Northwest Territories Certification of Immunization Competence

Self-Directed Learning Module

Program Guidelines

Revised January 2006

Northwest Territories Health and Social Services

Northwest Territories
Certification of Immunization Competence
Self-Directed Learning Module

Goal:

To provide an ongoing, standardized educational guide to all nursing staff delivering immunization in the Northwest Territories (NWT).

Objectives:

On completion of the appropriate immunization exam (i.e.: Community/PHN, ER/OPD, OBS or Recertification) a nurse will be able to:

1. Define terms related to immunization and immunity.
2. Demonstrate proper vaccine handling and storage.
3. Provide adequate information to clients enabling them to make informed decisions.
4. Demonstrate knowledge of the current NWT routine immunization schedule.
5. Demonstrate knowledge of vaccines used in terms of:
    - recommended indication, route, site and dosage
    - common side effects
    - adverse effects
    - contraindications
    - risks/benefits
    - patient education (i.e.: what to do if vaccinee experiences an adverse event or common side effect)
    - administration technique

6. Administer vaccines as per NWT schedule.

Resources:

1. National Advisory Committee on Immunization. *Canadian Immunization Guide*. 6th Edition. Laboratory Centre of Disease Control, 2002

2. www.immunize.cpha.ca

3. Manufacturers= product inserts.

4. Epi-North (http://www.hlthss.gov.nt.ca/content/Publications/publication_index.htm

5. Current NWT Immunization Schedule.

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Regional Guidelines

1. It is recommended that each Health Region designate a nurse to be responsible for overseeing the certification process. Responsibilities include guiding nurses through the process; reviewing the completed self-directed learning modules, and organizing the supervised immunization experiences. The Northwest Territories Advisory Committee on Immunization recommends that the designated nurse currently immunizes as part of her/his practice and that she/he have a minimum of three years immunization experience.

2. It is recommended that the module be completed within one month. When completed, the module is given to the designated regional nurse for review.

3. All questions must be answered and 90% is a pass designation. If the nurse does not achieve 90%, the module is returned for a second opportunity to re-write the incorrect questions.

4. After the module is successfully completed and the nurse has had 3 satisfactory supervised immunization experiences, a certificate is given.

5. It is recommended that the certification of immunization competence be renewed every three years by completing the Recertification Exam. Hospital nurses are required to re-write the designated ER/OPD or OBS exam for recertification.

Guidelines for the Nurse

1. To become certified or to maintain your certification of immunization competence, you will need to successfully complete two steps:
    i) a written self-directed immunization learning module; and,
    ii) supervised immunization experiences.

2. You will direct your own learning experience with the goal of reaching or maintaining competence in immunization. Feel free to use any resource: books, journals, colleagues, to assist you in completing the module. It is recommended that you refer to the most current edition of the *Canadian Immunization Guide*.

3. You will be given one month to complete the module. On completion send your completed module to the designated nurse in your region.

4. After you have successfully completed the module and have had 3 satisfactory supervised immunization experiences, you will be given a certificate recognizing your new or continued competence in immunization.

5. Your certification of immunization competence must be renewed every three years.

Appendix:

1. ColdMark
2. WarmMark
3. Maximum - Minimum Thermometers
4. NWT Routine Immunization Schedule

Appendix 1:Cold Mark
ColdMark™ Monitors

What is a ColdMark™ monitor?

Inserted in vaccine shipments, a ColdMark™ monitor will indicate whether vaccines have been exposed to temperatures below freezing.

How does the monitor work?

The ColdMark™ indicator tube and bulb contain a specially formulated colourless fluid and a violet-coloured fluid separated by green-coloured fluid. When the indicator is exposed to a temperature at or below the response temperature for approximately 30 minutes, the colourless fluid in the bulb solidifies and contracts drawing the coloured liquid into the bulb. The bulb changes from clear to cloudy with streaks of violet. When the indicator is warmed to above the response temperature again, the bulb changes irreversibly to a uniform violet.

At what temperature will the ColdMark™ monitor activate?

ColdMark™ monitors inserted in vaccine shipments in the Northwest Territories will activate when the internal temperature of the package maintains -3°C or colder for approximately 30 minutes.

How accurate is the monitor?

ColdMark™ monitors will activate within plus or minus 1 degree of its response temperature.

How should ColdMark™ monitors be stored?

ColdMark™ monitors must be stored above their response temperature and should not be exposed to temperatures exceeding 43°C.

What should be done if a ColdMark™ monitor, contained in a vaccine shipment, arrives activated?

If upon arrival, a vaccine shipment contains an activated ColdMark™ monitor, i.e.: bulb is not colourless, the cold chain breach procedures of the Vaccine Storage and Handling policy must be followed.

Appendix 2:WarmMark
Warmmark™ Monitors

What is a Warmmark™ monitor?

Inserted in vaccine shipments, a Warmmark™ monitor will indicate whether vaccines have been exposed to warm temperatures.

How does the monitor work?

Just before using the Warmmark™ monitor, its activation tab and attached barrier film must be removed. This will bring the track strip and the saturated pad inside the monitor in direct contact with each other. If the tag is exposed above its response temperature, the chemical in the pad melts and begins to migrate down the track strip leaving a colour change on the strip. The resulting colour change will appear in the windows at a controlled rate based on exposure time. Whenever the temperature falls below the response temperature, migration of the chemical stops.

At what temperature will the Warmmark™ monitor activate?

Warmmark™ monitors inserted in vaccine shipments in the Northwest Territories will activate when the internal temperature of the package reaches 10°C or warmer.

If a colour change appears in the window marked brief, moderate or prolonged what does this mean?

Warmmark™ monitors have three small windows marked brief, moderate or prolonged. If the window marked "brief" has completely changed colour, this indicates that the monitor has been exposed to the response temperature, 10°C, for 1.75 hours. If the windows marked "brief" and "moderate" have completely changed colour, this indicates that the monitor has been exposed to the response temperature: 10°C for 10.5 hours. If all of the three windows have completely changed colour, this indicates that the monitor has been exposed to the response temperature 10°C for 48 hours.

How accurate is the monitor?

Warmmark™ monitors will activate within plus or minus 1 degree of its response temperature.

How should Warmmark™ monitors be stored?

Warmmark™ monitors must be stored below their response temperature; i.e., in the refrigerator.

What should be done if a Warmmark™ monitor, contained in a vaccine shipment, arrives activated?

If upon arrival, a vaccine shipment contains an activated Warmmark™ monitor, i.e.: any of the three windows are no longer colourless, the cold chain breach procedures of the Vaccine Storage and Handling policy must be followed.

Appendix 3:Maximum - Minimum Thermometers
Maximum - Minimum Thermometers

What is a maximum - minimum thermometer?

A maximum - minimum thermometer placed in refrigerators and/or vaccine carriers will indicate minimum and maximum temperatures reached since the thermometer was last read. The thermometer will not indicate how long the temperature was outside the recommended 2℃ to 8℃ range.

How is the maximum-minimum thermometer read?

There are three temperature readings that can be made: current, minimum and maximum. The current temperature is indicated by the top of silver mercury column on the right-hand side of the thermometer. The minimum temperature reached since the thermometer was last reset is flush with the bottom of the blue marker on the left column (Celsius=black numbers). The maximum temperature reached since the thermometer was last reset is flush with the bottom of the blue marker on the right column.

If the blue markers fall outside the green range, this means vaccines have been exposed to temperatures outside the recommended range of 2°C to 8°C.

After reading the thermometer how is it reset?

After recording the current, maximum and minimum temperatures the thermometer needs to be reset. Hold the thermometer upright. Press and hold the magnetic reset button in the middle of the thermometer until the blue markers fall to the top of the silver mercury columns on both sides. If there are air bubbles in the mercury columns of the blue markers do not fall, shake the thermometer as you would a clinical thermometer until the mercury joins, or the blue markers fall.

Where should the maximum - minimum thermometer be placed in the refrigerator?

The maximum-minimum thermometer should be placed upright in the centre of the middle shelf of the refrigerator or it can be adhered to the inside wall using double sided tape of Velcro™.

What should be done if the maximum - minimum thermometer indicates that the temperature has been or is outside the recommended range of 2°C to 8°C?

If the thermometer shows the vaccine refrigerator is colder than 2°C or warmer than 8°C the following steps must be taken:

i. Adjust the refrigerator setting or get professional servicing; and
ii. Follow the cold chain breach procedures of the Vaccine Storage and Handling policy.

NWT ROUTE IMMUNIZATION SCHEDULE – RECOMMENDED ROUTINE IMMUNIZATION SCHEDULES IN THE NORTHWEST TERRITORIES November 2005

Table 1

INFANTS BEGINNING SERIES IN EARLY INFANCY

AGE	VACCINE
Birth **(see[1] note)**	Hepatitis B (TMF) +BCG
1 Month	Hepatitis B (TMF)
2 Months	DaPT Polio + Act-HIB + Men C + Pneumococcal Conjugate (PCV – 7)
4 Months	DaPT Polio + Act-HIB + Pneumococcal Conjugate (PCV – 7)
6 Months	DaPT Polio + Act-HIB +Hepatitis B (TMF) + Pneumococcal Conjugate (PCV – 7)
12 Months ♥	Varicella (Chicken pox) + Men C + MMR at Separate Site
18 Months	DaPT Polio + Act-HIB +MMR at Separate Site + Pneumococcal Conjugate (PCV – 7)
4 – 6 Years ♣	DaPT Polio
14 – 16 Years ♦	♠ TdaP

Table 2

CHILDREN 1 – 6 YEARS OF AGE NOT IMMUNIZED IN EARLY INFANCY

AGE	VACCINE
Initial Visit	DaPT Polio + Act-HIB + MMR (at Separate Site) + Pneumococcal Conjugate (PCV – 7)
1 Month after Visit	Varicella (Chickenpox) - If no history of Chickenpox Disease + Men C
2 Months after 1st Visit	DaPT Polio + Act-HIB + Hepatitis B + *Pneumococcal Conjugate (PCV – 7)
2 Months after 2nd Visit	DaPT Polio + Hepatitis B +
12 Months after 3rd Visit	DaPT Polio + Hepatitis B +
4 – 6 Years ♣	DaPT Polio MMR

Table 3

UNIMMUNIZED CHILDREN AGED 7 YEARS AND OVER, AND ADULTS NOT IMMUNIZED IN CHILDHOOD

AGE	VACCINE
Initial Visit	Tdap, Varicilla-If no history of the disease MMR (at Separate Site) + HepB
2 Months after 1st Visit	Td Polio+HepB + Men C
6 – 12 Months after 2nd Visit	Td Polio +HepB MMR (at Separate Site)
Every 10 Years Thereafter	Td with at least one booster of TdaP

Table 4

ROUTINE IMMUNIZATION OF ADULTS (PREVIOUSLY IMMUNIZED)

VACCINE OR TOXOID	INDICATION	FURTHER DOSES
Diphtheria (Adult Preparation)	All Adults	Every 10 years, preferably given with tetanus toxoid (Td)
Tetanus	All Adults	Every 10 years, preferably given as Td
Influenza	Adults ≥ 65 years; Adults < 65 years at high risk of influenza-related complications	Every year using current vaccine formulation
Pneumococcal	Adults ≥ 65 years; conditions with increased risk of pneumococcal diseases	None usually
Measles	All adults born in 1970 or later who are susceptible to measles	Preferably given as MMR
Rubella Varicella	Susceptible women of childbearing age and healthcare workers	None
Mumps	Adults born in 1970 or later with no history of mumps	None
Pertussis	All adults	One dose of TdaP instead of Td at least once in their lifetime
Varicella	All adults	Screen & if no history or serological evidence – immunize – 2 doses over the age of 13

NOTE:

Interruption of a vaccine series does not require restarting the series, regardless of the length of time elapsed since the last dose. Please consult the Health Protection Unit, Department of Health and Social Services.

1. HEPATITIS B

The vaccine is used directly as an intramuscular injection as supplied. All infants in the NWT are eligible for this immunization program

NOTE: Infants born to mothers who are HBsAG positive should be given post-exposure prophylaxis which includes: 0.5 ml of HBIG and 0.5 ml HBV vaccine immediately after birth, both administered intramuscularly at different sites. The second and third dose 0.5 ml of the vaccine series will be given at 1 & 6 months of age.

Thimerosol Free (TMF) Vaccine is to be used for Hepatitis B infant series.

For **OTHER** categories, see NWT Hepatitis B Immunization Program.

2. BCG

BCG is recommended for all infants from high-risk communities or families. BCG vaccination should occur as soon as possible after birth. Eligible infants who were not given BCG before the age of 6 weeks should have a tuberculin test before vaccination, unless only recently arrived from the hospital (e.g. Premature infants).

3. DIPHTHERIA, PERTUSSIS, TETANUS AND POLIO

DaPT Polio, DT, TD polio and TD are absorbed products and must be given intramuscularly.

♣ The 4 – 6 years of age (5th) dose of DaPT in Tables 1 and 2 is not necessary if the preceding (4th) dose was given after the 4th birthday.

♦ The polio vaccine booster dose at age 14 –16 years is **not** routinely required if the child has completed a primary series. A check for Hepatitis B vaccine status should be done to ensure completion of vaccine series.

♠ TdaP replaced Td in October 2000, to be given to 14 – 16 year olds and one booster in adulthood.

4. CHICKEN POX (VARICELLA) VACCINE

♥This program started September 1, 2001, and is to be given with MMR at a separate site, or 28 days after any live vaccine.

Varicella catch up for all children less than 5 years of age started May 01, 2002.

Varicella screening and catch up program for all grade 9 students October 1, 2005

5. MENINGOCOCCAL C VACCINE

Meningococcal C Vaccine (Men-C) started September 1, 2004, to be given to infants at 2 and 12 months (table 1).

Mass Men-C immunization for 1 to 19 year olds completed June 2004.

6. MEASLES, MUMPS AND RUBELLA

The regular schedule now includes 2 doses of MMR, given at least 3 months apart. Adults born after 1970 without evidence of immunity against these 3 diseases should receive MMR. All women of reproductive age without evidence of rubella immunity should receive MMR vaccine. A check of MMR vaccine status should be done at school entry (age 4 – 5) to ensure the 2 doses have been given.

7. PNEUMOCOCCAL CONJUGATE (PCV – 7)

Pneumococcal Conjugate (PCV – 7) Program starting January 2006.

*Second dose not required if started after 2 years of age

Detailed information is available in the:

- **Manufacturer's product leaflets**
- **"Canadian Immunization Guide", 6th Edition, 2002, Health Canada.**
- **Multiple Injection Video, Population Health, HSS**