



Personal protective equipment (PPE) for healthcare staff for preventing highly infectious diseases due to exposure to contaminated body fluids

Who is this review for? Hospital administrators and healthcare managers, ministries of health, healthcare workers, PPE manufacturers, and research funders.

Healthcare workers are at greater risk of infection from highly infectious diseases than non-healthcare workers. Healthcare workers reduce this risk by using PPE to prevent them coming into contact with contaminated body fluids. This Cochrane systematic review looked at 1) which types of full-body PPE, 2) which methods of donning or doffing have the least risk of contamination (i.e. presence of infective material on the body) or infection for HCW, and 3) which training methods increase compliance with PPE protocols.



Types of PPE

Covering more parts of the body, such as the neck and head, may lead to better protection, but this comes at the cost of being more difficult to put on or take off, and being more uncomfortable.

More breathable PPE may lead to similar levels of contamination but is more comfortable.



Guidance on PPE use

Following CDC guidelines and providing users with help or spoken instructions may reduce contamination.

Removing gown and gloves in one step, using two pairs of gloves, and cleaning gloves with bleach or disinfectant (but not alcohol) before removal may reduce contamination.



Modified PPE

Modifications to PPE design may lead to less contamination, such as tabs to grab or better coverage of the glove-gown interface.



User training

Face-to-face training, computer simulation and video training lead to fewer errors in PPE removal than training delivered as written material only or a traditional lecture.

What do we need? Hospitals should register and record the types of PPE used by their workers to provide urgently needed, real-life information. PPE manufacturers should optimise the design of their products by, for example, including grab tabs, to help minimise contamination during donning and doffing. Higher quality research in this area is urgently needed.

Trusted evidence.
Informed decisions.
Better health.

Certainty is low to very low – due to small number of studies, high or unclear risk of bias in studies, indirectness of evidence, and small numbers of participants.

The information for this summary is taken from the following Cochrane review which includes evidence published up to 20 March 2020: Verbeek JH, Rajamaki B, Ijaz S, Sauni R, Toomey E, Blackwood B, Tikka C, Ruotsalainen JH, Kilinc Balci FS. Personal protective equipment for preventing highly infectious diseases due to exposure to contaminated body fluids in healthcare staff. Cochrane Database of Systematic Reviews 2020, Issue 4. Art. No.: CD011621. <https://doi.org/10.1002/14651858.CD011621.pub4>

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