



Communiqué

Breaks in Cold Chain Affect Everyone



Most facilities that provide publicly-funded vaccine do a good job of maintaining fridge temperatures within cold chain. They are very diligent in documenting fridge temperatures twice a day and calling the health unit if temperatures go out of range. Many facilities, however, are forgetting about cold chain when picking up vaccines from the health unit.

Most of us involved with some aspect of vaccine delivery have our own children, or have relatives with children who need routine vaccinations. Imagine taking your child to a physician's office, walk in clinic, emergency room, health unit clinic or travel clinic for his/her vaccines. You leave, confident that he/she is now fully protected against a potentially lethal disease. Now imagine finding out that the vaccine your child received had lost its potency because somewhere along the way "cold chain" had been broken....how would you feel?

"Cold chain" refers to the process used to maintain optimal conditions (temperatures of 2 to 8°C) during the transport, storage and handling of vaccines. It starts at the manufacturing facility and ends with the administration of the vaccine to the client. The client can be you, your child, your parents, or your grandparents.

Vaccines are sensitive biological products that may become less effective or can be destroyed when exposed to temperatures outside the range of cold chain (2 to 8°C). Maintaining the potency of vaccines is important for several reasons:

1. Administering compromised vaccine may result in re-emergence of vaccine preventable diseases.
2. Having to revaccinate clients who have received an ineffective vaccine because of failure to maintain cold chain is professionally uncomfortable and may cause loss of public confidence in vaccines and/or the health care system.
3. Vaccines are expensive and sometimes in short supply. The wastage of publicly-funded vaccine affects all tax payers. Loss of vaccine may result in cancellation of immunization clinics and clients will not be immunized on time. Sometimes the opportunity to immunize will be lost because the client will not return.

By requesting publicly-funded vaccines, providers accept responsibility for adequate cold chain storage. All facilities who store publicly-funded vaccine in Haldimand and Norfolk were provided with an insulated, hard-sided cooler, gel packs, an "IN/OUT" thermometer and two flexible insulating blankets. They were also given an instruction sheet entitled "Maintaining the Vaccine Cold Chain: Preconditioning and Packing Instructions for Hard-Sided Coolers". These instructions spell out the procedure that must be followed to maintain cold chain from the health unit to your facility. There is a summer and winter configuration because outside temperatures affect cold chain. Following these instructions, along with maintaining your vaccine fridge temps will ensure that you are maintaining cold chain from the time you pick up your vaccine until the time you administer the vaccine into a client's arm. Remember, the client might be a family member.

For your convenience we are including the preconditioning and packing instructions for hard-sided coolers, in this edition.

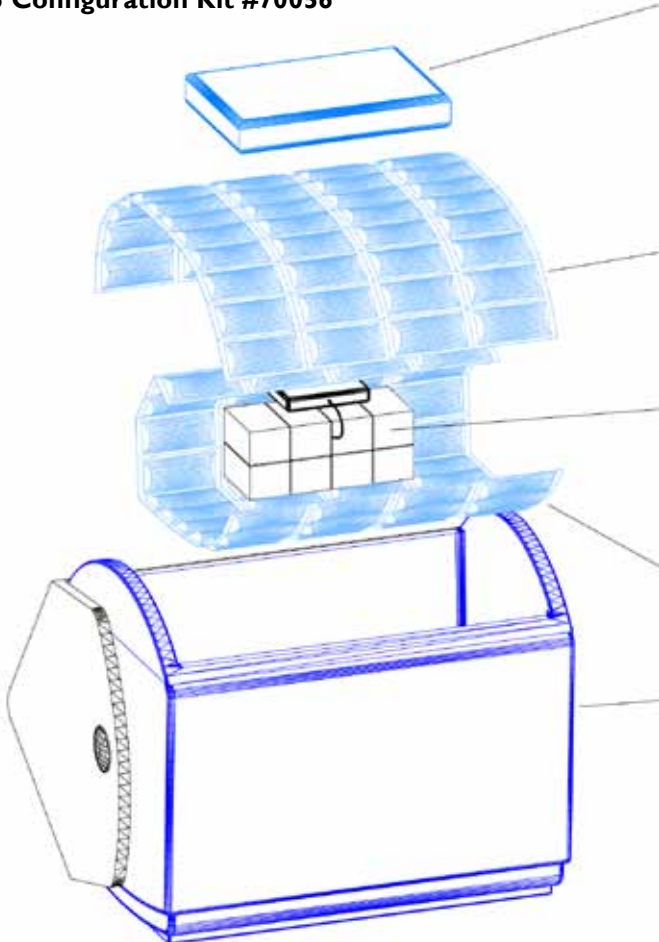
Maintaining the Vaccine Cold Chain

Preconditioning and Packing Instructions for Hard-Sided Coolers

Research has shown that a properly packed cooler for transporting vaccine can safely maintain cold chain (between 2°C and 8°C) for

1 ½ hours during transport. The Health Unit has supplied hard-sided coolers to transport vaccine from the Health Unit to physician's offices. The old blue soft-sided coolers will no longer be used. Included with the hard-sided cooler are two flexible insulating blankets, a min-max thermometer and a gel pack. Please use the following instructions to condition the cooler and pack vaccine for transport. There are different instructions for summer (April until October) and winter (October until April). Summer configuration has a frozen gel pack on the top of the insulating blanket and the winter configuration has a chilled gel pack on top of the insulating blanket.

Vaccine Transporter Packing Instructions Playmate 16 Configuration Kit #70056



Summer Configuration:

EQUIPMENT MUST BE PRE-CONDITIONED PRIOR TO USE.

1. Precondition:
 - a. The cooler: Place three frozen gel packs inside the cooler for 20 minutes prior to leaving the office.
 - b. The flexible insulating blankets: Place in the refrigerator for at least two hours prior to use. Many offices store them in the fridges.
 - c. The maximum-minimum thermometer: Place in refrigerator for at least two hours prior to use.
2. Just prior to leaving your office remove the three frozen gel packs from the cooler. Working quickly, wrap the probe of the min-max thermometer in the insulating

blankets, put a frozen pack (fresh from the freezer-not used to condition the cooler) on top and place all in the hard-sided cooler. The "out" temperature reading must be between 2°C and 8°C.

When picking up vaccine at the Health Unit or your designated pick-up location, the minimum-maximum probe must be placed inside the cooler with the vaccine and the display must be visible on the outside of the cooler. The vaccine is then wrapped on the bottom in a flexible, insulating blanket.

3. The second insulating blanket is then placed on top of the vaccine.

A frozen gel pack (which has been in the freezer for at least 12 hours) should be placed on top of the flex-

624g (22 oz) Soft-Sided Gel Pack 81011 13cm x 23cm x 3cm Freezer Ice Packs (temperatures -10°C to -20°C)

Precondition ice packs prior to packing vaccine.

- Consider differences in summer and winter transport conditions.
- Winter transport may require gel packs to be preconditioned from the refrigerator at 2°C to 8°C.

Outer 12 ml Flexible Insulating Blanket 85000

- Pre-conditioned in fridge at 2°C to 8°C wrapped around vaccines and inner, flexible, insulating blanket.

Vaccines

- Stored in refrigerator at 2° C to 8°C.
- Position min/max thermometer probe inside a vaccine box.

Inner 12 ml Flexible, Insulating Blanket 85000

- Pre-conditioned in refrigerator at 2°C to 8°C wrapped around vaccines.

Playmate 16 Insulated, Hard-sided Cooler 70028

15 l (16 qt) interior volume.

25.9cm x 40.3cm x 37.8cm H outside dimensions.

- Pre-chill insulated cooler with ice packs from the freezer prior to packing vaccine.

Note: Additional ice packs may be required depending on cold-life needed for the length of transport. Additional insulating material, e.g., bubble wrap, Styrofoam chips, crumpled or shredded newspaper, may also be required (placed on the bottom of the cooler) to allow for cool air circulation.

ible, insulating blanket. For outside temperatures over 38°C, add an additional frozen gel pack on the top.

Winter Configuration:

EQUIPMENT MUST BE PRE-CONDITIONED PRIOR TO USE.

1. Precondition:
 - a. The cooler: Place three frozen gel packs inside the cooler for at least 20 minutes prior to leaving the office.
 - b. The flexible insulating blankets: Place in the refrigerator for at least two hours prior to use.
 - c. The maximum-minimum thermometer: Place in the refrigerator for at least two hours prior to use.
2. Just prior to leaving your office remove the frozen gel packs from the cooler. Working quickly, wrap the probe of the min-max thermometer in the insulating blankets, put a pre-conditioned gel pack (chilled in the fridge, not frozen-see #4) on top and place all in the hard-sided cooler. The "out" temperature reading must be between 2°C and 8°C.

When picking up the vaccine from the health unit or designated pick up location, the min-max probe must be placed with the vaccine inside the cooler and the display must be visible on the outside of the cooler. The display must read in the 2° to 8°C range. The vaccine is then placed, with the probe, on the bottom flexible, insulating blanket.

3. The second flexible, insulating blanket is wrapped on top of the vaccine.
4. The gel pack, which has been preconditioned in the refrigerator for two hours, is placed on top of the insulating blanket. The vaccine must be immediately transported to your facility and placed in the vaccine refrigerator. Should the temperature go below 2°C or above 8°C call the Health Unit for instructions. We have a diagram included with written instructions.

If you have any questions concerning the coolers or cold chain please call a member of the Vaccine Preventable Disease Program at the Health Unit at 519-426-6170 or 905-318-6623.

You asked....

Synflorix™ vaccine

During an annual vaccine fridge inspections staff at a vaccine provider's office stated there had been concern that the components of Synflorix™ prefilled syringes contain latex. The 10-valent conjugate vaccine Synflorix™, replaced the 7-valent pneumococcal conjugate vaccine Prevnar® in October 2009. Synflorix™ is used for the routine immunization of infants and children from 6 weeks up to 24 months of age.

The concern was that some parents would not want to protect their infants against pneumococcal disease for fear of latex allergy. Synflorix™ is only available in Canada in the prefilled syringe format and according to revised eligibility criteria, Prevnar® is only available to children 24 to 59 months of age who are unimmunized or have not completed their series. At this point there is no other choice; Ontario Government Pharmacy is providing only Synflorix™.

A representative from GlaxoSmithKline, the manufacturer of Synflorix™, stated that although there is latex in the syringe components the amount is negligible. The latex used in the syringe components comes from a coagulation process that produces "dry natural rubber latex". This type of latex does not contain the protein responsible for an allergic reaction. Reactions are typically a result of exposure to "ammoniated latex" used in the production of "dipped" products such as condoms, balloons and gloves. Some examples of products made from "dry natural rubber latex" are baby bottle nipples, wheel chair tires, and vial stoppers.

According to an article by Professor Connie Katelaris, Clinical Associate Professor, Department of Clinical Immunology and Allergy at Westmead Medical Centre in Australia, "most harvested latex is acid-coagulated to form dry sheets or crumb rubber and then "vulcanised" by treatment with sulphur at extremely high temperatures for prolonged periods of time, resulting in low-to-undetectable levels of allergenic proteins which render the particles non-allergenic. This explains why clinical reactions do not occur in latex allergic patients driving on or walking by roads where levels of latex particles are high."

Hopefully this information will be helpful in alleviating any parental concerns that you may encounter in your practice.

Source: http://www.worldallergy.org/professional/allergic_diseases_center/latexallergy/latexsynopsis.php. Retrieved August 11, 2010

QUICK TIPS...

To help cut down on publicly funded vaccine wastage:

- Keep a minimum amount of stock on hand. Order more frequently.
- Have a contingency plan. Ensure all staff knows what to do with the vaccine in case of a power failure. Read your Ontario "Vaccine Storage and Handling Guidelines".
- Consider purchasing a battery back-up power system for your vaccine fridge. Several products are available that will automatically switch over to battery back-up when there is power failure.
- Store full, chilled water bottles on empty shelves and fridge door. This may help keep the temperature even and stable.
- Call the health unit immediately to report a break in cold chain (any time the temperature falls below 2°C or above 8°C).

CHILDREN'S VACCINE SCHEDULE 2010

Age	Vaccine #1	Vaccine #2
2 months	Pediacel # 1	Synflorix #1
4 months	Pediacel #2	Synflorix #2
6 months	Pediacel #3	Synflorix #3
12 months	MMR	Menjugate
15 months	Varicella	Synflorix #4
18 months	Pediacel #4	MMR #2
4 to 6 years	Quadracel	

- Pediacel= diphtheria, pertussis, polio, tetanus, Hib
- MMR = measles, mumps, rubella (german measles)
- Quadracel = diphtheria, pertussis, polio, tetanus
- Men C: One dose if > 1 year. One-year-old children immunized in infancy (i.e. < 1 year of age) require another dose at least one year after the last dose for enhanced protection.
- Synflorix: An effective immune response results from a 2- 4- 6 month schedule with a booster dose recommended at least 6 months after the priming dose and preferably between 12 to 15 months of age.

If you have any questions please contact Rose Huyge (ext. 3227) or Maria Mendes Wood (Ext. 3222) at the Haldimand-Norfolk Health Unit at 519-426-6170 or 905-318-6623.

Communiqué is a newsletter distributed by the Haldimand-Norfolk Health Unit for those who work in the area of Vaccines and Vaccine Preventable Diseases. If you have ideas or suggestions of topics for future Communiqués, please contact the Health Unit.



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