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5.1 Hepatitis B Immunization Program

Hepatitis B is a systemic disease caused by the hepatitis B virus. Carried in blood and other body fluids, it is transmitted from person to person by one of three routes:

- Exchange of body fluid during sexual contact
- Exposure to blood or blood products or per mucosal route
- Vertical transmission from infected mother to fetus or newborn

There can be a time lag of up to six months between infection and development of disease. Symptoms range from unapparent to pronounced, and disease may be asymptomatic, mild, severe or life threatening.

There are three possible outcomes to infection with hepatitis B:

- Complete recovery from infection with resulting immunity-not infectious
- Chronic symptomatic illness and infection with hepatitis B-infectious
- Recovery with a persistent antigenemia (HbsAg positive). These persons, often termed carriers, are infectious.

Hepatitis B exists worldwide. In Canada the disease has a higher than usual incidence in certain population groups, some health care occupational groups and some geographic areas.

As hepatitis B is a blood borne disease, there is a possibility that donated blood and blood products could carry the virus. The Canadian Red Cross started screening donations for HBV before 1980; this screening continues by the Canadian Blood Agency.

In September 1995, the Department of Health and Community Services began a routine hepatitis B vaccine program for all Grade 4 students within the province. In September 2010 it was decided to change the hepatitis B vaccine series from Grade 4 to Grade 6. In September 2012 the hepatitis B program restarted in Grade 6 as a two dose schedule. The program is delivered in the school setting. The Department of Health and Community Services continues to administer a limited hepatitis B immunization program, providing pre- and post-exposure prophylaxis for those persons who may be at increased risk of acquiring disease.

Some health care workers, the sexual and household contacts of persons who are infectious, infants of HBsAg positive mothers, and persons who regularly receive transfusions of blood or blood products are all at an increased risk of acquiring disease. Pre-exposure immunization is recommended for people who are in these groups **and post series serum testing is recommended at least one month but no later than six months post-immunization.** Infants of infected mothers also receive Hepatitis B Immune Globulin as immediate passive protection.

Persons who have had exposure to infectious material or to an infectious person may require post-exposure prophylaxis: a combination of passive immunization with hepatitis B immune globulin (HBIG) and active immunization with recombinant hepatitis B vaccine.

Enerix and Recombivax are both recombinant DNA hepatitis B vaccines, but the concentrations of antigens differ. Enerix contains 20 µg/ml of purified hepatitis B surface antigen and Recombivax contains 10 µg/m of purified hepatitis B surface antigen. However, **a series that has been started with Enerix can be completed with Recombivax, using the Recombivax product dosage.** For information on dosages see current product monographs. Note that interruption of the schedule does not require that the series be restarted. **Note:** Hepatitis B vaccines are no longer available in multi-dose vials and no longer contain Timersol.

Hepatitis B Immunization Program Policy

Policy:

The Department of Health and Community Services recommends hepatitis B vaccine for several groups, some of which are publicly funded. The following provides greater detail for the programs.

A. Publicly funded:

- 1) Grade 4 universal program 1995 -2010, Grade 6 universal program 2012
- 2) Pre-exposure for those not previously immunized:
 - Health care workers employed by provincial government agencies and students who have placements in provincial government health care facilities who are at increased risk for infection by being exposed to blood and body fluids.
 - Residents and staff of institutions for the developmentally challenged.
 - People with lifestyle risks for infection such as those who inhale or inject street drugs, men who have sex with men, those with numerous sexual partners and those who repeatedly seeking evaluation and treatment for STBBIs.
 - Persons who are receiving multiple infusions of blood or blood products
 - Persons prior to starting, or on dialysis
 - Persons at risk of severe acute hepatitis B (post bone marrow/stem cell transplant, hepatitis C and HIV positive)
 - Children born in Canada whose families have emigrated from areas with a high prevalence of Hepatitis B and might be exposed to Hepatitis B carriers through extended family or visiting.
 - Infants born to mothers who are considered at high risk for contracting Hepatitis B with unknown or negative (possible window period) HBsAg status (See Communicable Disease Manual Section 4.4 Hepatitis B – Education and Preventative Measures for definition of those considered at high risk).
 - Immunized cohort (born in 1986 and after) who have had serology done and booster or re-immunization is indicated.
- 3) Post-exposure for those not previously immunized:
 - Household members of cases with hepatitis B virus who have not been previously immunized.
 - Infants born to mothers who are hepatitis B surface antigen positive (HBsAg)
- 4) Others on the recommendation of the Medical Officer Health

B. Recommended but not publicly funded:

- Health Care Workers and students in private health care areas.
- Travelers to countries endemic for Hepatitis B.
- For those who are considered to be at risk of exposure to blood and bodily fluids by virtue of their occupation. The cost for immunization may be covered by the employer or employee.

C. Post-Immunization Serologic Testing

- All infants born to HBsAg positive mothers should be tested after 9 months of age at least one month and no more than four months after the last vaccination against Hepatitis B.
- If the infant is a non-responder, than a second course of the vaccine should be given with repeated serologic testing at least one month post-vaccination.
- Serologic testing one to six months after the completion of Hepatitis B vaccine series is recommended for the following:
 - Immunocompromised individuals (may need to be monitored annually, depending on the severity of compromise and risk for Hepatitis B).
 - Individuals with chronic renal disease or on dialysis (antibody levels should be monitored annually).
 - Individuals with chronic liver disease
 - Solid organ transplant candidates or recipients
 - Pregnant women at high risk for Hepatitis B infection
 - Individuals with percutaneous or mucosal exposure who receive PEP. Individuals who received HBIg should wait 6 months.
 - Sexual/household contacts of those with acute Hepatitis B or who are chronic carriers.
 - Individuals who require confirmation for employment.
- Individuals who received HBIg should wait six months before competing serologic testing.

D. Hepatitis B Booster and Re-Immunization:

- 1) Health Care Workers
 - If an adequate HBSAB titre is confirmed, serologic testing should not be repeated and further HB immunization is not needed.
 - If testing for HBSAB is completed one to six months after vaccination and HBSAB is less than 10IU/L, the HCW should be given a second HB vaccine series, followed by post-immunization serologic testing
 - If testing for HBSAB is completed more than 6 months after vaccination and HBSAB titre is less than 10IU/L, the HCW should be given 1 booster dose of HB vaccine, followed by post-immunization serologic testing. If an anamnestic response following the booster dose is absent, a second HB vaccine series should be given followed by post-immunization serologic testing (Refer to Section 8.4 Appendix A).
- 2) Other High Risk Groups
 - Individuals at high risk for HB infection or complications who do not develop a HBSAB titre of at least 10IU/L after the initial HB vaccine series should receive a second HB vaccine series.
 - Individuals who fail to respond to three additional doses of vaccine are unlikely to benefit from further immunization and should receive counselling on alternative risk reduction measures (excluding individuals with chronic renal disease or who are immunocompromised).

- Individuals who are immunocompromised or diagnosed with chronic renal disease who have initially responded to HB vaccine may require booster doses periodically if their HBSAB titre falls below 10IU/L. If a higher vaccine dose was indicated for the initial vaccine series, a higher HB vaccine dose should be used for all subsequent immunizations (Refer to Section 8.3 Appendix A).

NOTE: As Hepatitis B vaccine may temporarily cause a reactive HBSAB testing response, serological testing for HBSAB should be completed at least 4 weeks after a dose of Hepatitis B vaccine to avoid a false-positive result.

Policy and Procedure for Ordering Hepatitis B Vaccine and HBIG

Policy:

Hepatitis B vaccine that is provided by the Department of Health and Community Services must be ordered through the Regional Health Authorities. Consideration must be given to maintaining an emergency use supply of hepatitis B vaccine for use with hepatitis B Immune Globulin (HBIG)* for post-exposure protection.

Procedure:

- 1) Each request for immunization will be made to the MOH of the region.
- 2) The Medical Officer of Health/designate reviews and approves requests that meet the Department of Health and Community Services programs.
- 3) Vaccine will be supplied for requests that are approved as outlined in section A. (pg 5.1-2) from the regional supply and replenished on the monthly orders from the Public Health Division.
- 4) It must be noted that persons with occupational risk who move from one institution to another may miss the third dose (6 month booster). It is the responsibility of the employing agency or employee (and not public health) to ensure that the series is completed.

*Note:

HBIG is available only through the Canadian Blood Services and shipped directly to the requesting hospital or health care institution. For questions regarding obtaining HBIG please contact your regional Medical Officer of Health.

5.2 Hepatitis A Immunization Program Policy

Policy:

The Department of Health and Community Services recommends hepatitis A vaccine for several groups, some of which are publicly funded. The following provides greater detail for the programs.

A. Publicly funded:

- 1) Persons exposed to a case of hepatitis A -must be administered within two weeks of exposure
- 2) Persons who receive multiple infusions of blood or blood products
- 3) Persons who are at risk for chronic liver disease, for example, those infected with hepatitis B and/or C
- 4) Persons with lifestyle risks for infection such as those who inhale or inject street drugs and men who have sex with men
- 5) Others on the recommendation of the Medical Officer Health

B. Recommended but not publicly funded:

- 1) Travelers to endemic countries
- 2) Veterinarians and researchers who handle non-human primates

5.3 Pneumococcal Immunization Program

Background:

Pneumococcal disease is caused by a bacterial infection with *Streptococcus pneumoniae*. Polysaccharide pneumococcal vaccine (23 valent) has been in use since the early 1980's and a conjugate vaccine (7 valent) was licensed for use in 2002. In 2009 a pneumococcal conjugate (10 valent) was licensed for use. In 2010 a 13 valent conjugate vaccine was licensed for use and subsequently replaced the 10 valent pneumococcal vaccine as a phase in program in Newfoundland and Labrador. In Newfoundland and Labrador there is a program for the polysaccharide vaccine for those aged two and older and for pneumococcal conjugate vaccine for those under age five. The vaccine is publicly funded for those at risk and available through the local Health and Community Services offices.

There are groups within the general population who are at higher than usual risk from disease. The Department of Health and Community Services administers an immunization program to provide vaccine for persons aged 65 years and over as well as those who are at very high risk for infection. High risk individuals have been offered vaccine since it first became available in 1980. The program was expanded in 1998 to include those in long term care and in 1999 to include all those aged 65 and over. In 2003 a limited conjugate program was added and in 2005 a universal childhood program was implemented. **See section 3 of this manual for full information on the publicly funded Pneu-C-13 program.**

The pneumococcal polysaccharide - 23 product used is a polyvalent preparation, derived from 23 commonly occurring strains of the bacteria and is not suitable for persons under two years of age. It is given only once in a lifetime. Exceptions may be made for persons in some high risk groups, as noted in *The Canadian Immunization Guide*. The pneumococcal conjugate -13 vaccine is for use in infants and children under age five years and the dosing schedule is as per product monograph. There are some high risk groups that eligible for pneumococcal conjugate-13 vaccine, consultation with MOH/designate may be required to determine eligibility.

Some pneumococcal vaccine products or their vial closures contain latex. Please refer to product monograph or appendix D for specific content of commonly used vaccine closures.

Policy on Use of Pneumococcal Polysaccharide Vaccine

Policy:

The Department of Health and Community Services provides pneumococcal vaccine for persons at risk for invasive pneumococcal diseases or complications of pneumococcal infection. This includes, but is not limited to:

- 1) All persons aged 65 and over;
- 2) All persons who are residents of long term care or residential facilities;
- 3) Aboriginal population;
- 4) All persons receiving or with cochlear implants*
- 5) All persons with chronic conditions requiring regular medical treatment and follow up.
For example:
 - Chronic cardiac disease;
 - Chronic respiratory disease;
 - Chronic renal disease;
 - Cirrhosis;
 - Asplenia or splenic dysfunction;*
 - Sickle-cell disease;*
 - Nephrotic syndrome
 - Immunosuppression (e.g. induced through HIV infection and other conditions)*;
 - Diabetes mellitus;
 - Alcoholism.
- 6) Other chronic conditions which increase an individual's risk for pneumococcal invasive disease.

***Note that these individuals are also eligible for the Pneu-C-13 vaccine.**

- **If individual has already received Pneu- P- 23, they must wait one year before Pneu-C-13 can be administered.**
- **If individual has already received Pneu-C-13, they must wait at least 8 weeks before Pneu-P-23 can be administered.**

Screening Questions:

- Has the individual had an anaphylactic reaction to a previous dose of pneumococcal vaccine or to a component of the vaccine as listed in the product monograph?
Yes: Do NOT give vaccine.
- Does the child/individual have a moderate to severe illness, with or without a fever?
Yes: Defer immunization with vaccine until the client is well.
- Has the individual had a previous dose of Pneu-C-13 vaccine?
Yes: There is a minimal 8 week interval between Pneu-C-13 and Pneu-P-23.

- Is there a requirement for a booster dose of Pneu-P-23 vaccine?

Routine re-immunization of healthy individuals who have been vaccinated with Pneu-P-23 vaccine is not recommended. For adults who received Pneu-P-23 vaccine before 65 years of age, an additional dose of Pneu-P-23 vaccine should be administered at 65 years of age, at least 5 years after any previous dose. Individuals of any age at high risk of IPD, including those with functional or anatomic asplenia, sickle cell disease, hepatic cirrhosis, or chronic renal failure, a single re-immunization with Pneu-P-23 is recommended 5 years after the initial immunization with Pneu-P-23 vaccine.

Contraindications:

- Anaphylaxis to a previous dose of Pneu-P-23 or to any of the components of the vaccine or the stopper.

Not Contraindications:

- Mild Illness
- On an antibiotic
- Coagulation disorder (use appropriate gauge needle)

5.4 Rabies Immunization Program

Background:

Rabies is a viral disease that can infect all mammals. Disease, once established, will result in death.

Rabies has been reported in wildlife from almost all regions in Canada, but the island portion of Newfoundland has been considered rabies free. Cases of rabid foxes and wild animals are seen in Labrador and in 2003 on the Northern and Western areas of the province.

The Department of Health and Community Services has a role in the investigation of possible rabies incidents, including those where there may be human contact. The public health nurse is very often the first person notified if an incident occurs within a community. When a report is made, it is essential to obtain as much detail on the incident as possible, as this will determine the action taken, especially in situations of human involvement

Please refer to product monograph or appendix D for specific content of commonly used vaccine closures.

For information on rabies reporting and investigation please see the Newfoundland and Labrador Disease Control Manual.

Post-Exposure Management of Rabies

Once an investigation has been completed, in consultation with the MOH, and definite or suspected exposure determined the following should be initiated as soon as possible post-exposure.

Both **HDCV** and **Rabies Immune Globulin (RIG)** are used to treat persons who have been bitten or had other skin breaks associated with animals that may be rabid.

The combination of passive (**RIG**) and active (**HDCV**) immunization is considered to be highly effective in preventing rabies in exposed individuals. Post-exposure immunization must be considered in every instance of animal bite, unless it is known that rabies is absent within that population of animal. It is essential that decisions around post-exposure management be made fairly rapidly, since delays in initiating treatment can compromise effectiveness.

The most important treatment is immediate and thorough washing and flushing of the bite or other skin break with soap and water.

A number of factors must be considered for each individual case, and *The Canadian Immunization Guide* provides treatment protocols and guidelines for various situations, such as the procedure for post-exposure management of a previously immunized person, treatment for a bite from a domestic vs. wild animal, etc.

It must be noted that in any situation where **RIG** is to be given, the following must be taken into consideration in consultation with the MOH and attending physician:

- 1) **Amount of RIG administered.** The recommended dose is 20 IU/kg bodyweight. Excessive dosages can interfere with active antibody production.
- 2) **Time frame within which HDCV and RIG are given.** Rabies Immune Globulin given more than eight days following vaccine administration is of no protective value.
- 3) **Method of administration.** **RIG** and **HDCV** must **never** be given at the same site, or delivered through the same syringe and needle.

For information on dosages please see product monograph and *Canadian Immunization Guide*.

Policy on Use of Rabies Vaccine and Rabies Immune Globulin

Policy:

Rabies Vaccine (Human Diploid Cell Vaccine or HDCV) is used in the pre-exposure immunization for rabies. HDCV and Rabies Immune Globulin (RIG) are to be used in the post-exposure management of rabies, according to recommended schedules in *The Canadian Immunization Guide (2012)* see

<http://www.phac-aspc.gc.ca/publicat/cig-gci/p04-rabi-rage-eng.php>

Rabies Vaccine and Rabies Immune Globulin are emergency supply products and are to be ordered as such. Release of these products is to be authorized by the Medical Officer of Health.

Passive Immunization with Rabies Immune Globulin

Product Used:

16.5% solution of gamma globulin fraction of human venous plasma containing rabies antibodies.

Indicated For:

Passive immunization against rabies, post-exposure.

Related Information and Dosage:

- Canadian Immunization Guide
- Control of Communicable Diseases Manual
- Product monograph

Appearance and Availability:

Clear, colorless liquid that is thick and viscous. Requires large bore needle for injection (19G). Available in 1.0 ml vials.

For dosage see product monograph

Screening Questions:

Has the person ever demonstrated any adverse reaction to any immune globulins?

Yes: Consult with MOH/designate. Immunoglobulin **must** be given in a controlled setting.

Has the person received MMR or Var within the previous 14 days?

Yes: Consult with MOH/Designate. Immunization may need to be repeated.

Is there an MMR or Var scheduled?

Yes: **Review schedule.** Advise the vaccinee that the effectiveness of a live vaccine can be compromised if it is given within the immediate four months following administration of RIG.

Immunization with Rabies Human Diploid Cell Vaccine

Product Used:

Vaccine product that contains rabies virus grown in human diploid cell culture, and subsequently inactivated. This is **not** a live viral vaccine.

Indicated For:

Pre-exposure immunization against rabies for regularly exposed workers as noted, and as a component of post -exposure treatment.

Related Information:

- Canadian Immunization Guide
- Control Of Communicable Diseases Manual
- Product insert or monograph

Screening Questions:

Is the person immunocompromised (i.e. lymphoma, leukemia, HIV, AIDS, generalized malignancy, antimetabolite therapy, radiation or corticosteroid therapy)?

Yes: **Give Rabies HDVC**. This is not a live vaccine, and may be given in these persons if they are having no contraindications, see product monograph. Due to immunosuppression the response may be suboptimal.

Is the person pregnant?

Yes: **Defer Rabies HDVC** until after pregnancy, unless there is a risk of exposure during the pregnancy.

For dose see product monograph.

5.5 Rubella Immunization Program (post-partum and others)

Background:

The Department of Health and Community Services administers a program aimed at preventing prenatal rubella infection and consequent congenital rubella syndrome. The program consists of prenatal blood screening to identify susceptible women, and follow up with rubella immunization in the post-partum period.

It is recommended by the Department of Health and Community Services that all women who receive pre-natal care in this province have routine blood work done early in pregnancy. This includes a screening test for the presence of rubella antibody. This testing is done by the Public Health Laboratory, and results are reported to the referring physician.

For those women who are antibody negative, a duplicate report is forwarded to the region, to the attention of the Medical Officer of Health. Rubella immunization is then offered, as soon as is practicable, in the post partum period. In this province, rubella is offered as a component of MMR vaccine.

Persons found to be non-immune on screening who are not prenatal clients are offered MMR vaccination as well; an individual should receive a maximum of two doses after age 12 months.

In all cases, a signed consent or refusal for immunization with MMR must be obtained. The theoretical risks of rubella immunization in pregnancy, and the real risks of congenital rubella syndrome are referred to in the information pamphlet which should be provided. This form must be completed for all females of child bearing age who are offered MMR vaccination. Alternately, the Immunization *Record and Consent Form* can be used if a parent is providing consent for MMR immunization of an adolescent female. Refer to Section 1-3 of the manual for more information on consent.

Policy and Procedure for Follow-Up of Rubella Negative Individuals

Policy:

All rubella negative individuals who present for routine immunization (pre-natal screen or other) are to be offered immunization with the combined Measles Mumps and Rubella vaccine (MMR). Immunization of rubella antibody negative pregnant women is deferred until the post-partum period.

Procedure:

- Laboratory reports of rubella antibody negative persons are forwarded to the appropriate region from Public Health Laboratories (PHL).
- The Medical Officer of Health/designate directs the report to the public health nurse.
- The public health nurse contacts the client to determine whether the report is a prenatal screen. If not, then MMR may be offered to the individual immediately.
- A prenatal report is tagged and filed in a manner allowing for future matching with the live birth notification for that individual. This procedure may vary from region to region.
- When live birth notification is received, it is checked for rubella status, against the rubella antibody negative file.
- The public health nurse offers rubella immunization to the mother if she has no record of immunization or if she has not received two doses previously, as a component of MMR.
- An informed consent is obtained and immunization recorded.
- Reports on file are to be reviewed periodically to ensure that all reports are followed up. Miscarriage, termination of pregnancy, or clients moving from one area to another may lead to missed opportunities for post-partum immunization.

5.6 Tetanus Immunization in Wound Management

Background:

Both active and passive tetanus immunization are to be considered as a part of the appropriate management of wounds, in addition to the thorough cleaning and debridement of any wound, and possible antibiotic coverage.

Active immunization involves the use of tetanus toxoid, in combination with any of the following:

- Tetanus, diphtheria and acellular pertussis (Tdap) vaccine for children aged 7 years or older,. The polio component is no longer recommended if a complete primary series has been given.
- Tetanus and diphtheria toxoid, polio and pertussis vaccines in combination with Haemophilus influenzae b (DaPT-IPV-Hib) for children age six and under.

Passive immunization involves the use of tetanus immune globulin, a pooled preparation of human sera (heat treated) containing very high levels of tetanus antibodies.

The decision to use active or passive immunization or a combination of both is made on consideration of the following points:

- **Previous Immunization History**
The number of past doses of tetanus toxoid (in any combination) and the length of time since the last dose are important factors, as they influence both
 - level of antibody available to combat infection.
 - possible reaction to further immunization.
- **Nature of the Wound**

The wound must be carefully assessed for depth, severity and level of contamination. A clean minor wound is one that is superficial, with no evidence of soil or other foreign material contamination. All other wounds are considered to be major.

When assessing an individual for wound management, it is useful to recall the recommended dose schedule for tetanus immunization, both primary and booster doses. Table 5.6-1, **Tetanus Immunization in Wound Management**, on the following page provides guidance for the use of tetanus immunization in wound management.

Table 5.6-1: Tetanus prophylaxis in wound management for adults and children ≥ 7 years

History of tetanus immunization	Clean minor wound		All other wounds	
	Tdap	TIG*	Tdap	TIG
Uncertain or < 3 doses of an immunization series	Yes	No	Yes	Yes
3 or more doses in a vaccine series and less than 5 years since last booster dose	No	No	No	No
≥ 3 doses received in an immunization series and more than 5 but less than 10 years since last booster dose	No	No	Yes	No
≥ 3 doses received in an immunization series and more than 10 years since last booster dose	Yes	No	Yes	No

* Tetanus Immune Globulin given at a separate site from Tdap

If a child of less than 7 years is being immunized, use DaPT-IPV-Hib, DaPT-IPV or DT&P, as per the appropriate childhood immunization schedule.

It is recommended that tetanus immunization be boosted at ten year intervals following the kindergarten booster; thus, a person would receive a Tdap booster at 14-16 years of age, and would receive Tdap every mid-decade thereafter, age 25, 35, 45 etc.

Rarely, a person with a wound will present for immunization with an unequivocal history of severe reaction to previous tetanus immunization, which would contraindicate further immunization. If the wound is more than superficial, or if it is contaminated, then TIG must be given.

If there is a history of severe local reaction to tetanus toxoid, consult with MOH.

If a person presents for routine immunization after being given tetanus toxoid for wound management proceed with immunization as per provincial schedule. There is no longer a time interval required between the administration of tetanus and diphtheria toxoid containing vaccines.

TIG is never given for a minor wound, and is only given when there is a history of uncertain or incomplete tetanus immunization in the presence of a wound that is contaminated.

See Section 3 in for information on tetanus containing vaccines.

For the *Canadian Immunization Guide (2012)* see:
<http://www.phac-aspc.gc.ca/publicat/cig-gci/p04-tet-eng.php>

Passive Immunization with Tetanus Immune Globulin

Product Used:

16.5% solution of gamma globulin fraction of human venous plasma containing tetanus antibodies.

Indicated For:

Passive immunization against tetanus, post-exposure.

Related Information:

- Canadian Immunization Guide
- Product Monograph

Dose: Varies, calculated by body weight. See product monograph.

Route: Intramuscular

Site: Vastus lateralis muscle in children up to three years of age.
Gluteus maximus in children three years old or older and adults.

Appearance and Availability:

Clear, colorless liquid that is thick and viscous. 250 Unit pre-loaded syringe.

Screening Questions:

Has the person ever demonstrated any adverse reaction to any immune globulins?

Yes: Consult with the MOH/designate. Immunoglobulin **must** be given in a controlled setting.

Has the person received MMR-Var, MMR or Var within the previous 14 days?

Yes: Consult with the MOH/designate. Immunization may need to be repeated.

Is there an MMR, MMR-Var, or Var scheduled?

Yes: **Review schedule.** Advise the vaccinee that the effectiveness of a live vaccine can be compromised if it is given within the immediate three months following administration of TIG.

5.7 Botulism Antitoxin for Emergency Use

Botulism is a disease that results from ingestion of food that has been contaminated with a toxin producing bacterium, *Clostridium botulinum*. The toxin acts primarily on the central nervous system, resulting in progressively paralytic symptoms and death. Disease can be arrested with the prompt intravenous and intramuscular administration of botulism antitoxin.

The Department of Health & Community Services supplies one type of botulism antitoxin derived from horse serum:

- Trivalent (Types A, B, and E) Equine Antitoxin

This passive immunizing agent does not confer long lasting immunity. It is used to treat persons with suspected or confirmed botulism poisoning, as well as those persons who are asymptomatic, but who have eaten food that might have been contaminated with the bacterial toxin. Further information on botulism antitoxin may be found in *The Canadian Immunization Guide* and in *Control of Communicable Diseases Manual*.

Botulism antitoxin is stocked at the provincial depot of Public Health Division but is not routinely stocked or distributed in the regions. It is also stocked in the Nain office. The preparations are emergency supply products and are to be ordered as such.

If You Suspect The Need For Botulism Antitoxin Use:

- Call MOH in your region or the MOH on call 1-866-270-7437

5.8 Meningococcal B Immunization Program

Background

The majority of invasive meningococcal disease (IMD) worldwide is associated with *Neisseria meningitidis* serogroups A, B, C, Y and W-135. The incidence of serogroup C has decreased significantly since 2002 and disease caused by serogroups W-135 and Y has stabilized at relatively low incidence rates; however serogroup B disease remains predominant in Canada.

NL has a routine immunization program for infants and children (see section 3) for protection against serogroups A, C, Y, W-135.

The National Advisory Committee on Immunization (NACI) recommends that research, industrial and clinical laboratory personnel who are potentially routinely exposed to *N. meningitidis* should be protected with vaccination. Technologists working in bacteriology laboratories would be at greatest risk.

Policy:

The Department of Health and Community Services recommends meningococcal B vaccine in the following circumstances:

- Individuals identified as close contacts of persons with lab confirmed meningococcal serotype B invasive disease. Close contacts of individuals with meningococcal infections are at increased risk of developing IMD. This risk is greatest for household contacts and may persist for up to 1 year after disease in the index case.
- Laboratory personnel who routinely work with amplified culture. This includes personnel involved in conducting subculture identification, susceptibility testing, serological and/or molecular characterization and deep freeze for storage. Laboratory personnel who do only initial plating of specimens are not eligible.

Note: 4CMenB vaccine is not authorized for use in those 18 years of age and older; however based on limited evidence and expert opinion its use is considered appropriate for this age group by recommendation of the Medical Officer of Health and CIG in the context of immunizing close contacts of cases with lab confirmed meningococcal B infection as well as in the context of immunizing high risk laboratory personnel as identified above.

Description of Vaccine:

A novel multicomponent vaccine 4CMenB (meningococcal porin A [PorA], factor H binding protein [fHbp], neisserial antigen 2091 [GNA 2091], heparin binding agent [NHBA], neisserial antigen 1030 [GNA 1030], and Neisserial adhesion A [NadA] surface proteins).

Related Information:

- Product Monograph
- Canadian Immunization Guide (CIG) See current edition for latex and product information.
- Control of Communicable Diseases Manual
- National Advisory Committee on Immunization Statements

A. Publicly funded:

- 1) All close contacts of persons with lab confirmed meningococcal serotype B invasive disease
- 2) Laboratory personnel as identified in the policy above.
- 3) Others on the recommendation of the Medical Officer Health

B. Recommended but not publicly funded:

- 1) Travelers to endemic countries
- 2) Children and adults, 2 months of age and older, may be considered on an individual basis to protect against serogroup B strains expressing antigens covered by the vaccine.
- 3) Children and adults, 2 months of age and older, at increased risk of IMD.

Dose: 0.5 ml administered in a series according to age recommendations in product monograph and CIG.

Route: Intramuscular

Site: Vastus lateralis in infants under 12 months of age.
Deltoid in children age 12 months and over (unless muscle mass is not adequate) and adults.

Procedure and Preparation:

See product monograph

Screening Guidelines: See section 1.5 for additional screening information.

Screening Questions:

- Has the individual had an anaphylactic reaction to a previous dose of meningococcal B vaccine or to a component of the vaccine as listed in the product monograph?

Yes: Do NOT give vaccine.

- Does the child/individual have a moderate to severe illness, with or without a fever?

Yes: Defer immunization with vaccine until the client is well.

- Has the individual had a previous dose of Men-B vaccine?

Yes: There is a minimal 4 week interval between doses of Men-B vaccine. Follow schedule as outlined in CIG as number of doses is dependent on age.

Contraindications:

- Anaphylaxis to a previous dose of Men-B or to any of the components of the vaccine or the stopper.

Not Contraindications:

- Mild Illness
- On an antibiotic

Coagulation disorder (use appropriate gauge needle)

Policy and Procedure for ordering Meningococcal B Vaccine

Policy:

Meningococcal B vaccine that is provided by the Department of Health and Community Services must be ordered through the Regional Health Authorities and made available to the regions

Procedure:

For management of close contacts as approved by the RMOH or CMOH:

- 1) Each confirmed case of Meningococcal B invasive disease will be reported to the R/CMOH and close contact list generated for public health follow-up for chemoprophylaxis and vaccine administration.
- 2) Vaccine will be supplied for requests that are approved in consultation with the MOH and regional CDCN.
- 3) See CDC Manual for all other aspects of meningococcal disease management.
- 4) It must be noted that persons who move from one jurisdiction to another are at risk of being lost to follow-up. In these cases the local Public Health Nurse requests the client provide notice of new address. If no new address is available the client should be instructed to contact a public health professional in the jurisdiction to which they are moving to ensure that the immunization series is completed. If available, the district PHN will provide the new address to the regional CDCN who can notify another regional CDCN or the provincial CDCN (if out of province) for appropriate follow-up.

For vaccination of high risk laboratory personnel:

- 1) Vaccination will be offered through occupational health.
- 2) Managers of laboratory personnel will contact occupational health to advise of employees that meet the criteria for vaccination.
- 3) Occupational health will connect with identified employees to schedule consultation and vaccine administration.
- 4) Vaccination will consist of a 2-dose schedule with the 2nd dose administered at least 1 month following the 1st dose.
- 5) When screening new employees, occupational health will determine Men B vaccine eligibility with direct consultation from public health lab management.