Influenza Immunization
Clinical Resource
2017 - 2018
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Acknowledgements:
Alberta Health Services, Communicable Disease Control, Province-wide Immunization. Influenza Immunization Orientation PowerPoint Presentation 2017-2018.
BCCDC InFLUenza Immunization Course for Health Professionals.
**Introduction**

The Saskatoon Health Region (SHR) influenza program is implemented in accordance with the Saskatchewan Ministry of Health parameters. All SHR residents 6 months of age and older are eligible to receive publicly funded influenza vaccine.

The influenza program objective is to prevent influenza disease and/or reduce complications and deaths among SHR residents through vaccination.

To achieve this objective, SHR Population and Public Health Services (PPHS) work in concert with multiple immunization partners in the delivery of seasonal influenza vaccine.

**Section One – Influenza Disease**

What is Influenza?
- Influenza, or “the flu”, is a highly contagious respiratory infection caused by influenza A or B viruses.
- In Canada, influenza generally occurs in the late fall and winter months every year.
- Influenza is ranked among the top 10 infectious diseases affecting the Canadian population.

Symptoms of Influenza
- Influenza has a sudden onset of fever, chills, cough, muscle aches, headache, fatigue, and a runny or stuffy nose.
- Although nausea, vomiting and diarrhea may also occur, especially in children, influenza is not “stomach flu”. It is a respiratory disease.

Severity
- Influenza occurs globally with an estimated attack rate of 5-10% in adults and 20-30% in children.
- Every year between 10-20% of Canadians become infected with influenza.
- Some people will not develop symptoms even though they have been infected.
- Those who do become ill will usually recover within a week to ten days.
- Some – especially those 65 years of age and older, children from birth to 59 months of age, those with chronic health conditions and pregnant women are at higher risk of developing complications from influenza illness.
- Complications can include pneumonia (bacterial and viral), ear and sinus infections, dehydration, and worsening of chronic medical conditions, such as congestive heart failure, asthma or diabetes.
- Every year about 3,500 Canadians will die from influenza.
- Even healthy people can develop serious complications and die from influenza.

Spread and Communicability
- Influenza virus is easily spread from one person to another by coughing, sneezing or talking.
- It can also spread by touching something that has become infected with nose or throat secretions from someone who is sick and then touching your eyes, mouth or nose before washing your hands.
- The virus can survive on surfaces for up to 9 hours.
- Adults can spread the virus from the day before symptom onset to ~ 5 days after symptoms begin.
- Children can spread the virus to others for 10 days or more.
- Even if someone does not develop symptoms, they can still transmit the virus to others.

**Prevention**
- Get the influenza vaccine every fall.
- Wash your hands often with soap and water, scrubbing for at least 15 seconds before rinsing under running water and drying with a clean or disposable towel.
- Stay home if you are ill.
- Cough and sneeze into your sleeve or a tissue (then wash your hands after you throw the tissue away).
- Avoid touching your eyes, nose, or mouth – your hands or fingers may have touched something infectious before.
- Regularly clean surfaces such as your keyboard, mouse, and phone with disinfectants.
- Maintain a healthy lifestyle: exercise, eat well, limit intake of sugar, caffeine and alcohol, stay well hydrated, get adequate rest and sleep, do not smoke and keep your immunizations up to date.

**Section Two – Influenza Vaccine**

**Facts about the Influenza Vaccine**

- Choosing the annual influenza vaccine strains is the responsibility of the World Health Organization (WHO).
- Because influenza viruses change frequently, a new vaccine formulation is considered each year.
- Each vaccine lot is tested on healthy individuals to ensure the vaccine is safe and effective.
- Even when vaccine strains remain the same, re-immunization is needed for optimal protection because immunity wanes over the year.

**Influenza vaccines may be given at the same time as, or at any time before or after, the administration of other vaccines (live or inactivated).**

- **Inactivated Influenza Vaccines**
  - Influenza viruses are grown in chicken egg cells and then “inactivated” (killed) during the manufacturing process. The resulting inactivated vaccine cannot cause influenza.
  - Can be given to those ≥ 6 months of age.
  - Are given intramuscularly.
Effectiveness of Influenza Vaccine

- The vaccine takes about two weeks to become completely effective; however, there may be some protection afforded before that time.

- Vaccine effectiveness varies depending on the:
  - age of the recipient
  - immune response of the person being immunized, and
  - match between the vaccine strains and the influenza strains circulating in the community.

- With a good “match”, immunization can prevent disease in up over 80% of healthy people.

- When the vaccine does not provide complete protection, it will still lessen the length and severity of illness.

- Vaccine efficacy in the elderly is about half of that in healthy adults, however it does reduce the incidence of pneumonia, hospitalizations and deaths in this age group.

- Although vaccine efficacy may be lower in certain populations (e.g. the elderly or those who are immunocompromised), immunization remains an important source of disease protection in these vulnerable groups.

Seasonal Quadrivalent Influenza Vaccine Composition for 2017 – 2018

- A/Michigan/45/2015 (H1N1)pdm09-like virus;
- A/Hong Kong/4801/2014 (H3N2)-like virus; and
- B/Brisbane/60/2008-like virus (Victoria lineage)
- B/Phuket/3073/2013-like virus (Yamagata lineage)

Saskatchewan will be using two quadrivalent products this year during the influenza season.

- Fluzone®
- FluLaval Tetra®
2017/18 Provincially Funded Vaccines

<table>
<thead>
<tr>
<th></th>
<th>FluLaval Tetra® QIV (GlaxoSmithKline)</th>
<th>Fluzone® QIV (Sanofi Pasteur)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dosage &amp; Route</strong></td>
<td>0.5 mL X 1 or 2 doses $^1$ IM</td>
<td>0.5 mL X 1 or 2 doses $^1$ IM</td>
</tr>
<tr>
<td><strong>Ages for use</strong></td>
<td>≥ 6 months</td>
<td>≥ 6 months</td>
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<tr>
<td><strong>Formats</strong></td>
<td>5 mL multi-dose vial Discard 28 days post-puncture</td>
<td>5 mL multi-dose vials May be used up to the expiry date on the vial</td>
</tr>
<tr>
<td><strong>Thimerosal</strong></td>
<td>Yes $^2$</td>
<td>Yes $^2$</td>
</tr>
<tr>
<td><strong>Antibiotics</strong></td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Other clinically relevant ingredients $^3$</strong></td>
<td>Egg protein Formaldehyde Sodium deoxycholate Sucrose</td>
<td>Egg protein Formaldehyde Triton X-100</td>
</tr>
</tbody>
</table>

$^1$ Previously unimmunized children under 9 years of age require 2 doses of vaccine with a minimum interval of 4 weeks between doses.

$^2$ Thimerosal free vaccine is available for those who self-identify as having a diagnosed thimerosal allergy. Contact Public Health @ 655-4149 if requiring thimerosal free vaccine.

$^3$ Refer to vaccine product monograph for a complete listing of ingredients.

Note: all influenza vaccines are latex-free.

**Recommended Vaccine Recipients (Appendix A)**

Influenza vaccine is recommended for all individuals aged 6 months and older. Children must be 6 calendar months of age; no exceptions. The vaccine is licensed for infants 6 months of age and older.

Particular focus should be paid to those at high risk of influenza-related complications or hospitalization, people capable of transmitting influenza to those at high risk and others as indicated below.

High risk individuals include:
- Individuals with chronic health conditions (Appendix A).
- Residents of long term care facilities.
- People ≥ 65 years of age.
- Children from 6 to 59 months of age.
- Pregnant women. The risk of influenza-related hospitalization increases with length of gestation. Vaccinating pregnant women protects them and their newborns from influenza and influenza-hospitalization. Influenza vaccine is safe at all stages of pregnancy and for breastfeeding women.
- Aboriginal Peoples.
People capable of transmitting influenza to those at high risk:
- Any person, paid or unpaid, who provides services, works, volunteers or trains in any health care setting.
- Household contacts of individuals at high risk of influenza complications.
- Those providing regular child care to children ≤ 59 months of age.

For a complete listing of priority groups please refer to the National Advisory Committee on Immunization (NACI) Statement on Seasonal Influenza for 2017 - 2018

Contraindications to Inactivated Influenza Vaccine
All individuals must be screened for contraindications prior to immunization.

Inactivated influenza vaccine is contraindicated in:
- Infants under 6 months of age.
- Those who have experienced an anaphylactic reaction to a previous dose or to any of the components within that vaccine (with the exception of egg*).
- Those experiencing a serious acute illness¥.
- Individuals who have developed Guillain Barré Syndrome (GBS) within 6 weeks of a previous dose of influenza vaccine.
- People who have had severe Oculorespiratory Syndrome (ORS) after influenza immunization should be assessed further prior to immunizing.

* NACI 2017/18 states that inactivated influenza vaccine may be administered to individuals with severe egg allergies (including anaphylaxis) in any setting with no restrictions.
¥ Defer if person has a serious acute illness. However, vaccine can be safely given to those with mild acute illness (with or without fever), those recovering from illness or those taking antibiotics.

Section Three – Vaccine Administration

Steps to Informed Consent

It is the professional and legal responsibility of the immunization provider to obtain valid informed consent prior to immunization.

Step 1: Identify Client; Determine Authority to Provide and/or Ability to Give Informed Consent
- Is client an adult or mature minor and capable of informed decision making regarding consent?
- Before immunizing children consent is required from parents, foster parents, or those who have legal guardianship.
Step 2: Assess for contraindications
- Screen each client for:
  - Age
  - History of allergies
  - Medications
  - Present health status
  - Chronic illness
  - Previous reactions to influenza vaccine

Step 3: Review Standard Fact Sheet Information
- Disease being prevented.
- Benefits of vaccination.
- Risks of not getting the vaccine.
- Potential side effects of the vaccine (common and expected; and rare or unusual, such as anaphylaxis and the importance of the 15 minute wait).

Step 4: Confirm Consent
- Confirm that person providing consent understands the information presented.
- Answer any additional questions.
- Verify the client is ready to proceed.

Step 5: Document
- As per agency policy.


Vaccine Preparation

Ensure the “10” rights of immunization:
1. Right product
2. Right client
3. Right dose
4. Right time
5. Right route
6. Right reason
7. Right documentation
8. Right education
9. Right evaluation
10. Right to refuse

Always perform proper hand hygiene during immunization (Appendix B)

Multi-dose Vials
- Remove only one vial from the refrigerator or insulated vaccine cooler at a time.
- Do not warm to room temperature prior to administration.
- Protect from light.
- Read the vaccine label and check the expiry date.
• Do not administer products beyond the expiry date. Communicate with other staff when vials are nearing expiry dates to prioritize their use.
• Date multi-dose vials upon opening. The first day that the stopper is punctured is considered “day 1”.
  o FluLaval Tetra® - Do not administer vaccine from a vial that has been opened for ≥ 28 days.
  o Fluzone® - May be used until the expiry date indicated on the vial.
• Visually inspect the vaccine. Do not use if discolored, if extraneous particulate matter is noticed or if the vial is defective.
  o FluLaval Tetra® appears as opalescent translucent to off-white suspension, that may sediment slightly.
  o Fluzone® appears as clear to slightly opalescent in colour.
• Determine the site of injection based on the client’s age; muscle mass at the injection site and medical history.
• Select appropriate syringe and needle
• Cleanse rubber stopper with 70% isopropyl alcohol and allow to dry.
• Gently shake the vial prior to withdrawing each 0.5 mL dose.
• Do not combine partial doses from different vials to make a full dose.
• Draw up vaccine immediately prior to administration
  o Do not pre-draw multiple syringes of vaccine ahead of time.
• While showing the vaccine to client, state vaccine name and expiry date (show and tell). This acts as the final check ensuring the “right” vaccine is being administered.

Intramuscular Injections (Appendix C)

• Ensure good visualization of the injection site area and avoid tight clothing above the injection site.
• Position the client’s limb for injection. Swab the site of injection with alcohol swab and allow to dry.
• Recommended injection sites:
  o 6 months to < 1 year of age: Vastus lateralis (anterolateral thigh).
  o Clients ≥1 year of age: Deltoid (provided the muscle mass is adequate).
  o Single mastectomy clients – use arm opposite the mastectomy.
  o Double mastectomy clients - use vastus lateralis.
• Coach client to relax the limb muscles prior to injection.
• Secure the injection site using the appropriate stabilization technique for the client’s age.
• Insert the needle quickly at a 90° angle.
• Inject the vaccine rapidly – DO NOT aspirate.
• Withdraw needle quickly at the same angle it was inserted and apply gentle pressure with a cotton ball at the injection site.
• Activate the safety engineered device immediately after withdrawing needle.
• Discard used syringe and any empty vaccine vials in sharps container.
• Reinforce the 15 minute wait period with the client or parent/guardian.

Note: if administering more than one IM injection, whenever possible use different limbs. If not feasible, injections may be administered in the same limb provided a separation of at least 2.5 cm (1 inch) is respected.
Section 4 - Reactions to Influenza Immunization

Most people do not have any side effects following influenza immunization. Reactions that do occur are usually mild to moderate and may last for 1-4 days.

Quadrivalent Inactivated Influenza Vaccine (QIV)
(FLuval Tetra and Fluzone)

Local
- Injection site redness, swelling, pain, warmth.
- Temporary limited movement of immunized limb.

Systemic
- Fatigue, headache, malaise, myalgia, fever, chills, sweating, arthralgia, irritability, loss of appetite.
- Note: in healthy adults there is no increase in the frequency of fever or other systemic symptoms following TIV compared with placebos.

Rare Reactions

Guillain-Barré Syndrome (GBS)
- Is a rare form of paralysis thought to be immune-mediated.
- Usually temporary - most have full or near complete recovery although there is a 5% CFR.
- Often preceded by common infections including influenza.
- Has been associated with 1976 "swine flu" vaccine.
- Studies since 1976 have either demonstrated no association between GBS and seasonal influenza vaccine, or suggest a small increased risk of ~ 1 additional case per million persons vaccinated.
- The risk of GBS is much greater following influenza disease than following vaccine.
- Influenza immunization may have a protective effect against GBS by way of preventing influenza infection.

Oculorespiratory Syndrome (ORS)
- Defined as the onset of bilateral red eyes plus one or more respiratory symptoms (cough, wheeze, chest tightness, difficulty breathing or swallowing, hoarseness or sore throat) with or without facial swelling within 24 hours of influenza immunization.
- Most reports of ORS occurred following receipt of the 2000-2001 seasonal TIV.
- If previous ORS did not include lower respiratory tract symptoms → ok to proceed with influenza re-immunization.
- If previous ORS did include lower respiratory symptoms (i.e., wheezing, chest tightness, or difficulty breathing), do not re-immunize until expert medical consultation is obtained.

Do not administer influenza vaccine to individuals who report GBS within 6 weeks of a previous influenza dose.
Anaphylaxis (Appendix E)
- A potentially life-threatening allergic reaction.
- A sudden release of histamine and other inflammatory chemical mediators results in a rapid onset of cardinal clinical features involving at least two body systems (e.g. the skin, respiratory, circulatory or gastrointestinal systems).
- The cardinal clinical features may include:
  - Itchy, urticarial rash (in > 90% of cases).
  - Progressive painless swelling (angioedema) about the face and mouth, which may be preceded by itchiness, tearing, nasal congestion or facial flushing.
  - Respiratory symptoms (sneezing, coughing, wheezing, labored breathing, upper airway swelling – indicated by hoarseness and/or difficulty swallowing).
  - Vascular collapse – rapidly falling BP, sweating, rapid, thread-like pulse, weakness, dizziness, a feeling of uneasy, restlessness, anxiety.
  - Nausea, vomiting and diarrhea.
- Although rare (~ 1 episode per 1,000,000 doses), it should be anticipated with every client.
- Pre-screening during informed consent is an important mechanism to prevent episodes.
- Ensure immediate access to an up-to-date anaphylaxis kit when immunizing.
- Encouraging clients to remain on-site for 15 minutes after immunization permits early recognition and initiation of life-saving treatment.
- Immunizers must be able to distinguish between anaphylaxis, fainting or an anxiety reaction.

Other Reactions

Fainting (vasovagal syncope) (Appendix E, page 28)
- Fainting is often triggered by a stimulus (anxiety) which causes a drop in heart rate and blood pressure reducing blood flow to the brain and leading to a loss of consciousness.
- ~ 25% of cases can result in brief jerking movements that resemble seizures.
- Recovery tends to occur quickly, usually within a few seconds to minutes.
- Fainting can result in head trauma if a client falls.
- Reduce risk by immunizing with client seated or have client lie down if there is a history of fainting.
- If client faints - have them lie down with feet elevated. Watch for signs of an allergic reaction. Apply a damp cloth to forehead and offer juice if possible. Have the client resume a standing position in stages starting with sitting, standing and then walking.

Anxiety Reactions
- Watch for the following symptoms: fearful, pale, diaphoretic, light headed, dizzy, numbness, tingling of face and extremities, hyperventilation.
- Treatment: reassurance combined with encouragement to relax and breathe slowly.

Reporting Adverse Events Following Immunization (AEFI)
- All immunization providers of provincially funded vaccines should report adverse reactions that meet reporting criteria to Population & Public Health Services as soon as possible.
- Severe reactions should be reported within 24 hours.
• Fax form to Immunization Clinician at 1-306-655-4898 who will forward to the MHO.
• Refer to Appendix F “Summary of AEFI Reporting Criteria” to determine if an event fits reporting criteria.

### Section Five – Documentation

**PPH Immunizers**

- Complete appropriate sections on the DC-282a/b *Immunization Screening and Consent Form*, recording:
  - Employee number, site and department for all SHR health care workers.
  - Appropriate risk factor (selecting only one).
  - Date, vaccine type, lot number, site of injection, and clinic location.
- Offer all clients a MoH Record of Influenza Immunization wallet card, stamping it with the date the vaccine was administered.
- Panorama documentation is required for:
  - Influenza vaccine administered to all persons born in 2000 (up to and including 17 years of age) or later.
  - Pneumococcal vaccine.
  - Tdap vaccine.

**Partner Immunizers**

- SHR is required by the Saskatchewan Ministry of Health to account for and report on vaccine utilization including wastage.
- In order to continue receiving provincially funded influenza vaccine, community providers must:
  - account for all doses administered to individual clients and staff;
  - record eligibility category for individuals immunized;
  - complete all data collection forms distributed by PPH or accessed from: www.4flu.ca.
- Additional doses of vaccine will be provided upon receipt of completed forms.

#### Influenza
- Influenza immunization forms must be completed and reported weekly.

#### All Other Vaccines
- Weekly or monthly reporting as per agency standard of practice.

### Section Six – Vaccine Management

**Cold Chain**

- Refers to the process used to maintain optimal temperature conditions during the transport, storage and handling of vaccines.
- The optimum temperature for vaccines is between 2°C - 8°C.
- Vaccines are sensitive biological products and may become less effective or destroyed when exposed to temperatures outside this range.
• Vaccine that has been frozen is immediately inactivated!

**Vaccine Storage – Refrigerator**

• Store in a dedicated refrigerator.
• Place vaccines only on the upper and middle shelves – not in refrigerator doors or near the cooling units, as these areas are more susceptible to temperature fluctuations.
• Leave space between products to allow air to circulate.
• Do not keep food or drinks in vaccine refrigerators.
• Monitor and record fridge temperatures a minimum of twice per day using a minimum-maximum thermometer.
• Newly installed or repaired storage units must have 1 week of twice daily temperature recordings before using it to store vaccines.
• Never allow vaccines to freeze.
• Minimize fridge opening.
• Keep a separate tray or container in the fridge for products that have been partially used or taken to a clinic. Use these vaccines before opening new vials or packages.
• If room allows, place full plastic water bottles or thawed ice packs on the bottom and empty shelves. This helps maintain a constant storage temperature and will delay the temperature from rising in the event of a refrigerator or power failure.

**Vaccine Packing and Transport**

• Insulated coolers must be large enough to store vaccines, ice/gel packs, and insulating material.
• Insulating materials are used as a barrier to prevent direct contact between vaccines and frozen packs. Never allow vaccines to come into direct contact with ice! Vaccine that has been frozen is immediately inactivated.
• Bubble wrap is a good insulating material. A layer of paper toweling is not sufficient as a barrier to protect contact with frozen material.
• Pack enough refrigerated or frozen packs to maintain the cold chain.
• Do not use loose or bagged ice.
• Only take vaccine stock that is anticipated to be used at that clinic.
• Keep the container closed as much as possible.

**Cold Chain Breaks**

A cold chain break is any circumstance where a vaccine is exposed to temperatures outside of the optimal 2°C - 8°C range.

• If a cold chain break is suspected, place implicated vaccine in a bag labeled “Cold Chain Break - DO NOT USE”
• Return bag to fridge - maintaining the quarantined product under cold chain conditions.
• Report to PPHS at 655-4760 or 655-4149 asap.
• Do not discard vaccine until the Ministry of Health determines the product integrity.
For Community Partner Immunizers: Influenza vaccine is released only if the recipient has an insulated cooler with a frozen ice pack and a refrigerated gel pack at time of vaccine pick-up. Transport vaccines immediately from P&PH to your clinic designated refrigerator.

Refer to Appendix G Store Biological Products Properly

Section Seven – Pneumococcal Vaccine

- Pneumococcal disease is caused by more than 90 different subtypes of the bacterium *Streptococcus pneumoniae*.
- There are three major conditions caused by invasive pneumococcal disease (IPD):
  - pneumonia
  - bacteremia
  - meningitis
- IPD is most common in the very young, the elderly and persons at high risk such as those with functional or anatomic asplenia; congenital or acquired immunodeficiency.

**Pneumovax 23** is an inactivated polysaccharide vaccine used to protect against 23 serotypes of this bacteria.

- **Vaccine Efficacy:**
  - 50-80% against IPD
  - Onset of immunity is within two weeks of immunization
- **Eligibility:**
  - Everyone ≥ 65 years of age*
  - Residents of long term care facilities
  - Anyone ≥ 2 years of age at high risk of IPD
- **Refer to the Ministry of Health fact sheet for full listing of eligible vaccine candidates and contraindications**
- **Re-immunization:**
  - Once only for those at highest risk of IPD (Refer to fact sheet)
- **Administration:**
  - Can be given at the same time as influenza vaccine
  - Use different limbs if possible
- **Route:**
  - IM deltoid OR
  - SC lateral aspect of upper arm
- **Dosage:**
  - 1 dose (0.5mL) adults and children ≥ 2 years of age
- **Side Effects:**
  - Redness, swelling and soreness at injection site (SC>IM)
  - Occasionally low grade fever or headache
- **Documentation:**
  - Record on DC-282a/b Immunization Screening and Consent Form under Pneumococcal 23 Vaccine.
  - Immunizers with Panorama access must document dose given within 24 hours.
For clients ≥ 65 years* PPH staff will affix an orange ‘pneumo’ sticker, with the date of immunization, on the recipient’s health card.

* The target groups for influenza and pneumococcal polysaccharide vaccines overlap considerably. Immunizers should take the opportunity to vaccinate against both diseases during influenza season as appropriate. Therefore, pneumococcal vaccine can be offered to individuals who are currently 64 years of age but will be turning 65 before March 31, 2018.

**Section Eight – Tetanus, diphtheria, acellular pertussis (Tdap) Vaccine**

- All adults 18 years and older are eligible to receive one dose of Tdap to replace a routine Td reinforcement dose.
- Because infants are at greatest risk of morbidity and mortality from pertussis, the cocooning strategy in Saskatchewan targets Tdap administration to:
  - Those who come in contact with, and could expose, infants and young children at risk or too young to receive pertussis vaccine.
  - Moms postnatally while in hospital.
  - Healthcare workers who work with infants should contact OH&S.
- Administer at least 2 weeks before contact with the infant, if possible.
  

Tdap is an inactivated toxoid with adjuvant

- **Vaccine Efficacy:**
  - 93-100% show protective levels for at least 5 years

- **Eligibility at influenza clinics:**
  - One dose if not previously received in adulthood (18 years of age and older) and
  - Are a caregiver of an infant < 6 months of age
  - Tdap can be administered regardless of the interval since the last tetanus and diphtheria toxoid–containing vaccine for primary care givers of infants less than 6 months.
  - Check Panorama prior to administering.

- **Contraindications:**
  - Persons who have a serious illness, with or without a fever, should delay immunizations.
  - Persons who have had a life-threatening reaction to a previous dose of tetanus, diphtheria, or pertussis vaccine, or any components of the vaccine.
  - Persons who received their adult tetanus, diphtheria and pertussis booster.
  - Persons who developed Guillain-Barré Syndrome (GBS) within 6 weeks of getting tetanus vaccine should not get the vaccine.

- **Administer:**
  - Concomitantly with other vaccines at different injection sites using separate needles and syringes.
• **Route & Dosage:**
  - IM deltoid / 0.5 mL

• **Side Effects:**
  - Local: Redness, tenderness, swelling, induration, pain.
  - Systemic: Fatigue, headache, mild fever, dizziness.

• **Document:**
  - Record on DC-282a Immunization Screening and Consent Form under Tdap.
  - Ensure dose is recorded into Panorama within 24 hours.
  - For clients ≥ 18 years PPH staff will affix a pink ‘Tdap’ sticker, with the date of immunization, on the recipient’s health card.
Appendix A

NACI Table 1: Influenza vaccination is particularly recommended for the following groups:

**People at high risk of influenza-related complications or hospitalization**

- All pregnant women*.
- Adults and children with the following chronic health conditions:
  - cardiac or pulmonary disorders (including bronchopulmonary dysplasia, cystic fibrosis and asthma);
  - diabetes mellitus and other metabolic diseases;
  - cancer, immune compromising conditions (due to underlying disease, therapy or both);
  - renal disease;
  - anemia or hemoglobinopathy;
  - neurologic or neurodevelopment conditions**;
  - morbid obesity (BMI ≥40);
  - children and adolescents (age 6 months to 18 years) undergoing treatment for long periods with acetylsalicylic acid, because of the potential increase of Reye’s syndrome associated with influenza.
- People of any age who are residents of nursing homes and other chronic care facilities.
- People ≥65 years of age.
- All children 6 to 59 months of age.
- Aboriginal Peoples.

* The risk of influenza-related hospitalization increases with length of gestation, i.e., it is higher in the third than in the second trimester.
** These include seizure disorders, febrile seizures and isolated developmental delay in children and neuromuscular, neurovascular, neurodegenerative, neurodevelopmental conditions and seizure disorders in adults, but excludes migraines and neuropsychiatric conditions without neurological conditions.

**People capable of transmitting influenza to those at high risk**

- Health care and other care providers in facilities and community settings who, through their activities, are capable of transmitting influenza to those at high risk of influenza complications.
- Household contacts (adults and children) of individuals at high risk of influenza-related complications (whether or not the individual at high risk has been immunized):
  - household contacts of individuals at high risk, as listed in the section above;
  - household contacts of infants <6 months of age as these infants are at high risk of complications from influenza but cannot receive influenza vaccine;
  - members of a household expecting a newborn during the influenza season.
- Those providing regular child care to children ≤59 months of age, whether in or out of the home.
- Those who provide services within closed or relatively closed settings to persons at high risk (e.g., crew on a ship).

**Others**

- People who provide essential community services.
- People in direct contact during culling operations with poultry infected with avian influenza.

In addition to the recipients identified in Table 1, influenza vaccine is also recommended for:

**Healthy Individuals ages 5-64 years of age**

Recent literature reviews conducted by NACI have shown that healthy individuals aged 5 to 64 years benefit from influenza vaccination.

Detailed information regarding these reviews can be found in the *Statement on Seasonal Influenza Vaccine for 2014-2015* and in each of the relevant literature reviews, available via the NACI website.
Germs Make You Sick
Wash Your Hands

- Before your shift
- After blowing your nose, coughing or sneezing into your hands
- Before and after eating
- After handling shared objects such as keyboards and pens
- After handling garbage and other waste
- After using the washroom
- When hands are visibly dirty
- At the end of your shift

Remember to scrub for a full 15 seconds, and always wash with soap and water after using the washroom and when hands are visibly dirty.

Find a How-to Video at www.germsmart.ca
Hand Hygiene audits are a requirement of Accreditation Canada and SHR policy.

The following criteria are used to guide audits during direct client care at influenza clinics:

- **PERFORM PROPER HAND HYGIENE:**
  - At the 4 moments.
  - Before accessing “Clean Supplies” or charting.
  - Using the steps for hand washing/sanitizing (on reverse).
  - Scrubbing for a full 15 seconds – this length of time is required when washing with soap and water or using 70% alcohol based hand rub.
- **NAILS** – artificial gel nails, nail enhancements, and nail polish can harbour organisms so are not allowed. A plain smooth ring may be worn.
- **JEWELRY** - exposed stone rings and bracelets can harbour organisms so are not allowed.
- **GLOVE USE** – if used, hand hygiene before and after single use.

Based on SHR IP&C Policies & Procedures 20-20, 20-30, 20-95 & 7311-30-01
Appendix C: Land marking and Restraining for IM Injections

- Greater trochanter of femur
- Vastus lateralis (middle third)
- Lateral femoral condyle

- Carer's hand restrains outside arm
- Inside arm tucked against carer's chest
- Carer's hand restrains outside leg
Hold the child on parent’s lap or have the child stand in front of the seated parent.

1. Parent’s arms embrace the child during the process.
2. Both legs are firmly between parent’s legs.

Restraints/stabilization techniques for deltoid site

<table>
<thead>
<tr>
<th>Infants 12 months and older</th>
<th>Infants 18 months old and older (“The pretzel hold”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Diagram of infant]</td>
<td>![Diagram of infant]</td>
</tr>
</tbody>
</table>

Have parent hold the child on parent’s lap.

1. One of the child’s arms embraces the parent’s back and is held under the parent’s arm.
2. The other arm is controlled by the parent’s arm and hand. For infants, the parent can control both arms with one hand.
3. Both legs are anchored with the child’s feet held firmly between the parent’s thighs, and controlled by the parent’s other arm.
Appendix D – Anaphylaxis

Recognition and Treatment of Anaphylaxis

Signs and symptoms of anaphylaxis develop rapidly and involve at least two body systems (e.g., the skin, respiratory, circulatory or gastrointestinal systems).

The cardinal features of anaphylaxis are:

1. Assess circulation, airway, breathing, mental status, skin, and body weight
   Promptly and simultaneously perform steps 2, 3 and 4.
2. Call for help
3. Inject epinephrine IM in the mid-anterolateral aspect of the thigh. Record time of dose and repeat q 5 minutes if needed.
4. Position client on back or a position of comfort if respiratory distress &/or vomiting. Elevate lower extremities. Client must not stand or sit suddenly.
5. When indicated at any time, perform CPR beginning with chest compressions.
Symptoms and Signs of Anaphylaxis

**Skin, subcutaneous tissue, and mucosa** (80-90%)
- Flushing, itching, urticaria (hives), angioedema, morbilliform rash, pilor erection
- Periorbital itching, erythema and edema, conjunctival erythema, tearing
- Itching of lips, tongue, palate, and external auditory canals; and swelling of lips, tongue, and uvula
- Itching of genitalia, palms, and soles

**Respiratory** (~70%)
- Nasal itching, congestion, rhinorrhea, sneezing
- Throat itching and tightness, dysphonia, hoarseness, stridor, dry staccato cough
- Lower airways: increased respiratory rate, shortness of breath, chest tightness, deep cough, wheezing/bronchospasm,
- Cyanosis
- Respiratory arrest

**Gastrointestinal** (45%)
- Abdominal pain, nausea, vomiting (stringy mucus), diarrhea, dysphagia

**Cardiovascular system** (45%)
- Chest pain
- Tachycardia, other arrhythmias, palpitations
- Hypotension, feeling faint, urinary or fecal incontinence, shock
- Cardiac arrest

**Central nervous system** (15%)
- Aura of impending doom, uneasiness (in infants and children, sudden behavioral change, eg. irritability, cessation of play, clinging to parent); throbbing headache (pre-epinephrine), altered mental status, dizziness, confusion, tunnel vision

*Sudden onset of symptoms and signs is characteristic of anaphylaxis. Symptom patterns vary from one person to another, and even in the same person from one anaphylactic episode to another.

This table has been adapted from The World Allergy Association

• Breath-holding spells occur in some young children when they are upset, crying hard, and reacting to injection pain. Some spells end with resumption of crying, but others end with a brief period of unconsciousness during which breathing resumes. No treatment is required beyond reassurance of the child and parents.

<table>
<thead>
<tr>
<th></th>
<th>ANAPHYLAXIS</th>
<th>FAINTING</th>
<th>ANXIETY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ONSET</strong></td>
<td>Usually within 15 - 30 minutes after injection</td>
<td>Sudden, occurs before, during or shortly after immunization, recovery within 1 - 2 minutes</td>
<td>Sudden, occurs before, during or shortly after immunization, recovery within 1 - 2 minutes</td>
</tr>
<tr>
<td><strong>SKIN</strong></td>
<td>Warm, flushed, blotchy areas, progressing to pallor and clamminess, pruritis and urticaria, tingling and swelling in mouth, tongue and face</td>
<td>Pallor, diaphoresis, cold and clammy</td>
<td>Pallor, diaphoresis, cold and clammy</td>
</tr>
<tr>
<td><strong>BREATHING</strong></td>
<td>Sneezing, coughing, wheezing, laboured breathing, hoarseness and difficulty swallowing due to swelling</td>
<td>Slow or normal rate, shallow, irregular or laboured</td>
<td>Hyperventilation</td>
</tr>
<tr>
<td><strong>PULSE</strong></td>
<td>Rapid and weak</td>
<td>Slow, steady</td>
<td>Rapid</td>
</tr>
<tr>
<td><strong>BLOOD PRESSURE</strong></td>
<td>Decreased systolic and diastolic; hypotension can progress to cause shock</td>
<td>Decreased systolic and diastolic</td>
<td>Normal or elevated systolic</td>
</tr>
<tr>
<td><strong>SYMPTOMS &amp; BEHAVIOUR</strong></td>
<td>Uneasiness, restlessness, agitation, not all signs. symptoms will be exhibited in each person, usually one body system dominates</td>
<td>Fearful; light-headedness, dizziness, numbness and weakness, sometimes accompanied by brief clonic seizure activity</td>
<td>Fearful, light-headedness; dizziness, numbness and weakness, tingling around lips and spasms in the hands and feet associated with hyperventilation</td>
</tr>
<tr>
<td><strong>GASTRO-INTESTINAL</strong></td>
<td>Nausea and vomiting; abdominal pain, loose stools</td>
<td>Nausea</td>
<td>Nausea</td>
</tr>
<tr>
<td><strong>OTHER</strong></td>
<td>Loss of consciousness</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


1 Refer to CIG, 2006, p. 80)
**DC-92 Anaphylaxis Treatment Worksheet**

**Client Name:**

**Surname / Given Name**

**HSN:**

**Birthday:**

**Parent / Guardian:**

**Telephone:**

<table>
<thead>
<tr>
<th>Immunization given</th>
<th>Dose</th>
<th>Route</th>
<th>Site</th>
<th>Provider signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1.</td>
<td>1.</td>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
<td>2.</td>
<td>2.</td>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
<td>3.</td>
<td>3.</td>
<td>3.</td>
<td>3.</td>
</tr>
<tr>
<td>4.</td>
<td>4.</td>
<td>4.</td>
<td>4.</td>
<td>4.</td>
</tr>
<tr>
<td>5.</td>
<td>5.</td>
<td>5.</td>
<td>5.</td>
<td>5.</td>
</tr>
</tbody>
</table>

**Date:**

**Approx. time given:**

**Reaction onset time:**

**Reaction Details (Transfer information to AEFI reporting form)**

**Skin/mucosal**

- Urticaria generalized
- Urticaria localized at injection site
- Erythema
- Pruritus
- Prickling sensation
- Tingling sensation
- Rash
- Angioedema
- Tongue
- Throat
- Uvula
- Lip
- Eyelids
- Face
- Limbs
- Injection site

**Eyes:**

- Itchy
- Red
- Tearing

**Respiratory**

- Sneezing
- Rhinorhea
- Hoarse voice
- Sensation of throat closure
- Stridor
- Dry cough
- Tachypnea
- Wheezing
- Indrawing/retractions
- Grunting and nasal flaring
- Cyanosis
- Sore throat
- Difficulty swallowing
- Difficulty breathing
- Chest tightness

**Cardiovascular**

- Decreased central pulse volume
- Capillary refill time > 3 sec
- Tachycardia
- Decreased or loss of consciousness
- Dizziness
- Syncope

**Gastrointestinal**

- Diarrhea
- Abdominal pain
- Nausea
- Vomiting

**Other (describe)**

<table>
<thead>
<tr>
<th>Medication Administered</th>
<th>Time (24-hour)</th>
<th>Pulse (per min)</th>
<th>Resp (per min)</th>
<th>Lot #</th>
<th>Dose ml</th>
<th>Site/Route</th>
<th>Administered By</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epi Dose #1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epi Dose #2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epi Dose #3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benadryl @ 1 dose only</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Attended by paramedics:

- Yes
- No

Transferred to hospital:

- Yes
- No

Time of transfer:

(24-hour)

Name(s) of Recorder(s):

Signature(s):

Date:

Notes:

yyyy/mm/dd

**Influenza Immunization Clinical Resource**

Adapted from:

SIM 2012, Chapter 12, Appendix 12.2, Page 13
Anaphylactic Symptom Definitions

Angioedema: Swelling caused by edema in the deeper skin and/or mucosal tissue in either single or multiple sites which may not be well circumscribed and is usually not itchy.

Capillary refill time: The time required for normal skin colour to reappear after a blanching pressure is applied. Usually performed by pressing on the nail bed to cause blanching and then counting the time for blood to return to tissue, indicated by a pink colour returning to the nail. Normal = 3 seconds or less.

Cyanosis: A bluish or purplish discoloration most easily seen in the facial or peri-oral area or tongue.

Decreased central pulse volume: Absent or decreased pulse in one of the following vessels – carotid, brachial or femoral arteries.

Erythema: Abnormal redness of the skin without any raised skin lesions.

Rhinorrhea: Runny nose (thin nasal mucus discharge).

Stridor: An abnormal, high-pitched, musical breathing sound caused by a blockage in the throat or voice box (larynx). It is usually heard when taking in a breath.

Tachycardia: A heart rate that is abnormally high for age and circumstance.

<table>
<thead>
<tr>
<th>Age</th>
<th>Heart Rate – upper limit (beats / minute)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants &amp; children</td>
<td></td>
</tr>
<tr>
<td>&lt; 1 year</td>
<td>160</td>
</tr>
<tr>
<td>1 to 2 years</td>
<td>150</td>
</tr>
<tr>
<td>2 to 5 years</td>
<td>140</td>
</tr>
<tr>
<td>5 to 12 years</td>
<td>120</td>
</tr>
<tr>
<td>&gt;12 years</td>
<td>100</td>
</tr>
<tr>
<td>Adults &amp; adolescents</td>
<td></td>
</tr>
<tr>
<td>&gt; 100</td>
<td></td>
</tr>
</tbody>
</table>

Tachypnea: Abnormally fast breathing

Urticaria: Hives. Raised, itchy areas of skin that are usually a sign of an allergic reaction. Hives can be rounded or flat-topped, but are always elevated above the surrounding skin. They reflect circumscribed dermal edema (local swelling of the skin). The hives are usually well circumscribed, but may be coalescent and will blanch with pressure.

Uvula: The anatomic structure that dangles downward at the back of the mouth and is attached to the rear of the soft palate.
DC-92(a) Anaphylaxis in a Community Setting

Protocol for Anaphylaxis Treatment in the Community Setting

### Rapid Assessment and Recognition is Critical
Assess Airway, Breathing (inspect lips, tongue and throat for swelling), Circulation, mental status, skin and body weight simultaneously.

**If 2 or more body systems are involved, manage as anaphylaxis:**

**Skin/Mucosa**
- Itchy, urticarial rash
- Progressive swelling (angioedema) about the face and mouth. May be preceded by itchiness, tearing, nasal congestion or facial flushing.

**Respiratory** – sneezing, coughing, wheezing, labored breathing, hoarseness, difficulty swallowing.

**Gastrointestinal** – crampy abdominal pain, vomiting, diarrhea.

**Cardiovascular** – hypotension/collapse. Infants may present with fussiness, irritability, drowsiness, lethargy.

### Management

#### A. Immediately Upon Signs & Symptoms of Anaphylaxis
1. **Give EPINEPHrine** (1:1,000) IM into an un-immunized thigh, vastus lateralis (all ages)
   - Dosing by weight preferred when body weight is known (0.01 mg/kg).
   - If weight unknown dosing by age is appropriate.
   - May be given into the same muscle as vaccine provided adequate (2.5 cm) spacing between sites.
2. **Call 9-1-1**. This should be done by second person if present.
   - At WWPIC, call 9-1-1 then notify on-call resident/physician through main reception or by calling 4250.
3. **Position** client on back and elevate legs, as symptoms tolerate
   - If vomiting or unconscious, use a side-lying (recovery) position
   - If respiratory distress – may elevate head and chest
   - If pregnant – position semi-recumbent on left side with legs elevated
4. **Monitor** respiratory effort, pulse and level of consciousness (mental status) frequently
   - Perform CPR if needed, beginning with chest compressions.
   - Document on Anaphylaxis Treatment Worksheet (DC-92).
   - If equipment available, monitor and document blood pressure.

#### B. If Person’s Breathing More Laboured or Level of Consciousness Decreases
1. Repeat EPINEPHrine doses at 5 minute intervals for a total of 3 doses.
2. Alternate between right and left thigh for repeat doses.
3. Elevate head and chest slightly.
4. If airway is impaired, use head tilt, chin lift or jaw thrust.

#### C. Rural Clinics: To Maintain Symptom Control if Client Cannot Be Transferred to Acute-Care Facility within 30 Minutes – Administer diphenhydrAMINE hydrochloride (Benadryl®) (see back).

#### D. Prior to Transport to Acute-Care Setting
1. Complete “Anaphylaxis Treatment Worksheet” (DC-92)
2. Provide ambulance attendant with original copy of (DC-92)
3. Provide patient with card explaining payment of ambulance service (DC-453)

### Follow-Up

1. Notify Deputy Medical Health Officer by phone the same day the reaction occurs:
   - Regular business hours, Monday-Friday, 0800-1630:
     - 306-655-4338 – Request MHO Immunization Department
     - After regular business hours:
     - 306-655-4620 – Request MHO on call
2. Complete and submit AEFI, “Unusual Occurrence” form and the Anaphylaxis Treatment Record and Panorama Client Profile summary page to MHO within 1 business day of the event
3. Record document in Panorama under Client Warnings, “AEFI Following immunization Event[s] on: YYY-MM-DD submitted for review by MHO”
### EPINEPHrine Dosages According to Age and Weight

<table>
<thead>
<tr>
<th>Age</th>
<th>Weight kg (Lb)</th>
<th>Injectable (1mg/mL): Intramuscular Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 6 months*</td>
<td>2 – 5 kg (4 – 11 Lb)</td>
<td>0.05 mL</td>
</tr>
<tr>
<td>7 – 24 months*</td>
<td>5.5 – 10 kg (12 – 22 Lb)</td>
<td>0.1 mL</td>
</tr>
<tr>
<td>25 – 36 months*</td>
<td>10.5 – 15 kg (23 – 33 Lb)</td>
<td>0.15 mL</td>
</tr>
<tr>
<td>37 – 59 months*</td>
<td>15.5 – 20 kg (34 – 44 Lb)</td>
<td>0.2 mL</td>
</tr>
<tr>
<td>5 – 7 years</td>
<td>20.5 – 25 kg (45 – 55 Lb)</td>
<td>0.25 mL</td>
</tr>
<tr>
<td>8 – 10 years</td>
<td>25.5 – 35 kg (56 – 77 Lb)</td>
<td>0.3 mL</td>
</tr>
<tr>
<td>11 – 12 years</td>
<td>35.5 – 45 kg (78 – 99 Lb)</td>
<td>0.4 mL</td>
</tr>
<tr>
<td>13 years and older</td>
<td>Greater than or equal to 45.5 kg (Greater than or equal to 100 Lb)</td>
<td>0.5 mL</td>
</tr>
</tbody>
</table>

* Dosing by weight (0.01 mg/kg) is preferred when body weight is known.

If weight is unknown or is not readily available, then dosing by age is appropriate practice.

- Recommended route: IM (if required can be given through clothing)
- Preferred site: vastus lateralis in unimmunized leg or minimum 2.5 cm from vaccine injection site.
- Different limb is preferred for each dose.
- Upper age limit: Ex. 0-6 months includes children who have not yet turned 7 months (ex.6 mo 27d)

### diphenhydRAMINE (Benadryl®) - For Rural Clinics Only

<table>
<thead>
<tr>
<th>Age</th>
<th>Weight kg (Lb)</th>
<th>Injectable (50 mg/1mL): Intramuscular Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-6 months*</td>
<td>2-5 kg (4-11 Lb)</td>
<td>15 mg, 0.3 mL</td>
</tr>
<tr>
<td>7-24 months*</td>
<td>5.5-10 kg (12-22 Lb)</td>
<td>20 mg, 0.4 mL</td>
</tr>
<tr>
<td>25-36 months</td>
<td>10.5-15 kg (23-33 Lb)</td>
<td>25 mg, 0.5 mL</td>
</tr>
<tr>
<td>37-59 months</td>
<td>15.5-20 kg (34-44 Lb)</td>
<td>35 mg, 0.7 mL</td>
</tr>
<tr>
<td>5-7 years</td>
<td>20.5-25 kg (45-55 Lb)</td>
<td>45 mg, 0.9 mL</td>
</tr>
<tr>
<td>8-10 years</td>
<td>25.5-35 kg (56-77 Lb)</td>
<td>50 mg, 1 mL</td>
</tr>
<tr>
<td>11-12 years</td>
<td>35.5-45 kg (78-99 Lb)</td>
<td></td>
</tr>
<tr>
<td>13 years and older</td>
<td>Greater than or equal to 45.5 kg (Greater than or equal to 100 Lb)</td>
<td>*Dosage should be determined by weight (1mg/kg) when weight is known</td>
</tr>
</tbody>
</table>

* Dosage should be determined by weight (1 mg/kg) when body weight is known.
* Benadryl® is generally not recommended for infants under 12 months of age, and should be used with caution between 12-23 months because it may cause drowsiness or paradoxical excitement.
* DO NOT administer to those under 25 months without consulting MHO.

Give only:

- After EPINEPHrine.
- If symptoms are not controlled or to maintain symptom control if client greater than 30 minutes from hospital.
- One dose. Do not repeat.

Recommended route: IM
Recommended site: different than where EPINEPHrine given.
## Appendix E - AEFI Reporting Criteria

### 5.0 APPENDICES

#### Appendix 11.1: Summary of AEFI Reporting Criteria

The length of time between vaccine administration and onset of symptoms is an important consideration in causality assessment. Temporal criteria listed below are approximate timelines of which an applicable AEFI could occur.

<table>
<thead>
<tr>
<th>AEFI</th>
<th>Reporting Criteria</th>
<th>* Vaccines (temporal criteria)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>LOCAL REACTION AT INJECTION SITE</strong></td>
</tr>
<tr>
<td>Minor reactions</td>
<td>- Redness or swelling or pain extends past the nearest joint AND/OR&lt;br&gt;- Redness or swelling or pain persists for 10 days or more</td>
<td>0-48 hours</td>
</tr>
<tr>
<td>Major reactions: (e.g., Arthus reaction)</td>
<td>- Onset within 48 hours of immunization AND&lt;br&gt;- Swelling extends past the nearest joint</td>
<td>0-48 hours</td>
</tr>
<tr>
<td>Infected abscess</td>
<td>- Physician diagnosed AND&lt;br&gt;- Material from the abscess is purulent (positive gram stain or culture) OK&lt;br&gt;- Signs of localized inflammation (erythema, pain to touch, warmth) AND&lt;br&gt;- Evidence of improvement with antimicrobial therapy</td>
<td>0-7 days</td>
</tr>
<tr>
<td>Sterile abscess</td>
<td>- Persists for more than 1 month, is more than 2.5 cm in diameter and/or drainage is evident AND&lt;br&gt;- Material from the mass is non-purulent AND&lt;br&gt;- Absence of localized inflammation OR&lt;br&gt;- Failure to improve on antimicrobial therapy</td>
<td>0-7 days</td>
</tr>
<tr>
<td>Nodule</td>
<td>- Is more than 2.5 cm in diameter&lt;br&gt;- Persists for more than 1 month</td>
<td>0-7 days</td>
</tr>
<tr>
<td>Cellulitis</td>
<td>- Physician diagnosed AND&lt;br&gt;- Characterized by at least 3 local signs or symptoms: pain or tenderness to touch, erythema, induration or swelling, warmth to touch</td>
<td>0-7 days</td>
</tr>
</tbody>
</table>

### Influenza Immunization Clinical Resource
<table>
<thead>
<tr>
<th>AEFI</th>
<th>Reporting Criteria</th>
<th><em>Vaccines (temporal criteria)</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Screaming/Persistent crying</td>
<td>Continuous, unaltered crying lasting for 3 or more hours</td>
<td>0-72 hours</td>
</tr>
<tr>
<td>Parotitis/Orchitis</td>
<td>Physician diagnosed following immunization with mumps-containing vaccine</td>
<td>N/A</td>
</tr>
<tr>
<td>Vomiting/Diarrhea</td>
<td>3 or more episodes in 24-hour period AND Severe (i.e. projectile vomiting or explosive, watery diarrhe)</td>
<td>0-72 hours</td>
</tr>
<tr>
<td>Allergic reactions</td>
<td>Any allergic reaction (hives, bronchospasm, edema) occurring within 72 hours of immunization</td>
<td>0-72 hours</td>
</tr>
<tr>
<td>Anaphylaxis</td>
<td>All adverse events managed as anaphylaxis at the time of occurrence</td>
<td>0-24 hours</td>
</tr>
<tr>
<td>Oculo-respiratory syndrome (ORS)</td>
<td>Bilateral red eyes and respiratory symptoms with onset within 24 hours of receiving influenza vaccine</td>
<td>0-24 hours</td>
</tr>
<tr>
<td>Neurologic events</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convulsion/seizure</td>
<td>Seizures (febrile or afebrile) if they meet the temporal criteria</td>
<td>0-5 days</td>
</tr>
<tr>
<td>Encephalopathy/encephalitis</td>
<td>Physician diagnosed encephalopathy or encephalitis</td>
<td>0-15 days</td>
</tr>
<tr>
<td>Meningitis</td>
<td>Physician diagnosed meningitis for which no other cause was identified</td>
<td>0-15 days</td>
</tr>
<tr>
<td>Anaesthesia/paraesthesia</td>
<td>Physician diagnosed anaesthesia or paraesthesia lasting 24 hours or more</td>
<td>0-7 days</td>
</tr>
<tr>
<td>Paralysis</td>
<td>Physician diagnosed paralysis lasting 24 hours or more</td>
<td>0-15 days</td>
</tr>
<tr>
<td>Guillain-Barré syndrome (GBS)</td>
<td>Physician diagnosed GBS</td>
<td>0-6 weeks</td>
</tr>
<tr>
<td>Bell’s palsy</td>
<td>Physician diagnosed Bell’s palsy</td>
<td>0-3 months</td>
</tr>
<tr>
<td>Subacute Sclerosing Panencephalitis (SSPE)</td>
<td>Physician diagnosed SSPE</td>
<td>N/A</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thrombocytopenia</td>
<td>Physician diagnosed occurring within 30 days post-immunization</td>
<td>0-30 days</td>
</tr>
<tr>
<td>Arthralgia/Arthritis</td>
<td>Any arthralgia or arthritis that follows the receipt of rubella-containing vaccine and lasting at least 24 hours</td>
<td>N/A</td>
</tr>
<tr>
<td>Intussusception</td>
<td>Intussusception or haematochezia following receipt of rotavirus vaccine</td>
<td>N/A</td>
</tr>
<tr>
<td>Syncope with injury</td>
<td>Any syncope with injury following immunization</td>
<td>0-24 hours</td>
</tr>
<tr>
<td>Death</td>
<td>Any death of a vaccine recipient temporarily linked to immunization where no other clear cause of death can be established</td>
<td>within 1 month</td>
</tr>
<tr>
<td>Fetal death or abnormality</td>
<td>Any fetal death or abnormality that follows immunization of a pregnant woman</td>
<td>unknown</td>
</tr>
</tbody>
</table>
Appendix F – Storing Biological Products Properly

Store Biological Products Properly!

Ordering Products
- Keep only 1 month’s supply of products on hand.
- Complete a product inventory once a month.
- Check expiry dates monthly.

Handling Products
- Take only the exact biological products and number of doses that are required for a scheduled clinic from the fridge.
- Mark the date on multi-dose vials when they are opened and use all doses within the timeframe specified by the manufacturer.
- Always use previously opened multidose vials before opening a new multi-dose vial.
- Refer to package inserts to determine how long a multi-dose vial can be kept for use after the first dose is withdrawn.
- Do an environmental scan of the clinic area when you are finished and ensure that vaccine is always placed back into the refrigerator when you have completed a clinic.

Storage of Products
- Always store refrigerated biological products between 2°C and 8°C, and frozen biological products at -15°C or colder.
- Use a digital min-max thermometer in the refrigerator and record the temperature twice daily.
- Immediately contact the regional Immunization Coordinator when product has been exposed to temperatures outside of 2°C - 8°C. Place the vaccine in a bag labelled “DO NOT USE” and store the bag in a temperature monitored refrigerator until recommendations are received from the Ministry of Health.
- Develop a back-up plan for potential power outages or refrigerator failure. Post this plan near the fridge and ensure all staff is familiar with it.
- Secure and label the refrigerator plug to prevent it from accidentally getting unplugged.
- Never store biological products in refrigerator or freezer doors.
- Store full water bottles on empty shelves and in the door of the refrigerator to maintain consistency in temperature.
- Never use a bar or half-sized refrigerator for product storage.
- Always use products with the nearest expiry dates first including previously opened vials.
- Place products with the farthest expiry dates behind those with the nearest expiry dates.
- Only store biological products in the refrigerator.
- Only open the refrigerator door when necessary.
- Always ensure the refrigerator door is fully closed after opening.
- Leave space between product trays to allow air to circulate in the refrigerator.
- Unpack all vaccine deliveries prior to placing in fridge (do not place vaccine in container with ice pack in fridge as vaccine will freeze).

Transporting Products
- Use insulated containers with tight fitting lids and ice packs when transporting biological products.
- Keep ice packs in your freezer for use during transport of biological products.
- Allow ice packs to sweat before adding vaccine to the cooler.
- Never put biological products directly on ice packs.
- Always place bubble wrap or crumpled newspaper between the ice pack and the biological product.
- Keep biological products in their original packages.
- Place a thermometer or other temperature indicator in the cooler during transportation.

Disposing of Products
- Do not return vaccines to the Ministry of Health without prior consultation and approval.
- All biological products expire at the end of the month (e.g. June/13 or 06/13 means June 30, 2013) or as specified.
- All products must be disposed of as per regional or jurisdictional policy.