



DISINFECTION OF PATHOGENS

Proper procedure for disinfection of pathogens in hyperbaric chambers.

BACKGROUND

The disinfection of acrylic monoplace chambers can be problematic because many commercial biohazard-cleaning agents contain alcohol. While alcohol is adequate to kill many pathogens, it is destructive to acrylic. The procedure recommended by BARA-MED uses sodium hypochlorite (bleach) for high-level disinfection. The Centers for Disease Control and Prevention recommend¹ the use of sodium hypochlorite for durable surfaces contaminated with *Clostridium difficile* (C-Diff) because no commercial Environmental Protection Agency-registered products exist at this time. Sodium hypochlorite in a concentration of 10 percent free chlorine was also chosen because it shows no damage to acrylic².

PURPOSE

To apply a procedure for high-level disinfection of the acrylic monoplace hyperbaric chamber for gross contamination or infectious biohazard body fluids or material.

PROCEDURE

- Wear appropriate personal protection equipment (PPE) for biohazards.
- Place a fan near the open door of the chamber to ventilate the chamber with fresh air throughout the duration of the procedure.
- With the door open, clean all gross material with water (water temperature must not exceed 100°F) and a 100 percent cotton towel. Place all contaminated material in a biohazard, leak proof, red bag.
- Prepare a 1:10 solution of sodium hypochlorite (bleach) in water. Ensure that the water temperature does not exceed 100°F (38°C).
- Using a clean 100 percent-cotton cloth, wipe area with bleach solution.
- Keep the area wet with the solution for 10 minutes, then let it air dry.
- After the area is dry, use a clean 100 percent-cotton towel and clean water to rinse the treated area. Allow it to air-dry.
- Examine the internal surface of the chamber and buff any surface scratches with Novus® #2 fine scratch remover.
- Polish the acrylic with Brilliance® or other acrylic polish.
- With the door open, continue to introduce air through the chamber until there is no detectable odor of cleaner or disinfectant.
- Once there are no detectable odors or visible contaminants, return the chamber to service.



¹ William Rutala, Ph.D., M.P.H., David Weber, M.D., M.P.H., and the Healthcare Infection Control Practices Advisory Committee (HICPAC) Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008.

² Barry D. Slutkin, *Handbook of Acrylics for Submersibles, Hyperbaric Chambers, and Aquaria*, Pg 376, Reef Publishing, 2003.

