

Avian Flu

National Academy of Sciences 11637

Reusability of Facemasks During an Influenza Pandemic: Facing the Flu

Uncorrected Proof

Disposable respirators provide additional protection against flu infection but they should not be reused. A used respirator is a potential source of infection.

The National Academy of Sciences was asked to assess the reusability of disposable face masks in the event of a flu pandemic and there being a shortage of suitable N95 respirators.

Points of note:

- Routes of infection would include both air-borne, through inhalation of droplets and exposure of the eyes, and direct contact with patients and their surroundings.
- Once a disposable respirator is fitted it should not be adjusted without assessing the risks of so doing. Hands may contaminate the respirator or be contaminated by the respirator. Wearing a medical mask over the respirator would reduce the risk but must not compromise the goodness of fit of the respirator.
- N95 respirators cannot be effectively cleaned or disinfected for reuse. Reuse would increase the risk of infection.
- Patients who already have the disease could protect their carers by wearing a medical mask until it becomes moist.

Comment

The report focuses attention on medical scenarios but it is quite likely that other workers would want to use masks during a pandemic. They should be advised not to reuse N95 respirators. The effective life of the respirator can be extended by additional physical protection (which should also be disposable and should not interfere with the N95 fitting) but the respirator will be ineffective once it is damp. Work in cold environments will increase the rate at which a mask will become damp unless the air is extensively dehumidified.

Respirators could form part of a risk management strategy in public and employment situations and should reduce the rate of infection. However, misuse of the protection or overconfidence in its effectiveness could expose the supplier to allegations of breach of duty.

Manufacturers state that the N95 is equivalent to European standard EN149 FFP2. These are available currently at between £1 and £5 each without or with a breathing comfort valve.

In March 2006 the European Commission announced its view that some types of FFP2 filters (electrostatic action) were not always able to provide the required degree of protection if they had been held in storage for a long time. Performance could also deteriorate quite quickly once in use.
