HOSPITAL AUTHORITY

CICO's Biweekly Update

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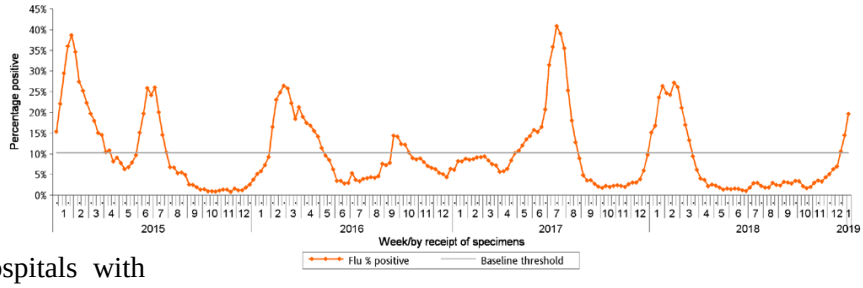
Stay Vigilant Against Seasonal Influenza

As local seasonal influenza activity is increasing, the Centre for Health Protection (CHP) announced on 2 January 2019 that Hong Kong has entered the 2018-19 winter influenza season. It is anticipated that the local influenza activity will continue to rise in the coming weeks and remain at an elevated level for some time.

According to latest Flu Express issued by CHP, the positive percentage of seasonal influenza viruses was 19.67% in week 1 (above the baseline threshold of 10.7%) (figure 1). The 1,191 influenza viruses detected last week included 16.56% influenza A(H1), 2.86% influenza A(H3), 0.08% influenza B and 0.17% influenza C.

Figure 1: Percentage of respiratory specimens tested positive for influenza viruses, 2015-19



The overall admission rates in public hospitals with principal diagnosis of influenza was 0.76 per 10,000 populations in week 1 (above the baseline threshold of 0.20).

As a precautionary measure to prevent nosocomial transmission, all healthcare workers and staff are recommended to wear surgical masks while entering patient care areas during influenza surge.

Enhanced Virology Services for Influenza Testing

The enhanced virology services for influenza testing has been commenced. Real-time RT-PCR test for Influenza A, Influenza B and RSV is offered by hospital laboratories for patients presenting with influenza-like illness symptoms. Clinicians can make the request through the Generic Clinical Request System (GCRS). The test is provided 7-day-a-week with turnaround time of 24 hours.

For addition information related to influenza season, please visit the designated webpage: http://qsdportal/iec/Website/IEC%20Webpage/ID/Influenza%20Season.htm

GVP Express

Sandy, a PCA from QEH, was rewarded with a collection of GVP figures for her encouragement to four co-workers to get a flu shot.

To promote 2018/19 seasonal influenza vaccination among staff in Queen Elizabeth Hospital, a limited edition of collectible GVP figures 「伊家關愛身邊人珍藏系列」 was created as one of the meaningful gifts for staff who have flu shots or referred a colleague for flu shot. These figures represented the five staff categories (from left to right: nursing, management/administration, supporting (care-related), allied health and medical staff).

Risk of Self-contamination During Doffing of Ebola Personal Protective Equipment (PPE)

Ebola virus disease (EVD) is a rare but deadly disease. Human-to-human transmission can be through direct contact of broken skin or mucous membranes with the secretions and excretions of infected people, or contaminated surfaces and materials (e.g. bedding, clothing).

National EVD guidelines recommend various sets of fluid resistant PPE for healthcare workers (HCWs) to maximize their protection from exposure to infected body fluid when caring for patients with EVD. HCWs should correctly use PPE and strictly adhere to each step of every PPE donning and doffing procedure. Removing used PPE is a high risk process due to the possibility of self-contamination.

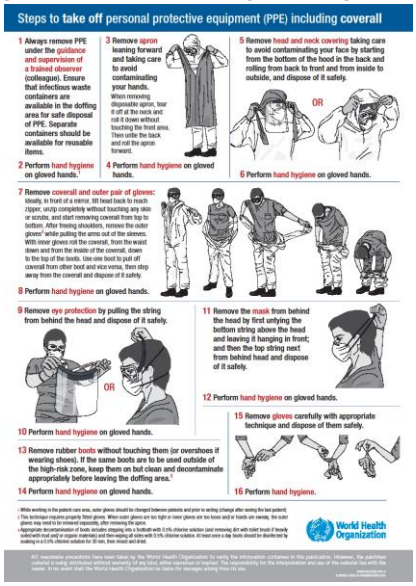
Recently, the risk of self-contamination during doffing of HA standard Ebola PPE set (PPE1) and head-to-ankle coverall following the World Health Organization protocol (PPE2) was assessed in a local study. Fluorescent solution, mimicking the body fluid, was sprayed on the PPE of the wearer. Degree of contamination was assessed during doffing. The key results were summarized below:

1. **Degree of contamination of working clothes during removal**
   - Contamination of small patches ($\leq$1cm^2) on the working clothes occurred less frequently during PPE1 removal than during PPE2 removal.
   - No significant difference in medium-contaminated patches (1cm^2 to <3cm^2), large patches ($\geq$3cm^2 to 5cm^2) and number/area of extra-large contaminated patches ($\geq$5cm^2) among the two PPE protocols.
2. **Contamination of body sites and environment during removal**
   - The overall contamination of PPE1 during doffing was relatively less than those of PPE2.
   - The hair/head, hands or wrists of the wearers were heavily contaminated during PPE2 removal.
   - The lid of the rubbish bin, chair, faucet and sink were contaminated in the de-gown zone. In this connection, the risk of contamination of working clothes may increase during handwashing.
3. **Time for doffing and doffing protocol deviation**
   - It took 7.0 minutes to remove PPE1, and up to 10.3 minutes to remove PPE2.
   - In relation to the complexity of PPE2, the deviation rate during doffing was higher for PPE2 (9.5%) than PPE1 (3.0%).
   - The deviation rate during the simultaneous removal of the coverall and outer gloves for PPE2 was 58.3%. This step was difficult for many participants and some could not remove the coverall and outer gloves together according to protocol.

In conclusion, self-contamination happened during PPE doffing. The one-piece coverall might result in a higher contamination risk than that of neck to ankle outfit with a hood covering the neck as recommended by HA. For example, the elasticated one-piece coverall hood created a potential contamination risk when the elastic contracts and pulls the outer part of the hood inwards and towards the participants' hair and neck during removal. PPE with a high coverage area and simple ergonomic features can reduce the risk of self-contamination during doffing. Regular training is important to make sure HCWs are knowledgeable and proficient in donning and doffing PPE.

Figure 2: HA Ebola PPE doffing procedure

Figure 3: WHO PPE doffing including coverall



References:
1. Lorna KP Suen et al. 2018 Self contamination during doffing of personal protective equipment by healthcare workers to prevent Ebola transmission. ARIC. 7:157
2. WHO - How to put on and how to remove personal protective equipment https://www.who.int/csr/resources/publications/ebola/ppe-steps/en/