



Decontamination of hands and surfaces in case of ebolavirus

Some patients with suspected or confirmed ebolavirus infection are now treated in North America and Europe. This situation raises the question on appropriate infection control measures by healthcare workers (HCWs) also in countries not directly involved in the West African ebolavirus epidemic.

Decontamination of hands (healthcare workers)

HCWs will usually approach patients with personal protection equipment which includes at least one pair of gloves (double gloving should be considered when copious amounts of blood, other body fluids, vomit, or feces present in the environment are handled). That is why decontamination of hands will usually be done after taking off gloves. In this case hands will usually be visibly clean.

Clean hands: The World Health Organisation (WHO; dated March 2008) recommends hand hygiene. In its own guideline published in 2009 using an alcohol-based hand rub is recommended for routine hand decontamination (1). The Centers for Disease Control and Prevention (CDC; dated 05.08.2014) recommends washing with soap and water or using alcohol-based hand rubs (2). The Robert Koch Institute (RKI; dated 25.06.2014) recommends to use disinfectants which are at least effective against enveloped viruses (3). A number of hand rubs have been shown to have comprehensive efficacy against enveloped viruses (4). Washing hands is from our point of view not the best option for decontaminating clean hands. It will distribute ebolavirus into the environment where it can persist for up to 3 weeks. Although the environment of ebolavirus-infected patients is rarely contaminated with ebolavirus (5) it is nevertheless an avoidable risk for cross-contamination. Only disinfection will ensure loss of viral infectivity.

Visibly soiled hands: WHO and CDC recommend washing hands with soap and water (1, 2). RKI recommends cleaning with soap and water or treatment with an alcohol based hand rub with at least efficacy against enveloped viruses (3).

Decontamination of surfaces (patient room)

Surfaces of ebola patients are rarely contaminated with the virus (5) but filoviruses remain infectious for up to 5 days (6) or up to 3 weeks (7). CDC and RKI recommend the disinfection of surfaces in patient rooms (2, 3). RKI specifically recommends that a suitable disinfectant should have at least efficacy against enveloped viruses (3). The virus will usually spread by body fluids. That is why we recommend in addition using a surface disinfectant under "dirty conditions" and to use the surface only after the specific exposure time is over.



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Summary

On clean hands using an alcohol-based hand rub with at least efficacy against enveloped viruses seems overall the best option for decontaminating hands. A surface disinfectant should also have at least efficacy against enveloped viruses, should be applied under “dirty condition” and the application time should be awaited before using the surface again.

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