

# Communicable Diseases

## WATCH



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### FEATURE IN FOCUS

## Personal and environmental hygiene during peak season for influenza

Reported by Mr Anthony NG, Senior Nursing Officer and Dr TY WONG, Head, Infection Control Branch, CHP.

Seasonal influenza is an acute illness of the respiratory tract caused by influenza viruses. It is usually more common in periods from January to March and from July to August in Hong Kong. Three types of seasonal influenza viruses are recognised to cause human infection, namely A, B and C. Influenza A viruses can further be subtyped on the basis of two surface antigens: haemagglutinin (H) and neuraminidase (N).

Influenza viruses mainly spread through droplets when infected people cough, sneeze or talk. The infection may also spread by direct contact with the secretions of infected persons via mucosal surfaces of eyes, nose and mouth. It can cause serious illnesses in high-risk individuals and even healthy persons. Given that seasonal influenza vaccines are safe and effective, all persons aged six months or above, except those with known contraindications, are recommended to receive influenza vaccine for personal protection (Details of Vaccination Schemes: <https://www.chp.gov.hk/en/features/17980.html>).

Meanwhile, adopting personal and environmental hygiene practices are also equally important to protect individuals and the public against seasonal influenza and other respiratory illnesses during peak season.

### Personal hygiene

Since influenza can be transmitted through droplet or contaminated items, performing hand hygiene properly, maintaining respiratory hygiene and adopting healthy lifestyle are prerequisites for the prevention of influenza infection.

### Perform hand hygiene properly

Hand hygiene is a simple habit for sanitation. When done properly, hand hygiene is the best way to prevent infections from spreading. In general, we should wash hands with soap and water when hands are visibly dirty or visible soiled with blood, body fluid, after using the toilet or changing the diapers. When hands are not visibly soiled, 70 to 80% alcohol-based handrub (either containing ethanol, isopropanol or n-propanol, or a combination of two of these products) is also an effective alternative.

Individuals should perform hand hygiene in the following situations: (1) Before and after touching eyes, nose and mouth; (2) Before eating and preparing food; (3) After using the toilet; (4) After coughing or sneezing; (5) After touching public equipment; or (6) Before and after visiting hospitals, residential care homes or caring for the sick (Figure 1).

Proper hand hygiene technique, either hand washing with liquid soap or using alcohol-based handrub, should follow the seven steps and rub all surfaces of hands and fingers for at least 20 seconds (Figure 2).

### I. Clean hands with liquid soap and water:

- Wet hands under running water;
- Apply liquid soap and rub hands together to make a soapy lather;
- Away from the running water, rub the palms, back of hands, between fingers, back of fingers, thumbs, finger tips and wrists. Do this for at least 20 seconds;
- Rinse hands thoroughly under running water;
- Dry hands thoroughly with a clean cotton towel, a paper towel, or a hand dryer; and
- The cleaned hands should not touch the water tap directly again. The tap may be turned off by using the paper towel wrapping the faucet; or after splashing water to clean the faucet.

(Video available from [https://www.chp.gov.hk/files/media/hand\\_washing\\_eng.mp4](https://www.chp.gov.hk/files/media/hand_washing_eng.mp4))



Figure 1 - When to wash our hands.

(Source: Centre for Health Protection (CHP) of the Department of Health (DH). Available from <https://www.chp.gov.hk/files/jpg/08657-doh-pr2-r05.jpg>.)

**2. Clean hands with alcohol-based handrub:**

- a) Apply a palmful of alcohol-based handrub and cover all surfaces of the hands;
- b) Rub the palms, back of hands, between fingers, back of fingers, thumbs, finger tips and wrists; and
- c) Rub for at least 20 seconds until the hands are dry.

(Video available from [https://www.chp.gov.hk/files/media/hand\\_rubbing\\_eng.mp4](https://www.chp.gov.hk/files/media/hand_rubbing_eng.mp4) )



**Maintain respiratory hygiene**

Respiratory hygiene can be maintained by observance of cough manners, and proper use of face mask (Figure 3). Face mask provides a physical barrier to fluids and large particle droplets. Surgical mask is a type of face mask commonly used. When used properly, masks can prevent infections transmitted by respiratory droplets. Individuals should wear a mask when (1) they have respiratory infection; (2) need to care for a person with respiratory infection; or (3) when visiting clinics or hospitals during peak season for influenza in order to reduce the risk of infection spread.

Points to note on wearing and removing a surgical mask:

- ◆ Choose the appropriate mask size. Child size is available for selection as indicated;
- ◆ Perform hand hygiene before putting on a mask;
- ◆ The mask should fit snugly over the face:
  1. The coloured side of the mask face outwards with the metallic strip uppermost. For those masks without a coloured side, the side with folds facing downwards on the outside, and with the metallic clip uppermost (Image 1).
  2. For tie-on surgical mask, secure upper tie at the crown of head. Then secure lower tie at the nape (Image 2). For ear-loops type, position the elastic bands around both ears.
  3. Extend the mask to fully cover mouth, nose and chin (Image 3).
  4. Mould the metallic strip over nose bridge and mask should fit snugly over the face (Image 4).
- ◆ Avoid touching the mask after wearing. Otherwise, should perform hand hygiene before and after touching the mask;
- ◆ When taking off tie-on surgical mask, unfasten the tie at the nape first; then unfasten the tie at the crown of head (Image 5). For ear-loops type, hold both the ear loop and take-off gently from face. Avoid touching the outside of face mask during taking-off as it may be covered with germs;
- ◆ After taking off the surgical mask, discard in a lidded rubbish bin and perform hand hygiene; and
- ◆ Change surgical mask at least daily. Replace the mask immediately if it is damaged or soiled.

(Video available from [https://www.chp.gov.hk/files/media/surgical\\_mask\\_eng.mp4](https://www.chp.gov.hk/files/media/surgical_mask_eng.mp4) )



Figure 2 - Hand Hygiene Technique. (Source: CHP of DH. Available from [https://www.chp.gov.hk/en/resources/e\\_health\\_topics/images/2867.html?imageid=37394](https://www.chp.gov.hk/en/resources/e_health_topics/images/2867.html?imageid=37394).)



Figure 3 - Maintain Cough Manner. (Source: CHP of DH. Available from [https://www.chp.gov.hk/files/her/maintain\\_cough\\_manner.pdf](https://www.chp.gov.hk/files/her/maintain_cough_manner.pdf).)



(Source: CHP of DH. Available from [https://www.chp.gov.hk/files/pdf/use\\_mask\\_properly.pdf](https://www.chp.gov.hk/files/pdf/use_mask_properly.pdf).)

**Adopt healthy lifestyle**

Building up host immunity by having a well-balanced diet, adequate rest and sleep, regular exercise, being a non-smoker and avoiding alcohol consumption are vital to prevent influenza infection. When influenza is prevalent, individuals are advised to avoid going to crowded or poorly ventilated public places. High-risk individuals may consider putting on surgical masks in such places. Last but not the least, individuals should seek medical advice promptly if influenza-like symptoms develop so that appropriate treatment can be initiated as early as possible.

**Environmental hygiene**

Since influenza viruses can survive in the environment for a period of time, it is essential to maintain good environmental hygiene in order to minimise the transmission of influenza through contaminated environment.

The environmental surfaces (e.g. floor) should be cleaned regularly. For frequently touched surfaces (e.g. furniture, toys, utensils), it should be cleaned and disinfected at least daily by using appropriate disinfectant (e.g. one part of household bleach containing 5.25% sodium hypochlorite in 99 parts of water for non-metallic surfaces or 70% alcohol for metallic surfaces), wait for 15 to 30 minutes, and then rinse with water and wipe dry. If places are contaminated by respiratory secretions, vomitus or excreta, use strong absorbent disposable towels to wipe them away. Then the surface and the neighbouring area should be disinfected with

appropriate disinfectant (e.g. one part of household bleach containing 5.25% sodium hypochlorite in 49 parts of water for non-metallic surfaces or 70% alcohol for metallic surfaces), leave for 15 to 30 minutes, and then rinse with water and wipe dry.

To maintain good indoor ventilation, windows can be kept open for good indoor ventilation as far as possible. Fans or exhaust fans can be used to improve indoor ventilation. The air-conditioners should also be well-maintained by cleaning the dust-filters of air-conditioners regularly.

For more detail information on seasonal influenza, please visit CHP website: <https://www.chp.gov.hk/en/healthtopics/content/24/29.html>.

## Review of acute gastroenteritis outbreaks associated with sapovirus in Hong Kong

Reported by Dr KONG Wai-chi, Scientific Officer, Enteric and Vector-borne Disease Office, Surveillance and Epidemiology Branch, CHP.

### Facts on sapovirus

Sapovirus is primarily transmitted through the faecal-oral route. Sapovirus can be transmitted by food or water contaminated with the virus, by contact with the vomitus or faeces from infected persons or by contact with contaminated objects. Shedding of sapovirus in faeces may continue for weeks after symptoms disappear<sup>2</sup>. The incubation period usually ranges from less than one day to four days<sup>2</sup>. Symptoms include vomiting, diarrhoea, nausea, abdominal cramps, chills, headache, myalgia and malaise. Gastroenteritis symptoms are self-limiting and patients usually recover within a few days<sup>2</sup>. Sapovirus infection could sometimes result in hospitalisation. Patients should be managed with supportive treatment and they should take adequate fluids to prevent dehydration.

Sapovirus was named after an outbreak of acute infectious diarrhoea that occurred in an infant home in the city of Sapporo, Japan in 1977<sup>1</sup>. Sapovirus is a single-stranded RNA virus that belongs to the family *Caliciviridae*<sup>2</sup>. It has been detected in shellfish and environmental water samples<sup>2</sup>. Sapovirus can cause acute gastroenteritis (AGE) in children and adults. AGE outbreaks due to sapovirus have been reported in various settings such as child care centres (CCCs), kindergartens (KGs), nursing homes, restaurants and schools<sup>2</sup>.

Although AGE outbreaks associated with sapovirus were less common than that associated with norovirus, sapovirus AGE outbreaks have been reported in various countries and areas worldwide. Suspected foodborne sapovirus outbreaks have also been reported<sup>2</sup>.

In Hong Kong, the Centre for Health Protection (CHP) of the Department of Health recorded a total of 182 outbreaks of AGE in 2017 based on voluntary reporting by institutions and schools. Sapovirus was associated with two (1.1%) institutional AGE outbreaks in 2017. No AGE outbreak associated with sapovirus was recorded in 2018 (as of February 12).

The two outbreaks recorded in 2017 involved a KG and a special CCC which provided services for children with disabilities. The outbreak in the KG affected eight students and one staff member. The stool specimen collected from one affected student was tested positive for sapovirus. The outbreak in the special CCC affected nine students and eight staff members. The stool specimens collected from two affected students were tested positive for sapovirus. The ages of the 26 patients in the two outbreaks ranged from three to 50 years and 15 (58%) of them were female. Among all patients, the majority (19, 73.1%) presented with diarrhoea, followed by vomiting (12, 46.2%) and fever (1, 3.8%). None of the patients in the two outbreaks required hospitalisation and no death was recorded.

The Public Health Laboratory Services Branch of CHP undertakes laboratory testing for gastroenteritis viruses. Laboratory data showed that from May 2017 to January 2018, the monthly percentage of faecal specimens tested positive for sapovirus ranged from 0.74% to 6.33% (<https://www.chp.gov.hk/en/statistics/data/10/641/717/3957.html>).

No vaccine for sapovirus infection is available. To prevent sapovirus infection, members of the public are reminded to observe good personal, food and environmental hygiene as follows:

### Maintain good personal hygiene

- ◆ Wash hands thoroughly with liquid soap and water before handling food or eating, and after using the toilet or handling vomitus or faecal matter;
- ◆ Refrain from work or school, and seek medical advice if suffering from fever, vomiting or diarrhoea; and
- ◆ Exclude infected persons and asymptomatic carriers from handling food and from providing care to children, elderly and immunocompromised people.

### Maintain good food hygiene

- ◆ Adopt the Five Keys to Food Safety in handling food:
  1. Choose (Choose safe raw materials);
  2. Clean (Keep hands and utensils clean);
  3. Separate (Separate raw and cooked food);
  4. Cook (Cook thoroughly); and
  5. Safe Temperature (Keep food at safe temperature) to prevent foodborne diseases.



**Maintain good environmental hygiene**

- ✦ Maintain good indoor ventilation;
- ✦ Cleanse vomitus/ faeces and disinfect the contaminated areas properly and immediately. Keep other people away from the contaminated areas during cleansing;
- ✦ Wear gloves and a surgical mask while disposing of or handling vomitus and faeces, and wash hands thoroughly afterwards;
- ✦ Maintain proper sanitary facilities and drainage system; and
- ✦ Cleanse and disinfect toilets used by infected person and the soiled areas.

Further information on sapovirus is available on the CHP website at <https://www.chp.gov.hk/en/resources/464/100203.html>.

**References**

- <sup>1</sup>Chiba S, Sakuma Y, Kogasaka R, et al. An outbreak of gastroenteritis associated with calicivirus in an infant home. *J Med Virol* 1979;4:249-54.  
<sup>2</sup>Oka T, Wang Q, Katayama K, Saif LJ. Comprehensive review of human sapoviruses. *Clin Microbiol Rev* 2015;28:32-53.

**NEWS IN BRIEF****Interim estimates of 2017/18 seasonal influenza vaccine effectiveness in local primary healthcare setting**

Starting from the 2017/18 influenza season, the Centre for Health Protection (CHP) of the Department of Health has collaborated with private medical practitioners (PMPs) participating in our sentinel surveillance system to estimate the effectiveness of seasonal influenza vaccine (SIV). PMPs are encouraged to collect respiratory specimens from patients presenting with influenza-like illness (ILI) attending their clinics and obtain their vaccination history for the 2017/18 SIV. The respiratory specimens are sent for testing of influenza and other respiratory viruses by the Public Health Laboratory Services Branch (PHLSB). Test-negative case control method is used to estimate the vaccine effectiveness. During the period from November 2017 to January 2018, 313 ILI patients had respiratory specimens collected and analysed, with 179 (57%) tested positive for influenza by PHLSB. About 10% (19/179) of the cases (i.e. patient tested positive for influenza) and 16% (22/134) of the controls (i.e. patients tested negative for influenza) had received the 2017/18 SIV respectively. This gave an interim vaccine effectiveness of about 40% against laboratory-confirmed influenza infection in local primary care setting. CHP will continue to work with PMPs to monitor the effectiveness of SIV.

**Two probable cases of sporadic Creutzfeldt-Jakob disease**

CHP recorded two probable cases of sporadic Creutzfeldt-Jakob disease (CJD) in early February, 2018. The first case was a 67-year-old woman with underlying illnesses. She presented with progressive memory loss since mid-January and was admitted to a public hospital on January 25. She was found to have progressive dementia, visual and cerebellar disturbance and extrapyramidal dysfunction. Findings of magnetic resonance imaging of the brain and electroencephalography were compatible with CJD.

The second case was a 65-year-old woman with underlying illness. She presented with progressive cognitive decline and delusion since early January 2018 and was admitted to a public hospital on January 10. She was found to have myoclonus, truncal ataxia, dysidiadochokinesia, rigidity and akinetic mutism. Findings of magnetic resonance imaging of the brain and electroencephalography were compatible with CJD.

Both cases had no known family history of CJD and no risk factors for either iatrogenic or variant CJD were identified. Both were classified as probable cases of sporadic CJD.

**CA-MRSA cases in January 2018**

In January 2018, CHP recorded a total of 86 cases of community-associated methicillin resistant *Staphylococcus aureus* (CA-MRSA) infection, affecting 53 males and 33 females with ages ranging from 16 days to 92 years (median: 33.5 years). Among them, there were 60 Chinese, 9 Filipinos, 4 Pakistani, 3 Caucasian, 2 Indonesian, 1 African and 7 of unknown ethnicity.

Eighty-four cases presented with uncomplicated skin and soft tissue infections while the remaining two cases had severe CA-MRSA infections. The first severe case affected an 89-year-old man with underlying medical illnesses. He presented with productive cough since December 29, 2017. He attended a private hospital on January 5 and was diagnosed to have pneumonia. He was treated with antibiotics in outpatient setting. On January 10, he was admitted to the private hospital for management of underlying illnesses. A chest X-ray taken after admission showed pneumonic changes. His sputum collected after disease onset was cultured positive for CA-MRSA. He remained in a stable condition and was discharged on January 11.

The second severe case affected a 12-year-old boy with good past health. He presented with right middle finger swelling since January 3 after a crush injury. He attended the Accident & Emergency Department of a public hospital on January 7 and was admitted on the same day. X-ray of his right middle finger showed features of osteomyelitis. He was treated with antibiotics, incision and drainage of abscess and debridement of necrotic tissue of his right middle finger. Pus from the deep abscess and necrotic bone tissue of his right middle finger were both cultured positive for CA-MRSA. He was discharged on January 24.

Among the 86 cases, one was a nurse working in a private hospital. Investigation did not reveal any epidemiologically linked cases. Besides, four household clusters, with each affecting two persons, were identified in January.

**Scarlet fever update (January 1, 2018 – January 31, 2018)**

Scarlet fever activity in January was similar to that in December and still remained at a high level. CHP recorded 410 cases of scarlet fever in January as compared with 412 cases in December. The cases recorded in January included 239 males and 171 females aged between nine months and 38 years (median: six years). There were 16 institutional clusters occurring in 14 kindergartens/child care centres and two primary schools, affecting a total of 40 children. No fatal cases were reported in January. In view of the high level of scarlet fever activity, parents have to take extra care of their children in maintaining strict personal, hand and environmental hygiene. Scarlet fever can be effectively treated with antibiotics. People presenting with symptoms of scarlet fever (such as fever, sore throat and skin rash) should consult a doctor promptly for early diagnosis and treatment. Besides, children suffering from scarlet fever should refrain from attending school or child care setting until fever has subsided and they have been treated with antibiotics for at least 24 hours.