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Seasonal Influenza Guidelines 2018/19

Pennine Acute Hospitals NHS Trust

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Seasonal Influenza Guidelines: 2018/19

'There is good evidence that antivirals can reduce the risk of death in patients hospitalized with influenza'

Does your patient have:

fever, coryza, generalised flu' like symptoms (headache, malaise, myalgia, arthralgia) with or without gastrointestinal symptoms

Standard respiratory precautions:

Hand hygiene before and after patient contact
Gloves and apron for direct patient care or when dealing with secretions
Surgical mask for direct patient care within 2 metres of the patient

Aerosol generating procedures (AGP):

Use FFP3 respirator mask and eye protection for AGP:
AGP includes: bronchoscopy, endotracheal intubation, tracheostomy procedures, cardiopulmonary resuscitation, diagnostic sputum induction

Assessed in A&E / clinic and requires admission – Notify Infection Prevention Team

Start antiviral treatment and appropriate antibiotics. See attached Adult and Paediatric Flu Rx guidelines.

Sideroom / cohort bay on designated cohort ward.

Standard respiratory precautions as above.
Visitors/carers involved in direct personal care, should be offered PPE, including surgical masks

Laboratory testing for Respiratory viruses in admitted patients on antiviral treatment
(which will include H1N1 virus)
Nose/throat swab together in one viral transport medium

Assessed in A&E / clinic and does NOT require admission

Not high risk patient:
Discharge home
No antiviral treatment prescribed.
No laboratory testing for respiratory viruses.
Advice to contact GP if remain unwell

High risk Patients:

Neurological, hepatic, renal, pulmonary and chronic heart disease
Diabetes mellitus
Morbid obesity (BMI≥40)
Pregnancy (including up to two weeks post partum)
Age < 6 months or >65 years
Severe immunosuppression:
Severe primary immunodeficiency
Current or recent (<6 months) chemo-therapy or radiotherapy
Solid organ transplant recipient on immunosuppressive Rx
BM transplant recipient on immunosuppressant (in last 12 months) or patient with graft-versus-host disease
HIV positive with CD4<200 or CD4 lymphocytes<15% in an adult (seek guidance for children with HIV)
Patients receiving high dose systemic steroids for more than a week (and for at least 3 months after treatment stopped)
Receiving highly immunosuppressive Rx now or in last 6 months

Laboratory testing for respiratory viruses not usually indicated but considered (based on assessment). Prescribe antiviral treatment and discharge home with advice to contact GP if remain unwell.

For further clinical advice contact: Clinical Virologist, ID Physician or Microbiologist

Treatment of Adults with suspected or confirmed influenza

(Source: PHE Guidance on the use of antiviral agents)

1. Adults in community / A&E with uncomplicated influenza

(No laboratory testing for influenza if patient is NOT being admitted)

All patients should be advised of the symptoms of complicated influenza and told to seek medical help should their condition worsen. The following dose recommendations are for adults. See separate antiviral guidance for paediatric patients

1.1 Previously healthy people (excluding pregnant women): No treatment, or oseltamivir (PO) if physician feels patient is at serious risk of developing complications from influenza.

1.2 At risk adults, **including pregnant women**: Oseltamivir 75mg bd for five days (PO). Treatment should be started as soon as possible, ideally within 48 hours of onset. There is evidence that treatment may reduce the risk of mortality if treatment started up to five days after onset. Treatment after 48 hours is an off-label use of oseltamivir and clinical judgment should be exercised.

1.3 Severely immunosuppressed patients: Risk of resistance is highest in severely immunosuppressed patients with complicated influenza. Oseltamivir PO is the first line treatment unless the dominant circulating strain is influenza A (H1N1). Rapid emergence of oseltamivir resistance on treatment has been described in these patients. They should receive zanamivir (INH) 10 mg bd for five days.

1.4 Suspected or confirmed oseltamivir resistant influenza in a patient who requires treatment: Zanamivir (INH) 10 mg bd for five days

2. Adults in hospital and/or with complicated influenza

(Nose & throat swab in one viral transport medium. Lab confirmation NOT required, Start antiviral Rx)

All patients with complicated influenza should receive treatment, usually in hospital. Treatment should be started as early as possible but should always be given, no matter how long after onset of illness. Do not wait for laboratory confirmation.

Previous influenza immunisation does not exclude influenza. Duration of therapy depends on clinical response. Test for antiviral resistance in patients who do not respond after five days of treatment.

NOTE:- The following recommendations include the use of IV antivirals and nebulised aqueous zanamivir, which are **unlicensed medications**

2.1 First line treatment: Oseltamivir PO or NG (see exceptions below). There is evidence that PO/NG oseltamivir is adequately absorbed in critical illness at standard doses.

2.2 Second line treatment: If there is a poor clinical response to first line treatment or if there is poor gastrointestinal absorption, use nebulised aqueous zanamivir.
The following patients should receive IV zanamivir: Patients who have already failed to respond to nebulised zanamivir; patients who have multi-organ involvement or are on intensive care.

Exceptions:
2.3 Severely immunosuppressed patients: Oseltamivir (PO or NG) is the first line treatment, unless the dominant circulating strain is influenza A (H1N1). Start inhaled zanamivir. If breathing problems are likely to make use of the diskhaler impractical, use unlicensed nebulised aqueous zanamivir. IV zanamivir should be used for patients who are not responding to nebulised zanamivir, who have respiratory conditions affecting nebuliser delivery, or who have multi-organ involvement or are on intensive care.
2.4 Suspected or confirmed oseltamivir resistance: e.g. contact of known oseltamivir resistant case. Do not use oseltamivir. Start nebulised zanamivir. IV zanamivir may be used for patients who are not responding to nebulised zanamivir, who have respiratory conditions affecting nebuliser delivery, or who have multi-organ involvement or are on intensive care.

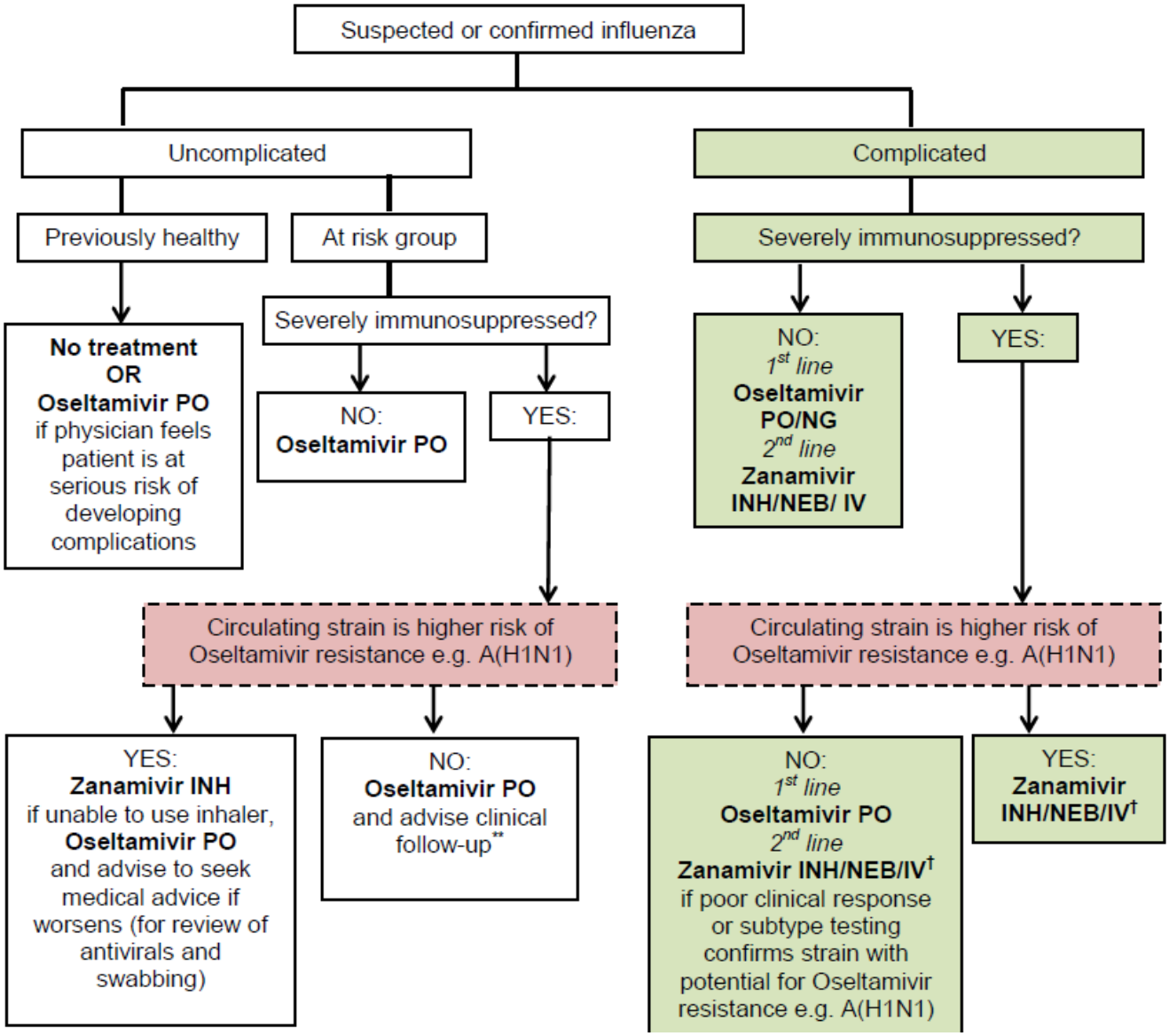
Clinical Classification of Influenza:

Uncomplicated influenza: Influenza presenting with fever, coryza, generalised symptoms (headache, malaise, myalgia, arthralgia) and sometimes GI symptoms, but without any features of complicated influenza.

Complicated influenza: Influenza requiring hospital admission and/or with symptoms and signs of lower respiratory tract infection (hypoxaemia, dyspnoea, lung infiltrate), central nervous system involvement and/or a significant exacerbation of an underlying medical condition.

Algorithm: Selection of antiviral therapy for treatment of influenza

(Source: PHE Guidance on the use of antiviral agents)



Notes:-

1. For patients with renal impairment or on dialysis / filtration, please refer to Table 1 for Treatment below for adjusted doses of Oseltamivir.
2. For treatment of suspected or confirmed oseltamivir resistant influenza, start nebulised zanamivir.
3. Inhaled zanamivir via Diskhaler may not be an effective delivery route in some patients, including children under five years old and patients with severe underlying respiratory disease. It is not licensed for use in children less than five years.
4. For treatment of complicated influenza, see table above.
5. Zanamivir solution for IV or nebulised administration is an unlicensed medication and is available on a named patient basis please refer to Appendix 4 of the PHE guidance on the use of antiviral agents for the treatment and prophylaxis of Influenza - 2018/19 for the compassionate supply
6. Zanamivir is available for inhalation (Diskhaler device) or as unlicensed aqueous solution for nebulised or intravenous use. The powder preparation for the Diskhaler should NEVER be made into nebuliser solution or administered to a mechanically ventilated patient.

Table 1: Recommended oseltamivir TREATMENT dosing in relation to renal function (adults and those aged 13 years or over)		
CrCl (mL/min)[#] or renal replacement therapy		**Oseltamivir PO Treatment for 5 Days**
31- 60 mL/min* or above		75mg BD
11-30mL/min*		75mg OD
≤10mL/min*		75mg ONCE ONLY
NMGH – Intermittent haemodiafiltration (HDF)*		75mg after each HDF session
ROH/FGH – Continuous haemo(dia)filtration**	1-1.8L/hr exchange rate	30mg OD
	1.9 – 3.6L/hr exchange rate	30mg BD
	> 3.6L/hr exchange rate	75mg BD
Peritoneal dialysis*		30mg ONCE ONLY

NOTE: It is acknowledged that the advice for dosing in renal impairment will differ from the summary of product characteristics provided by the manufacturer.

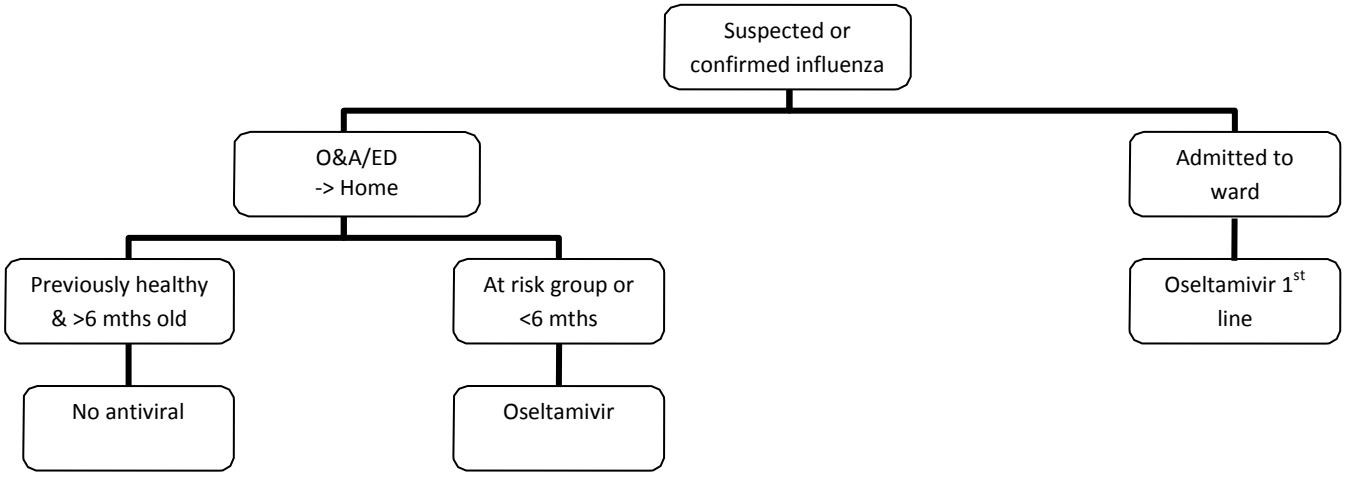
[#]CrCl should be calculated using the Cockcroft and Gault equation, as it is a more accurate measure than eGFR to guide drug-dosing recommendations

Sources:
* Renal Drug Database (www.renaldrugdatabase.com)
** PHE guidance on use of antiviral agents for the treatment and prophylaxis of seasonal influenza 2018/19

Oseltamivir Oral suspension reserved for Under 1 year of age

Oseltamivir oral suspension should be prioritised for those unable to use capsules (as described below), such as for children under the age of 1 year. It is available as Tamiflu® oral suspension (Roche, 6mg/mL oral suspension reconstituted from powder). The pack includes an oral dispenser, which is marked in millilitres (mLs), since prescriptions for Tamiflu® 6 mg in 1 mL powder for oral suspension should state the dose in millilitres. Children over 1 year of age and adults with swallowing difficulties, and those receiving nasogastric oseltamivir, should use capsules which are opened and mixed into an appropriate sugary liquid as oseltamivir has a very bitter taste. If the powder for suspension is used for children over 1 year of age and/or adults, there may not be adequate quantities of the powder for suspension to meet demand for the less than 1 year age group.

Treatment of children with suspected or confirmed influenza



Severely immunosuppressed (see Adult flu guideline for definition and treatment)

Admitted: Treatment should be started as early as possible but should always be given, no matter how long after onset of illness. Do not wait for laboratory confirmation.

Not admitted: start if within 48 hrs of onset (up to 5 days at clinical discretion)

Antiviral dosage and schedules

	Premature		**0-12 months**	**1-13 years**				**Adults (13 years and over)**
	<38 weeks	**38-40 weeks**		**<15kg**	**15-23kg**	**23-40kg**	**>40kg**	
Oseltamivir PO (5 days)	1mg/kg/ dose bd	1.5mg/kg dose bd	3mg/kg/ dose bd	30mg bd	45mg bd	60mg bd	75mg bd	75mg bd
Zanamavir inhaler (5 days)	Not licensed for children <5 years old.			Adults and children ≥5 years 10 mg bd				

Laboratory testing for respiratory viruses

	Admitted	Not admitted
At risk group	Treat Nose &/or Throat Viral Swab	Treat Nose &/or Throat Viral Swab
Not risk group	Treat Nose &/or Throat Viral Swab	No treatment No test

Post exposure prophylaxis for influenza

Selection of antivirals for post-exposure prophylaxis

	If identified strain in index case or dominant circulating strain is lower risk for oseltamivir resistance e.g. influenza A (H3N2), influenza B	**If identified strain in index case or dominant circulating strain is known to higher risk for oseltamivir resistance e.g. influenza A (H1N1)**	**Exposed to suspected or confirmed oseltamivir resistant influenza**
Previously healthy (excluding pregnant women)	No prophylaxis	No prophylaxis	No prophylaxis
At risk of complicated influenza (including pregnant women but excluding severely immunosuppressed patients and excluding children under 5 years)	**Oseltamivir PO once daily for 10 days,** if therapy can be started within 48 hrs of exposure; or after 48 hrs on specialist advice only	**Oseltamivir PO once daily for 10 days,** if therapy can be started within 48 hrs of exposure; or after 48 hrs on specialist advice only	**Zanamivir INH once daily for 10 days,** if therapy can be started within 36 hrs of exposure; or after 36 hrs on specialist advice only
Severely immunosuppressed patients (excluding children under 5 years)	**Oseltamivir PO once daily for 10 days,** if therapy can be started within 48 hrs of exposure; or after 48 hours on specialist advice only	**Zanamivir INH once daily for 10 days,** if therapy can be started within 36 hrs of exposure; or after 36 hrs on specialist advice only. If unable to administer zanamivir INH, **oseltamivir PO once daily for 10 days,** if therapy can be started within 48 hrs of exposure; or after 48 hours on specialist advice only	**Zanamivir INH once daily for 10 days,** only if therapy can be started within 36 hrs of exposure; or after 36 hrs on specialist advice only. If unable to administer zanamivir INH, discuss with specialist and consider nebulised aqueous zanamivir (unlicensed) after individual risk assessment
Children under 5 years in at risk groups including severely immunocompromised children	**Oseltamivir PO once daily for 10 days,** if therapy can be started within 48 hrs of exposure; or after 48 hrs on specialist advice only	**Oseltamivir PO once daily for 10 days,** if therapy can be started within 48 hrs of exposure; or after 48 hrs on specialist advice only	**Discuss with specialist**. Consider nebulised aqueous zanamivir (unlicensed) after individual risk assessment

Note: Commencing prophylaxis with oseltamivir later than 48 hours after exposure, or with zanamivir, later than 36 hours after exposure is an off-label use. Specialist advice referred to in this table may be obtained from a local infection specialist such as a consultant virologist, infectious diseases physician or microbiologist.

For patients with renal impairment or on dialysis / filtration, please refer to Table 2 for Prophylaxis below for adjusted doses of Oseltamivir.

Table 2: Recommended oseltamivir <u>PROPHYLAXIS</u> dosing in relation to renal function (adults and those aged 13 years or over)		
CrCl (mL/min)[#] or renal replacement therapy		**Oseltamivir PO prophylaxis for 10 days**
31-60 mL/min* or above		75mg OD
11-30mL/min*		30mg OD
≤10mL/min*		30mg ONCE a week for 2 doses
NMGH – Intermittent haemodiafiltration (HDF)*		30mg after each HDF session
ROH/FGH – Continuous haemo(dia)filtration**	1-1.8L/hr exchange rate	30mg every 48 hours
	1.9-3.6L/hr exchange rate	30mg OD
	>3.6L/hr exchange rate	75mg OD
Peritoneal dialysis*		30mg ONCE a week for 2 doses

NOTE: It is acknowledged that the advice for dosing in renal impairment will differ from the summary of product characteristics provided by the manufacturer.

[#]CrCl should be calculated using the Cockcroft and Gault equation, as it is a more accurate measure than eGFR to guide drug-dosing recommendations

<u>Sources:</u>
* Renal Drug Database (www.renaldrugdatabase.com)
** PHE guidance on use of antiviral agents for the treatment and prophylaxis of seasonal influenza 2018/19

Opportunistic influenza immunization programme

Inpatients who are clinically well and hospitalised for over 2 weeks

To help the roll out of the national flu programme to ensure individuals who are eligible for the flu vaccine are vaccinated at the earliest opportunity, Pennine Acute NHS Trust has adopted to identify clinically well patients, aged six months to under 65 years in clinical risk groups and 65 years or above, who are likely or have been hospitalised for over 2 weeks and have not had the Influenza vaccine this season, to be offered the appropriate flu vaccine as recommended below. All vaccines given must be consented, recorded and communicated with the patients and GP practices.

Which flu' vaccine to give?

This year, three types of flu vaccine will be used in the flu programme. This will benefit patients by ensuring that they have the most suitable vaccine that gives them the best protection against flu. The three vaccines are:

- **Adjuvanted trivalent flu vaccine (aTIV) (Fluad®)** – This is licensed for people aged 65 years and over and is the vaccine recommended by the Joint Committee on Vaccination and Immunisations (JCVI) for this age group.
- **Quadrivalent vaccine (QIV)** – This is recommended for children aged from 6 months to 2 years and in adults from 18 years to less than 65 years of age who are at increased risk from flu because of a long term health condition. This vaccine is offered to the pregnant women and frontline health and social care workers. The brands that are available for PAT are: Sanofi Pasteur (TROH, Rochdale & NMGH) and Mylan (for FGH).
- **Live attenuated influenza vaccine (LAIV) Fluenz Tetra®** – This is a nasal spray and is licensed for children and young people from 2 years old to less than 18 years of age. The age groups targeted in England for this vaccine in 2018/19 are two and three year olds (through their GP surgery) and school aged children in reception class through to Year 5 (through schools). If LAIV is clinically contraindicated, QIV is used in this age group. Both are procured centrally by PHE and can be ordered via ImmForm.

For further details on the national flu programme, please see the Vaccine Update Issue 284, August 2018.

For any exceptions not covered in this guidance: contact the Consultant Virologist or Infectious Diseases Consultant.
Updated 21/12/2018 – Dr. J Paul, Dr. P McMaster, C Chow & Dr. K Ajdukiewicz
For full guidance refer: '*PHE Guidance on use of antiviral agents for the treatment and prophylaxis of influenza v8.0*'
PHE guidance on the use of antiviral agents for the treatment and prophylaxis of Influenza - 2018/19