

Recommendation for the Cleaning and Disinfection of Armeo®

Update march 2020

1. General

The ArmeoPower, ManovoPower, ArmeoSpring, ArmeoSpring Pediatric, ManovoSpring and ArmeoSenso (hereinafter "Armeo") are noncritical items, described as follows: *"Noncritical items are those that come in contact with intact skin but not mucous membranes. Intact skin acts as an effective barrier to most microorganisms; therefore, the sterility of items coming in contact with intact skin is "not critical."*¹

The following processes are recommended, but should be adapted to comply with the local or national guidelines which may apply within the Healthcare Facility or the country of use:

- Pre-Cleaning / Cleaning (if necessary)
- Disinfection

Patients may be at high risk for infections. We therefore recommend that you take additional cleaning and disinfection measures as well as protection measures for patient and therapists.

While we recommend the following, we advise that you first and foremost follow the guidelines already in place at your facility, or consult with an internal disinfectant expert for further advice.

2. Pre-Cleaning / Cleaning

- Make sure the Armeo is turned off
- Visible dirt and particles should be wiped off the Armeo by using a wet cloth or a dry brush before starting the disinfection procedure

3. Disinfection

- The Armeo can generally be disinfected with the procedure of surface disinfection using wipes and / or sprays.
- The more delicate orthopedic parts must be washed at the end of each workday to ensure proper disinfection. Between patients/therapists these surfaces must however also be disinfected using either wipes or foam spray (see following Recommended Disinfection Procedure 3.1)
- Please make sure no disinfectant is getting to electronic interfaces, like the USB connector, or the main power socket.
- The use of disinfection showers is not permitted due to the electric connections and the unsealed moveable parts.
- Make sure surfaces to be disinfected are well covered with disinfectant.

3.1 Recommended Disinfection Procedures for Armeo Components

There is no recommended interval for cleaning and disinfection. The Armeo should be routinely cleaned and disinfected between patients and at regular intervals while in use.

Components	Disinfection Procedure
After each patient and between therapists	
Hand module Sensors* (if used with tape strips) Remote control, Telestop Keyboard, mouse or computing device Emergency button ^Δ	Wipe ^a
Orthopedic material: - Arm cuffs - ManovoSpring cuffs - ManovoPower straps - Arm bands* - Hand strap*	Wipe ^a or Foam spray ^b
Metal components: - Frame (lifting column, base, gantry) - Exoskeleton Grips for moving device (handles etc.)	Wipe ^a
At the end of each working day	
Hand module Sensors* (if used with tape strips) Remote control, Telestop Keyboard, mouse or computing device Emergency button ^Δ	Wipe ^a
Orthopedic material: - ManovoPower straps - Arm bands* - Hand strap*	Wipe ^a or Foam spray ^b
Orthopedic material: - Arm cuffs - ManovoSpring cuffs	Washing machine ^c
Metal components: - Frame (lifting column, base, gantry) - Exoskeleton Grips for moving device (handles etc.)	Wipe ^a

^a Includes mechanical cleaning.

^b Surface needs to be fully wet; dry before reuse.

^c Wash with 60°C; use laundry bag; delicate fabric cycle.

*ArmeoSenso; ^ΔArmeoPower

3.2 Recommended Disinfectants

When choosing disinfectants, keep in mind the following: (1) health aspects of the staff/patients, (2) material compatibility, (3) instructions provided by the respective disinfectant / cleaning agent.

Hocoma/DIH recommends the use of disinfectants based on quats (Quaternary Ammonium Compounds), since these provide the best material compatibility, are environmentally friendly and economical.

Please note that some quats are too alkaline for certain materials in our products. Always check the label first: quaternary solutions with a pH >10 are not recommended (or need to be diluted). The use of quats (wipes) containing sodium hydroxide (NaOH) is NOT recommended.

Always make sure to remove any soap residues before disinfection/cleaning and to rinse surfaces with a wet cloth afterwards to prevent build-up of residual cleaning chemicals, especially in case of any visual residuals. Lastly, assure surfaces are dry before use.

Disclaimer:

The responsible organization (operator of the medical devices) has the obligation to fulfill all applicable general, local or national hygiene instructions to protect patients, employees and third-party personnel from any kind of possible infections.

Hocoma/DIH cannot be held responsible for infectious diseases caught while using their products.

(These recommendations are not exhaustive. There may be local processes/substances that already comply with cleaning and disinfecting requirements)

- Please note that alcohol-based disinfectants can be used, but may lead to changes in material composition over medium to long-term application.
- In case of any uncertainties, please always consult an internal disinfectant expert.