



Frequently Asked Questions on human infection with influenza A(H7N9) virus, China

Update as of 5 April 2013

关于中国的人感染甲型 H7N9 流感病毒的常见问题

更新于 2013 年 4 月 5 日

1. What is the influenza A(H7N9) virus?

Influenza A H7 viruses are a group of influenza viruses that normally circulate among birds. The influenza A(H7N9) virus is one subgroup among the larger group of H7 viruses. Although some H7 viruses (H7N2, H7N3 and H7N7) have occasionally been found to infect humans, no human infections with H7N9 viruses have been reported until recent reports from China.

1、什么是甲型 H7N9 流感病毒？

甲型 H7 流感病毒通常是一组在鸟类中传播的流感病毒。甲型 H7N9 流感病毒属于 H7 病毒大类下的一个亚群。虽然偶尔会有某些 H7 病毒(H7N2、H7N3、H7N7)感染人类的报告，但过去没有人类感染 H7N9 病毒的报告，直到中国最近报告出现了这种病例。

2. What are the main symptoms of human infection with influenza A(H7N9) virus?

Thus far, most patients with this infection have had severe pneumonia. Symptoms include fever, cough and shortness of breath. However, information is still limited about the full spectrum of disease that infection with influenza A(H7N9) virus might cause.

2、人类感染甲型 H7N9 流感病毒的主要症状是什么？

到目前为止，感染甲型 H7N9 流感病毒的病人会出现严重肺炎，症状包括发烧、咳嗽、呼吸短促。不过，对于感染甲型 H7N9 流感病毒后可能产生的全部症状的信息仍是有限的。

3. How many human cases of influenza A(H7N9) virus have been reported in China to date?

New cases that are reported are now being compiled and posted daily. The most current information on cases can be found in [Disease Outbreak News](#).

3、到目前为止中国已报告了多少例人感染甲型 H7N9 流感病毒？

新增病例每天都会被整理发布，最新信息可以在《疾病暴发新闻》上查到。

4. Why is this virus infecting humans now?

We do not know the answer to this question yet, because we do not know the source of exposure for these human infections. However, analysis of the genes of these viruses suggests that although they have evolved from avian (bird) viruses, they show signs of adaption to growth in mammalian species. These adaptations include an ability to bind to mammalian cells, and to grow at temperatures close to the normal body temperature of mammals (which is lower than that of birds).

4、为什么禽类的病毒现在能够感染人类？

目前，由于人感染病毒的暴露源尚不清楚，因此我们现在也不清楚上述问题的答案。但病毒基因分析表明，尽管病毒是由禽流感病毒演变而来，却显示出可适应在哺乳动物中生长的特性。这些适应包括，与哺乳动物细胞结合的能力，以及在接近哺乳动物正常体温的温度下生长（哺乳动物的正常体温低于禽类）。

5. What is known about previous human infections with H7 influenza viruses globally?

From 1996 to 2012, human infections with H7 influenza viruses (H7N2, H7N3, and H7N7) were reported in the Netherlands, Italy, Canada, United States of America, Mexico and the United Kingdom. Most of these infections occurred in association with poultry outbreaks. The infections mainly resulted in conjunctivitis and mild upper respiratory symptoms, with the exception of one death, which occurred in the Netherlands. Until now, no human infections with H7 influenza viruses have been reported in China.

5、我们对全球曾发生的人类感染 H7 流感病毒的病例知道多少？

自1996年至2012年，荷兰、意大利、加拿大、美国、墨西哥和英国都报告过人类感染 H7 (H7N2, H7N3, H7N7) 流感病毒的病例。大部分感染与家禽中爆发的流感有关。这些感染主要导致结膜炎和轻度上呼吸道症状。唯一的1宗死亡病例发生在荷兰。在此之前，中国并未有关于人感染H7流感病毒报道。

6. Is the influenza A(H7N9) virus different from influenza A(H1N1) and A(H5N1) viruses?

Yes. All three viruses are influenza A viruses but they are distinct from each other. H7N9 and H5N1 are considered animal influenza viruses that sometimes infect people. H1N1 viruses can be divided into those that normally infect people and those that normally infect animals.

6、甲型 H7N9 流感病毒与甲型 H1N1 和 H5N1 流感病毒是有区别的吗？

是的，这三种病毒都是甲型流感病毒，但它们之间有明显区别。H7N9和H5N1被认为是

动物流感病毒，有时会感染人类。H1N1病毒可以分为通常感染人类与通常感染动物两种类型。

7. How did people become infected with the influenza A(H7N9) virus?

Some of the confirmed cases had contact with animals or with an animal environment. The virus has been found in a pigeon in a market in Shanghai. It is not yet known how persons became infected. The possibility of animal-to-human transmission is being investigated, as is the possibility of person-to-person transmission.

7、人类是如何感染到甲型 H7N9 流感病毒的？

一些已被确认的病例有与动物接触的经历或者曾处在有动物的环境内。目前已在上海市场的鸽子中发现了H7N9病毒，但是尚不知道这些病人是如何被感染的。现在正在调查动物传人的可能性，以及人传人的可能性。

8. How can infection with influenza A(H7N9) virus be prevented?

Although both the source of infection and the mode of transmission are uncertain, it is prudent to follow basic hygienic practices to prevent infection. They include hand and respiratory hygiene and food safety measures.

Hand hygiene:

- Wash your hands before, during, and after you prepare food; before you eat; after you use the toilet; after handling animals or animal waste; when your hands are dirty; and when providing care when someone in your home is sick. Hand hygiene will also prevent the transmission of infections to yourself (from touching contaminated surfaces) and in hospitals to patients, health care workers and others.
- Wash your hands with soap and running water when visibly dirty; if not visibly dirty, wash your hands with soap and water or use an alcohol-based hand cleanser.

Respiratory hygiene:

- Cover your mouth and nose with a medical mask, tissue, or a sleeve or flexed elbow when coughing or sneezing; throw the used tissue into a closed bin immediately after use; perform hand hygiene after contact with respiratory secretions.

8、如何预防流感(H7N9)病毒感染？

尽管感染的来源及传播模式尚不能确定，以防止感染而采取以下基本卫生行为是一种谨慎的做法。它们包括手部卫生、呼吸卫生、食品安全措施。

手部卫生：

- 在准备食物前、中、后；吃东西之前；使用卫生间之后；处理动物或者动物排泄物；手脏时；照顾家中病人时要洗手。手部卫生还可以阻止（在接触污染表面后）病毒的传播，也可以阻止医院内病人、护工和其他人之间的病毒传播。
- 当手部看起来很脏时，用肥皂和流动的水进行清洗。如看起来不是很脏时，用肥皂和水洗手或者使用酒精洁手液洗手。

呼吸卫生：

在咳嗽或打喷嚏时，用医用口罩、纸巾、袖子或肘部遮盖口鼻，用过的纸巾在使用后尽快扔入有盖垃圾箱，在接触到呼吸道分泌物后采取手部卫生措施。

9. Is it safe to eat meat, i.e. poultry and pork products?

Influenza viruses are not transmitted through consuming well-cooked food. Because influenza viruses are inactivated by normal temperatures used for cooking (so that food reaches 70 °C in all parts— "piping" hot — no "pink" parts), it is safe to eat properly prepared and cooked meat, including from poultry and game birds. Diseased animals and animals that have died of diseases should not be eaten.

In areas experiencing outbreaks, meat products can be safely consumed provided that these items are properly cooked and properly handled during food preparation. The consumption of raw meat and uncooked blood-based dishes is a high-risk practice and should be discouraged.

9、吃肉（比如家禽和猪肉产品）是安全的吗？

流感病毒不能通过煮熟的食物传播。因为流感病毒在正常烹饪温度下是灭活的（食物整体达到 70 摄氏度或滚烫的或没有“粉红”部分），所以食用正常处理和烹调的包括家禽和野禽在内的肉是安全的。不应吃生病的动物和病死的动物。

在疫情爆发地区，肉制品经过正确的烹饪及处理后是可以安全食用的。食用生肉及未烹调的以血为原料的菜品是高危行为，应当进行劝阻。

10. Is it safe to visit live markets and farms in areas where human cases have been recorded?

When visiting live markets, avoid direct contact with live animals and surfaces in contact with animals. If you live on a farm and raise animals for food, such as pigs and poultry, be sure to keep children away from sick and dead animals; keep animal species separated as much as possible; and

report immediately to local authorities any cases of sick and dead animals. Sick or dead animals should not be butchered and prepared for food.

10、在报道有人感染 H7N9 案例的地区去往活禽活畜市场或者养殖场是安全的吗？

在活禽活畜市场，应当尽量避免直接接触活禽活畜及其接触过的表面。如果生活在养殖场（如养猪场和养鸡场），并且养殖动物是作为食物供应，那么应当避免儿童接触生病和死亡的动物；一旦发现有动物生病和死亡，应当尽可能将该物种动物隔离，并立即报告当地政府。生病和死亡的动物不能继续屠宰作为食物供应。

11. Is there a vaccine for the influenza A(H7N9) virus?

No vaccine for the prevention of influenza A(H7N9) infections is currently available. However, viruses have already been isolated and characterized from the initial cases. The first step in development of a vaccine is the selection of candidate viruses that could go into a vaccine. WHO, in collaboration with partners, will continue to characterize available influenza A (H7N9) viruses to identify the best candidate viruses. These candidate vaccine viruses can then be used for the manufacture of vaccine if this step becomes necessary.

11、有针对甲型 H7N9 流感病毒的疫苗吗？

目前没有防止甲型 H7N9 流感病毒感染的疫苗。不过，H7N9 病毒已经在最初的病例中被分离。研发疫苗的第一步是选择可以制作成疫苗的候选病毒。世卫组织及其合作伙伴将继续研究甲型 H7N9 流感病毒的特性以确定最佳的候选病毒。如果有必要制作疫苗，就可以使用这些候选病毒。

12. Does treatment exist for influenza A(H7N9) infection?

Laboratory testing conducted in China has shown that the influenza A(H7N9) viruses are sensitive to the anti-influenza drugs known as neuraminidase inhibitors (oseltamivir and zanamivir). When these drugs are given early in the course of illness, they have been found to be effective against seasonal influenza virus and influenza A(H5N1) virus infection.

However, at this time, there is no experience with the use of these drugs for the treatment of H7N9 infection.

12、有治疗甲型 H7N9 流感病毒的方法吗？

在中国进行的实验室测试显示甲型 H7N9 流感病毒对于神经氨酸酶抑制剂(奥司他韦和扎那米韦)敏感。在病程初期给病人使用这些药物时，它对于治疗季节性流感病毒和甲型 H5N1 流感病毒很有用。但是目前还没有将这些药物用在治疗 H7N9 感染病例上的经验。

13. Is the general population at risk from the influenza A(H7N9) virus?

We do not yet know enough about these infections to determine whether there is a significant risk of community spread. This possibility is the subject of epidemiological investigations that are now taking place.

13、普通人群有感染甲型 H7N9 流感病毒的风险吗？

我们对于这些感染还没有获得足够的信息来确定是否存在社区传播的重大风险。这一可能性正是目前流行病学调查的课题。

14. Are health care workers at risk from the influenza A(H7N9) influenza virus?

Health care workers often come into contact with patients with infectious diseases. Therefore, WHO recommends that appropriate infection prevention and control measures be consistently applied in health care settings, and that the health status of health care workers be closely monitored. Together with standard precautions, health care workers caring for those suspected or confirmed to have influenza A(H7N9) infection should use additional precautions. (http://www.who.int/csr/resources/publications/swineflu/WHO_CDS_EPR_2007_6/en/index.html).

14、医疗工作人员有感染甲型 H7N9 流感病毒的风险吗？

医疗工作人员经常要与传染病患者接触。因此，世卫组织建议在医疗机构应当持续采取适当的感染预防和控制措施，并对医疗工作人员的健康状况密切监控。除了标准的预防措施外，护理甲型H7N9流感病毒疑似感染或确诊感染患者时要采取一些额外的防护措施。（详见：http://www.who.int/csr/resources/publications/swineflu/WHO_CDS_EPR_2007_6/en/index.html）。

15. What investigations have begun?

Local and national health authorities are taking the following measures, among others:

- ◆ Enhanced surveillance for pneumonia cases of unknown origin to ensure early detection and laboratory confirmation of new cases;
- ◆ Epidemiological investigation, including assessment of suspected cases and contacts of known cases;
- ◆ Close collaboration with animal health authorities to determine the source of the infection.

15、已开始了哪些调查？

地方和国家卫生部门已采取了包括以下措施的多项措施：

- ◆ 加强对不明原因引发的肺炎病例的监控以确保早发现和实验室确诊新病例。

- ◆ 进行流行病学调查，包括评估疑似病例和已知病例的接触情况。
- ◆ 与动物防疫单位进行密切合作以确定感染来源。

16. Does this influenza virus pose a pandemic threat?

Any animal influenza virus that develops the ability to infect people is a theoretical risk to cause a pandemic. However, whether the influenza A(H7N9) virus could actually cause a pandemic is unknown. Other animal influenza viruses that have been found to occasionally infect people have not gone on to cause a pandemic.

16、此次流感病毒是否会引发传染病大流行？

从理论上说，任何能够感染人类的动物流感病毒都有可能造成传染病大流行。不过，甲型H7N9流感病毒是否会造成大流行还是一个未知数。其它源自动物的流感病毒偶尔曾感染过人类，但未造成大流行。

17. Is it safe to travel to China?

The number of cases identified in China is very low. WHO does not advise the application of any travel measures with respect to visitors to China nor to persons leaving China.

17、到中国旅行是否安全？

中国的确诊病例数非常低。世卫组织不建议针对前往中国或者离开中国的人员实施任何旅行限制措施。

18. Are Chinese products safe?

There is no evidence to link the current cases with any Chinese products. WHO advises against any restrictions to trade at this time.

18、中国产品是安全的吗？

没有证据说明目前的病例与中国产品有关联。世卫组织建议不在此时采取任何贸易限制措施。