

## **Infection Control Related to the Maico MB11 BERophone Baby Screener**

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### **Background Information:**

In response to the AIDS epidemic, during the mid to late 1980's, the Centers for Disease Control and Prevention (CDC) issued a number of recommendations and guidelines for minimizing cross-infection of bloodborne diseases to healthcare workers. These guidelines were based on the principle that every patient is assumed to be a potential carrier of and/or susceptible host for an infectious disease. Eventually, these pronouncements were officially formalized into the Universal Blood and Bloodborne Pathogen Precautions. More commonly referred to as universal precautions, the general pronouncements are as follows:

1. Appropriate personal barriers (gloves, masks, eye protection, gowns) must be worn when performing procedures that may expose personnel to infectious agents
2. Hands must be washed before and after every patient contact and after glove removal
3. Touch and splash surfaces must be pre-cleaned and disinfected
4. Critical instruments must be sterilized
5. Infectious waste must be disposed of appropriately

CDC 1987

### **Differentiation of Terms:**

Cleaning refers to procedures in which gross contamination is removed from surfaces or objects without killing germs. It does not necessarily involve any level of germ killing but cleaning is an important prerequisite for other processes in which killing germs remains an objective. Cleaning must occur prior to disinfection or sterilization as the effectiveness of these procedures may be compromised without it.

Disinfection refers to a process in which germs are killed. The term encompasses a wide range of germ killing. Levels of disinfection vary according to how many and what specific germs are killed. Household disinfectants kill a limited number of germs commonly found in the household. In contrast, hospital-grade disinfectants are much stronger and kill a larger number and variety of germs. As such, hospital-grade disinfectants should be incorporated in infection control protocols implemented in patient care settings, including clinics, hospitals, or private practice facilities where audiology services are provided.

Sterilization involves killing 100% of vegetative microorganisms, including associated endospores. When microbes are challenged, they revert to the more resistant life form called a spore.<sup>3</sup> Sterilants, by definition, must neutralize and destroy spores because if the spore is not killed, it may become vegetative again and cause disease. Whereas disinfection may kill some germs, sterilization, by definition, kills all germs and associated endospores each and every time.

Cleaning:	removal of gross contamination
Disinfecting:	killing a percentage of germs
Sterilization:	killing 100% of germs including endospores

### **Maico MB11 BERophone Baby Screener - Preferred Infection Control Recommendations:**

According to the CDC, only critical instruments must be sterilized. Critical instruments refer to those instruments or objects introduced directly into the bloodstream (e.g., needles), non-invasive instruments that come in contact with intact mucous membranes or bodily substances (e.g., blood, saliva, mucous discharge, pus), or instruments that can potentially penetrate the skin from use or misuse. Non-critical items are those instruments or objects that either do not ordinarily touch the patient or touch only the externally intact skin.

In reviewing the Maico MB11 BERAprone Baby Screener, the steel electrode surfaces and the earphone are designed to make direct contact with the infant's skin. Assuming intact skin on the part of the infant, since the device is designed to make direct contact with intact skin, the instrument is considered non-critical. Therefore, the device must be first cleaned and then disinfected with a medical- or hospital grade disinfectant prior to re-use.

**Disinfectant Considerations for MAICO MB11 BERAprone Baby Screener:**

Taking into consideration the material of the earphone portion of the Baby Screener, a non-alcohol based disinfectant, such as AudioWipes or Audiologist's Choice disinfectants is recommended. Non-alcohol based products contain the active ingredient referred to as quaternary ammonia compound. The quaternary ammonia compound, or "quat" for short, is an ideal disinfectant compound for the hearing health care industry as it does not include alcohol and was specifically designed to disinfect rubber, plastic, silicone, and acrylic since most items used in the hearing industry are comprised of these components. While alcohol is considered a disinfectant, it chemically denatures rubber, plastic, silicone, and acrylic and is, therefore, not appropriate or recommended for disinfecting hearing aids (acrylic), headphones (rubber), earmold impressions (silicone), or waiting room toys (plastic).

**Proper Infection Control Procedures Following Use of Maico MB11 BERAprone Baby Screener:**

- Following AABR testing, remove BERAprone from infants head and ear area.
- Clean off electrode surfaces with paper towel or disinfectant towelette.
- Clean off earphone surface with clean portion of same paper towel or disinfectant towelette
- Once the instruments are cleaned, using a fresh disinfectant wipe, wipe electrode surfaces and entire surface of ear phone

NOTE: For more information, contact Robert J. Kemp or A.U. Bankaitis of Oaktree Products.