Management of Seasonal Influenza in Pregnancy and Postpartum Period

(based on CID:760 Department of Infection Prevention & Control Version 1.0)

Specialty: Maternity

Approval body: Antenatal Forum

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Management of Seasonal Influenza in pregnancy and postpartum period

CONTENTS

1.0 Policy Statement

This policy is based upon national guidance issued in January 2015 by the Welsh Healthcare Associated Infection Programme, “Managing Seasonal Influenza: Infection Prevention and Control Guidance in Healthcare Settings” and it represents the best evidence currently available. This policy must be read in conjunction with the following relevant ABM University Health Board policies:

- Standard Infection Control Precautions (SICPs) Policy

2.0 Scope of Policy

This policy is applicable to all healthcare workers employed by ABMU Health Board working with pregnant women or those in the early postpartum period (first two weeks).

3.0 Aim

This policy aims to provide guidance to midwives and other health professionals working with pregnant women or those in the early postpartum period on appropriate infection prevention and control measures for management of seasonal influenza.

4.0 Key Points

Influenza or “flu‟ is a respiratory illness caused by influenza A or B virus. Symptoms frequently include headache fever, cough, sore throat, aching muscles and joints. These symptoms are not specific to influenza, and can be caused by other viruses (such as respiratory syncytial virus) which can present as an 'influenza-like illness'.

Diagnosis of influenza can only be confirmed by laboratory testing, although the probability that an influenza-like illness is caused by influenza is higher if influenza is known to be circulating and if a person has a high fever.Influenza infection is usually self-limiting and lasts for 3–4 days, with some symptoms persisting for 1–2 weeks. The severity of the illness can vary from asymptomatic infection to life-threatening complications. The most common complications are secondary bacterial infections such as otitis media, pneumonia and bronchitis.

In the UK, the average number of deaths attributed directly to influenza is approximately 600 in non-epidemic years and between 12,000 and 13,800 deaths in epidemic years.

The criteria for suspecting/diagnosing influenza is sudden onset (within 5 - 10 days) with at least one of the following four systemic symptoms:

- Fever or feverishness (if temperature cannot be taken)
- Malaise
- Headache
- Myalgia

And at least one of the three respiratory symptoms:

- Cough
- Sore throat
- Shortness of breath

Women presenting with these symptoms should be managed as suspected cases of influenza.

Testing is recommended if women present in the first 5 days of their illness but testing up to 10 days from onset of illness may be appropriate in some circumstances. After 7 days from onset of illness, most will present with secondary complications due to primary influenza. A negative test after 5 days post onset will not rule out influenza as the primary cause of the illness.

4.1. Vaccination of frontline healthcare workers and people in 'at risk' groups is the most important measure in preventing seasonal influenza infection. For the purpose of this guidance, women 'at risk' are defined as those who are:

- Pregnant
- Post-partum (two weeks or less)

4.2. Staff should NOT attend work whilst they have symptoms of Influenza Type Illness (ILI).

4.3. Standard Infection Control Precautions (SICPs) must be maintained at all times in all healthcare settings, including when managing known or suspected cases of influenza.

Hand hygiene is a very important defense against acquisition of influenza. Respiratory hygiene / cough etiquette must be reinforced with all women (see Glossary in **Appendix 1**).

In addition to SICPs, Droplet Precautions (see Glossary in **Appendix 1**) are required for all cases of known of suspected influenza, until either diagnosis is excluded or the woman is no longer deemed infectious. Droplet Precautions are transmission based precautions for organisms transmitted via large particle droplets.

Staff must wear a fluid repellent surgical mask when within 1 meter of the woman and must wear a higher grade respirator mask (FFP3 mask) when performing or when present during aerosol generating procedures

5.0 Responsibilities

The Health Board

The Health Board is responsible for ensuring that 'Flu vaccine is available from September to March each year, free of charge. Flu vaccine is recommended for all Health Board staff, especially those who have direct woman contact.'

The Health Board is responsible for ensuring that appropriate personal protective clothing is available for staff caring for women with viral respiratory infections.

Midwifery Matrons must:

- Ensure that staff are familiar with the guidance in this document.
- Actively promote and encourage their staff be vaccinated against Influenza.
- Ensure that maternity departments have adequate numbers of flu champions to support 'flu vaccination.
- Ensure that staff have ready access to, and wear, appropriate personal protective equipment.
- Ensure that there are staff available who have been trained to use respiratory masks (FFP3 masks).
- Ensure that records of staff who have had fit test training are maintained.
- Ensure that each ward/department has a competent fit testing training champion.

All maternity staff who provide direct care to pregnant women must:

- Ensure that they have access to influenza vaccination
- Ensure that they are familiar with the guidance within this document and act in accordance with this at all times.
- Not attend work whilst they have symptoms of Influenza Type Illness (ILI).
- Ensure that they wear appropriate personal protective equipment as trained and as advised in this document. (See also Standard Infection Control Precautions Policy).

6.0 Precautions in Hospital settings

- Staff providing direct care should be vaccinated.
- Risk assessment should be considered for all women presenting with an ILI and recent vaccination history should be obtained.
- Droplet Precautions (see Glossary in **Appendix 1**) must be implemented by staff in these care settings.
- If a woman with 'presumed influenza' from community presents to hospital, ensure woman is isolated in a single room, the door is to kept closed as much as possible and Droplet Precautions adopted.
- If there are several cases, cohorting (see Glossary in **Appendix 1**) of respiratory cases may be appropriate. This must be discussed with the Infection Prevention and Control Team (IPCT).
- Staff attending to the woman must wear a fluid repellent surgical mask (FRSM), gloves and aprons and adhere to Standard Infection Control Precautions.
- The woman should be asked to wear a standard surgical face mask in communal areas / waiting rooms / during transfer to other areas of the hospital.

- If the woman has uncomplicated, mild disease, antiviral treatment should be considered. If advice is required regarding a decision to prescribe antiviral treatment, it may be best to discuss with a Consultant Microbiologist/Virologist. When a decision regarding antiviral treatment has been made, the women can self-isolate and self-care in their normal residence.
- If the woman has severe disease and/or requires admission, obtain samples for testing (as detailed below) and then commence antiviral treatment according to local protocols (**do not wait for the results before starting antiviral therapy**).
- Send nose/throat swabs (dry / flocked swab) to the microbiology laboratory, clearly indicating the woman's clinical history, symptoms and date of onset of influenza-like symptoms.
- Tests will normally be undertaken only on specimens taken **within 5 days of onset** of symptoms. However, testing up to 10 days post onset of illness may be appropriate in some circumstances. It will be **essential** to include the reason for testing after 5 days post onset of symptoms on the request form. Testing will **NOT** be done on if clinical details/date of symptom onset is not documented.
- Isolate the woman in a single room, with the door kept closed. If a single room is unavailable, complete an Incident Report. Move the woman into single room as soon as one becomes available.
- Staff must wear appropriate Personal Protective Equipment (PPE) in the woman's room including fluid repellant surgical mask, gloves and apron. Eye protection if there is a risk of "splash" to the face/eyes or mucous membranes (from coughing/sneezing).
- When performing Aerosol Generating Procedures (AGPs - see Glossary in **Appendix 1**), all staff present must wear FFP3 (see Glossary in **Appendix 1**) masks (fit test required), long sleeve gowns, gloves and eye protection. Minimize the number of staff present during AGPs to essential staff only.
- Staff must perform hand decontamination before donning and after removing appropriate Personal Protective Equipment (PPE) and must follow the correct procedure for putting on and removing Personal Protective Equipment (PPE).
- If a woman's condition deteriorates after initial clinical improvement, and the woman requires re-admission to level 2/3 care, this is most likely to be due to secondary complications of influenza. In this case, assuming the conditions for discontinuing additional precautions have been met, Standard Infection Control Precautions only are required. See Section 7.0 below and, if necessary, discuss with the Infection Prevention and Control Team.

7.0 Key Points about Personal Protective Equipment (PPE)

- Perform hand hygiene before putting on PPE.
- Put on PPE **before** contact with the woman, generally before entering the isolation or cohort room.
- Use PPE carefully to ensure that infection /contamination is not spread.
- 'Contaminated' and 'clean' areas of PPE:
- 'Contaminated' – outside front (i.e. areas of PPE that have or are likely to have been in contact with body sites, materials, or environmental surfaces where the infectious organism may reside)
- 'Clean' – inside, outside back, ties on head and back (i.e. areas of PPE that are not likely to have been in contact with the infectious organism).

Safe use of PPE

- PPEs are single use, disposable items
- Keep gloved hands away from face
- Avoid touching or adjusting other PPE
- Remove gloves if they become torn; perform hand hygiene before donning new gloves
- Limit contact with surfaces and items touched
- Remove and discard PPE carefully within the isolation/cohort room (with the exception of mask and face protection) and perform hand hygiene before leaving the room.
- Always remove mask/respirator outside room after door has been closed.
- Immediately perform hand hygiene, following disposal of the mask in a clinical waste bin.

8.0 Discontinuing Droplet Precautions

- The majority of women with influenza will no longer be infectious beyond 5 days. Clinical response/improving condition is associated with the loss of virus and decreased infectivity. Droplet Precautions may be discontinued at day 5 after onset of symptoms, unless there is a failure to respond to treatment, and/or underlying conditions exist that may prolong the shedding of virus, e.g. severe immunosuppression (see **Appendix 5** for definition). Such cases will be considered on a case-by-case basis and should be discussed with the Consultant Microbiologist/Virologist/Infection Control Doctor.
- Repeat testing is not generally required and will NOT be undertaken unless discussed with a Consultant Microbiologist/Virologist or where agreed protocols are in place in specific specialties.

9.0 Pregnant staff (or others in defined risk groups)

- Vaccination is the first and most important measure in preventing seasonal influenza in individual in risk groups.
- During a time of increased seasonal influenza activity, staff are at least equally as likely to be exposed to influenza outside of work as they are in the work setting.
- To minimize risk of acquisition, all staff including those in risk groups, must adhere to the required Standard Infection Control Precautions and Droplet Precautions when in contact with known or suspected influenza cases.
- Organizations may decide, despite vaccination and appropriate PPE, for pragmatic reasons, to restrict those staff in risk groups from direct care for known or suspected influenza cases.

10.0 Equality Impact Assessment Statement

This policy has been screened for relevance to equality. No potential negative impact has been identified so a full equality impact assessment is not required.

11.0 References and further reading

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Centers for Disease Control and Prevention (Siegal et al., 2007) updated February 2017 *Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings.*
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Updated August 2015 https://www.gov.uk/government/publications/influenza-the- green-book-chapter-19 Accessed 21/06/2017

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Available at: http://publications.nice.org.uk/amantadine-oseltamivir-and-zanamivir-for-the-treatment-of-influenza-ta168 accessed 07/06/2017

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Welsh Healthcare Associated Infection Programme (WHAIP) *National Model Policies for Infection, Prevention and Control,* Part1: Standard Infection Control Precaution Policies (August 2015).
Available at: http://www2.nphs.wales.nhs.uk:8080/WHAIPDocs.nsf/3dc04669c9e1eaa880257062003b246b/24cf7af1a131dd6f80257abd0048f3a1/$FILE/ SICPS FinalV2 Aug 14.pdf accessed 15.05.2017

Welsh Government, Welsh Heath Circular, WHC (2017) 031 *The National Immunisation Programme 2017-20* http://gov.wales/docs/dhss/publications/170630whc031en.pdf Accessed on 31/07/2017

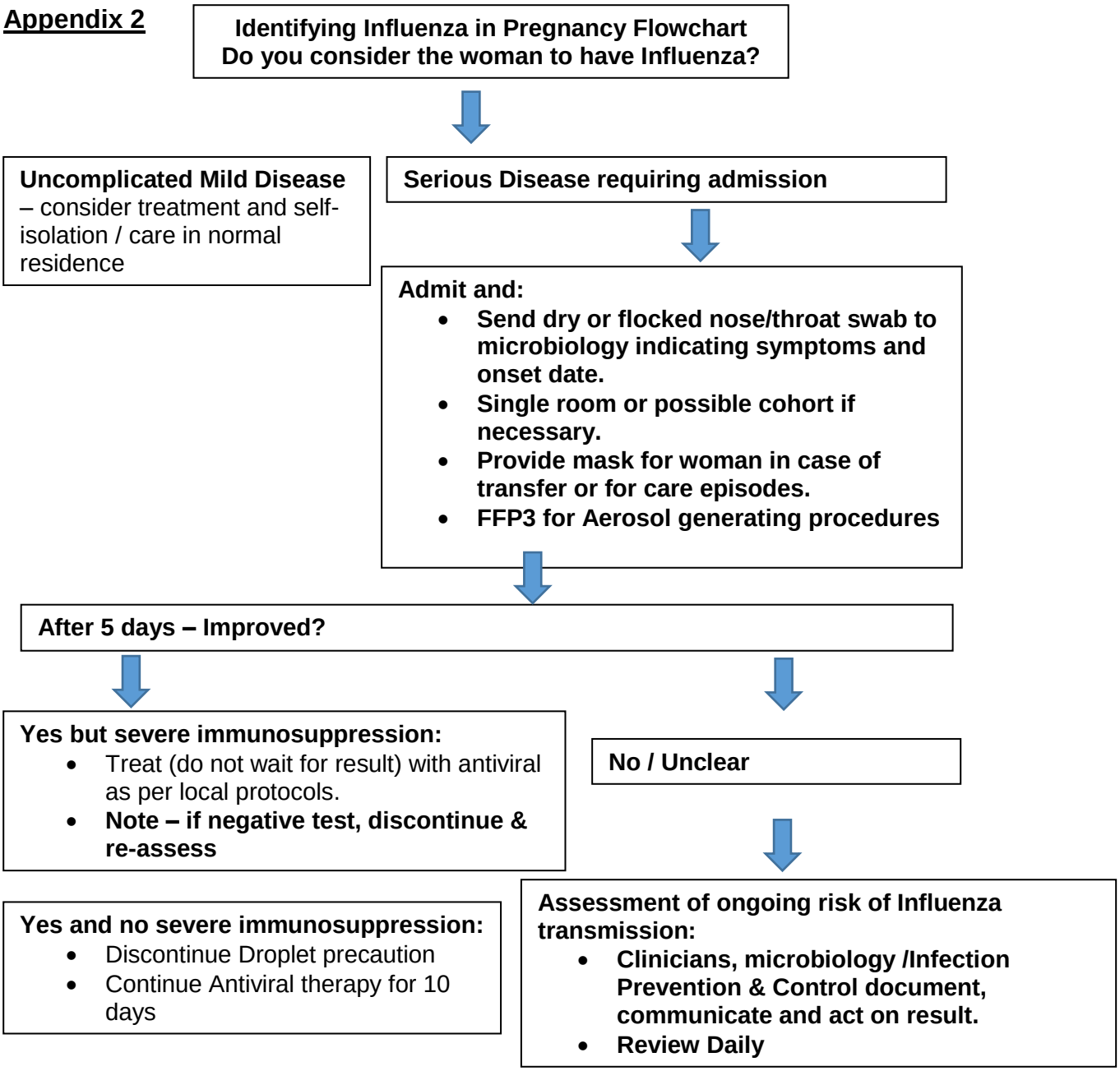
WHO surveillance case definitions for ILI and SARI (2014*) Case definitions for influenza surveillance* (As Of January 2014)
http://www.who.int/influenza/surveillancemonitoring/ilisarisurveillancecasedefinition

Appendix 1

Aerosol Generating Procedures (AGPs)	Procedures that may produce higher concentrations of infectious respiratory particles than coughing, sneezing or talking. On the best currently available evidence, examples include: • Bronchoscopy • Sputum induction • Tracheal intubation • Post mortem procedures involving high speed devices • Cardio-pulmonary resuscitation • High frequency oscillating ventilation, Non-invasive ventilation Note this list is not exhaustive, local risk assessment may identify additional procedures for which AGP precautions are indicated. These procedures are not normally considered to be aerosol generating: • Nebulisation • Routine tracheostomy care[1] (FFP3 may be considered, following local risk assessment, if the procedure is deemed likely to cause prolonged or vigorous coughing).
Contact Precautions	Contact precautions are infection control measures (to be used **in addition to** Standard Infection Control Precautions) which are designed specifically to prevent and control the transmission of infectious agents spread by direct and indirect contact. These include: • isolation, • hand hygiene, • use of personal protective equipment (PPE), • care of equipment and environment, including decontamination, • safe handling of linen and waste.
Cohort/Cohorting	Placing women with the same known or sometimes suspected condition together in an area separate from other women not known or suspected of having the condition.
Droplet Precautions	Transmission based precautions are infection control measures (to be used **in addition to** Standard Infection Control Precautions) which are implemented for organisms transmitted via large particle droplets. These include: • isolation • wearing a fluid repellent surgical mask (FRSM) when within 1 metre of the woman (it may be more practical to put on the mask on entering the woman room), • wearing an FFP3 mask when performing, or present during, aerosol generating procedures.
FFP3 mask	Particulate filtering mask to EN 149:2001 standard and CE marked. Staff must have received appropriate fit test training before using these FFP3 masks.

Fluid Resistant Surgical Mask (FRSM)	Type II**R** Surgical mask with fluid repellent properties (EN 14683).
H1N1	Influenza A strain responsible for 2009/10 and 2010/11 pandemic influenza.
Mask (for use on women)	Any standard 'surgical' type mask (FFP3 is not appropriate).
Personal Protective Equipment (PPE)	Gloves, aprons, gowns, eye and facial protection masks or respirators (filtering masks, e.g. FFP3) used for standard or transmission based precautions.
Respiratory Hygiene/ Cough Etiquette	Cover nose and mouth with disposable, single-use tissues when sneezing, coughing, wiping and blowing nose. Dispose of used tissues into the nearest waste bin. Wash hands after coughing, sneezing, using tissues, or after any contact with respiratory secretions and contaminated objects. Keep hands away from the mucous membranes of the eyes and nose. Certain women/clients (e.g. the elderly, children) may need assistance with containment of respiratory secretions and hand washing; those who are immobile will need a receptacle (e.g. a plastic bag) readily at hand for the immediate disposal of used tissues and offered hand hygiene facilities.
Severe immunosuppression	See Appendix 5
Standard Infection Control Precautions	Standard Infection Control Precautions (SICPs) are infection prevention and control precautions to be used **for all women**, **at all times,** and **in all settings** to reduce the risk of transmission of micro-organisms from both recognised and unrecognised sources of infection. Examples include hand hygiene and the use of PPE to prevent contact with body fluids. See: http://howis.wales.nhs.uk/sites3/Documents/926/CID%20892%20ABMU Standard%20Infection%20Control%20Precautions%20Policy V1%200 Apr 2013 Final%281%29FINAL.pdf or http://howis.wales.nhs.uk/sites3/page.cfm?orgid=379&pid=30427
Transmission Based Precautions	Transmission Based Precautions are a set of measures that should be implemented when women/clients are either suspected or known to be infected with a specific infectious agent. Transmission Based Precautions are categorised according to the route of transmission of the infectious agent such as droplet, contact and/or airborne. Transmission based Precautions are to be implemented **in addition to** Standard Infection Control Precautions. http://howis.wales.nhs.uk/sites3/Documents/926/CID1448%20ABMU%20Transmission%20Based%20Precautions%20Policy%20V1.0%20April%202015%5B1%5DSH.pdf

Appendix 2



Notes

1. Standard Precautions must be maintained at all times
2. Document and communicate decisions of assessment and necessary precautions to all appropriate staff.

Appendix 3 – Treatment

When influenza is circulating in the community, either Oseltamivir or Zanamivir are recommended (in accordance with UK licensing) for the treatment of influenza in **at-risk patients** who can start treatment **within 48 hours of the onset of symptoms.**

Initial Assessment and Treatment of Adult inpatients, in or Presenting to Hospital with Suspected Influenza (Click here for PDF version)

The criteria for suspecting Influenza are sudden onset within the last 10 days of at least one of the following 4 systemic symptoms**;**

Fever, Malaise, Headache and/or Myalgia

AND at least one of these 3 respiratory symptoms**;**

Cough, Sore throat, Shortness of breath

If a patient meets these criteria, the following needs to happen as soon as possible:

- The patient needs to be **isolated** in a single room.
- Follow droplet precautions (Surgical Fluid repellent **Mask**, with **visor**/eye protection, disposable **apron**, and **gloves**) in the cubicle or within 1m of the bed space in a bay. FFP3 mask and long sleeved gowns are only required for Aerosol Generating Procedures.
- Send a **dry throat swab** if onset is within 5 days, remember to include clinical details on the form as samples need to be prioritised. If the patient is part of a known ward outbreak there is no need to send samples after the first 3 patients. Do not test patients on a ward with known positive Flu cases as they can be treated as flu if they develop symptoms. Testing to be prioritised for new patient admissions or transfers or in other situations where the result will alter management.
- Start influenza **treatment** immediately, (see table below), do not wait for virology results
- **All exposed in-patients or those being admitted should be offered prophylaxis**
- For transfers the patient should wear a surgical mask if possible

Patient Risk Factors	**Treatment**
Patients who are well enough not to be admitted to hospital **AND who have no risk factors for complicated influenza (**Age over 65 years, **Pregnancy** (including up to two weeks post-partum), Neurological, hepatic, renal, pulmonary and chronic cardiac disease, Diabetes mellitus, or Morbid obesity (BMI ≥40)**)** **AND no signs of complicated influenza (**signs of LRTI and/or central nervous system involvement)	No antiviral treatment
Everyone else I.e. Everyone who is not severely immunosuppressed, but is in or being admitted to hospital, • Plus those able to go home but who fall into an at risk category (Age over 65 years, Pregnancy (including up to two weeks post partum), Neurological, hepatic, renal, pulmonary and chronic cardiac disease, Diabetes mellitus, or Morbid obesity (BMI ≥40)), or who have signs of complicated influenza (signs of LRTI and/or central nervous system involvement)	**Oseltamivir 75mg PO/NG twice daily for 5 days,** if therapy can be started within 48 hrs of exposure

Patients with a creatinine clearance of less than 30ml/min or renal replacement therapy will require a reduced dose, please refer to CID1390 on COIN

If symptom onset if over 48hrs ago, there is suspected or confirmed Oseltamivir resistant influenza or there are other concerns please discuss with microbiology.

Pregnancy & Breastfeeding

Although safety data are limited, either Oseltamivir or Zanamivir can be used in women who are pregnant or breast-feeding when the potential benefit outweighs the risk (e.g. during a pandemic).

Oseltamivir is the preferred drug in women who are breast-feeding.

Appendix 4

3. Removing Personal Protective Equipment (PPE)	
• **Safely remove PPE inside the isolation room/cohort (except mask and face protection). The sequence is as follows:**	
Gloves: • The outside of gloves are contaminated. • Grasp the outside of the glove with the opposite gloved hand; peel off. • Hold the removed glove in the gloved hand. • Slide the fingers of the ungloved hand under the remaining glove at the wrist. • Peel the second glove off over the first glove. • Discard into an appropriately lined waste bin.	
Apron: • Apron front is contaminated. • Unfasten or break ties. • Pull apron away from neck and shoulders, lifting over head, touching the inside only. • Fold or roll into a bundle. Discard into an appropriately lined waste bin.	
Gown: • Gown front and sleeves are contaminated. • Unfasten neck, then waist ties. • Remove gown using a peeling motion; pull gown from each shoulder towards the same hand. Gown will turn inside out. • Hold removed gown away from the body, roll into a bundle and discard into an appropriately lined waste bin.	
• **Now Perform Hand Hygiene – Alcohol Hand Rub**	
Eye Protection (Goggles/Face Shield): • Outside of goggles or face shield are contaminated. • Handle only by the headband or the sides. • Place in designated receptacle for reprocessing or into an appropriately lined waste bin.	
Surgical Mask or Respirator: • Front of mask/respirator is contaminated – do not touch. • Unfasten the ties – first the bottom, then the top. • Pull away from the face without touching the front of the mask/respirator. Discard into appropriately lined waste bin.	
• **Perform Hand Hygiene immediately on removal**	

Adapted from: Welsh Standard Infection Control Precautions Model Policy (August 2015), WHO (2007) Epidemic and Pandemic-Prone Respiratory Diseases Guidance and Centers for Disease Control and Prevention: *Guidance for the Selection and Use of Personal Protective Equipment in Healthcare Settings*.

Maternity Services

Checklist for Clinical Guidelines being Submitted for Approval by Maternity Quality & Safety Group

Title of Guideline:	Management of Seasonal Influenza in Pregnancy and Postpartum Period
Name(s) of Author:	Kate Evans, Public Health Midwife
Chair of Group or Committee supporting submission:	Antenatal Forum
Issue / Version No:	Two
Next Review / Guideline Expiry:	13th July 2021
Details of persons included in consultation process:	Antenatal Forum
Brief outline giving reasons for document being submitted for ratification	Updating expired policy
Name of Pharmacist (mandatory if drugs involved):	Not provided
Please list any policies/guidelines this document will supercede:	Guideline for the Management of H1N1 Influenza (2012)
Please indicate key words you wish to be linked to document	Flu, influenza, virus
Date approved by Maternity Quality & Safety Group:	Approved by Antenatal Forum on 13th July 2018
File Name: Used to locate where file is stores on hard drive	Z:\npt_fs2\Maternity Incidents Stats Etc\Policies\Ratified - Obs