

Guidance: Baxter Acute Prismaflex/PrisMax systems cleaning for SARS-CoV-2

Background

- Coronavirus disease (COVID-19) is an infectious disease caused by the severe acute respiratory syndrome due to coronavirus 2 (SARS-CoV-2). [1][2]. As data on the current strain of coronavirus is limited, all guidance for infection control is based on the previously studied coronavirus strains.
- The Chinese Society of Nephrology and the Taiwan Society of Nephrology have recently developed guidelines for dialysis units during the COVID-19 outbreak. [3] In particular, it is stated that dialysis machines that may come into contact with patients or potentially contaminated material should be disinfected according to standard protocols.
- According to the U.S. Centers for Disease Control and Prevention (CDC) guidance for confirmed COVID-19 patients receiving hemodialysis [4], routine cleaning and disinfection for COVID-19 are appropriate in dialysis settings. All surfaces, supplies, or equipment located within 6 feet of symptomatic patients should be disinfected or discarded.

Other resources can be found in the American Society of Nephrology website (<https://www.asn-online.org/ntds/>).

PrisMax & Prismaflex machines external cleaning

- The external machine surfaces are a contamination medium for viruses. Maintaining hygiene of the environment by following cleaning and disinfection procedures, including for the external surfaces of the dialysis systems and their related devices, should mitigate the risk of contamination on surfaces. Consideration should be given to increasing the frequency of cleaning and disinfection and ensuring the virus is susceptible to the disinfectants used.
- Even if there are currently no disinfectants that specifically include the SARS-CoV-2 virus on the product label, U.S. Environmental Protection Agency provides a list of products that can be used against the virus [5].
- A recent paper [4] reports that "the analysis of 22 studies reveals that human coronaviruses such as Severe Acute Respiratory Syndrome (SARS) coronavirus, Middle East Respiratory Syndrome (MERS) coronavirus or endemic human coronaviruses (HCoV) can persist on inanimate surfaces like metal, glass or plastic for up to 9 days, but can be efficiently inactivated by surface disinfection procedures with 62–71% ethanol, 0.5% hydrogen peroxide or 0.1% sodium hypochlorite within 1 minute."

For safe and proper use of the devices mentioned herein, please refer to the Operator Manuals or appropriate Instructions for Use.

- The Operator Manuals for Baxter Prismaflex, PrisMax, and TherMax devices indicate the following products can be used on a moistened cloth to clean the external surfaces of the listed devices. These specific products were shown to be effective against other human coronaviruses in the study cited above.
 - Prismaflex: ethanol (90%) or sodium hypochlorite (Bleach, at 0.1%) or sodium hypochlorite (1.5%);
 - PrisMax: hydrogen peroxide (0.5%, Virox) or ethanol (95%) or sodium hypochlorite (Bleach, at 0.1%);
 - TherMax: hydrogen peroxide (0.5%, Virox) or ethanol (95%) or sodium hypochlorite (1.0%).

The use of products or process (e.g., disinfectant fumigation or nebulization) not listed in the related Operator Manuals can damage the machine external surfaces.

Baxter is not responsible for validating the inactivation of viruses on external surfaces. This should come from supplier of the cleaning agent and/or established literature.

References

- [1] WHO <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- [2] Zhu N, Zhang D, Wang W, et al. A Novel Coronavirus from Patients with Pneumonia in China, 2019. *N Engl J Med*. 2020 Feb 20;382(8):727-733
- [3] Naicker S, Yang C-W, Hwang S-J, et al. The novel coronavirus 2019 epidemic and kidneys. *Kidney Int*. 2020 (in press), [https://www.kidney-international.org/article/S0085-2538\(20\)30251-9/pdf](https://www.kidney-international.org/article/S0085-2538(20)30251-9/pdf)
- [4] https://www.medscape.com/viewarticle/926720#vp_2, updated March 12th 2020
- [5] List N: Disinfectants for Use Against SARS-CoV-2: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>
- [6] Kampf G, Todt D, Pfaender S, Steinmann E. Persistence of coronaviruses on inanimate surfaces and their inactivation with biocidal agents. *J Hosp Infect*. 2020 Mar;104(3):246-251. Epub 2020 Feb 6
- [7] PRISMAFLEX Operator's Manual, Program version: 7.XX, Code: G5039912
- [8] PrisMax Operator's Manual, Program version: 2.XX, Code: AW8035
- [9] TherMax Operator's Manual, Program version: 1.XX, Code: AW7054

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