Infection Control: Precautions, Prevention and Preparedness: Minimizing Risk of Infection in the Hearing Healthcare Workplace

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- - [Michele] Hello, everybody and welcome to Infection Control: Precautions, Prevention and Preparedness: Minimizing Risk of Infection in the Hearing Healthcare Workplace. Hi, my name is Dr. Michele Hurley and I am a senior education and training audiologist with Starkey Hearing Technologies. And I'll be your host for this very timely subject. First, I want to ensure that you can hear me and let you know that if throughout the course of the presentation, if you have any technical difficulties, it is wise to remain logged in if possible and contact Audiology Online at 800-753-2160. And you may wish to jot that number down so you have that as a reference going forward if in fact you have any difficulties. Just a couple of housekeeping notes. The session is available for one continuing credit. It is important that you stay logged in through the entire session and successfully complete a short quiz that will be available after the class is complete. With that note in mind, I want to remind you that we have a handout in the file share area that you can download that will give you a PDF of the presentation. And I will let you know that there are a number of resource links that are available that I think will be certainly helpful as you navigate the uncertain waters that we all have ahead of us.

So my goal with this course is that participants will be able to identify appropriate handwashing technique. Identify the healthcare staff that must participate in infection control. And identify steps that hearing healthcare professionals can take to guard against the spread of disease. So let's go ahead and get started. So what really is infection control. Well, hopefully we're all pretty aware of that by now. But if we think about a definition, infection control involves the development, the implementation and consistent execution of procedures that are specifically designed to manage the environment and reduce cross contamination, as well as the potential spread of disease. Infection control is a nondiscriminatory process. This means that we assume that every microbe is potentially infectious and could make patients, staff members,

and clinicians ill. Infection control involves not only controlling the exposure between people, between people and the work environment. So who must practice infection control? Well, OSHA's requirements involve the categorization of employees. Each employee is classified based on their potential exposure to blood and infectious agents. Category one would include the clinical audiologist and other health professionals that are typically involved in interoperative and post-operative monitoring or diagnostic procedures of patients with head or ear trauma. Category two is where dispensing professionals, student externs and any patient care coordinators, as well as hearing healthcare professionals who have patient contact and clean instruments in the workplace would fall. Category three is staff that would be typically administrative and don't have patient contact. So if we think about our work environment, certainly it's important that all staff understands infection control protocols, regardless of category, so that they know the protocols of that particular office and what to do in case of an incident. And even if they don't fall in that category one and two which require practicing infection control procedures, it's important that everybody in the office understands how to implement your process.

One of the reasons the spread of diseases changed over time is travel. We as humans are more mobile, even in our own communities, and we travel more readily and easily than ever before in our history. Diseases truly know no borders, as I think, is quite self-evident now. In the past, often outbreaks were kind of confined to a specific geographic area, because we didn't have the mobility that we do now. But today, those infectious microbes can hitch a ride from one corner of the world to another as we travel, and we certainly understand that now with our current pandemic. You might not realize the patient in front of you has been to a region of the world, the country or even in our own community that's more at risk. The identification of HIV and AIDS, whose first cases were reported by the CDC in 1981 was really the catalyst for change in the healthcare industry. The concerns that related to the transmission of this disease led to OSHA and our other regulatory bodies to develop a guideline for healthcare

workers to adopt to reduce the risk of exposure to infectious agents. So, as we see diseases evolve over time, often they'll have a dramatic impact, for a season or a year or so, and then they'll kind of cycle out of focus as the cases decline. But does that mean that they've really been eliminated? Measles I think is, certainly an example of that, because it was a disease that was considered to be eliminated in 2000 and it has since returned. And certainly, increase in travel across countries and, other factors have played a role in that. We unfortunately see disease patterns change and we see an ebb and flow in the types of diseases that have emerged; swine flu and Zika and other diseases that were very topical in very recent years. And, there's always new strains of these emerging and vaccinations may or may not be readily available, as we're certainly aware now. And so, with the onset of the COVID-19 pandemic, a lot of this is really coming to our awareness in an unfortunate way. Infection controls really existed for a long time of course in our healthcare community. But we're all aware of the urgent need for not only health care professionals, but literally every individual to maintain a stringent infection control protocol, and guard against the transmission of infectious disease.

So we're gonna talk throughout our session about of course, the importance of that, certainly in our hearing healthcare arena. And we always need to be thinking about the behaviors that we've often used to demonstrate care towards our patients; shaking hands, gentle touch of the shoulder of a patient, and for the immediate future those types of actions are inappropriate. So, as we'll discuss the procedures and protocols, we need to think about the fact that some are unnecessary certainly right now, because of what we know about this pandemic and because of the vast unknowns about this, we really don't quite know yet what that long term reality may be and how this is going to impact us, how we manage our work environments and our patients and will that possibly be forever changed. So for a number of reasons, infection control is truly important for hearing healthcare. And we're going to in a moment, take a look at a video that I think really kind of brings home, how easily disease can be transmitted

and why in any healthcare environment, we need to be so conscious of our actions. I think that video really is a great reminder, unfortunately, of how our actions and our movements can impact the world around us, and why we need to be thinking about this as hearing healthcare professionals is, when we look at hearing loss, there are so many comorbidities and conditions such as diabetes and hypertension and cardiovascular disease, and respiratory disease that are frequently found in our typical population, which is often the elderly. And this makes these patients who are exhibiting these conditions in addition to that hearing loss, especially vulnerable to opportunistic infection, and we certainly know there's been a lot of information regarding the impact of individuals who have a number of these diseases and they're a much higher risk category for COVID-19. Factors that make the senior population more predisposed to infections are certainly, the impaired immune function that we see over the aging process, anatomic and functional changes, and certainly the degree of exposure to infection.

These types of changes contribute to making the elderly population more frail, and in turn, increase the risk of not only falls and injuries that will put them in more compromising environments, such as healthcare facilities, but also certainly a greater risk as we've seen for COVID-19. So the nature of our jobs and the populations that we're frequently serving, put the burden on us, the hearing professional to be educated and prepared to protect ourselves, our staff and the patients that we're seeing. As we saw, certainly in the video, the risk is around us everywhere. We come in contact with objects that we handle without even really thinking about it, throughout our day, whether it's doorknobs, railings, and the list goes on, and we really have no idea about the health condition of those who handled them before us. And that's why we really need to be conscious of this in an environment such as our office or our homes that we can control. There's a variety of tools that we use throughout the course of our business day and they may be shared with coworkers, they may come in contact with patients, and they could have a potential to transfer and transmit harmful microbes if

they're not cleaned and cared for appropriately. Some of the procedures that we perform frequently, such as otoscopy and cerumen management and taking impressions, involve actions that could nick or injure the ear. And these can create a pathway for bacteria to invade. There are four modes of transmission, we're going to review those next. And they're contact, vehicle, airborne and vector borne. The first of those is contact transmission, and this is the most frequent mode of transmission overall for disease. And it refers to the potential of spreading disease by way of touching or coming in contact with infectious objects. Contact transmission is actually divided into three subcategories and the first of those is direct contact. With direct contact, it involves exposure to microbes via direct contact without intervening persons, barriers or conditions. So in this case, with direct contact, the microbe is transferred directly from its resting place to a susceptible person. The second subcategory is indirect contact. And in this case the microbe is transferred from a secondary surface to an individual.

So an example in our case may very likely be otoscopy or listening to a hearing aid with infectious microbes on it, and then without cleaning and disinfecting the listening piece, using it to check another hearing aid. The third subcategory is droplet contact. And this refers to the transmission of infectious microbes through particles that are expelled via coughing, sneezing or potentially even talking. And these infected particles land on a surface that is then contacted by a susceptible individual. This is the most typical mode of transmission for coronavirus, and studies have demonstrated that the range of sneezing and coughing and the momentum of that can really push droplets quite a distance. And all of that depends on the room, the ventilation and humidity, so a lot of variable factors. There's been a lot debate over the distance particles can travel, but following the CDC recommendations of staying six feet apart or social distancing is really the best practice that we can continue to observe for the foreseeable future. Another category is vehicle transmission. And this is the potential spread of disease through contaminated food, water or bodily substances, such as

cerumen. And we certainly know at times we hear about contaminated food and water being a vehicle. That is not known to be a form of transmission for the coronavirus at this time, but it certainly is for others. And we need to be always thinking about our old nemesis, cerumen, and how it can have a role in transmitting disease. Airborne transmission involves the transmission of disease through the air via those droplets or particles. And again, this is the most common way in which coronavirus itself has been transmitted is through that airborne method with particles known as aerosols. And finally vectorborne transmission. And this is the spread of disease where insects or animals transfer those pathogenic agents through contact with a susceptible host. So, we can think of, diseases such as Zika and others that are very often insect and certainly there are those that are animal transmitted as well. The most common port of entry for infection, especially in our type of work environment is going to be these four orifices. Of course, the ears are our specialty, but also eyes, nose and mouth and there certainly has been a lot of discussion about the roots of transmission, in particular of COVID-19. So, when we think about our usual workspace, the ear, the external auditory canal is actually more prone to infection than any other skin surface.

And I think this is really important to keep in mind, while cerumen is really kind of designed to inhibit microbial growth, its effectiveness could be challenged for hearing aid wearers, those that are using ear molds, or hearing protection, or even earbuds or cell phone use, iPods, et cetera. For those who consistently occlude their ear canal, this occlusion creates a darker, more moist environment. And as that ear canal retains moisture, the ear canal's pH level will change to a more neutral or alkaline level. And this makes it more conducive to bacterial or fungal growth. And so if we think about our world today, where we're using even more beyond hearing aids, but hearables and devices that stream, it means that we've got an ever expanding array of devices that have that close contact with that ear canal. When we think about cerumen, despite the fact that its goal is really to impede microbial growth and impede foreign objects, we need to think of it as an infectious substance. And that's why we do that is because we

don't know that it's been contaminated with mucus or blood. Typically, it is a dark color and its viscosity makes it difficult to distinguish the presence of those bodily fluids that would be an indicator. So we really should treat it as an infectious substance and approach with a lot of caution, because this is certainly a substance that we see frequently in our practices. And so we should utilize universal precautions, which we'll talk about in just a little bit when we're exposed to cerumen. Infection control is certainly critical in a dispensing practice for many reasons. The nature of dispensing itself, means that patient and professional are going to be often in very close contact. And we're working with these devices, hearing aids and ear molds and accessories that actually are known transmitters of micro organisms, that may be harmless for some but deadly for others. And especially if that individual sitting in your fitting chair is an immunocompromised individual.

There's actually microbial growth that's been found on hearing device surfaces that represents a critical infection control concern. And when we think about the fact that now more and more, we're increasing the types of accessories made for smartphone technologies, the number of items that kind of make up our hearing products really continues to grow, as does the potential for spread of disease with these devices. So when we think about the world around us, there's germs lurking literally everywhere. We think nothing daily of taking our cell phones everywhere we go and using them at the dinner table, on our commute in offices and other places. And in fact, Americans actually check their phones about 47 times a day. So this is a lot of opportunity for infectious microbes to jump on board that device onto our hands, and then wherever our hands go. Paper currency is another common way to transmit bacteria, it's changing hands all the time. And because it's made up of a combination of linen and cotton, it's fibers that could very easily play host to those infectious microbes. The longer a bill's in circulation, that's the more chance that it has to pick up that bacteria and if we think of lower denomination bills, they're exchanged the most and so they're very likely the leading culprits. But that doesn't mean that plastic is certainly a safe

option either. Credit and debit cards can also be a source of disease transmission, and it's very likely that they pass through a number of hands as we do our transactions. And the machines that they come in contact with as well can certainly play a role in transmission of infection. And also, thinking about what we wear in our workplace, a 2009 study from the American Journal of Infection Control cited that the white coats of healthcare workers can very easily be contaminated with pathogenic and resistant bacteria. And especially if those are washed infrequently. And so, we certainly need to be thinking about our workplace apparel, and the potential source of contamination that it can become. So there's certainly a lot of discussion about COVID-19 and how long it can remain on surfaces. And there's a variety of data. As I was researching for this, there's a pretty sizable variety of numbers as we think about how long this virus can live on surfaces. In the air, when we think about those aerosol products, aerosol particles, it can be up to three hours and that's certainly is going to vary because they tend to be kind of heavy droplets, very often they fall and are out of the way and not projected very far but doesn't mean that they can't have some impact on us, which is a big reason why there's so much push towards wearing a face covering.

When we look at other surfaces and especially think about the surfaces that are typically in our environments, such as plastic and cardboard, paper and glass, we can see that there is a range and it may be days, it may be hours. So, it's important that we certainly are aware of this and are very cautious on how we handle and interact with these types of materials, but certainly not panic. Because although the virus may be able to live on a surface for hours and days, it doesn't mean that it remains infectious that entire time. So it's possible the virus could be detectable as it was in many of these studies, but no longer infectious. A lot of questions certainly about clothing. And a Lancet article reflected a study that was looking at the stability of COVID-19 on cloth, and found that, while the virus was detectable, it couldn't be recovered from cloth after several days. And, so it's, really indicating that there's not a lot of evidence that this virus can be easily transmitted from clothing. But a CDC study found that the virus

could live on the soles of shoes, but nonetheless, shoes are really, a relatively unlikely source of contamination in many cases, because we don't typically contact high touch surfaces with our shoes. The studies where it was found to be present at a high rate were the soles of shoes, in high risk medical environments such as ICUs where it would certainly be much more likely. But I think it's important that we consider a best practices approach and use a protocol that we are comfortable with in our work environment. If you're using scrubs and lab coats, there's no reason why you can't continue to do so. We need to think about how we're laundering our typical apparel, and follow the manufacturer's instructions, but try and use the warmest water possible. Always be thinking about hand hygiene and potentially wearing disposable gloves when you're handling these items that we're removing from ourselves or throughout our clinic environment. Make sure that we're cleaning and disinfecting items that come in contact with these pieces of clothing, such as hampers, and I think it's wise to really, evaluate what we wear and think about long sleeves and closed-toed shoes so that we can really provide maximum skin coverage, certainly in the short term and probably need to evaluate that on a long term basis.

So, if you're really concerned about clothing, I think it's important to follow those best practice and common sense guidelines and just exercise care, and be thinking about how maybe when you arrive at your home, removing clothing, shoes and cleaning them or airing them out prior to entering your home. Let them dry or air out naturally or throw them in the laundry and wash them when possible. The bottom line is the greatest risk is still person to person transmission, not clothing to person or shoe to person. The universal precautions are the CDC guidelines that they have established for care, and it's really the hallmark of infection control. It starts with personal protective equipment or PPE as we're also now familiar with it. And these are going to be items that we're going to be discussing in the next couple of slides. Hand hygiene and of course, the critical role that that plays. How we need to be cleaning and disinfecting surfaces, what items should be sterilized and what that truly means. And always be looking at our

environment and how we can appropriately dispose of waste because of the potential that that has to come in contact with others as it goes beyond our area. So first, let's talk about PPE or personal protective equipment. And typically in a hearing healthcare environment, in many cases, glasses and masks and gloves were certainly important precautions to take for ear mold and hearing aid modification. And gowns would have maybe been considered when you're working with materials that were obtained from a known infected individual or in the presence of known infectious agents. But our current circumstances really have altered the consideration of PPE for more use cases in our work environment where we have close contact with patients, and that's pretty much inevitable. So gowns and protective glasses should be prioritized for when we are doing care activities where splash and spray is anticipated. During high contact patient care activities where we have that opportunity for transfer of pathogens to the hands and clothing of us, the provider. And surgical gown should really be prioritized for surgical and sterile procedures. So when gowns aren't available, we can also be thinking about other protective single use options, and that can be our disposable lab coat, washable, reusable gowns or aprons, sleeve covers that we use in combination with long sleeve attire. So there are ways that we can think about using some alternative solutions. And I think it's especially important that we consider that right now because of the shortage of PPE and the serious challenge that that poses to the US healthcare system during this pandemic. So, many facilities themselves are having to identify alternative ways to be able to manage PPE and how it impacts their service delivery.

So, certainly the topic of cloth face coverings, and the COVID-19 pandemic have really changed the way we move about our worlds. And this has been an area that has certainly evolved over time as well. And currently the CDC advises the use of simple cloth face coverings to slow the spread of the virus and to help in preventing the transmission of disease from those who may not realize they have it to other. So, currently the CDC is recommending, the use of a cloth face covering in public when

social distancing measures are difficult to maintain. And we of course need to be aware of the regulations in our own communities, and encourage our staff and patients to comply. And this is an area that varies wildly across our country. So what makes sense for me in my area and what is a part of the mandates may be very different for many of the rest of you. So, of course, we know that there's a great shortage of commercially produced PPE and especially masks. And so the cloth face coverings that are recommended here are certainly not surgical masks or the N95 respirators. Those are really critical supplies that should be reserved for healthcare workers and other medical first responders that are on the front lines and really, in that line of fire of individuals who are confirmed cases. So cloth face coverings could be fashioned from various household items or made at home from common materials. And, we need to consider using them as a voluntary public health measure. There's a link here to the CDC website where they offer some so and no so instructions for cloth face coverings. And certainly you can find them all over online.

So, what does this mean in terms of impacting communication, for us in a communication profession? Well, a recent study that was published in the Hearing Review actually compared listening comprehension with no mask and the use of not only simple masks, but N95 respirator masks. And the data demonstrated that each mask in those, all those categories from simple to N95 served essentially as a low pass filter, so it was attenuating those critical high frequencies when worn by the speaker. And the decibel level of attenuation ranged anywhere from three to four Db for that simple medical mask to nearly 12Db for the N95. So how does this impact us, as we are going to be communicating with others in our community, but especially within our practices? And how can we maybe bridge these communication gaps while we're wearing these protective materials? Especially when somebody is alone, when they're meeting with us and they don't have that alternative ear, if you will, to hear what's being said. There are a number of clear visibility options that are kind of coming to the forefront and I think it's truly amazing to see how creative and ingenious individuals

are. There are a number of them that are commercially available on the marketplace and that ingenuity coming into play. You can find on YouTube a number of instructions for how to make some visually appropriate masks to help with our hearing impaired community, and even DIY for simple face shields that don't even require a 3D printer. So, I think it's just so amazing to see the creativity, and the fact that we are taking into account the challenge that this means for our population that we usually are serving. So, these are just a couple of examples. There's a lot of great ones out there. So certainly look at YouTube and Pinterest for some good information. But what about gloves? Gloves, historically, would be worn when there's open wounds or visible blood present, whenever we're cleaning and disinfecting instruments that could have been contaminated, whenever we're submerging or removing instruments into or from that cold sterilant. And really whenever we think that contamination with infectious materials is likely. And I think that's really kind of where we are right now. The potential is out there and we don't always know when it's a high risk situation. So we really need to be taking a very conservative approach.

Now, it's important to note that wearing gloves isn't a substitute for clean hands. Gloves and hand washing literally go hand in hand, and that's no pun intended. So, we really need to be thinking about, expanding the use of these certainly during this global health crisis, and looking at our practice critically and how we need to incorporate them even more. It's important that your glove fits appropriately, it should fit like a glove, which would be the image we see on the left, where it's very tight, it fits snugly around the wrist and around the fingers. So there's not a lot of potential for that ingress of materials that could be potentially infectious. That can certainly happen when the glove fits inappropriately where there's gaps, can tear easily because it's too large and easily catch on objects. And we can have potential for infectious agents to sneak in through that gapping wrist area. So in most cases, gloves are designed to be used once and then disposed of, and certainly improper use could result in cross contamination. And so we need to be cognizant of that. Always, of course, being aware

of the shortages that we're all experiencing right now. So, truly we do have skin in the game, and I probably don't need to say a whole lot about hand washing at this point in time, because hopefully we're all doing this more times than we could possibly imagine. But it's important to always keep in mind that soap and water and proper technique are still the most effective way to keep our hands clean. And we also need to keep in mind that there are instances where we don't have easy access to soap and water, where because of the rate at which we need to sanitize our hands, using something such as a hand sanitizer is going to be an option. The CDC says there's no clear winner in the debate about which one is better. If your hands are not visibly dirty, sanitizer is certainly fine. And just make sure that it's an appropriate antimicrobial, no-rinse alternative, and make sure that you use an appropriate amount of it. And use the same procedure that we're gonna take a look at in terms of washing our hands, and making sure that we're thorough and rubbing between the hands and the fingers and underneath the fingernails as well. We want to continue to rub and make sure that the solution is completely dry. Don't use a towel to dry it. We want to make sure that it has an alcohol content that contains 60 to 95% alcohol, 'cause some bacteria have become resistant to lower doses. So next let's take a look at the procedures just to make sure we are all following the guidelines as specified by the CDC.

- Try and avoid sneezing into your hand because you just contaminate them and then spread those germs everywhere. Focus on sneezing into your elbow, like this. And then you don't contaminate your hands. Turn on the water, wet your hands, apply a good amount of soap and lather up. And then focus on washing your hands for about 20 seconds, about the time it takes to sing Happy Birthday twice. Focus on washing the front of your hands, the back, in between the fingers, around the nails and so on. And then rinse everything off. Use something to wipe your hands after that, perfectly something disposable like a paper towel and then use that to turn off the tap as well. If you get a chance, use that to also open the door to the bathroom as you leave. The best way to wash your hands is using running water and soap, but sometimes we don't

have that available. So think about carrying with you a hand sanitizer that should have at least 60% alcohol content.

- [Announcer] For more information, visit www.cdc.gov, or call 1-800 CDC-INFO.

- [Michele] If you're getting tired of singing Happy Birthday twice, there's a website called washyourlyrics.com that allows you to actually incorporate your favorite song into lyrics that you can even print out as a poster for your office. One of the things that we really need to do is stop touching our faces and we really need to be vigilant about this, and minimize it if at all possible, unless we've just washed our hands thoroughly. According to a study in the American Journal of Infection Control, on average we touch our faces at least 20 times an hour, and about 44% of those involve contact with the eyes, nose and mouth. So those very typical pathogen pathways to the throat and lungs, these critical areas impacted by COVID-19. So wearing gloves, keeping our hands busy, and supporting each other by discouraging face touching are ways that we can break this habit. And it's a habit that's really kind of ingrained in us as humans. Both hand washing and avoiding touching the face are really critical in any infection control protocol. And previous outbreaks of other diseases have certainly stressed the importance of hand hygiene. And, we really need to take that to the next level, and think about minimizing our contact with our face as well. So, we also need to be really thinking about some maybe creative ways that we can use barriers between our fingertips and other surfaces. And being creative by using maybe some other body parts to open doors or et cetera, so that we can protect our fingertips from exposure as much as possible. So again that ingenuity factor and bringing that into play. So of course, we've all had a change in our realities in our physical locations, but the fact remains whether we're at home or in the office, it's so, so important that we are cleaning and disinfecting surfaces. And, we really need to also think about the air in that regard and the risk that it has in spreading diseases as well. So, in our healthcare types of environments, the universal precautions require that touch and splash

surfaces must be cleaned and disinfected. And really, almost any surface in the usual healthcare environment and waiting area could be a source of cross contamination, and that certainly includes, hearing aid work areas as well. So, touch surfaces are those that come in direct and indirect contact with hands, and splash surfaces are those that may be hit with those bodily substances or fluids from a potentially contaminated source. So, take a critical look at the environment around you in both your home and workplace and think about it in terms of those touch and splash potential surfaces. So what's the difference between cleaning, disinfection and sterilization? Well, cleaning really involves just the removal of the gross contamination from the contaminated instruments or surfaces and areas without necessarily killing all the germs. So this is really kind of that initial step in the process which just removes that gross contamination. Cleaning could be done with warm water and detergent or soap. Disinfection kills a percentage of the germs and there's a number of products that are on the market that are EPA approved, and we'll touch on that in just a moment. Disinfection really requires that we use one of these EPA approved grade disinfectants, and cleaning should always be that first step that precedes disinfection.

Disinfection is appropriate for the items that do not come in contact with blood or other infectious agents. Those require sterilization, which involves killing 100% of the germs. So there's a wide range of disinfecting products on the market. Of course, they may be very difficult to find these days. And so that certainly is the biggest challenge that many of us have faced. Of course, the most appropriate in our typical work environments would be that hospital grade disinfectant because it's stronger and kills a wider range of germs than what we typically may find in the pharmacy or the grocery store. Again, it's critical that we clean first, then disinfect it. And the items that are appropriate for disinfection are those that are in that non-critical classification, and we can use something that's liquid spray or towelette. It's also critical that we always wear gloves when we're cleaning and disinfecting. So, one of the questions that's come up a lot as we think about the impact of the pandemic is, what about those various surfaces

around us? How can we clean those appropriately? And for a surface that's hard or non-porous, there are a number of ways that we can do that. One of those that's kind of come to light, if you will, is the use of UV light sanitizers. And these can be a really effective solution, because they're portable, they can kill off viruses and bacteria sometimes in a matter of seconds. There's even a UV phone case to sanitize cell phones. We've already talked about this being one of the germiest items that we have and it goes everywhere with us. So, these UV sanitizers are certainly available online. Of course, the disinfectants and the EPA registered solutions are very effective. If you're having difficulty finding those, there are alternatives. That would mean the use of a mixture of bleach water or an alcohol solution to appropriate measurements. Very important that we don't mix bleach and other cleaning and disinfection products because of the potential for dangerous fumes. And so it's critical that we of course are wearing a PPE when we're working with these types of materials. And I think that should include glasses as well as gloves and protective clothing.

When we think about soft surfaces that are more porous, we should, in the case of clothing, wash that according to the manufacturer's instructions. Again, warm water as possible and dry completely. We think about electronics and this is, our cell phones and keyboards and remote controls, clean them first to remove that contamination of present by wiping them off and then follow manufacturer's instructions for that type of device. We certainly with electronics have to take care with those. So maybe using a cover or using appropriate towelettes so that we can minimize the moisture. If we do that, we need to make sure that we're using something that's more of a spray, that it contains 70% alcohol and dry that surface thoroughly so there's no pooling and damage to our electronic devices. But what about the products that we and our patients are coming in contact with all the time, such as hearing aids, ear mold and accessories? Well, because they live very often in that dark, moist environment of the ear, they're easily contaminated. And it's always important and appropriate regardless of pandemic or not, that we are cleaning and disinfecting these items. But certainly we

have a heightened awareness of these because they are high touch. So we also need to keep in mind that often hearing aids and ear molds are made out of specialized materials, include nano coatings and these require special care for cleaning. Can't just use any product. So again, always important to remove that gross contamination with a tissue and of course, gloved hands on your part and then disinfect the item with a non-alcohol based disinfectant towelette and let the surface dry based on the manufacturer's instructions. And at Starkey, we use CaviCide on all of our incoming hearing aids, ear molds and accessories because it is on the list of approved disinfectants and it's not harmful to the nano coating that's applied to the devices. So there are a number on the market and that is the one that we have chosen to use. There is an EPA approved list of disinfectants and this is a great site to go to, to see what disinfectants are appropriate and whether what you're using in your practice falls on that list. And so these are of course, the types of materials that we need to be thinking about when we are disinfecting those frequently touched surfaces. So this is a great link to check out.

Sterilization should be those critical instruments that come in contact with bodily substances. Usually, for us, this is Curettes and Specula and and all. So, these must be sterilized. That kills 100% of the germs. And often in a medical environment that's going to be done by autoclave. And very often in our types of work environments, cold sterilization may be more likely and this means you're going to soak those instruments in an EPA approved solution for a certain number of hours as specified with the manufacturer of that solution. So as we navigate moving into a different phase, especially in regards to the pandemic, we're all in varying areas. And that means that there's a high degree of variability on what's been going on in our communities. Has your community essentially been shut down or limited in how you can serve your patients? And so regardless of what that is, we need to be thinking about how when we are back to business or ramping up, how we're ensuring that staff, patients in our facility are really ready to be experienced as a safe environment. So we're gonna

spend a little time talking about that. Want to lead with a caveat. These are guidelines, they're not absolutes. There's a broad range of locations, as I mentioned in the cities and states in which we all practice have different rules and regulations. So this is certainly not one size fits all information, merely recommendations, and definitely some sites to go to for further information. So as we've seen, the situation in the national, state and local guidelines are ever changing. And so, the suggestions made here are certainly as of the date of this event, and when it was recorded, and I'm going to recommend that it's important that we really stay continually updated based on the CDC recommendations as well as state and local mandates. And that we communicate our approach with staff and patients. As an office, we need to have a written infection control plan. Our staff needs to understand how to implement that, every single person that's employed should. We also need to share updates in our policies, in our strategies with our patients, keeping in mind that both patients and even staff may or may not be taking the situation as seriously as you are, and we need to insist that they follow the recommendations laid out by our practice and the CDC. So it's important that as an office, we have a written infection control plan.

So if you don't have a plan yet, you really should get one developed. And this really describes the standard precautions that your practice is gonna take for each aspect in that workplace. It should include engineering controls, and these are the procedures that really are designed to describe how we're going to manage these hazards in our workplace, how we're going to store items that need to be sterilized or cordoned off areas of where we're going to do those procedures and where hazardous activities occur. And work controls, which are more profession specific. So they relate to how we're going to reduce the risk of cross contamination, or what we do, are we wearing gloves as we're working with hazardous materials and as we're accepting and transporting product, from patient to professional. So how are we altering the procedures that we're performing? And do we need to update that based on how we may have needed to alter those procedures with our current reality? So of course, we

need to be thinking about our environment. And if we're thinking about a typical dispensing type of practice, there's a number of activities that we're typically involved in. And we need to have an infection control plan that relates to each of those aspects. So anyone who comes in contact with the patient and their products, knows how to protect themselves and others. And we need to make sure that plan is comprehensive and looking at all aspects of patient contact. And of course, these are the key for dispensing but it's going to vary depending on the actions that take place within your practice. So while we've got a set of protocols that maybe we've previously established for infection control, the reality of COVID-19 has really, further altered how we manage our work environments and our patients for both the near future and possibly long term. So we need to be reconsidering how we're determining who can come to our physical location, how we see those who do, how we accept and distribute product, and look at our work environment with a really critical eye towards cleaning and disinfecting, and our openness as well to do so in front of patients to reduce their anxiety and build trust in those who come to see us. In these extraordinary times, we know we need to minimize human contact as much as possible. And so that's a really good reason to develop a telephone triage approach. So we can ensure that patients and staff are protected as best possible.

So there's a number of questions that we should be asking to determine before the patient even comes to see us, if it's necessary for them to have an in-person visit, do they have a very adamant request for an in-person visit? And is it appropriate and advisable to do so? And as this virus has evolved, the symptoms that are part of this triage recommendation have evolved as well. And, even just, recently, the World Health Organization has expanded the list of symptoms that should be part of your inquiry. And so, it's important that we are asking the appropriate questions about where you've been, what types of symptoms and exposure you might have had before we allow a patient to come see us, but we also need to be asking those same questions of ourselves as staff. And if the answer is yes to any of those, not report to work or to the

clinic, and not have interaction with others. So in terms of, developing that telephone triage, there's a lot of great information available in an app based format, which I think is an excellent way to do it, because apps can be updated so easily. So as those changes evolve, the CDC has an app, they have developed a screening app in conjunction with Apple that provides those screening questions right there from the app. And this may be a really great resource for whoever is having that phone interaction and triaging the patients that are calling into your practice. And I believe there would be something available from the Android platform perspective. I'm an Apple person, so I can't speak to what's available on the Android side. But I was able to download this Apple screening app and it's got great, great graphics with those questions. We also need to be thinking about what's happening in our community. Have we been shelter in place? Are we coming out of that to some extent? And what does that mean for us? How we as healthcare providers are going to be able to work with our patients.

We need to be looking at embracing innovative ways to be able to provide those essential services that our patients needs now, and is it going to change our approach going forward. We should be leveraging telehealth. This is a technology that has been available. In many cases, many of your manufacturing partners are using this type of technology, but yet it hasn't really been fully embraced. Now's the time for us really to leverage it, implement it in our practice, and evaluate how long term we would want to continue to utilize this technology. We need to look at our locations, can we offer drive-up or curbside services? Your location may or may not be conducive to that type of service, but certainly important to consider is it possible? Mail-in service certainly is another option that we can evaluate with our patients for, especially things like batteries and product that may need service or even drop-off through some receptacle. Also be thinking about wireless programming. And when we think about the fact that primarily we are programming wirelessly these days, it means that we can connect with our patients in person but yet at a more appropriate distance. So when you look at

your programming space, could you set up a chair in a hall or provide those programming adjustments wirelessly to a patient that's seated alone in the waiting area, or even their car. So understand the range that the wireless programmers that you're using can effectively connect in your workspace and really embrace that power. When we think about our offices, what have we typically used in terms of protocols may need to totally be revamped. Of course, it all starts with that great hand hygiene that we may need to be as staff wearing masks and gloves, we may need to be encouraging our patients to do so as well. Think about ventilation, can you keep certain doors open? Keep those open when you can, because that certainly improves that ventilation and airflow. Minimize community types of objects. Pens certainly are something that are kind of a given in our facilities. But we need to be either encouraging patients potentially to bring their own pen and use that or ensure that we're cleaning and disinfecting and showing our patients that we're doing those types of actions with community objects. Certainly reduce the touch surfaces and disinfect those that are being touched.

So we may need to really rethink, what we have around our offices and limit that certainly for the time being, and have that plan in place for disposal of or cleaning and disinfecting reusable PPE. We may need to totally change our landscape in our office for the time being. We may need to limit points of entry and we've seen that certainly in our own communities and grocery stores and other environments. We may need to temporarily, potentially permanently install physical barriers, and certainly front desks are a place to think about that. Consider adding signage, whether it's talking about your approach to managing COVID-19 in your practice, or signage that relates to when objects have been sanitized and spaces are disinfected in your environment. Keep those kinds of things in mind. Make sure that you are minimizing waiting room time and maybe even that's limiting to one person can be in that space at a time. You always have to look at your environment in terms of social distancing. And that's really going to vary. We need to think about furniture placement, how people pass each other in

your space. Also, unfortunately, we may need to think about limiting or even stopping third party attendance right now or is there a creative way with telehealth and remote access to bring them in remotely. Remove community items, such as beverages and treats and magazines, brochures. And also be thinking about your seating. Is it possible to use a hard nonporous surface more so than fabric, which is certainly easier to clean and disinfect. And again, think about your ventilation and air flow. Do we need to look at our test booth environment in a different way because those tight quarters can certainly be higher risk. Communicate your message to your patients. Make sure they know the steps that you're taking and use all of your platforms to do that. Here's some great links for a variety of information from a number of sources.

I think there's a lot of great information here, and certainly, all of these areas will be continually updated. So great reason for you to use the handout that's available in the file share. One of the things that Starkey is doing as a service to our community, because we know PPE is in short supply, we've developed a Starkey care kit that includes a variety of PPE options. This is something that you can contact Starkey email or call our 800 number, asking for customer service and sales if you need help in being able to access PPE resources. The bottom line, protect yourself and others, look at your environment differently and think about how this needs to be modified for the short term and long term. But most importantly, eat healthy, stay hydrated, get plenty of rest, exercise and relax because our patients are counting on us. And we need to not let what we can't do get in the way of what we can. And I thought this was just such an appropriate quote from Ronald Reagan. 'Cause it may seem really daunting to potentially rethink our office and our professional and even our personal protocols, but we need to approach it from that can do perspective that I know we all have. So I want to thank you all very much for your efforts to remain safe, protect yourself and others. I appreciate your interest in this topic and being here with me today. And please let us know how we can help you and go forth, be safe, stay healthy.

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