better training. For example, the introduction of completely-in-the-canal (CIC) technology in the early 90s required that ear impressions be taken within 5 mm of the eardrum. Given the potential risks associated with operating in the bony portion of the ear canal, how could deep impressions be taken safely? And what would happen to even small amounts of ear wax lodged in the canal during the impression process? Where would it go?

MOTIVATION TO MANAGE CERUMEN

The advent of deep-canal impressions has raised new questions about the issue of cerumen and made more and more hearing care providers consider learning how to remove it themselves. After all, how can a deep-canal impression—or really any type of impression—be performed safely if there is wax in the canal? And is referral to a physician for wax removal called for when only a small amount of wax is observed? Might not a referral add to the patient's cost, inconvenience, and anxiety and lead to delay or possible inaction? It's no wonder then, as we work with hundreds of dispensing professionals around the country, that we find that more than 50% of them are removing ear wax at some level.

The introduction of video otoscopy made it possible for clinicians to view the ear canal and eardrum in much greater detail than they could with a traditional otoscope. A traditional otoscope provides a smaller work area and therefore is more cumbersome for instrumental methods.

In contrast, video otoscopy provides significantly greater magnification to explore the ear, making ear wax removal much safer.

Video otoscopes are now in routine use in many dispensing facilities. As mentioned above, it appears that more than half of all dispensing clinicians perform cerumen management, in many cases with little or no training.

As more hearing care providers practice cerumen management, the need increases for professional training to ensure that they do so in a safe and effective manner.

CAVEATS TO PRACTITIONERS

This article will discuss the five procedures routinely used for the removal of ear wax; Q-tip[®], curette, forceps, lavage, and vacuum methods. However, before we begin, we must emphasize to readers that *they must not perform cerumen management unless they meet the following criteria:*

WHAT TO DO IF BLEEDING OCCURS

The skin layer lining the ear canal is extremely thin, especially in the inner two-thirds, and is therefore prone to bleeding when an object is introduced into the canal. Generally, a minor amount of bleeding is not cause for alarm, as there are no major arteries in or surrounding the ear canal. Often bleeding in the ear canal may look more severe than it really is.

There are several steps clinicians can take when bleeding occurs.

- (1) Observe, but take no action. Usually minor bleeding will stop within minutes, dry, and eventually exit the ear during the ear's normal epithelial migration.
- (2) If bleeding does not stop quickly, apply hydrogen peroxide to the affected area until the bleeding stops. Hydrogen peroxide serves as a hemostatic treatment and contains chemical components that act as an antiseptic that cleans and disinfects an area to prevent infection and also to help stop or control bleeding.
- (3) Should bleeding continue, refer the patient to an ENT physician.

As mentioned above, any practitioner who performs cerumen management should make sure that a physician with a specialty in otolaryngology is readily available.

- ❖ Licensed hearing healthcare providers must be certain they are permitted to perform cerumen management under the regulations of the state or provincial agency governing their profession.
- ❖ Clinicians need in-depth knowledge of the outer ear structures and must have fine-tuned their skills commensurate with the difficulty level of the procedure(s) they intend to perform.
- ❖ Clinicians must have the appropriate instruments and must follow proper sterilization, sanitation, and hygiene protocols.
- ❖ Any practitioner performing cerumen management should be certain that a physician with a specialty in otolaryngology is available nearby in case of a medical contingency.
- ❖ Last, but not least, clinicians who plan to perform cerumen management should have adequate professional liability insurance.

BEFORE YOU BEGIN

An understanding of the human body's general circulatory and lymphatic systems, the ear's innervation system, and commonly observed disorders of the outer ear is essential for those planning to perform cerumen management.

Take a patient history

Before starting cerumen management, determine if the patient has a history—old or recent—of eardrum perforation, ear surgery, prior wax removal or other medical procedures of the ear. Also, find out if the patient is taking Coumadin, aspirin, or other blood-thinning medications, has diabetes, or is on insulin. Special precautions **should** be taken prior to performing cerumen management when any of these or other otologic “red flag” conditions are present. Whenever you are in doubt, the prudent course is to make a medical referral.

Determine type and location of cerumen

Other key facts to ascertain prior to cerumen management include the consistency, volume, and location of the ear wax in the ear canal.

The cartilaginous outer third of the ear canal is a safer and easier area in which to do cerumen management than the inner portion. The outer part of the canal is lined with skin, cartilage, fatty tissue, and muscle, which offer some protection to patients and make them less likely to feel discomfort during cerumen management.

In contrast, the inner bony portion of the ear canal is lined with only a thin layer of skin over the bone. Without a cushioning lining in the bony portion, removing cerumen from this area requires the practitioner to have an especially high level of skill and accuracy.

Determine patient sensitivity

Palpation, sensitivity to touch, is another key factor in determining which method of cerumen removal to select. Does your patient experience no pain or, at most, mild discomfort to your touch? Or does he or she feel discomfort or pain? Knowing this will help you determine which of the five recommended

procedures will produce the best result.

Inspect the ear

Prior to removing ear wax, the clinician should carefully examine the ear by means of Direct Video Otoscopic Inspection (DVOI) of the ear.

The results of this inspection and an analysis of the wax criteria will help you decide which removal method to use.

Direct Video Otoscopic Guidance (DVOG) provides a real-time view of the ear canal and eardrum as the Q-tip or other instruments are inserted beyond the tip of the camera. DVOG enables the clinician to navigate the ear canal, position the Q-tip or instrument, and execute the most appropriate technique to clear the ear wax.

Maintain a sterile work area

Proper hygiene protocols must be followed. They include maintaining a clean and sterile work area, hand washing, and wearing latex gloves and protective clothing such as a lab coat. To prevent the spread of germs, instruments should be sterilized in a bactericide, virucide, and fungicide disinfectant medical solution according to the manufacturer's recommended soak times. Although it is not necessary to hot-sterilize instruments in an autoclave, doing so will provide maximum protection from the spread of germs.

METHODS FOR CERUMEN REMOVAL

(1) Q-tip method

One of the safest and least invasive procedures for cerumen removal is to use a Q-tip. This is most effective when a minor amount of soft recent wax is located in the pinna or the outer third of the ear canal. Applying several drops of baby oil or MiraCell to the Q-tip will make it act as a magnet when it comes into contact with ear wax. Rotating the Q-tip as you remove it from the ear canal can easily clear the canal of any wax. The procedure can be repeated as often as necessary. This method is one of the most comfortable for a patient and an excellent starting point for a clinician as he or she develops skills and gains confidence. If possible, take before and after photos of the ear canal and eardrum and make them a permanent part of the patient file.

(2) Curette method

The curette method is the most widely used instrumental method among dispensing professionals. This procedure can be used on a wax mass of any color and of consistencies ranging from soft to hard so long as the wax is not attached to the eardrum. It can be used to remove wax that occupies only a small part of the ear canal or that occludes the entire canal. Pain thresholds range from no discomfort to pain.



Figure 1. Proper positioning and handling of the video camera are extremely important for cerumen management.

Ideally, the curette creates a gap in the wax mass that enables the clinician to maneuver the instrument behind the wax so it can be removed in one scoop. However, most often, it will take several attempts to clear the entire mass.



Figure 2. Skillful handling of the curette will help create a gap in the wax mass.

Executing the curette method requires skillful handling of the instrument based upon sensitivity and touch (palpation). The curette should be held so that it floats between the fingers. When properly handled the curette will slide backwards or out of the ear rather than farther into the ear, which can cause injury. Maintaining an assortment of curettes in different sizes and shapes is helpful.

(3) Forceps method

Alligator forceps work best when there is a wax flap in the ear canal. Often, forceps are used in conjunction with other cerumen management methods. As with both the Q-tip and curette methods, forceps should be guided over and in front of the video camera providing you with a clear view that helps you complete the procedure successfully. It is very important never to close the alligator forceps until you are certain that it will grab the wax mass or wax flap. The alligator forceps can also be used to remove hair follicles or other foreign objects from the ear canal.

(4) Vacuum/suction method

The required equipment for the vacuum/suction method includes a suction tube known as an aspirator/canalith and a suction pump. The consistency of the wax can range from soft to medium and it can occupy a small area of the canal or the entire space.

To clear the ear canal using the vacuum method, place the canalith directly at the tip of the wax mass. By applying negative air pressure the pump begins to vacuum the wax mass until it is removed. Although this method is one of the safest



Figure 3. Extreme caution is required before closing the forceps to ensure that only the wax mass or wax flap is grabbed.

and requires minimal skill, it appears to be the least utilized by dispensing professionals.

(5) Lavage/irrigation/flush method

This method is often preferred by healthcare professionals from outside hearing healthcare. And, contrary to the wishes of the authors, flush kits are sold over the counter for self-use. The lavage/flush method can be used in cases ranging from soft, newly formed wax to hard, old wax impactions. This method can be ideal when there is a gap between the skin of the ear canal and the wax mass.

The goal is to direct water past the wax mass toward the canal wall so that it indirectly hits the eardrum and then flows back in a return stream that washes out the wax. This is accomplished by inserting the tip of the syringe into the ear canal between the first and second bends. A stream of warm water should be gently applied toward the canal wall with a clockwise rotation movement. Either the patient or assistant should hold a basin directly under the ear to catch the warm water, wax, or other debris. Repeat the procedure until the wax mass is gone and keep emptying the basin as needed.

This method must *never* be used on patients with a history of perforations, large or small, or who have any present perforations. With this method, the patient should wear a protective gown.

CONCLUSION

Small amounts of ear wax can interfere with the performance of hearing instruments and lead to costly repairs and inconvenience, both for the patient and the clinician. Therefore, maintaining clean, healthy ears adds value and efficiency to any dispensing practice. This also applies to the increasing number of patients wearing open-fit hearing aids who often do not require ear impressions.

Clinicians with insufficient experience in this area need to obtain proper training before attempting cerumen management. Until recently, few training programs specifically for cerumen management were available. A great many of the professionals who first began providing cerumen management received minimal training or none at all. That is not to say that self-taught clinicians aren't performing cerumen management safely and effectively. However, now that training is readily available, practitioners have no excuse for not being trained before venturing into this area of practice.

Acquiring advanced skills and gaining experience with the various methods of cerumen management will enable clinicians to perform it safely and with confidence. Ultimately, the beneficiary in this process is the patient.

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