



Cleaning and disinfection of ANT Neuro products in the light of the Corona / COVID-19 / SARS-CoV-2 / nCoV pandemic

Disclaimer	2
General remarks	2
General recommendations	2
eego amplifiers and eego accessories	3
waveguard EEG headcaps	3
Cameras and computers	4
Carts and patient chairs	5
Smartmove robot arms	5
Tracking tools	5
Presentation and response devices	6
Cable and adapter accessories, electrodes, and sensors	6
Single-use consumables	7
References	8

Disclaimer

All information provided in this document is intended as a summary. For detailed product related information please always consult the latest version of the respective product's user manual. This document is not intended to replace the user documentation.

External links are being provided as a convenience and for informational purposes only; they do not constitute an endorsement or an approval by ANT Neuro of any of the products, services or opinions of the external corporation or organization or individual. ANT Neuro bears no responsibility for the accuracy, legality or content of the external site or for that of subsequent links. Contact the external site for answers to questions regarding its content.

We have attempted to write this document as accurately as possible. However, mistakes are bound to occur, and we reserve the right to make changes whenever needed or whenever new information becomes available.

General remarks

ANT Neuro is devoted to providing cutting-edge solutions for neuroscience, neuromodulation and neurocare, and particularly aiming at systems and products which inspire scientists and clinicians to undertake new actions and gain better insight into the human brain. Leading in know-how and technology, we offer solutions and high quality, state-of-the-art products and reliable services for expert customers worldwide.

We are committed to serving our customers the best-possible solutions available. The COVID-19 pandemic results in unprecedented circumstances for our partners and customers worldwide. We would like to support you with summarized information on how to clean and disinfect ANT Neuro products. We will provide generic hygiene information and cleaning instructions for our range of products, with the intent to mutually support patient, subject and staff safety.

Please make sure that local institutional regulations for cleaning, disinfection and safety are always followed. In case of additional questions or concerns, our support team is available via email (support@ant-neuro.com).

General recommendations

For all indications regarding hygiene including cleaning and disinfection, please kindly refer to the user manual of the respective ANT Neuro product, the indications of your used disinfection and cleaning agents as well as the regulations of the local hygiene control unit.

We recommend you familiarize your team with the recommendations of the World Health Organization regarding

1. Infection prevention and control in the light of COVID-19 [1],
2. Decontamination and Reprocessing of Medical Devices for Health-care Facilities [2].

The efficiency and efficacy of disinfectants are declared by the manufacturer of the disinfectant. Several of the disinfectants indicated in our user manuals have been tested according to EN 14476 by the manufacturer. Please note that a general suggested disinfection method may not be sufficient for effectiveness against viruses; longer exposure times or higher concentrations may be required. For specific questions related to disinfectant efficiency and efficacy related to COVID-19, we kindly ask to consult the disinfectant manufacturer. Most of them provide specific COVID-19 related information for download on their respective websites.

The procedures for applying, preparing, and cleaning medical equipment requires a hygiene protocol that is set by each local institution as dictated by a local health authority.

eego amplifiers and eego accessories

Detailed safety and maintenance information for **eego** can be found in the **eego** amplifier user manual.

The **eego** amplifier and **eego** accessories are mechanically robust. We recommend keeping the electronic components in a distance of min. 1.5 m from the patient and to protect them from direct contact with potential contaminants. Please take special care of the connector openings and switches on the devices, avoiding contamination.

If the devices require cleaning, please use a soft cloth to remove dirt in combination with a non-corrosive disinfectant for wipe disinfection. The devices are not to be immersed in any liquid. If any liquids or moisture penetrate the device or a part thereof, turn the device off, remove any plugs and have the device checked by the manufacturer.

waveguard EEG headcaps

Please ensure that the headcap is adequately cleaned prior to disinfecting. All indicated disinfectants must be applied according to the information and indications provided by their respective manufacturer.

- ! The use of disinfectant may reduce lifetime of the caps.
- ! Alcohol is not an adequate solution for disinfecting electrodes.
- ! Hydrogen peroxide solutions should not be used.
- ! A general suggested disinfection method may not be sufficient for effectiveness against viruses; longer exposure times or higher concentrations may be required. Please check the information as provided with the disinfectant.
- ! **Please make sure that local and hospital regulations for cleaning are always followed!**

waveguard original

Detailed safety and maintenance information for **waveguard** original can be found in the **waveguard** original user manual, chapter 5. Cap textile, electrodes and cable components of the **waveguard** original caps can be submerged in specifically prepared disinfectant solutions. Connectors must not be exposed to liquids and may be disinfected using a non-corrosive wipe disinfectant. Examples of disinfectant solutions that are tested for compatibility with **waveguard** original are Cidex OPA (Advanced Sterilization Products), Metricide (Metrex), Cavicide (Metrex), Pursept AF (by Schülke & Mayr), Sekusept activ (by Ecolab) or Korsolex Extra (BODE Chemie). After disinfection, thoroughly rinse the cap with water.

waveguard connect

Detailed safety and maintenance information for **waveguard** connect can be found in the **waveguard** connect user manual, chapter 5. Cap textile, electrodes and cable components of the **waveguard** connect caps can be submerged in specifically prepared disinfectant solutions. Connectors must not be exposed to liquids and may be disinfected using a non-corrosive wipe disinfectant. Examples of disinfectant solutions that are tested for compatibility with **waveguard** connect are Cidex OPA (Advanced Sterilization Products), Metricide (Metrex), Cavicide (Metrex), Pursept AF (by Schülke & Mayr), Sekusept activ (by Ecolab) or Korsolex Extra (BODE Chemie). After disinfection, thoroughly rinse the cap with water.

waveguard touch

Detailed safety and maintenance information for **waveguard** touch can be found in the **waveguard** touch user manual, chapter 5. Cap textile, electrodes and cable components of the **waveguard** touch caps can be submerged in specifically prepared disinfectant solutions. Connectors must not be exposed to liquids and may be disinfected using a non-corrosive wipe disinfectant. An example of a disinfectant solution that has been tested for compatibility with **waveguard** touch is Korsolex Extra (BODE Chemie). After disinfection, thoroughly rinse the cap with water.

Cameras and computers

ACL medical computers

Detailed safety and maintenance information for ACL medical computers are provided by the manufacturer ACL GmbH on their website www.acl.de.

The medical grade computers are mechanically robust. We recommend keeping the electronic components in a distance of min. 1.5 m from the patient and to protect them from direct contact with potential contaminants. Please take special care of the connector openings and switches on the devices, avoiding contamination.

If the devices require cleaning, please use a non-corrosive disinfectant for wipe disinfection as listed by the manufacturer. Please note that the devices cannot be sterilized. Do not use Acetone, Citric Acid or cleaning liquids based on crude oil. The devices are not to be immersed in any liquid. If any liquids or moisture penetrate the device or a part thereof, turn the device off and have the device checked by the manufacturer.

NDI Polaris cameras

Detailed safety and maintenance information for NDI medical cameras are provided by the manufacturer Northern Digital Inc. on their website www.ndigital.com.

We recommend keeping the electronic components in a distance of min. 1.5 m from the patient and to protect them from direct contact with potential contaminants. Please take special care of the connector openings and switches on the devices, avoiding contamination.

- ! The position sensor should only be cleaned when necessary.
- ! Use only liquids indicated by the manufacturer of the device. Other fluids may cause damage to the device and/or its components.
- ! Do not use any paper products for cleaning. Paper products may cause scratches and damage to the device and/or its components.

If the devices require cleaning, please refer to the manufacturer instructions for detailed cleaning guidelines. Clean the device using a knitted microfiber optical cleaning cloth. The devices cannot be sterilized and are not to be immersed in any liquid. If any liquids or moisture penetrate the device or a part thereof, turn the device off and have the device checked by the manufacturer.

Other third-party computers and computer components

We recommend keeping the electronic components in a distance of min. 1.5 m from the patient and to protect them from direct contact with potential contaminants. Please take special care of the connector openings and switches on the devices, avoiding contamination.

If the devices require cleaning, please use a soft cloth to remove dirt in combination with a non-corrosive disinfectant for wipe disinfection. The devices are not to be immersed in any liquid. If any liquids or moisture penetrate the device or a part thereof, turn the device off and have the device checked by the manufacturer.

Carts and patient chairs

The medical carts and patient chairs are mechanically robust. We recommend to protect connector openings, avoiding contamination.

If the device requires cleaning, please use a dry or slightly wet towel for cleaning surfaces. For disinfection we recommend using a non-corrosive disinfectant for wipe disinfection.

- ! The use of disinfectant may reduce lifetime of the carts and chairs.
- ! Do not use any chemical agents for cleaning or other purposes.
- ! Do not store any liquids in and/or on the cart. Before starting to use the system, verify that there are no liquids stored in/on the cart.

The system is not to be immersed in any liquid. If any liquids or moisture penetrates the system or a part thereof, remove the plug from the wall socket and have the system checked by the manufacturer.

Smartmove robot arms

Omron Adept Viper s650/s850 robot

Detailed safety and maintenance information for Omron Adept robots are provided by the manufacturer Omron K.K..

We recommend keeping the robot, robot stand and related components in a distance of min. 1.5 m from the patient and to protect them from direct contact with potential contaminants. Please take special care of the electronic components and interfaces, avoiding contamination.

If the devices require cleaning, please use a soft cloth to remove dirt in combination with a non-corrosive disinfectant for wipe disinfection. The devices are not to be immersed in any liquid. If any liquids or moisture penetrate the device or a part thereof, turn the device off and have the device checked by the manufacturer.

Tracking tools

Tracking tools

The tracking tools are mechanically robust. If the device requires cleaning, please detach the NDI passive spheres and use a soft cloth to remove dirt in combination with a 70% isopropyl alcohol.

NDI passive spheres

- ! NDI passive spheres will generally not withstand cleaning products!

The spheres are consumables and can be replaced on the tracking tool. In order to keep their integrity and optimal reflective properties we recommend to protect them from direct contact with potential contaminants and replace them following local and hospital regulations.

Presentation and response devices

elite

The **elite** presentation device is mechanically robust. We recommend to protect the device from direct contact with potential contaminants, e.g. by using a protective bag. Please take special care of the connector openings, avoiding contamination.

If the device requires cleaning, please use a soft cloth to remove dirt in combination with a non-corrosive disinfectant for wipe disinfection. The device is not to be immersed in any liquid. If any liquids or moisture penetrate the device or a part thereof, turn the device off and have the device checked by the manufacturer.

Speakers

We recommend keeping the electronic components in a distance of min. 1.5 m from the patient and to protect them from direct contact with potential contaminants. Please take special care of the connector openings and switches on the devices, avoiding contamination.

If the devices require cleaning, please use a soft cloth to remove dirt in combination with a non-corrosive disinfectant for wipe disinfection. The devices are not to be immersed in any liquid. If any liquids or moisture penetrate the device or a part thereof, turn the device off and have the device checked by the manufacturer.

Pushbuttons / Response buttons

The pushbutton and response button devices are mechanically robust. We recommend to protect the devices from direct contact with potential contaminants, e.g. by using a protective bag. Please take special care of the connector openings, avoiding contamination.

If the devices require cleaning, please use a soft cloth to remove dirt in combination with a non-corrosive disinfectant for wipe disinfection. The devices are not to be immersed in any liquid. If any liquids or moisture penetrate the devices or a part thereof, turn the devices off and have the devices checked by the manufacturer.

Cable and adapter accessories, electrodes, and sensors

For third-party devices and components like (re-useable) electrodes and sensors used in combination with ANT Neuro products, please consult and follow the cleaning and disinfection instructions provided by the respective manufacturer.

waveguard electrodes

waveguard cable components and re-usable electrodes can be submerged in specifically prepared disinfectant solutions. Connectors must not be exposed to liquids and may be disinfected using a non-corrosive wipe disinfectant. Examples of disinfectant solutions that are tested for compatibility with waveguard original are Cidex OPA (Advanced Sterilization Products), Metricide (Metrex), Cavicide (Metrex), Pursept AF (by Schülke & Mayr), Sekusept activ (by Ecolab) or Korsolex Extra (BODE Chemie). After disinfection, thoroughly rinse the electrode and cable with water.

waveguard adapters (including adapters used in combination with nĕo)

The **waveguard** adapters are mechanically robust. We recommend keeping the adapters in a distance of min. 1.5 m from the patient and to protect them from direct contact with potential contaminants. Please take special care of the connector openings, avoiding contamination.

If the device requires cleaning, please use a soft cloth to remove dirt in combination with a non-corrosive disinfectant for wipe disinfection. The adapters must not be immersed in any liquid.

eego accelerometer sensor

The **eego** accelerometer sensor is mechanically robust. We recommend to protect the sensor from direct contact with potential contaminants, e.g. by using a protective bag. Please take special care of the connector openings, avoiding contamination.

If the device requires cleaning, please use a soft cloth to remove dirt in combination with a non-corrosive disinfectant for wipe disinfection. The sensor must not be immersed in any liquid.

eego GSR electrodes and cables, eego bipolar snap lead cables

The **eego** GSR electrodes and cables as well as the **eego** bipolar snap lead cables can be submerged in specifically prepared disinfectant solutions. Connectors must not be exposed to liquids and may be disinfected using a non-corrosive wipe disinfectant. Examples of disinfectant solutions that are tested for compatibility with waveguard original are Cidex OPA (Advanced Sterilization Products), Metricide (Metrex), Cavicide (Metrex), Pursept AF (by Schülke & Mayr), Sekusept activ (by Ecolab) or Korsorex Extra (BODE Chemie). After disinfection, thoroughly rinse the electrode and cable with water.

Single-use consumables

For third-party single-use consumables (e.g., adhesive electrodes, pads, gels, syringe components) used in combination with ANT Neuro products, please consult the instructions provided by the respective manufacturer. Keep the products packaging sealed and open the products seal only for immediate application.

References

- [1] World Health Organization: Interim guidance - Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected; [https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-\(ncov\)-infection-is-suspected-20200125](https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125); 2020.
- [2] World Health Organization and Pan American Health Organization: Decontamination and Reprocessing of Medical Devices for Health-care Facilities; ISBN 9789241549851; <https://www.who.int/infection-prevention/publications/decontamination/en/>; 2016.