

*MINISTRY OF HEALTH-PUBLIC HEALTH DEPUTYSHIP*

# SEASONAL INFLUENZA PUBLIC HEALTH GUIDELINES

*2015-2016 SEASON*

*MoH-PHD  
11-10-2015*

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## INTRODUCTION

- Seasonal influenza is caused by influenza viruses, which infect the respiratory tract (i.e., the nose, throat, lungs). Unlike many other viral respiratory infections, such as the common cold, the flu can cause severe illness and life-threatening complications in many people. Seasonal influenza are unpredictable and can be severe. The best way to prevent seasonal influenza is by taking the influenza each year. Influenza vaccines protect against the influenza viruses that research indicates will be most common during the upcoming season. Everyone 6 months and older should get vaccinated every year (if possible by October). Priority is given for Persons **at increased risk of disease complications**. Immunity sets in about two weeks after vaccination.

## AIM

- This document intends to guide the public health response to seasonal influenza in the community setting. Circulating seasonal influenza include A/H1N1, A/H3N2 and influenza B. Pathogenic avian influenza like H5N1 and H7N9 are not addressed here.

## THE DISEASE

### INFECTIOUS AGENT

- Influenza viruses are composed of an RNA core surrounded by an envelope containing two surface glycoproteins - haemagglutinin and neuraminidase. The RNA encoding these glycoproteins has the ability to rapidly mutate and produce minor or major changes to the antigenic structure, known as antigenic drift and antigenic shift, respectively. The small changes in the genes of influenza viruses that happen continually over time as the virus replicates is the main reason why people can get the flu more than one time. This is also why the flu vaccine composition must be reviewed each year, and updated as needed to keep up with evolving viruses.

### MODE OF TRANSMISSION

- Influenza virus is most commonly spread from person-to-person by inhalation of infectious droplets produced while talking, coughing and sneezing. Transmission may also occur through direct and indirect (fomite) contact.
- Aerosol transmission within confined spaces may be important.
- The virus may persist on hard surfaces for 1-2 days, particularly in cold or low humidity conditions. The virus may remain viable on hands for 5 minutes.

### INCUBATION PERIOD

- The incubation period for infection with influenza ranges from 1 to 7 days, commonly 2-3 days.

### INFECTIOUS PERIOD

- Patients may shed influenza virus for up to 24 hours (1 day) before onset of symptoms and usually until 7 days after the onset of symptoms. Viral shedding in adults peaks in

the first 1 to 2 days after symptom onset, then reduces to very low levels by 5 days after onset of symptoms. Not all cases of influenza infection exhibit fever, but when it is present, it is correlated with viral shedding.

- Children and younger adults may shed influenza virus for 10 or more days, and immunosuppressed persons may shed virus for weeks. However, the ability to transmit infection is likely to be higher when respiratory symptoms are present.
- Patients are considered no longer infectious if 24 hours have elapsed since the resolution of fever, provided either:
  - Have received 72 hours of anti-influenza medication **or**
  - 5 days have elapsed since onset of respiratory symptoms.

## CLINICAL PRESENTATION

- Symptoms of influenza typically include fever, cough, fatigue, sore throat, headache, myalgia, and rigors or chills. Diarrhea and/or vomiting may also occur. Illness can range from asymptomatic infection to severe disease.
- Pneumonia may develop directly from influenza infection (primary influenza pneumonia) or from secondary bacterial infection. Acute respiratory distress syndrome (ARDS) may develop several days after disease onset.

### **Persons at increased risk of disease complications:**

- Persons aged >65 years and <5 years of age
- Pregnant women
- People with medical conditions predisposing to severe influenza, such as:
  - o Cardiac disease
  - o Chronic respiratory conditions
  - o Diabetes mellitus
  - o Chronic metabolic diseases
  - o Chronic renal failure
  - o Haemoglobinopathies
  - o People with impaired immunity (including, cancers, HIV infection, immunosuppressive drugs)
  - o Chronic neurological conditions
  - o Children aged 6 months to 10 years on long term aspirin therapy.

## PUBLIC HEALTH RESPONSE

### CASE DEFINITION

1. Influenza-like illness (ILI)\* is defined as an individual with an acute respiratory infection with:
  - a. measured fever of  $\geq 38\text{ C}^\circ$
  - b. and cough;
  - c. With onset within the last 10 days.
2. A Confirmed case of influenza virus infection is defined as an individual with laboratory confirmed influenza virus infection by one or more of the following tests:
  - a. real-time RT-PCR

- b. viral culture
- c. four-fold rise in influenza virus specific neutralizing antibodies.

\*In settings where influenza is being transmitted, this definition is fairly specific but lacks sensitivity, so some influenza cases will be missed. Additional or optional features in case definitions may include chills or rigors, myalgia, fatigue, headache, sore throat and coryza. Note that in the elderly, confusion, anorexia and breathlessness may sometimes be the only signs of influenza.

## LABORATORY TESTING

- Laboratory testing of all potential cases of influenza is neither required nor desirable for public health management.
- It is not necessary to routinely obtain laboratory confirmation of influenza before commencing anti-influenza medications for individual patients.
- Laboratory testing is recommended for:
  - a representative sample of ILI patients from the surveillance systems.
  - people with severe influenza-like illness who are hospitalized.
  - investigate a cluster of ILI in the community especially in high risk settings. The number of testing to determine the cause of an outbreak is generally low (**five** samples or less should suffice).

## SURVEILLANCE

- Current influenza surveillance is based on reporting clinically diagnosed ILI, laboratory confirmed influenza A (including critically ill patients) and influenza related deaths. During the influenza season (October to March), surveillance activities are enhanced but healthcare institutions are required to report the following throughout the year:
  - Immediately notify all influenza related deaths to the regional public health department. The regional public health will in turn notify the infectious diseases department at the Ministry of Health immediately.
  - Notify regional public health department weekly of clinically diagnosed, laboratory confirmed admissions and deaths using the form on annex 3. The regional public health will in turn notify the infectious diseases department at the Ministry of Health on weekly bases.
  - Report clusters of ILI in the community or in any institutional setting.

## VACCINATION

- The most effective way to prevent or reduce severe outcomes from the illness is vaccination. Safe and effective vaccines have been available and used for decades. Influenza vaccine reduces the severity, duration and the need for hospitalization. Vaccine effectiveness is affected by the match between the influenza viruses the vaccine is designed to protect against and the influenza viruses circulating in the community. Among the elderly, the vaccine effectiveness may be reduced. Side effects of the vaccine are generally mild and may include pain and/or swelling from the shot, headache, fever, muscle aches and fainting (mainly adolescents). Some studies have found a possible small association of injectable flu vaccine with Guillain-Barré syndrome (GBS). Overall, these studies estimated the risk for GBS after vaccination as

fewer than 1 or 2 cases of GBS per one million people vaccinated. Other studies have not found any association. GBS also, rarely, occurs after flu illness. Even though GBS following influenza illness is rare, GBS is more common following influenza illness than following flu vaccination.

- The available vaccine is a trivalent inactivated influenza vaccine (Types A/H1N1, A/H3N2 and B). It comes in a pre-filled syringe containing 0.5 mL administered intramuscularly. The preferred site in adults is into the deltoid muscle
- The vaccine should not be administered to anyone with a history of severe allergic reaction to egg protein or any component of the vaccine

### Recommended Influenza Vaccine Dosage, by Age

Age group	Dose	No. of Doses
6 to 35 months	0.25 mL	1 or 2*
3 to 8 years	0.5 mL	1 or 2*
≥ 9 years	1.5 mL	1

\*Previously unvaccinated children 6 months to <9 years of age require 2 doses of seasonal influenza vaccine with an interval of weeks. Eligible children <9 years of age who have properly received one or more doses of seasonal influenza vaccine in the past are recommended to receive one dose per season thereafter

### PUBLIC HEALTH INVESTIGATION

- Follow up is not required routinely for single notifications.
- Public health action should focus on outbreaks in high-risk settings:
  - a. **Schools and Childcare settings:** Schools and childcare settings are prone to experiencing rapid transmission of influenza. The following interventions are needed when a case of influenza is confirmed at a Schools and Childcare settings:
    - i. A team of public health and school health should do an assessment visit as soon as possible (within 24 hours)
    - ii. Children and staff of schools and childcare centers who did not receive the current vaccine should be vaccinated especially those who have risk factors for severe disease.
    - iii. Children and staff with confirmed influenza or ILI should not attend school or child care. If a child or staff member becomes sick with an ILI at school they should be sent home.
    - iv. Based on the assessment, the public health unit may issue a letter for the school highlighting the outbreak, reinforcing control measures and urging children and staff at high risk of complications to see their doctor early for treatment if sick
    - v. **Full or partial school closures are not generally recommended on public health grounds, although it is recognized that they may be considered on logistical grounds by the school.**
    - vi. Prophylactic anti-influenza medication (see doses and indications in the appendix) should only be considered to control outbreaks in dormitories or health care settings where an outbreak is detected early, but may be less useful where disease is widespread, in which

case prophylaxis should be considered for vulnerable students and staff only.

**Table 1: Prophylactic anti-influenza medications**

ANTIVIRAL AGENT	CHILDREN (SEE APPENDIX FOR INSTRUCTIONS)	ADULTS
Oseltamivir	If 1 yr or older, and weigh 15 kg or less, the dose is 30 mg once a day for <b>7 days</b>	75 mg once daily for <b>7 days</b>
	If 1 yr or older and weigh between 15 to 23 kg, the dose is 45 mg once a day for <b>7 days</b>	
	If 1 yr or older and weigh between 23 to 40 kg, the dose is 60 mg once a day for <b>7 days</b>	
	If 1 yr or older and weigh more than 40 kg, the dose is 75 mg once a day for <b>7 days</b>	

**b. Healthcare settings: (see infection control guidelines for seasonal influenza in healthcare setting 2015)**

**ANTIVIRAL THERAPY**

- Anti-influenza medications have been shown to attenuate disease in cases of seasonal influenza if given within 48 hours of developing symptoms hours. There may be benefit in providing anti-influenza medications to hospitalized patients after 48hrs.
- Consideration should be given to commencing anti-influenza medication in anyone suspected of having influenza who presents within 48 hours of symptom onset. Particular emphasis should be given to treating those who are at risk for severe outcomes i.e., those who:
  - a. Belong to vulnerable groups (see above)
  - b. Have moderate or severe illness (such as those requiring hospital attendance), or are rapidly deteriorating.
- In all cases, clinical judgment is required in the decision to treat with anti-influenza medication. For instance, clinicians should be aware of whether their patients have received influenza vaccination as this will reduce the likelihood that a person has influenza. In situations where oseltamivir resistance is suspected in a case, advice from an infectious diseases physician should be sought.

**Therapeutic doses of anti-influenza medications**

ANTIVIRAL AGENT	CHILDREN (see appendix for instructions)	ADULTS
Oseltamivir	If 1 yr or older, and weigh 15 kg or less, the dose is 30 mg twice a day for <b>5 days</b>	75 mg twice daily for <b>5 days</b>
	If 1 yr or older and weigh between 15 to 23 kg, the dose is 45 mg twice a day for <b>5 days</b>	

	If 1 yr or older and weigh between 23 to 40 kg, the dose is 60 mg twice a day for <b>5 days</b>	
	If 1 yr or older and weigh more than 40 kg, the dose is 75 mg twice a day for <b>5 days</b>	

## EDUCATION

- The health care provider should provide the patient with information on the disease, the use of anti-influenza medications (if indicated), and infection prevention and control practices including hand hygiene and respiratory/cough etiquette.
- **Health care providers should urge patients with ILI to ask close contacts who are at risk of severe disease to present early for treatment should ILI symptoms develop.**

## ISOLATION AT HOME

- The majority of patients diagnosed with influenza can be sent home. To reduce the transmission of influenza to others, patients should be instructed to do the following:
  - STAY AT HOME at least 24 hours after fever is gone. Fever should be gone without the use of a fever-reducing medicine.
  - AVOID CLOSE CONTACT WITH OTHERS. Limit your contact with others especially those at high risk for severe influenza (see above). Avoid close contact such as kissing, sharing toothbrushes or drinks with people who are not sick. Try to stay in one room of the house, as far away from others as possible.
  - COVER YOUR MOUTH AND NOSE. Always cover your mouth and nose when sneezing, coughing, or blowing your nose.
  - WASH YOUR HANDS. Wash your hands with soap and water or an alcohol-based hand gel right after you sneeze, cough or throw a used tissue in the trash.
  - WEAR A MASK. When you are in close contact with others (within 6 feet) or if it is necessary to leave the house, wear a mask to stop the spread of flu to others.
  - CALL YOUR HEALTHCARE PROVIDER IF YOUR SYMPTOMS GET WORSE. Trouble breathing including shortness of breath or fast breathing. Bluish skin color. Pain or pressure in the chest or abdomen. Sudden dizziness. Confusion or irritability. Flu-like symptoms improve but then return with fever and worse cough.
  - LIMIT THE NUMBER OF VISITORS. Sick people should not have visitors while they are ill. If someone who does not live in the home with the patient has to enter the home, they should not come in close contact (within 2 meters) of the sick person.
  - WIPE DOWN SURFACES. Clean surfaces that are frequently touched or shared with a standard household disinfectant. This may include doorknobs, remote controls, bedside tables, and bathroom counters / fixtures.



## Annex-1

المملكة العربية السعودية  
 وزارة الصحة  
 الوكالة المساعدة للطب الوقائي  
 مديرية الشؤون الصحية .....

### استمارة الإبلاغ الأسبوعية المجمعَة لحالات الأنفلونزا الموسمية

الأسبوع الوبائي رقم ( ) المنتهي في :- /.../ ٢٠١١ م

المجموع حسب الحالة والجنس	الفئات العمرية بالسنوات										الحالات	مستل	
	غير سعودي					سعودي							الجنس
	٦٠ فأكثر	٥٩-٣٠	٢٩-١٥	١٤-٥	٤-٠	٦٠ فأكثر	٥٩-٣٠	٢٩-١٥	١٤-٥	٤-٠			
											ذكر	١	العدد الكلي للحالات الجديدة المشخصة سريريا
											أنثى		
											ذكر	٢	العدد الكلي للحالات الجديدة المؤكدة والمنومة بالأقسام
											أنثى		
											ذكر	٣	العدد الكلي للحالات الجديدة المؤكدة مخبريا والمنومة بالعناية المركزة
											أنثى		
											ذكر	٤	حالات الوفيات المؤكدة
											أنثى		
													المجموع ( حسب الفئة العمرية والجنسية )
													المجموع الكلي ( حسب الجنسية )
	مجموع العينات التي تم فحصها في الأسبوع												

- الاستمارة تصدر متماثية مع الأسابيع الوبائية حيث تبدأ يوم الأحد وتنتهي يوم السبت.
- الاستمارة ترسل يوم الأحد من كل اسبوع من ادارة الصحة العامة لإدارة الأمراض المعدية على البريد الإلكتروني [survftp@gmail.com](mailto:survftp@gmail.com) أو الفاكس رقم (٠١١٢١٢٤٦١١) أو (٠١١٢١٢٤٠٥٦) قبل الساعة الثانية بعد الظهر.
- معد التقرير :

## كيفية تحضير دواء سائل من

# تاميفلو®



### الخطوة الثانية

قم بوزن طفلك: استخدم وزن طفلك للوصول إلى الجرعة الصحيحة على الجدول الوارد لاحقاً.  
الوزن: \_\_\_\_\_ رطلاً

### جداول الجرعات

يمكنك معرفة الكمية التي يجب إعطاؤها لطفلك من الدواء بناء على عمره أو وزنه.  
استخدم هذا الجدول لمعرفة الكمية المطلوبة في الجرعة الواحدة.  
أعط طفلك هذه الجرعة من الدواء \_\_\_\_\_ مرات في اليوم (\_\_\_\_\_ في الصباح: \_\_\_\_\_ في المساء) لعدد الأيام التي أخبرك بها الطبيب.

جدول الجرعات للأطفال الذين تقل أعمارهم عن عام

سائل قموي من دواء تاميفلو®		
25 ملجم لكل 5 مليلتر (لكل ملعقة شاي)		
العمر	الجرعة	أقل من 3 أشهر*
أقل من 3 أشهر*	2/1 ملعقة صغيرة (2.5 مليلتر)	
3-5 أشهر	4/3 ملعقة صغيرة (3.75 مليلتر)	
6-11 شهراً	1 ملعقة صغيرة (5 مليلتر)	

\* يوصى بدواء تاميفلو® فقط لعلاج الأطفال الذين تقل أعمارهم عن 3 أشهر. ولا يوصى للوقاية من المرض في هذه الفئة العمرية إلا إذا كان ذلك تحت إرشاد الطبيب.

جدول الجرعات للأطفال الذين تزيد أعمارهم عن عام

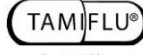
سائل قموي من دواء تاميفلو®		
25 ملجم لكل 5 مليلتر (لكل ملعقة شاي)		
الوزن (رطلاً)	الجرعة	أقل من 16 رطلاً، وأكبر من عمر عام واحد
أقل من 16 رطلاً، وأكبر من عمر عام واحد	1 ملعقة صغيرة (5 مليلتر)	
16 إلى 30 رطلاً	1 ملعقة صغيرة (5 مليلتر)	
31 إلى 36 رطلاً	1 و 2/1 ملعقة صغيرة (7.5 مليلتر)	
37 إلى 52 رطلاً	2 ملعقة صغيرة (10 مليلتر)	
53 إلى 88 رطلاً	2 و 2/1 ملعقة صغيرة (12.5 مليلتر)	
أكثر من 89 رطلاً (75 ملجم)	3 ملاعق صغيرة (15 مليلتر) أو كبسولة كاملة (75 ملجم)	

### كيف تصنع دواءً سائلاً من تاميفلو®

25 ملجم لكل 5 مليلتر (ملعقة شاي)

سوف تحتاج إلى:

- كبسولة تاميفلو® 75 ملجم
- أداة لمسح حبيبات الكبسولة وتحويلها إلى مسحوق، أي ملعقة معدنية أو كوب صغير أو فنجان
- ملعقة/ملاعق صغيرة (شاي) عيارية أو ملعقة طعام صغيرة عادية أو كوب طيني
- عدد 1 وعاء صغير، أو كوب أو فنجان
- ماء وواحد مما يلي: عصير - لبن - شراب مضاف إليه نكهة
- هذه التوجيهات



كبسولة 75 ملجم

الرجاء قراءة كافة الإرشادات قبل بدء التحضير.

### الخطوة الأولى

افتح كبسولة تاميفلو® 75 ملجم بحرص وعناية وأفرغها في وعاء صغير.

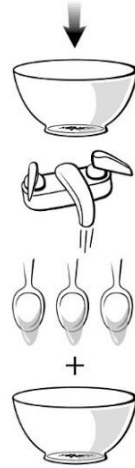
اسحق الحبيبات حتى تصير مسحوقاً ناعماً يظهر ملعقة صغيرة (شاي) معدنية أو بقاعدة فنجان أو كوب.

### أو

أضف ثلاث ملاعق صغيرة من الماء إلى مسحوق الدواء.

امزج الخليط جيداً حتى يتحلل المسحوق ولا يبقى منه شيء في قاع الوعاء.

ملاحظة: يمكنك استخدام مزيج الدواء هذا لمدة 24 ساعة إذا تمت تعطيته وحفظه في درجة حرارة الغرفة أو بالثلاجة. ولكن يجب أن تتخلص من أي مزيج للدواء السائل غير المستخدم بعد 24 ساعة، عليك صنع مزيج جديد كل يوم.



# Creating Liquid Tamiflu®

for children during a Pandemic Flu

## How to Make Liquid Tamiflu®

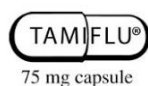
25 mg per 5 mL (teaspoon)

You will need:

- 75 mg Tamiflu® capsule
- Measuring teaspoon(s) or regular eating teaspoon or medicine cup or medicine syringe
- One (1) small bowl or cup
- Water and one of the following:  
sugar, chocolate or flavored syrup, flavored dessert toppings
- These directions

Please read all instructions before you begin.

### Step 1



75 mg capsule

Carefully pull apart one 75 mg Tamiflu® capsule.



Empty the contents into a small bowl.



Add 3 teaspoons of water to the medicine powder.



Mix well until the powder dissolves and there is no more powder at the bottom of the bowl.



Note: You may use this medicine mixture for up to 24 hours if it is kept covered and stored at room temperature or in the refrigerator. Throw away any unused liquid after 24 hours and mix fresh every day.

### Step 2

Weigh your child. Use your child's weight to find the correct dosage on the chart below.

Weight: \_\_\_\_\_ lbs



### Dosage Charts

You can find out how much medicine to give your child based on your child's age or weight.

Use this chart to find the amount for one (1) dose.

Give this dose \_\_\_\_\_ time(s) a day (\_\_\_\_ in the morning; \_\_\_\_ at night) for as many days as you were told to give the medicine.

#### Dosage chart for children UNDER 1 year of age

Tamiflu® oral liquid 25mg per 5 mL (per teaspoon)	
Age	Dose
Under 3 months*	½ teaspoon (2.5 mL)
3-5 months	¾ teaspoon (3.75 mL)
6-11 months	1 teaspoon (5 mL)

\*Tamiflu is only recommended for TREATMENT in infants under 3 months of age. It is not recommended for prophylaxis in this age group unless directed by a physician.

#### Dosage chart for children OVER 1 year of age

Tamiflu® oral liquid 25mg per 5 mL (per teaspoon)	
Weight (lb)	Dose
Less than 16 lbs. and Older than 1 year of age	1 teaspoon (5 mL)
16 lbs to 30 lbs.	1 teaspoon (5 mL)
31 lbs to 36 lbs.	1 & 1/2 teaspoons (7.5 mL)
37 lbs to 52 lbs.	2 teaspoons (10 mL)
53 lbs to 88 lbs.	2 & 1/2 teaspoons (12.5 mL)
More than 89 lbs.	3 teaspoons (15 mL) or 1 whole capsule (75mg)

See reverse side for more directions.