Infection Control: What to Do and How to Do It

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- - [Woman] At this time I'm so pleased to introduce Dr. A.U. Bankaitis she is vice president and general manager of Oaktree Products Incorporated of St. Louis Missouri, a multi-line distributor of audiology and hearing health care products. Dr. Bankaitis earned her doctorate from the University of Cincinnati, where her funded research investigated the effects of varying degrees of HIV on the auditory system. This research naturally led to the area of infection control. Dr.Bankaitis is considered one of the leading experts in this area as it pertains to the hearing industry, she has authored numerous infection control publications, including the popular textbook infection control in the audiology clinic. She has contributed many outstanding courses to audiology online that you can find in our course library and we love having our own. We're really pleased to have her with us today, Dr. Bankaitis over to you.

- [Dr.Bankaitis] Thank you so much, hello everybody. This is A.U. Bankaitis of Oaktree Products located here in St. Louis, Missouri. And today's presentation is infection control, what to do and how to do it. This is actually the second part of what I consider a two hour series on infection control. Part one is available at audiology online as a recorded course number 23808. And that course is basically entitled to infection control why audiologists need to care. This specific one hour course focused on why audiologists need to implement infection control in the clinical setting, what infection control means, why we should care and what we need to do in order to get ready to actually create and implement an infection control plan. If you have not yet been exposed to part one, you will still benefit from the information that we're gonna be reviewing in today's course, which is essentially part two infection control, what we need to do and how to do it.

Now, the specific goals of this presentation is as follows. Number one, to identify and review the written infection control plan. Number two, to build upon the concept of what a work practice control is and its role within an infection control plan. Number three, to discuss key points associated with selecting appropriate product to use in the

clinic for the specific purposes of minimizing the spread of disease. And finally, number four, to put all this information together in terms of really demonstrating how we need to create these comprehensive work practice controls that are based on established rules and guidelines which we gonna be reviewing. So basically for those of you who already participated in part one in terms of why you need to care? You can think of that course more of a thinking course, you know, to reflect whereas this course is really more about the nuts and bolts, because we are actually gonna outline exactly what it is that we need to do and what I think is the best way to go about doing it. I will be available to answer questions at the end of the presentation, I will also have my contact information posted, and you should feel free to contact me at any time with any questions, comments that may develop in the future.

So with that in mind, let's focus on basically the first part which is written infection control requirements. Now in terms of a written infection control plan, okay. I think all of us know that an infection control plan is important but a fair question to ask at this point is the following, a written plan really necessary? Okay, so you should be able to see a poll box and I want you guys to answer, either yes, no or I don't know. Is a written plan really necessary? I'll give you guys a few moment, perfect. Basically what I'm saying is the majority of you had answered yes some had answered I don't know which is fair, which I assume that's why you're taking the course. It pleases me to see that nobody answered no because essentially the answer to this question then we can move the poll box away is unequivocally, yes. If you reside and practice in the United States the correct answer to that question is yes. Infection control is a federal mandate overseen by the Occupational Safety and Health Administration or OSHA, which is the federal regulatory agency that's responsible for overseeing safety in the workplace. And basically infection control falls under the safety umbrella that's dictated by OSHA who has very specific guidelines as to how to minimize the potential spread of disease in the workplace.

So as audiologists or audiology technicians or as hearing instrument specialists or students, our scope of practice dictates OSHA's jurisdiction and we are not only legally, but ethically obligated to uphold these federally mandated infection control standards.

Now, despite the fact that a written infection control plan is a federal requirement, I often wonder how many of us actually have a written infection control plan in place that is readily accessible. And interestingly enough, Amlani conducted a survey in 1999. So about 15 years ago and asked practicing audiologist the same question that I, you know, essentially posed whether or not a written infection control plan was actually in place in their clinic. So basically as you see in this pie chart, as reflected by the green section, less than half or 44% indicated that yes, they have one in place, but more than half or 51% indicated that no, they don't have a written infection control plan in place. If we fast forward, about 10 years later, Burco actually repeated Amlani study in 2008 and asked the same question to practicing audiologists and interestingly enough about six years ago when this study was done an overwhelming majority or 86% reported, yes. That they were indeed aware of a written infection control plan that was present in their clinic. Now in contrast to what Amlani found, none of Burco respondents indicated no, whereas 14% indicated that they didn't know. This was a huge change from just within a period of 10 years. And when I look at this pie graph in my mind it takes justs one of two things. Number one, either we have made a lot of improvements and educating audiologists about infection control requirements and infection control plans are actually being written and implemented, or number two, we're making improvements in educating audiologists about infection control requirements and we're simply getting better at knowing the correct answer. Whether or not this is actually happening is something that I don't know.

So all of you, most of you had indicated, yes, which pleases me but now the next step is basically to make sure that we actually have a written one in place. And the reason

that I actually bring this up is I actually personally received a phone call from a private practice individual about four years ago, long story short, they had participated in one of my infection control talks where we reviewed the need for a written infection control plan.

And about six months after my course, OSHA actually showed up on their doorstep unannounced and essentially inquired about their practice and the first question that they asked was we would like to see your written infection control plan. And essentially what happened at that point was they didn't have one and they were fined initially $5,000 but OSHA worked with them and said, you have two weeks to get your stuff together. And once they came back and saw their in infection control plan and audited their entire office, the fee was reduced or the fine was reduced to $500. So for those of you out there who hear anybody say, it's not a requirement, it is a requirement and the reality of the situation is that there are fines associated with not having this document in place. So as I've outlined, OSHA does require each facility to have a written infection control plan and this written plan is the cornerstone of all infection control programs and it's associated with the following specific requirements. Number one, section one addresses employee exposure classification. Section two, addresses hepatitis B vaccination plans, Section three is a plan for annual training and records. Section four is the plan for accidents and accidental exposure and follow up.

Section five is the section that's referred to as implementation protocols. And then finally section six refers to post-exposure plans and records, okay? So what you currently see on this screen are the six specific required sections per OSHA for a written infection control plan. I'm gonna go over each of these sections, at first we're just gonna cover number one, two, three, four, and six, very briefly. And then we're gonna spend a lot of time on section number five. So let's just do a preliminary review of the first five main ones that I mentioned. In terms of employee exposure classification, each employee must be classified into an employee classification

category that's basically based on the potential risk of exposure to blood and other infectious substances as they function of their professional responsibilities. A classification category must be assigned for each employee and documented in writing in the infection control plan. And there are three classification categories to which employees may be assigned to as followed. You're category one employee, if your primary job responsibility does expose you to blood and bodily fluids. You're a category two employee if your secondary job responsibilities expose you to potentially to blood and or bodily fluids. And then finally, number three is no part of the job responsibility would expose an individual to blood or bodily fluids. So to put this in the perspective of the audiology clinic, an audiologist whose primary job responsibility puts them in the operating room where they are conducting inter-operative monitoring or they're involved in a lot of postsurgical audiological assessments where patients may have oozing ears or open wounds. Those audiologists, if that's their primary job responsibility, they would be categorized as category one employees.

Most audiologists, as well as hearing instrument specialists will basically be category two employees because their secondary job responsibility exposes them to blood and bodily fluids. We do handle hearing instruments, we do handle ear mouth impression. Some of us are actually involved in cerumen management, which does potentially expose us to blood and other bodily fluids. And then finally, category three employees essentially refer to those audiologists who are in administration and do not have direct patient care, or it can also include your front office staff that essentially does not provide patient care. In terms of the second requirement or the, of the written infection control plan the hepatitis B vaccination plan. Employees who have the potential for encountering blood or other infectious substances must be offered the opportunity to receive an HPV vaccination. So the HPV vaccination must be made available to all category one and all category two workers free of charge by the employer. Now, the employee does not have to accept the offer of a vaccination however, a waiver must be signed noting that that employee who's either a category one or category two

worker actually refused the offered vaccine and that has to be maintained in record within the infection control plan. The vaccination should also be administered by a trained medical professional and given in accordance to current medical standards as well.

With regard to training which is the third section, the plan for annual training and records each office is to conduct and document the completion of annual training in the infection control plan. Now specifically training must be provided during distinct times. Number one, infection control training must occur at a time of initial assignment and must take place at least annually thereafter. Now, while the standard does not specify the length of training, OSHA standards do list certain elements that must be included in the training program, which basically involves a lot of the stuff that was covered in part one, including modes of disease transmission, information about an HPV vaccine, which we covered here, use of protective equipment, which we will cover towards the end of the presentation et cetera, et cetera. Throughout the course that the year, training is also required if there's an update or a new procedure that's being implemented in the clinic if you guys are starting to provide a completely new service appropriate training must be conducted in a timely fashion to ensure that the new or updated procedure is understood and that you are actually performing that procedure in a manner that's consistent with minimizing the spread of disease. Additional training shall also be provided when changes such as modification of tasks or procedures affect the employee's occupational exposure.

So for example, if you were a category three employee and suddenly you're a category two employee, it's a requirement for you to undergo infection control training. The established employees changing exposure classification categories. Those individuals should be trained within 90 days of hire or within 90 days of the change of their classification category. But in all honesty, their training needs to be done before you take on your new responsibilities. All infection written infection control programs need

to also address a plan for accidents and accidental exposure and follow up. Accidental exposures to bloodborne pathogens will require followup while these may be relatively rare in the audiology clinic and emergency plan needs to be created. And as dictated by OSHA, if the exposure involves a percutaneous or mucus membrane exposure to the blood or other bodily fluids or you know, cutaneous exposure to blood, when the worker skin is chapped a braided, what have you follow up evaluations are required. And the goal of this follow up is to confirm that a disease has or has not been transferred and in the event of a transfer to basically treat the disease effectively and efficiently. We are gonna temporarily basically skip number five and we are going to go down to number six which is the post-exposure plan and requirement. The post exposure planning and requirement Number one, basically addresses anything that happened to number four, to make sure that you are being followed up in the event of a percutaneous exposure there's concern that something happened.

So up until this point, we reviewed five of the six written infection control requirements and the reason that I wanted to review one, two, three, four, and six very quickly is and move implementation protocols over here, there is an infection control template available where people can actually use it as a guide or they can actually take that infection control plan and word for word use it to create their plan. The important thing to appreciate when using the template is sections one, two, three, four, and six are those sections that can essentially be copied word for word with the exception of a few things, like you have to make sure you put the correct name of your practice and the correct address and all that. The stuff that you see on the left hand side of the screen is pretty much available these are simply forms. These are simply things that you need to ensure that you have in place when it comes to your written infection control plan.

When it comes to section five, the implementation protocols the content appearing in this section is going to differ significantly from one clinic to the next. Therefore, when you basically use an infection control template this section five, the implementation

protocol section is something that you are actually going to have to create because this is basically the section that is going to outline how you and your staff are gonna be executing the services that you provide based on your infection control philosophy. So because the content will be unique to your specific work environment we need to spend a lot more time on dissecting implementation protocols. And we're gonna achieve that by simultaneously addressing the second and the third objective of this presentation which is this concept of work practice controls as well as the selection of appropriate infection control products. Now, the content appearing in the implementation protocol section of your infection control plan is going to be dictated by the scope of service that's provided by your clinic.

So as I addressed in part one, in order to prepare to start writing the implementation protocol section of your written infection control plan, the first thing you need to do is basically assess your scope of work practice. And what I mean by this, is making a comprehensive list of all the services offered and provided by everyone on staff, in your practice. So for example, if your clinic dispenses hearing instruments you need to list every procedure that your specific clinic offers that falls under the umbrella of Hearing Aid Dispensing. So for example, if you dispense Hearing Aids you most likely are involved in creating earmold impressions. You are most likely involved in the actual fitting. You probably are involved in doing some type of modifications. I'm sure most of you perform listening checks I'm sure or I hope most of us are being involved in verification of their real ear measurements. Perhaps you have a loaner program of hearing instruments or ALDs for those patients who are dropping off their hearing aids for repair or perhaps you have some sort of drop off hearing aid service as well. So anything you should think of should go on this list and the reason that this is critical to create this kind of list is because this will essentially dictate how many work practice controls that you need to develop.

A work practice control, is a profession specific written procedure that outlines how you gonna perform a task which has been specifically designed to minimize the spread of disease. Section five of the written infection control plan the implementation protocol plan basically is the section where you list your work practice controls. So for example, if you are hearing, you know, practice aid and you are involved in only the four things that you see checked off on the slide, okay.

Your practice will be required to create four specific work practice controls. One written procedure that will outline how earmold impressions will be made in a manner that will minimize the spread of disease. Another one that will address aspects of the hearing aid fitting. Another work practice control that will outline how hearing instrument modifications are gonna be conducted in a manner that minimizes the potential spread of disease and then how a listening check is gonna be performed in a manner that's consistent with infection control guidelines. If you are, you know, a different hearing aid practice and suddenly you actually offer, you know, you do verification and you actually offer drop-off hearing aid services, you're gonna have to now create six different work practice controls that address each of these different things, okay. Now once you do that basically, you have to take a look at everything that you provide in the clinic. So hearing aid dispensing is just one example. If you perform diagnostics, a lot of people do a lot of different things you need to create once again a list that indicates anything and everything that falls under these various umbrellas. If your clinic only performs otoscopy, air conduction, bone conduction and immittance testing, and none of the rest.

These are the four work practice controls that you will need to make sure that's in your written infection control plan. If you are a clinic that provides a more comprehensive diagnostic approach where you do everything other than ECochG, basically you need to make sure that your written infection control plan includes all eight of these written procedures. So up until this point we you know, have created an exhaustive list of

services that are basically offered within your clinical setting. And basically the reason that we have done that is because that is gonna dictate how many written work practice controls that we're gonna have to create and insert in our section five of our written infection control plan. What's important to understand is writing these work practice controls are not, it's not an arbitrary task when you were actually creating a work practice control as implied by its definition. The work practice control must be written in a manner that outlines how a procedure will be performed that's consistent with minimizing the spread of disease. So in other words to ensure that the written procedure is consistent with infection control standards, the work practice control must take into account any and all applicable guidelines that are outlined by the standard precautions. So let's talk about these for a second.

Originally set in 1987 by the Centers for Disease Control and prevention or CDC. Universal precautions with this initial list of recommendations that were specifically designed at that time to basically protect healthcare workers from exposure to blood-borne pathogens. And quite frankly, these universal precautions were actually created as a direct response to the Human Immunodeficiency Virus to HIV and the whole AIDS outbreak. Since that time, the mindset of universal precautions was expanded beyond just blood-borne pathogens and it basically includes any and all potentially infectious microorganisms including the ubiquitous ones that are readily found throughout the clinical environment. So now rather than hearing universal precautions these guidelines are more commonly referred to as standard precautions.

The standard precautions refer to a list of five guidelines issued by the CDC again, which are intended to minimize the spread of potential disease in the healthcare setting. So you can see all five of them here. And what I would like to do at this point is basically address each guideline individually starting with appropriate personal barriers must be worn when performing procedures that may expose you to infectious agents. Examples of standard personal barriers include things such as gloves, protective

eyewear, disposable masks, a lab coat, apron, or maybe a disposable gown. Now in terms of gloves, gloves are commonly used in the audiology clinic and it's really important to keep a few things in mind when you're investing in this type of product. Number one, gloves are available in a variety of materials including nitrile, latex, and vinyl. One isn't necessarily better than the other but you need to keep in mind that many patients as well as clinicians have an allergy to latex and I'm seeing more and more people go more towards vinyl or nitrile. In addition, when it comes down to gloves, size does matter. Gloves should fit tightly like second skin. There is really no such thing as one size fits all because gloves that are too large are gonna interfere with dexterity and can actually cause accidents to happen where you end up dropping things or spilling things. Obviously gloves that are way way too small are not comfortable, okay. The thing that you have to remember is that if you were using gloves, you are a professional providing rehabilitative services. So the only time you should actually be wearing a one size glove, one size fits all gloves is if you're essentially assembling subway sandwiches somewhere.

Now within the confines of the audiology environment, there are a lot of different situations where gloves, you know, could be used. You know, gloves can be worn during certain times not necessarily during other times. I will tell you that gloves must be worn this is not a choice must be worn when you're immersing or removing instruments from a cold sterilant because those are chemicals. In the event you are handling hearing instruments that you have not first cleaned and then disinfected, you need to be wearing gloves when you're handling those hearing instruments. You should seriously consider using gloves when you are removing and then subsequently handling an earmold impression that has been removed from the ear.

And you should also wear gloves, anytime that you or your patient exhibits visible wounds in areas that make direct or indirect contact with another person. In terms of safety glasses and disposable mask these really should be worn when using the

buffing wheel, during hearing aid or earmold modification procedures. And even if the hearing instrument or ear mold surface has been cleaned and disinfected, you still want to wear safety glasses and a mask, not only to avoid breathing in or making contact with any of the microbes that have been residing on the hearing instrument surfaces, but you wanna protect yourself from breathing in or being exposed to particles that are residing on the actual buffing wheel or the grinding stones. You know, many of us do wear lab coats, but if you're an occasional or non where you really should be using a lab coat or some sort of disposable gown during these procedures as well, and in particular when removing things from a cold bath or a sterilant solution, because you don't want any of that stuff to actually spill on your clothes. The second standard precaution is refers to hand hygiene and hand hygiene must be performed before and after every patient contact and after glove removal.

The one thing I'm gonna tell you about hand hygiene this represents the single most important procedure for effectively limiting the spread of disease. This is to me one of the most critical components of a basic infection control plan. Until recently the only way that you were able to wash hands was with traditional soap and water and if that's the way that you're approaching this, it's important to realize that the soap that you use must be liquid because bar soap is actually a breeding ground for germs. Medical grade soaps are recommended because these basically maintain special emollients that are gonna keep your hands from drying out.

The thing that I will tell you is antimicrobial soaps really don't matter if you have a preference to use antimicrobial soaps go right ahead but there's nothing magical or special about antimicrobial soaps. Recently, the CDC and the AMA actually approved the use of no-rinse hand degermers as an alternative way to wash your hands, particularly when a clinician doesn't have access to a sink with running water. So there was no-rinse hand degermers do meet the definition of performing hand hygiene. But the thing that I think it's important for all of us to understand is nothing takes the place

of traditional hand washing when you're using liquid soap and water, okay. The no-rinse hand degermers were most likely approved as an alternative simply because of the issue that a lot of people in the healthcare field were not washing their hands. So basically by introducing these, it was a matter of convenience. The no-rinse hand degermers are alcohol based, which are gonna dry out your hands more readily, and this potentially creates the issue of creating dry chapped skin. In the event, you come in contact indirect contact with any form of contamination, it is really necessary for you to pursue washing your hands with soap and water. The no-rinse degermers are not gonna be as effective in addressing the specific issues associated with direct contact. Hands must be washed at specific times throughout the course of the patient appointment and actually the number of times that you're going to be washing your hands is gonna depend on what it is that you're doing.

Hands must be washed before and after every patient appointment. In addition, there are times during the appointment that you gonna have to wash your hands again, based on what it is that you're doing. Anytime during the patient appointment that you feel that you need to wash your hands, you should wash your hands. One of the requirements per OSHA is that any time you have performed a procedure in which you were wearing gloves upon immediate removal of gloves, it is a requirement to basically perform or commence with hand hygiene procedures. Since the use of gloves, that just that you're performing some type of procedure that may potentially expose you to some sort of contamination, this is why OSHA has made it a requirement. Even though there is a correct and safe way to remove gloves and to dispose of them, the concern is anything that's been on the outside of the glove may come in indirect contact with your hands, which is why it's extremely important for you to wash your hands immediately upon removal of gloves.

Do we as audiologists basically wash our hands? Amlani actually posed this question and according to the survey of his results, what he found back in 1999 was essentially

that. Do you wash your hands either before or after each patient? Only 26% had indicated yes. Do you wash your hands after using the bathroom? Way back in 1999, 50% only indicated, yes. Which meant 50% of us were not washing our hands after using the bathroom. Burco repeated this study in 2008 and asked the same questions and interestingly enough, we've gotten better you know, 82% indicated that yes, I do wash my hands either before or after I see my patient and 87% of us, you know, after we use the bathroom, the improvement looks great. But at the end of the day, there's no reason why we shouldn't be saying 100% in this case. The third one touching splash surfaces must be pre-cleaned and disinfected so there's a lot of things that we probably need to define here so that we understand what this is.

A touch surface refers to any area that comes in potential direct or indirect contact with the hands, and a splash surface is any area that may be hit with blood or other bodily secretions from a potentially contaminated source. In terms of terminology, the term clean if I will define it, simply refers to the removal of gross contamination. Germs are not necessarily killed however, cleaning is an extremely important precursor to disinfecting and sterilizing. You need to clean something before you disinfect it. You need to clean something before you sterilize it. In contrast disinfection is a process whereby germs are killed and the spectrum of the kill really depends on, you know, the products that you're gonna be using.

Disinfection must be performed on touching splash surfaces or on patient items that are not transferable to others. This is when we need to clean and this is when we need to disinfect. So for example, after each patient appointment prior to seeing the next patient touch and splash surfaces that need to be cleaned and then disinfected include things like any horizontal surface such as a table, counter or arm rest of a chair, the bone conduction vibrator, the response button that's used during audiometric testing. These are the things that need to be cleaned and disinfected before you see the next patient. Examples of other noncritical items that should be disinfected in between use

includes things such as picks, loops, brushes that are specifically used to clean hearing instruments, pliers, or nippers as well as suction tips that are used to clean hearing instruments. These are just some examples of things to be cleaned and disinfected prior to reuse. Disinfectants come in a variety of forms, there are hospital grade disinfectants and these tend to be used by larger institutions because they offer the following advantages. Number one, hospital grade disinfectants are registered with the FDA and basically when something is registered with the FDA, you're gonna be able to get what's called a kill sheet, which basically outlines the specific microorganisms that are killed. Hospital grade disinfectants typically have a broader spectrum of kill than some of the household disinfectants. So some people based on their infection control philosophy wanna go with the hospital grade but what you need to know is there are other disinfectants and cleaners that are not necessarily hospital grade but are extremely effective in meeting the goals of your infection control plan.

You know, interestingly enough, back to this Amlani study, I'm always curious to see, you know, if people conceptually understand or can they tell the difference between one term versus the other. And Amlani had asked the question to audiologists back in 1999, the straightforward question is, do you know the difference between the term clean and between the term disinfect? And when asked that way 74% of the respondents indicated yeah, I know what the difference between those two terms were. He asked a second question, which specifically forced them to identify the correct definition of both clean and disinfect. And when it came to picking the right definition of clean, you know, 73% pick the right definition which tells me that you know, those people who said, yeah, I know the difference between clean and disinfect were right. Interestingly, you know, when you ask those same people to correctly, pick the definition of disinfect, you know, only 55% actually got the answer right. Which meant that there were about 20% of those people who thought they knew the definition who really, really didn't. So if I were to, you know, basically grade our

performance on knowing the difference between clean and disinfect at that time we were performing at a C minus to F level.

Burco repeated this study in 2008 and basically what we found is that there was an improvement. We have like 77, 78% of us do correctly define clean as well as disinfect. But at the end of the day, six years ago, we were still performing at the C plus level. So back to a couple of things, whether or not we know the definition of something is one thing . It's really important for us to make sure that we're actually practicing what we're preaching. So even if you do know the definition of these terms, Burco asked a question that, you know, basically said, do you clean and disinfect touch and splash surfaces after each patient? And despite the fact that a lot of us know the definition of clean versus disinfect from a practical perspective, about 50% of us are only doing what we're supposed to be doing in terms of infection control. So we're performing on an F level. The third, critical instruments must be sterilized.

Couple things need to be defined here. What do I mean by a critical instrument? A critical instrument is any reusable instrument that you are either introducing directly into the bloodstream, any reusable instrument that's noninvasive that comes in contact with mucous membranes or bodily substances and or any instrument that can potentially penetrate the skin from use or misuse, okay. These are what are considered critical instruments and include such things such as serum and management tools that you intend to reuse, reusable emittance probe tips, reusable speculum. Critical instruments must be sterilized, we've already provided you, review the definition of disinfect, which is a process whereby germs are killed. The term sterilized basically refers to a process whereby all germs are killed each and every single time. and as a result of this definition, there are specific product requirements that you need to be aware of. There are certain products that you're gonna have to use because certain products meet the definition of a sterilant.

Sterilization must be performed on any reusable, critical instruments that you intend to use with other patients. In terms of differentiating between the, you know, do you know what the term sterilize mean? Amlani back in 1999, found that the majority of us did know and Burco essentially found the same thing six years ago that, you know, most of us do know what the definition of sterilization means. So you know, we're performing to an a minus to a B plus level. There are many different ways that you can sterilize something but probably the most common way that you gonna see sterilization occurring in the audiology clinic is basically cold sterilization.

Cold sterilization involves sterilizing instruments by immersing them in chemicals for a specific amount of time. So this requires investing in trays as well as inspecific product. Only two ingredients have been approved by the EPA that meet the definition of what a cold sterilant is. So any product whose active ingredients is glutaraldehyde in concentrations of 2% or higher, as well as any product whose active ingredients is hydrogen peroxide and concentrations of 7.5% or higher meets the definition of a sterilant. When you invest in sterilants, you need to make sure you read the instructions because their use how long you have to soak something in order to achieve sterilization will differ. Typically glutaraldehyde based products require 10 hours soaks whereas hydrogen peroxide based products require six hours soaks. You can use and reuse the same stuff that's found in a tray up to a certain period of time. And typically with glutaraldehyde based products, you can use the same chemical up to 28 days whereas with hydrogen peroxide the instructions for use typically indicate a reuse for 21 days. Two very popular cold sterilants in the audiology field include wavicide and sporox. And once again, depending on which one you use, you know, you gonna have to do different things and it's really important to read the instructions. Wavicide is the glutaraldehyde based solution, whereas a sporox is hydrogen peroxide based. Some are available in gallon sizes, some are available in quart sizes, but essentially wavicide things need to soak for 10 hours in order to achieve sterilization, if you use sporox it's a six hour soaking time.

Finally, with wavicide you can use and reuse the stuff up to 28 days where sporox it's 21 days. So don't get those things confused read your labels. You know, since we're using chemicals such as this, I wanna talk very briefly about the material safety data sheet or an MSDS. MSDS are sheets, it's a document that basically outlines the hazards that are associated with chemical products. So it outlines composition, physical and chemical characteristics, but it also does talk about precautionary measures that you need to take as well as any kind of first aid considerations in the event it's spilled on somebody or accidentally swallowed. If you are purchasing, or if you have on hand in your clinic a chemical such as wavicide or sporox it is your responsibility to make sure that you have an MSDS sheet on file. The MSDS sheet does not necessarily come with the product when you order it. However, whomever you ordered it from should be able to provide you with an MSDS. So if you have sporox or glutaraldehyde in your practice, you better make sure that you have an MSDS on file because OSHA actually requires that to happen.

From a practical perspective now that we understand that critical instruments need to be sterilized you know, a fair question that Burco asked is okay, you know, for those of you who are involved in cerumen management, do you actually clean and then sterilize your reusable cerumen management instruments? The answer should be yes and basically what we found is more than half the time, people were not applying appropriate infection control procedures to such critical instruments so performing at an F level. One of the things to consider the biggest confusion that people seem to have is, Oh, when do I disinfect? When do I sterilize? And a lot of people try to make it easier by simply going the disposable route so instead of reusing items they just use disposable items, which are one time, one time use. Only items that you throw out after use and the nice thing about that is there's no need to think about, do I need to clean and disinfect? Or do I need to clean and sterilize?

You simply just toss it and you use a new one and it does eliminate a lot of potential infection control errors that can occur as a result of, you know, human thinking. You be amazed at what is out there right now that is basically disposable I mean, specula and headphone covers and electrodes as well as ear tips are disposable, but there's a lot of new things that are completely disposable, including grinding cabs, muslin buffs, different suction needles, bite blocks are obviously disposable, but even in Cerumen Management Land, there are a variety of products that are available that are inexpensive in the form of disposable curettes, loops, hooks, suction tubes, forceps. What have you.

Now the thing about disposable as great as it sound, whether or not you should or should not take the disposable approach in your infection control plan is oftentimes an executive decision, or maybe it's a personal preference decision but it is really important for you to take a look at what makes the most financial sense. So what you need to do is essentially figure out for example, is it cost effective for you to use reusables versus disposables? So essentially the purpose of this slide is to just show you that you need to do your own assessment. So let's assume you removed cerumen and your clinic on average removes cerumen twice a day. So basically you're gonna be seeing five patients, 500 patients annually. You need to essentially map out all the things that you gonna have to invest in from a reusable perspective and a disposable perspective to see what might make more sense. You know, the more cerumen you remove, you know, perhaps the more it may make sense for you to invest in reusable stuff. So again, the purpose of these was basically just do the math in order to figure out whether or not it makes sense.

Finally, the last standard precaution is infectious waste must be disposed of appropriately. With regard to audiology most of the waste that we're gonna deal with in the clinic can be disposed of in regular receptacles. The disposables that can cause injuries such as blades must be placed in a puncture resistant disposable container

that's called a sharps container and these are available in lots of different sizes. In the event, certain waste is contaminated with copious amounts of cerumen or blood. The material should be placed in a separate impermeable bag and then discarded in the regular trash. But it's really not that necessary, nor are you gonna be in that type of situation where you're gonna be exposed to so much blood or cerumen that you have to worry about disposing of it in a different way. So to recap, basically these five of the six requirements we talked about can be identical in everybody's infection control plan, whereas the implementation protocols are gonna be very different because these are gonna be very clinic specific. So what I want to do is spend the last three minutes, putting this all together so that you understand how to create your own work practice control.

Work practice controls are based on standard precaution, okay. So let me demonstrate to you a manner in which I, a technique that I use in order to create a work practice control. Most of us have all done hearing aid listening checks, Okay. So let's assume we are now gonna be performing a hearing aid listening check. We've already washed our hands because we're already in the middle of the appointment. Basically, if I'm gonna be handling a hearing aid, I wanna make sure I have some type of personal barrier. I'm not gonna worry about the hand hygiene, so I'm gonna let that one go away, should go away. I am gonna have to consider cleaning and disinfecting some things, because I'm gonna be handling, hearing aids and using a stethoscope. In terms of cleaning and sterilization I'm not gonna worry about it. And then in terms of infectious waste, I'm probably gonna be using some stuff that's gonna end up being contaminated that I'm gonna have to throw out. So I'm gonna keep that on there.

So knowing how to perform a Hearing Aid Listening Check right now, by going through this procedure, I know that these are the three of the five standard precautions that I really need to account for I'm in my hearing aid listening check work practice control. So in terms of a personal barrier, whether you decide to accept a hearing aid with

gloves, whether you decide to accept the hearing aid with a disinfectant towelette or to use a dixie cup. You need to have some sort of personal barrier available, such that you are not handling the hearing aid that's been removed from the patient's ear with your bare hands. In terms of cleaning and disinfecting we're gonna have to make sure that we properly clean and disinfect not only the hearing instrument, but also the stethoscope bell, as well as the ear pieces. And then in terms of infectious waste, we're gonna have to make sure we throw things away. So what you see here is an example of a perfectly acceptable work practice control that's associated with the hearing aid listening check, okay. So we accept the hearing instrument with a disinfectant towelette, we're gonna to clean and then disinfect the hearing aid, we're gonna discard the used towelette in the trash, attach the hearing aid to the listening bell of the stethoscope, after we perform the listening check, clean and disinfect the listening bell and both ear pieces, return the stethoscope to the appropriate resting location and then discard the used towelette in the trash, okay?

I'm not providing a written procedure in terms of how you have to do a listening check. This work practice control shows this is how we are going to perform hearing aid listening checks in a matter that's consistent with minimizing the spread of disease. The other important thing to realize is there are 20 different ways that you can skin this cat. And what I mean is everybody may have a different philosophy or different approach in terms of how they're actually gonna perform a hearing aid listening check. For example, if your clinic feels strongly that you need to be wearing gloves during this procedure, you can write a hearing aid listening check work practice control that basically takes into consideration the use of gloves. But since you are using gloves, you need to make sure that this specific work practice control dictates or outlines that once you remove the gloves you're gonna discard them in the trash and immediately commence with hand hygiene procedures.

Couple things we've reviewed a lot of information, please know that there are several resources available to you to help you including infection control on the audiology clinic, which is a textbook that covers anything and everything you need to know, including the implementation protocol section with examples of written work, practice controls, also my blog, there are weekly posts on a variety of topics and there is a separate section on infection control. And it's a great resource for all of you to have available.

So the take home messages, infection control is a required element, you need to create your written plan, including the work practice control part, use standard precautions as your guide, make sure you select and you use appropriate product, implement this procedure it's not good enough just to have a written plan, you actually have to practice what you preach and then you need to rely on your resources. There's a couple of different questions that I see right now and what the first question is.

Do you have any recommended disinfecting towelettes? I will tell you if you're using disinfected towelettes on little or things that are comprised of plastic, acrylic, rubber, you know, or on hearing instruments use something that is not alcohol based, such as audiologists choice. Alcohol chemically denatures, acrylic, rubber, silicone and plastic. If you're doing bigger surfaces, you know, whatever is the least expensive is the product that I would go with. Becky has a question, in front of office person who takes in walk in patient hearing aids may be listening checks, change wax guards, change batteries. Are they at category two or a category three employee? A category three employee is any employee who does not have any type of patient contact or does not provide any type of service since this employee is providing a service, she would be categorized as category two. Lots of other questions that are gonna come up, the easiest way to get in touch with me is via email au@oaktreeproducts.com

- [Woman] Thanks Dr. Bankaitis, another great course again. I learn something new every time I hear you speak actually lots new this was a great course. Thank you. For everyone wondering, this course will be posted as recorded course on Monday, if you would like to view it again or refer it to any colleagues, your office manager, et cetera. So thank you Dr. Bankaitis for this great two course series we look forward to working with you again in the future. Thanks to everybody who logged in, wishing everybody a great afternoon and a wonderful-