Taddle Creek
Family Health Team

MEDICAL DIRECTIVE

Title:	Vaccines, Injectable Substances and Laboratory Requisition for Immunity Testing	**Number:**	TCFHT-MD15
Activation Date:	09-September-2014	**Review Date:**	01-March-2018
Next Review	01-March-2019		

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Order and/or Delegated Procedure:

Appendix Attached: _X_ No __ Yes
Title:

The implementers may, in accordance with the conditions identified in this directive:

- administer vaccinations and other injectable substances
- order bloodwork to test for immunity to vaccine-preventable diseases
- prescribe Hepatitis A and Hepatitis B vaccines

Recipient Patients:

Appendix Attached: __ No _X_ Yes
Title: Appendix A – Authorizer Approval Form

Recipients must:

- Be active patients of a TCFHT primary care provider who has approved this directive by signing the Authorizer Approval Form
- Meet the conditions identified in this directive

- For immunizations and injectable substances, be 2 months of age or older and require the following vaccines/substances:
    - Diphtheria, Tetanus, Acellular Pertussis, Inactivated Poliovirus and *Haemophilus influenzae* type b **0.5ml IM**
    - Pneumococcal Conjugate 13-valent **0.5ml IM**
    - Rotavirus **1.5ml PO**
    - Measles, Mumps and Rubella **0.5ml SC**
    - Meningococcal Conjugate C **0.5ml IM**
    - Meningococcal Conjugate ACYW-135 **0.5ml IM**
    - Varicella **0.5ml SC**
    - Diphtheria, Tetanus, Acellular Pertussis - Inactivated Poliovirus **0.5ml IM**
    - Measles, Mumps, Rubella and Varicella **0.5ml SC**
    - Diphtheria, Tetanus and Acellular Pertussis **0.5ml IM**
    - Diphtheria and Tetanus **0.5ml IM**
    - Pneumococcal Polysaccharide **0.5ml IM**
    - Diphtheria, Tetanus and Inactivated Poliovirus **0.5ml IM**
    - Inactivated Poliomyelitis **0.5ml SC**
    - Varicella-Zoster **0.5ml SC**
    - Human Papillomavirus **0.5ml IM**
    - Hepatitis A:
        - Vaqta
            - 12 months-17yrs **0.5ml IM**
            - 18yrs+ **1.0ml IM**
        - Havrix
            - 12 months-18yrs **0.5ml IM**
            - 19yrs+ **1.0ml IM**
    - Hepatitis B
        - Engerix-B
            - Neonates-19yrs **0.5ml IM**
            - 20yrs+ **1.0ml IM**
        - Recombivax
            - Infants-10yrs (2.5**µ**g)
            - 11yrs-19yrs (5**µ**g) **0.5ml IM**
            - 20+ yrs (10**µ**g) **1.0ml IM**
    - Hepatitis A/Hepatitis B
        - Twinrix Jr.
            - 1-18yrs **0.5ml IM**
        - Twinrix
            - 19yrs+ **1.0ml IM**
    - Salmonella typhi **0.5ml IM**
    - Allergy shots **dose varies by patient** – administered **SC**
    - Vitamin B12 **dose varies by patient** – administered **IM**
    - Denosumab **1ml (60mg) SC**
- For laboratory requisition and prescribing of Hepatitis A and Hepatitis B vaccines, be 16 years of age or older and require serologic proof of immunity to measles, mumps, rubella, varicella, hepatitis A and/or

hepatitis B

Authorized Implementers:

Appendix Attached: __ No _X_ Yes
Title: Appendix B – Implementer Approval Form
Appendix C – Additional Voluntary Preparation

Implementers must be TCFHT employed Regulated Health Care Providers or Physician Assistant (under the supervision of a physician).

Implementers must complete the following preparation and sign the Implementer Approval Form:

1. Complete certification in CPR (minimum level C plus AED training)
2. Demonstrate clinical competence and knowledge to supervising physician(s) and/or nurse practitioner and be observed on at least 3 occasions while implementing this medical directive
3. Review and be familiar with the *Publicly Funded Immunization Schedules for Ontario – December 2016,* accessible from: http://www.health.gov.on.ca/en/pro/programs/immunization/docs/immunization_schedule.pdf
4. Review and be familiar with the *Canadian Immunization Guide*, accessible from: http://healthycanadians.gc.ca/healthy-living-vie-saine/immunization-immunisation/canadian-immunization-guide-canadien-immunisation/index-eng.php
5. Review and be familiar with the most current clinical practice guidelines for reducing pain in immunization as per "Reducing pain during vaccine injections: clinical practice guideline" in the *Canadian Medical Association Journal*, accessible from: http://www.cmaj.ca/content/early/2015/08/24/cmaj.150391
6. Review most current guidelines for anaphylaxis management as per "Anaphylaxis" in the *Canadian Immunization Guide, Part 2 – Vaccine Safety: Early vaccine reactions including anaphylaxis*", accessible from: https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-2-vaccine-safety/page-4-early-vaccine-reactions-including-anaphylaxis.html

In addition, Registered Pharmacist implementers must complete an Ontario College of Pharmacists (OCP)-approved injection training course and must register their training with the OCP.

Note: Implementers may opt to complete further preparation with the readings found in Appendix C.

Indications:

Appendix Attached: __ No _X_ Yes
Title: Appendix D – Guide to Contraindications and Precautions to Commonly Used Vaccines in Adults;
Appendix E – Guide to Contraindications and Precautions to Commonly Used Vaccines
Appendix F – Guidelines for the Interval Between Administration of Blood Products and Live Vaccines

The implementers are authorized to administer vaccines and injectable substances to any patients, aged 2 months and older, as recommended in the National Advisory Committee on Immunization (NACI) guidelines and with reference to the *Publicly Funded Immunization Schedules for Ontario – December 2016.* If receiving more than one vaccine/injectable substance at one time, the implementer will ensure there is no interaction between the vaccines and/or injectable substances. The implementer will consult with a physician or nurse practitioner if any contraindication to receiving the vaccine/injectable substance is identified in the initial screening. After consultation, if the vaccine or injectable substance is to be given, the physician or nurse practitioner will review the documentation by the implementer in the EMR and will document his/her assessment as well.

Contraindications and possible contraindications to vaccines and injectable substances:

- Patient is febrile, has been febrile in the past 24-48 hours, has a rash or has a moderate to severe illness
- Allergy to a component of a vaccine/substance (e.g. latex) or a history of a severe, previous reaction to the vaccine/substance to be given
- Patient is possibly pregnant (*exception*: a tetanus/diphtheria/acellular pertussis vaccine is recommended in every pregnancy between 27 and 32 weeks of gestation, as per the National Advisory Committee on Immunization - https://www.canada.ca/en/public-health/services/publications/healthy-living/update-immunization-pregnancy-tdap-vaccine.html)
- Patient is immunocompromised (e.g. HIV positive, taking immunosuppressive therapy, asplenia)
- Patient has progressive or unstable neurologic disorder
- Patient has a contraindication specific to a particular vaccine/injectable substance as per product monograph and/or appendices
- Patient has any degree of thrombocytopenia or a history of thrombocytopenia purpura*

*Specific to MMR and MMRV vaccines. The primary care provider may opt to check platelet levels prior to the administration of the vaccine.

When to defer live-virus vaccines:

- If the patient requires a TB skin test (TST) within 4 weeks, defer live-virus vaccine until after TB skin testing is complete as the vaccine may temporarily depress the reactivity to TST. If patient unable to defer, administer live-virus vaccine on the same day as the TB skin test but at a different site.
- If the patient has received blood products or immune globulin (Ig) preparations in the last 12 months, or will be receiving blood products or immune globulin (Ig) preparations in the next 14 days, as per Appendix F

The implementers are authorized to complete a laboratory requisition for measles, mumps, rubella, varicella, hepatitis A and/or hepatitis B titers when a patient requires evidence of immunity.

Contraindications to laboratory requisition for immunity testing:

- Patient is currently symptomatic for the disease for which immunity is being tested
- Post-exposure testing
- Patient received a vaccine < 4 weeks ago for the disease for which immunity is being tested
- Patient has received gammaglobulin replacement within the past 5-6 months
- Patient has received single doses of immunoglobulin within the past 3-5 months for the prevention of the disease for which immunity is being tested

Consent:

Appendix Attached: _X_ No ___ Yes
Title:

- The implementer will obtain verbal consent from the patient or legal substitute decision maker for the administration of a vaccine or injectable substance, and will explain any potential risks and benefits prior to administering the injection.
- Patient's consent for the order of titers is implied, as the patient has presented seeking proof of immunity to specific diseases and is a Family Health Team patient where interprofessional practice is expected. Patient is informed of the purpose of testing for immunity, including when results will be

available, and contact information is obtained to review the results (if not contacted by the primary care provider).

Guidelines for Implementing the Order/Procedure:

Appendix Attached: ___ No __X__ Yes
Title: Appendix G – Laboratory Requisitions

For administration of vaccines/injectable substances:

Prior to the administration of vaccines or injectable substances, the implementer will review, with the patient or patient's guardian, the purpose of and any adverse effects related to the vaccines or injectable substances.

Authorized implementer may administer the vaccine or injectable substance upon receiving consent to administer the designated substance and confirming appropriateness (according to NACI guidelines, if a vaccine).

Authorized implementer will remind the patient and the primary care provider to ensure annual bloodwork is done for patients receiving denosumab (Prolia) injections.

Vaccines will be administered according to the administration instructions printed in the designated vaccine's product monograph. Universal precautions will be taken to minimize transmission of bloodborne pathogens and ensure patient and clinician safety. The implementer will use evidence-based strategies and techniques to minimize the pain of injection, as per the Clinical Practice Guidelines outlined by the Canadian Medical Association (see References).

A physician or nurse practitioner must be present in the clinic for assessment and decision-making for patients who have contraindications to receiving the vaccine/injectable substance, and to provide emergency treatment should a patient experience an acute reaction to the vaccine/injectable substance.

For laboratory requisition for immunity testing, implementer performs the following:

1) Identifies need for laboratory investigation (bloodwork)
2) Ensures that no recent bloodwork has been undertaken that would result in duplication of testing
3) Explains the purpose of the test to the patient
4) Generates a laboratory requisition(s) using the supervising primary care provider's/authorizer's initials
5) Laboratory requisition(s) is signed as per Appendix G
6) Sends a message in Practice Solutions to the primary care provider indicating that a laboratory requisition has been provided
7) Documents that a laboratory requisition has been provided
8) Follows up with the results promptly when available and reviews these findings with the patient's primary care provider in a timely manner so that appropriate treatment or follow-up care is implemented*. Implementer will ensure that results are communicated to the patient and that treatment and/or follow up testing is completed as per guidelines.

*Bloodwork results will be interpreted with caution in cases of immunodeficiency.

For prescription of Hepatitis B vaccine:

Prior to preparing a prescription for Hepatitis B vaccine, the implementer will assess for immunity against Hepatitis A. If the patient has no history of Hepatitis A vaccination or is found to be non-immune to Hepatitis A, the implementer will discuss with the patient vaccination for Hepatitis B vs. vaccination for Hepatitis A and B, including the schedule, cost and benefits/risks of each vaccine. The implementer will prepare a prescription for the chosen vaccine.

Documentation and Communication:

Appendix Attached: __ No _X__ Yes
Title: Appendix H – TCFHT-MD15 Stamp

The implementer will document administration of a vaccine in the "Immunizations" section of the patient's file in the EMR and administration of a vaccine/injectable substance in a chart note in the patient's file in the EMR using the stamp TCFHT-MD15_Vaccines_and_Injectable_Substances (see Appendix H). Information to be documented will include: brand and dose of vaccine/substance used, lot #, expiry date, area of body that is injected and details of any adverse reaction that occurs. The primary care provider will be alerted (verbally or electronically) as soon as possible, if an adverse reaction occurs.

The implementer will advise the patient of the schedule for further doses of the vaccine or injectable substance, if applicable.

The implementer will document in the EMR that the patient was provided with a laboratory requisition for immunity testing and the disease(s) for which immunity is being tested. Documentation will include name and number of the directive.

Review and Quality Monitoring Guidelines:

Appendix Attached: _X__ No __ Yes
Title:

- Review will occur annually on the anniversary of the activation date. Review will involve a collaboration between the authorizing primary care providers and the approved implementers.
- If new information becomes available between routine reviews, such as the publishing of an updated Ontario Immunization Schedule or new clinical practice guidelines, and particularly if this new information has implications for unexpected outcomes, the directive will be reviewed by an authorizing primary care provider and a mimimum of one implementer.
- At any such time that issues related to the use of this directive are identified, TCFHT must act upon the concerns and immediately undertake a review of the directive by the authorizing primary care providers and the authorized implementers.
- This medical directive can be placed on hold if routine review processes are not completed, or if indicated for an ad hoc review. During the hold, implementers cannot perform the procedures under authority of the directive and must obtain direct, patient-specific orders for the procedure until it is renewed.

References:

Canadian Immunization Guide, accessible from: http://healthycanadians.gc.ca/healthy-living-vie-saine/immunization-immunisation/canadian-immunization-guide-canadien-immunisation/index-eng.php

Canadian Immunization Guide - Part 2 – Vaccine Safety: Early vaccine reactions including anaphylaxis, accessible from: https://www.canada.ca/en/public-health/services/publications/healthy-living/canadian-immunization-guide-part-2-vaccine-safety/page-4-early-vaccine-reactions-including-anaphylaxis.html

Chart of Contraindications and Precautions to Commonly Used Vaccines, *Centers for Disease Control and Prevention*, accessible from: http://www.cdc.gov/vaccines/hcp/admin/contraindications-vacc.html

Individual product monographs for vaccines listed

National Advisory Committee on Immunization - Update on immunization in pregnancy with Tdap vaccine, accessible from https://www.canada.ca/en/public-health/services/publications/healthy-living/update-immunization-pregnancy-tdap-vaccine.html

Publicly Funded Immunization Schedules for Ontario – December 2016 accessible from: http://www.health.gov.on.ca/en/pro/programs/immunization/docs/immunization_schedule.pdf

Reducing pain during vaccine injections: clinical practice guideline, *Canadian Medical Association Journal*, accessible from: http://www.cmaj.ca/content/early/2015/08/24/cmaj.150391

Vaccine Contraindications and Precautions for ADULTS only, *Centers for Disease Control and Prevention*, accessible from: http://www.cdc.gov/vaccines/hcp/admin/contraindications-adults.html

Appendix A:
Authorizer Approval Form

Name	Signature	Date
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Appendix B:
Implementer Approval Form

To be signed when the implementer has completed the required preparation, and feel they have the knowledge, skill, and judgement to competently carry out the actions outlined in this directive.

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Appendix C:
Additional Voluntary Preparation

Hepatitis A – Serology, accessible from:
https://www.publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/Hepatitis_A_Diagnostic_Serology.aspx

Hepatitis B – Serology, accessible from:
http://www.publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/Hepatitis_B_Diagnostic_Serology.aspx

Interpretation of Hepatitis B Serologic Test Results, accessible from:
https://www.cdc.gov/hepatitis/hbv/pdfs/serologicchartv8.pdf

Measles – Immunity Serology, accessible from:
https://www.publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/Measles_Immunity_Serology.aspx

Mumps – Immunity Serology, accessible from:
https://www.publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/Mumps_Immunity_Serology.aspx

Rubella – Immunity Serology, accessible from:
https://www.publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/Rubella_Immunity_Serology.aspx

Varicella – Immunity Serology, accessible from:
https://www.publichealthontario.ca/en/ServicesAndTools/LaboratoryServices/Pages/Varicella_Immunity_Serology.aspx

Appendix D:

Guide to Contraindications and Precautions to Commonly Used Vaccines in Adults[1,*,†]

Vaccine	Contraindications[1]	Precautions[1]
Influenza, inactivated (IIV)[2] **Influenza, recombinant (RIV)[2]**	• For IIV, severe allergic reaction (e.g., anaphylaxis) after a previous dose of any influenza vaccine; or to a vaccine component, including egg protein • For RIV, severe allergic reaction (e.g., anaphylaxis) after a previous dose of RIV or to a vaccine component. RIV does not contain any egg protein[2]	• Moderate or severe acute illness with or without fever • History of Guillain-Barré Syndrome (GBS) within 6 weeks of previous influenza vaccination • Adults with egg allergy of any severity may receive RIV; adults with hives-only allergy to eggs may receive IIV with additional safety measures[2]
Influenza, live attenuated (LAIV)[2,3]	• Severe allergic reaction (e.g., anaphylaxis) to any component of the vaccine, or to a previous dose of any influenza vaccine • In addition, ACIP recommends that LAIV not be used in the following populations: pregnant women; immunosuppressed adults; adults with egg allergy of any severity; adults who have taken influenza antiviral medications (amantadine, rimantadine, zanamivir, or oseltamivir) within the previous 48 hours; avoid use of these antiviral drugs for 14 days after vaccination	• Moderate or severe acute illness with or without fever • History of GBS within 6 weeks of previous influenza vaccination • Asthma in persons age 5 years and older • Other chronic medical conditions (e.g., other chronic lung diseases, chronic cardiovascular disease [excluding isolated hypertension], diabetes, chronic renal or hepatic disease, hematologic disease, neurologic disease, and metabolic disorders)
Tetanus, diphtheria, pertussis (Tdap) **Tetanus, diphtheria (Td)**	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • For pertussis-containing vaccines: encephalopathy (e.g., coma, decreased level of consciousness, or prolonged seizures) not attributable to another identifiable cause within 7 days of administration of a previous dose of Tdap, diphtheria and tetanus toxoids and pertussis (DTP), or diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine	• Moderate or severe acute illness with or without fever • GBS within 6 weeks after a previous dose of tetanus toxoid-containing vaccine • History of Arthus-type hypersensitivity reactions after a previous dose of tetanus or diphtheria toxoid-containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus toxoid-containing vaccine • For pertussis-containing vaccines: progressive or unstable neurologic disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized
Varicella (Var)[3]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, or long-term immunosuppressive therapy[4] or patients with human immunodeficiency virus [HIV] infection who are severely immunocompromised) • Pregnancy	• Moderate or severe acute illness with or without fever • Recent (within 11 months) receipt of antibody-containing blood product (specific interval depends on product)[5] • Receipt of specific antivirals (i.e., acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination; avoid use of these antiviral drugs for 14 days after vaccination
Human papillomavirus (HPV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	• Moderate or severe acute illness with or without fever • Pregnancy
Zoster (HZV)[3]	• Severe allergic reaction (e.g., anaphylaxis) to a vaccine component • Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, or long-term immunosuppressive therapy,[4] or patients with HIV infection who are severely immunocompromised) • Pregnancy	• Moderate or severe acute illness with or without fever • Receipt of specific antivirals (i.e., acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination; avoid use of these antiviral drugs for 14 days after vaccination
Measles, mumps, rubella (MMR)[3]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, or long-term immunosuppressive therapy,[4] or patients with HIV infection who are severely immunocompromised) • Pregnancy	• Moderate or severe acute illness with or without fever • Recent (within 11 months) receipt of antibody-containing blood product (specific interval depends on product)[5] • History of thrombocytopenia or thrombocytopenic purpura • Need for tuberculin skin testing[6]
Pneumococcal: conjugate (PCV13), polysaccharide (PPSV23)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component (including, for PCV13, to any vaccine containing diphtheria toxoid-containing vaccine	• Moderate or severe acute illness with or without fever
Hepatitis A (HepA) **Hepatitis B (HepB)**	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	• Moderate or severe acute illness with or without fever
Meningococcal: conjugate (MenACWY), serogroup B (MenB), polysaccharide (MPSV4)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	• Moderate or severe acute illness with or without fever
***Haemophilus influenzae* type b (Hib)**	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	• Moderate or severe acute illness with or without fever

FOOTNOTES

1. Vaccine package inserts and the full ACIP recommendations for these vaccines should be consulted for additional information on vaccine-related contraindications and precautions and for more information on vaccine excipients. Events or conditions listed as precautions should be reviewed carefully. Benefits of and risks for administering a specific vaccine to a person under these circumstances should be considered. If the risk from the vaccine is believed to outweigh the benefit, the vaccine should not be administered. If the benefit of vaccination is believed to outweigh the risk, the vaccine should be administered. A contraindication is a condition in a recipient that increases the chance of a serious adverse reaction. Therefore, a vaccine should not be administered when a contraindication is present.
2. For more information on use of influenza vaccines among persons with egg allergies and a complete list of conditions that CDC considers to be reasons to avoid receiving LAIV, see CDC. "Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices (ACIP)—United States, 2015–16 Influenza Season. *MMWR* 2015;64(30):818–25.
3. LAIV, MMR, varicella, or zoster vaccines can be administered on the same day. If not administered on the same day, live vaccines should be separated by at least 28 days.
4. Immunosuppressive steroid dose is considered to be 2 or more weeks of daily receipt of 20 mg prednisone or the equivalent. Vaccination should be deferred for at least 1 month after discontinuation of such therapy. Providers should consult ACIP recommendations for complete information on the use of specific live vaccines among persons on immune-suppressing medications or with immune suppression because of other reasons.
5. Vaccine should be deferred for the appropriate interval if replacement immune globulin products are being administered (see Table 5 in CDC. "General Recommendations on Immunization: Recommendations of the Advisory Committee on Immunization Practices [ACIP]." *MMWR* 2011;60(No. RR-2), available at www.cdc.gov/vaccines/hcp/acip-recs/index.html.
6. Measles vaccination might suppress tuberculin reactivity temporarily. Measles-containing vaccine may be administered on the same day as tuberculin skin testing. If testing cannot be performed until after the day of MMR vaccination, the test should be postponed for at least 4 weeks after the vaccination. If an urgent need exists to skin test, do so with the understanding that reactivity might be reduced by the vaccine.

* Adapted from "Table 6. Contraindications and Precautions to Commonly Used Vaccines" found in: CDC. "General Recommendations on Immunization: Recommendations of the Advisory Committee on Immunization Practices (ACIP)." *MMWR* 2011;60(No. RR-2), p. 40–41, and from Hamborsky J, Kroger A, Wolfe C, eds. Appendix A. *Epidemiology and Prevention of Vaccine-Preventable Diseases,* 13th ed. Washington, DC Public Health Foundation, 2015, available at www.cdc.gov/vaccines/pubs/pinkbook/index.html.

† Regarding latex allergy, consult the package insert for any vaccine administered.

Technical content reviewed by the Centers for Disease Control and Prevention

IMMUNIZATION ACTION COALITION Saint Paul, Minnesota ▪ 651-647-9009 ▪ www.immunize.org ▪ www.vaccineinformation.org

www.immunize.org/catg.d/p3072.pdf ▪ Item #P3072 (3/16)

(Centers for Disease Control and Prevention, November 2016)

Appendix E:

Guide to Contraindications and Precautions to Commonly Used Vaccines[1,*,†]

Vaccine	Contraindications	Precautions
Hepatitis B (HepB)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	• Moderate or severe acute illness with or without fever • Infant weighing less than 2000 grams (4 lbs, 6.4 oz)[2]
Rotavirus (RV5 [RotaTeq], RV1 [Rotarix])	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • Severe combined immunodeficiency (SCID) • History of intussusception	• Moderate or severe acute illness with or without fever • Altered immunocompetence other than SCID • Chronic gastrointestinal disease[3] • Spina bifida or bladder exstrophy[3]
Diphtheria, tetanus, pertussis (DTaP) **Tetanus, diphtheria, pertussis (Tdap)** **Tetanus, diphtheria (DT, Td)**	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • For pertussis-containing vaccines: encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures) not attributable to another identifiable cause within 7 days of administration of a previous dose of DTP or DTaP (for DTaP); or of previous dose of DTP, DTaP, or Tdap (for Tdap)	• Moderate or severe acute illness with or without fever • Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of tetanus toxoid-containing vaccine • History of Arthus-type hypersensitivity reactions after a previous dose of tetanus or diphtheria toxoid-containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid containing vaccine • For pertussis-containing vaccines: progressive or unstable neurologic disorder (including infantile spasms for DTaP), uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized **For DTaP only:** • Temperature of 105° F or higher (40.5° C or higher) within 48 hours after vaccination with a previous dose of DTP/DTaP • Collapse or shock-like state (i.e., hypotonic hyporesponsive episode) within 48 hours after receiving a previous dose of DTP/DTaP • Seizure within 3 days after receiving a previous dose of DTP/DTaP • Persistent, inconsolable crying lasting 3 or more hours within 48 hours after receiving a previous dose of DTP/DTaP
***Haemophilus influenzae* type b (Hib)**	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • Age younger than 6 weeks	• Moderate or severe acute illness with or without fever
Inactivated poliovirus vaccine (IPV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	• Moderate or severe acute illness with or without fever • Pregnancy
Pneumococcal (PCV13 or PPSV23)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component (including, for PCV13, to any diphtheria toxoid-containing vaccine)	• Moderate or severe acute illness with or without fever
Measles, mumps, rubella (MMR)[4]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, or long-term immunosuppressive therapy[5] or patients with human immunodeficiency virus [HIV] infection who are severely immunocompromised)[6] • Pregnancy	• Moderate or severe acute illness with or without fever • Recent (within 11 months) receipt of antibody-containing blood product (specific interval depends on product)[7] • History of thrombocytopenia or thrombocytopenic purpura • Need for tuberculin skin testing[8]
Varicella (Var)[4]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, or long-term immunosuppressive therapy[5] or patients with HIV infection who are severely immunocompromised)[6] • Pregnancy	• Moderate or severe acute illness with or without fever • Recent (within 11 months) receipt of antibody-containing blood product (specific interval depends on product)[7] • Receipt of specific antivirals (i.e., acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination; avoid use of these antiviral drugs for 14 days after vaccination.
Hepatitis A (HepA)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	• Moderate or severe acute illness with or without fever

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Technical content reviewed by the Centers for Disease Control and Prevention

Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org

www.immunize.org/catg.d/p3072a.pdf • Item #P3072a (3/16)

Guide to Contraindications and Precautions to Commonly Used Vaccines[1,*,†]

Vaccine	Contraindications	Precautions
Hepatitis B (HepB)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	• Moderate or severe acute illness with or without fever • Infant weighing less than 2000 grams (4 lbs, 6.4 oz)[2]
Rotavirus (RV5 [RotaTeq], RV1 [Rotarix])	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • Severe combined immunodeficiency (SCID) • History of intussusception	• Moderate or severe acute illness with or without fever • Altered immunocompetence other than SCID • Chronic gastrointestinal disease[3] • Spina bifida or bladder exstrophy[3]
Diphtheria, tetanus, pertussis (DTaP) **Tetanus, diphtheria, pertussis (Tdap)** **Tetanus, diphtheria (DT, Td)**	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • For pertussis-containing vaccines: encephalopathy (e.g., coma, decreased level of consciousness, prolonged seizures) not attributable to another identifiable cause within 7 days of administration of a previous dose of DTP or DTaP (for DTaP); or of previous dose of DTP, DTaP, or Tdap (for Tdap)	• Moderate or severe acute illness with or without fever • Guillain-Barré syndrome (GBS) within 6 weeks after a previous dose of tetanus toxoid-containing vaccine • History of Arthus-type hypersensitivity reactions after a previous dose of tetanus or diphtheria toxoid-containing vaccine; defer vaccination until at least 10 years have elapsed since the last tetanus-toxoid containing vaccine • For pertussis-containing vaccines: progressive or unstable neurologic disorder (including infantile spasms for DTaP), uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized **For DTaP only:** • Temperature of 105° F or higher (40.5° C or higher) within 48 hours after vaccination with a previous dose of DTP/DTaP • Collapse or shock-like state (i.e., hypotonic hyporesponsive episode) within 48 hours after receiving a previous dose of DTP/DTaP • Seizure within 3 days after receiving a previous dose of DTP/DTaP • Persistent, inconsolable crying lasting 3 or more hours within 48 hours after receiving a previous dose of DTP/DTaP
***Haemophilus influenzae* type b (Hib)**	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • Age younger than 6 weeks	• Moderate or severe acute illness with or without fever
Inactivated poliovirus vaccine (IPV)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	• Moderate or severe acute illness with or without fever • Pregnancy
Pneumococcal (PCV13 or PPSV23)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component (including, for PCV13, to any diphtheria toxoid-containing vaccine)	• Moderate or severe acute illness with or without fever
Measles, mumps, rubella (MMR)[4]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, or long-term immunosuppressive therapy[5] or patients with human immunodeficiency virus [HIV] infection who are severely immunocompromised)[6] • Pregnancy	• Moderate or severe acute illness with or without fever • Recent (within 11 months) receipt of antibody-containing blood product (specific interval depends on product)[7] • History of thrombocytopenia or thrombocytopenic purpura • Need for tuberculin skin testing[8]
Varicella (Var)[4]	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component • Known severe immunodeficiency (e.g., from hematologic and solid tumors, receipt of chemotherapy, congenital immunodeficiency, or long-term immunosuppressive therapy[5] or patients with HIV infection who are severely immunocompromised)[6] • Pregnancy	• Moderate or severe acute illness with or without fever • Recent (within 11 months) receipt of antibody-containing blood product (specific interval depends on product)[7] • Receipt of specific antivirals (i.e., acyclovir, famciclovir, or valacyclovir) 24 hours before vaccination; avoid use of these antiviral drugs for 14 days after vaccination.
Hepatitis A (HepA)	• Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component	• Moderate or severe acute illness with or without fever

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(Centers for Disease Control and Prevention, January 2017)

Appendix F:
Guidelines for the interval between administration of immune globulin (Ig) preparations or blood products, MMR, MMRV or univalent varicella vaccine to maximize immunization effectiveness

Guidelines for the interval between administration of immune globulin (Ig) preparations or blood products, MMR, MMRV or univalent varicella vaccine to maximize immunization effectiveness

Immune globulin or blood product	Dose, route	Interval between receipt of Ig or blood product and subsequent administration of MMR, MMRV or univalent varicella vaccine (months)
Standard immunee globulin (human) (1)		
Immune globulin (Ig)	0.02 - 0.06 mL/kg, IM	3
	0.25 mL/kg, IM	5
	0.50 mL/kg, IM	6
Intravenous immune globulin (IVIg)	300 - 400 mg/kg, IV	8
	1,000 mg/kg, IV	10
	2,000 mg/kg, IV	11
Blood transfusion products		
Plasma and platelet products	10 mL/kg, IV	7
Whole blood	10 mL/kg, IV	6
Packed red blood cells	10 mL/kg, IV	5
Reconstituted red blood cells	10 mL/kg, IV	3
Washed red blood cells (2)	11 mL/kg, IV	0
Specific immune globulin (human)		
Cytomegalovirus immune globulin (CMVIg)	150 mg/kg, IV	6
Hepatitis B immune globulin (HBIg)	0.06 mL/kg, IM	3
Rabies immune globulin (RabIg)	20 IU/kg, IM	4
Rh immune globulin (RhIg)	300 mcg, IM	3 (3)
Tetanus immune globulin (TIg)	250 units, IM	3
Varicella immune globulin (VarIg)	125 IU/10 kg, IM	5
Specific immune globulin (humanized monoclonal antibody)		
Respiratory syncytial virus monoclonal antibody (palivizumab) (RSVAb)	15 mg/kg/4 weeks, IM	0
Footnote:		

(1) Ig can also be administered subcutaneously (SCIg). SCIg is primarily indicated as life-long replacement therapy in patients with primary antibody deficiencies for whom immunization with live vaccines is contraindicated. However, potential alternative indications for SCIg therapy may result in temporary use and discontinuation of therapy. Because pharmacokinetic properties of Ig G following SCIg administration have been shown to resemble those following IVIg administration, the recommended interval between the administration of SCIg and MMR, MMRV or univalent varicella vaccines should be considered equivalent to the recommended interval after the corresponding IVIg monthly dosing.

(2) Washed red blood cells are infrequently used

(3) Refer to Rh immune globulin for additional information

(Government of Canada, September 2016)

Appendix G:
Laboratory Requisitions

Ontario — Ministry of Health and Long-Term Care
Laboratory Requisition
Requisitioning Clinician / Practitioner

Name: Sarah Naomi Shaw
Address: 790 Bay Street, Suite 522, Box 58/59, Toronto, ON M5G 1N8
Clinician/Practitioner Number: 022777
CPSO / Registration No.:
Check (✓) one: [X] OHIP/Insured [ ] Third Party / Uninsured [ ] WSIB
Additional Clinical Information *(e.g. diagnosis)*:
[ ] Copy to: Clinician/Practitioner — Last Name: First Name: Address:

Laboratory Use Only

Clinician/Practitioner's Contact Number for Urgent Results: (416) 591-1222 Ext.
Service Date: yyyy mm dd
Health Number: Version: Sex: [X] M [ ] F
Date of Birth: yyyy 2015 mm 01 dd 01
Province: Other Provincial Registration Number:
Patient's Telephone Contact Number: (416) 466-8214
Patient's Last Name *(as per OHIP Card)*: Mouse
Patient's First & Middle Names *(as per OHIP Card)*: Mickey
Patient's Address *(including Postal Code)*: 31 Inwood Ave, Toronto, ON M4J 3Y2

Note: Separate requisitions are required for cytology, histology / pathology and tests performed by Public Health Laboratory

	Biochemistry
	Glucose [ ] Random [ ] Fasting
	HbA1C
	Creatinine (eGFR)
	Uric Acid
	Sodium
	Potassium
	ALT
	Atk. Phosphatase
	Bilirubin
	Albumin
	Lipid Assessment (includes Cholesterol, HDL-C, Triglycerides, calculated LDL-C & Chol/HDL-C ratio; individual lipid tests may be ordered in the "Other Tests" section of this form)
	Albumin / Creatinine Ratio, Urine
	Urinalysis (Chemical)
	Neonatal Bilirubin:
	Child's Age: days hours
	Clinician/Practitioner's tel. no.
	Patient's 24 hr telephone no. (
	Therapeutic Drug Monitoring:
	Name of Drug #1
	Name of Drug #2
	Time Collected #1 hr. #2 hr.
	Time of Last Dose #1 hr. #2 hr.
	Time of Next Dose #1 hr. #2 hr.

	Hematology
	CBC
	Prothrombin Time (INR)
	Immunology
	Pregnancy Test (Urine)
	Mononucleosis Screen
X	Rubella
	Prenatal: ABO, RhD, Antibody Screen (titre and ident. if positive)
	Repeat Prenatal Antibodies
	Microbiology ID & Sensitivities (if warranted)
	Cervical
	Vaginal
	Vaginal / Rectal – Group B Strep
	Chlamydia *(specify source)*:
	GC *(specify source)*:
	Sputum
	Throat
	Wound *(specify source)*:
	Urine
	Stool Culture
	Stool Ova & Parasites
	Other Swabs / Pus *(specify source)*:

Specimen Collection — Time: Date:

	Viral Hepatitis *(check one only)*
	Acute Hepatitis
	Chronic Hepatitis
X	Immune Status / Previous Exposure *Specify*: [X] Hepatitis A [X] Hepatitis B [ ] Hepatitis C
	or order individual hepatitis tests in the "Other Tests" section below

Prostate Specific Antigen (PSA)
[ ] Total PSA [ ] Free PSA
Specify one below:
[ ] Insured – Meets OHIP eligibility criteria
[ ] Uninsured – Screening: Patient responsible for payment

Vitamin D (25-Hydroxy)
[ ] Insured - Meets OHIP eligibility criteria: osteopenia; osteoporosis; rickets; *renal disease; malabsorption syndromes;* medications affecting vitamin D metabolism
[ ] Uninsured - Patient responsible for payment

Other Tests - one test per line
Measles titer
Mumps titer
Varicella titer

I hereby certify the tests ordered are not for registered in or out patients of a hospital.

Victoria Charko RN
As per medical directive TCFHT-MD 15

x _____ Clinician/Practitioner Signature — 01/03/2017 Date

Fecal Occult Blood Test (FOBT) *(check one)*
[ ] FOBT (non CCC) [ ] ColonCancerCheck FOBT (CCC) no other test can be ordered on this form

Laboratory Use Only

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Public Health Ontario | Santé publique Ontario

Date received | PHOL No.

General Test Requisition

ALL Sections of this Form MUST be Completed

1 - Submitter

Courier Code

790 Bay Street
Suite 522, Box 58/59
Toronto, ON M5G 1N8

Clinician Initial / Surname and OHIP / CPSO Number
SNS/Shaw/022777
?
Tel: 416-591-1222 Fax: 416-591-1227

2 - Patient Information

Health No. | Sex: M | Date of Birth: 2015/01/01
Medical Record No.

Patient's Last Name (per OHIP card): Mouse
First Name (per OHIP card): Mickey

Patient Address
31 Inwood Ave
Toronto, ON M4J 3Y2

Postal Code: M4J 3Y2 | Patient Phone No.: 416-466-8214

Submitter Lab No.

Public Health Unit Outbreak No.

cc Doctor Information

Name: _____ Tel: _____
Lab/Clinic Name: _____ Fax: _____
CPSO #: _____
Address: _____ Postal Code: _____

Public Health Investigator Information

Name: _____
Health Unit: _____
Tel: _____ Fax: _____

3 - Test(s) Requested *(Please see descriptions on reverse)*

Test: Enter test descriptions below

Measles IgG Immune Status
Mumps IgG Immune Status
Rubella IgG Immune Status
Varicella - Zoster IgG Immune Status
Hepatitis A Virus Immune Status
Hepatitis B Virus Immune Status

Hepatitis Serology

Reason for test (Check (✓) only one box):
- [x] Immune status
- [ ] Acute infection
- [ ] Chronic infection

Indicate specific viruses (Check (✓) all that apply):
- [x] Hepatitis A
- [x] Hepatitis B
- [ ] Hepatitis C *(testing only available for acute or chronic infection, no test for determining immunity to HCV is currently available)*

4 - Specimen Type and Site

- [x] blood / serum
- [ ] faeces
- [ ] nasopharyngeal
- [ ] sputum
- [ ] urine
- [ ] vaginal smear
- [ ] urethral
- [ ] cervix
- [ ] BAL
- [ ] other -

Patient Setting

- [x] physician office/clinic
- [ ] ER (not admitted)
- [ ] inpatient (ward)
- [ ] inpatient (ICU)
- [ ] institution

5 - Reason for Test

- [ ] diagnostic
- [x] immune status
- [ ] needle stick
- [ ] follow-up
- [ ] prenatal
- [ ] chronic condition
- [ ] immunocompromised
- [ ] post-mortem
- [ ] other -

Date Collected:
Onset Date:

Clinical Information

- [ ] fever
- [ ] gastroenteritis
- [ ] respiratory symptoms
- [ ] STI
- [ ] headache / stiff neck
- [ ] vesicular rash
- [ ] pregnant
- [ ] encephalitis / meningitis
- [ ] maculopapular rash
- [ ] jaundice
- [x] other - Clinically well
- [ ] influenza high risk -
- [ ] recent travel -

For HIV, please use the HIV serology form. - For referred cultures, please use the reference bacteriology form.To re-order this test requisition contact your local Public Health Laboratory and ask for form number F-SD-SCG-1000. Current version of Public Health Laboratory requisitions are available at www.publichealthontario.ca/requisitions

The personal health information is collected under the authority of the Personal Health Information Protection Act, s.36(1)(a)(i) for the purpose of clinical laboratory testing. If you have questions about the collection of this personal health information please contact the PHOL Manager of Customer Service at 416-235-6556 or toll free 1-877-604-4567. F-SD-SCG-1000 (03/2013)

Ontario

Appendix H:
TCFHT-MD15 Stamp

S: Requires • «vaccine»«injection»«, last dose given • ago»
- No adverse reaction to past immunizations/injections
- «NKDA»«Allergies to • noted»
«- No progressive/unstable neurological disorder»
«- Not immunocompromised»«, not pregnant»
«- «Not» on antiviral therapy (acyclovir, famciclovir or valacyclovir) for past 24 hours; •»
«- For MMR and MMRV vaccines - no thrombocytopenia or hx of thrombocytopenia purpura»

O/E:
- Well«; afebrile, no rashes, no moderate/severe illness»

A:
- Reviewed possible side effects
- «Immunization»«Injection» administered «tandem»«3:1» as per details below, pt tolerated well
«- Sucrose solution given prior to injection»
«- Distraction methods used»
«- Topical anaesthetic applied to skin 20 mins prior to injection»

P:
- Advised pt to wait X 15mins post-injection for observation; no adverse reaction reported»
«- Pt aware to RTC in • for next injection»
«- Instructed to restart antiviral therapy 14 days after immunization»
«- Pt and provider reminded re: need for annual bloodwork due to ongoing Prolia injections»

*actions and interventions in accordance with Medical Directive TCFHT-MD15