



# WINTER NEWSLETTER

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## IEI MISSION STATEMENT:

The **Immunization Education Initiative** (IEI) is a national group of nurses partnering with other immunization supporters, who educate about the importance of immunization to enhance the health of Canadians.

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## VACCINES FOR HEALTH CARE PROFESSIONALS

For health care professionals, vaccines have a double benefit because they protect both health care workers and their patients from the spread of infection. Health care professionals need to receive the same routine immunizations as other adults, plus additional protection based on their occupational exposure to diseases. Recommended immunizations include:

- ▶ Diphtheria, tetanus and pertussis: A diphtheria and tetanus booster is recommended every 10 years. One dose should be given as Tdap (tetanus and diphtheria with acellular pertussis).
- ▶ Measles, mumps, and rubella: Adults born before 1970 are considered immune to measles. Adults born in 1970 or later without a history of measles, and people without a history of immunity to mumps or rubella, should receive one dose of the measles, mumps, and rubella vaccine. A second dose is recommended for people at high risk of exposure, including health care professionals who have not already received two doses.
- ▶ Varicella: Adults without a history of chickenpox vaccination or natural disease should receive 2 doses of varicella vaccine, given 4 weeks apart.
- ▶ Influenza: An annual influenza shot is highly recommended for health care professionals. Influenza vaccination reduces health care worker sick days. Health care professionals who are vaccinated also help reduce the risk of illness and death in patients under their care.
- ▶ Hepatitis B: This highly contagious virus is easily spread through blood and body fluids, so all health care workers should be immunized against hepatitis B. To ensure they have received protection, health care workers should get tested for the presence of antibodies to hepatitis B after immunization.

If you're not sure whether you have received these vaccinations, check with your doctor to determine your immunity status and arrange for vaccination if needed.

Some health care professionals may need other vaccinations, depending on their occupational risks. Those who do laboratory work may need the following vaccines:

- ▶ rabies vaccine (for those who work with laboratory animals)
- ▶ typhoid vaccine (for those who handle live cultures of Salmonella typhi)
- ▶ smallpox vaccine (for those who handle vaccinia or other orthopox viruses)
- ▶ Bacille Calmette-Guerin vaccine (BCG, rarely used)
- ▶ meningococcal vaccine (for those who routinely handle Neisseria meningitidis cultures)

Health care professionals whose work takes them to other countries may need additional vaccines, such as cholera, European tick-borne encephalitis, hepatitis A, Japanese encephalitis, rabies (pre-exposure use), typhoid, and yellow fever. Check with your doctor or travel clinic at least 6 weeks before you travel, to determine which vaccines are needed.



## COMMUNICATING VACCINE BENEFITS AND RISKS

When communicating about vaccine risks and benefits, it's important to understand a person's beliefs and concerns about immunization so you can provide information that helps address their specific needs.

*Here are the key points to communicate:*

### Vaccine benefits:

- ▶ Vaccines are very effective. They help prevent serious diseases that can cause illness, disability (such as blindness, deafness, paralysis, and brain damage), and death. These diseases are less common now, but they are still around and can affect people who are not vaccinated. And if we stopped vaccinating, these diseases would become common again.
- ▶ While no vaccine is 100% effective, they do protect the vast majority of people (about 85% to 95% for most vaccines). And people who do get the disease despite having the vaccine often have a milder case.

### Vaccine risks and side effects:

- ▶ Vaccines are extremely safe. Most vaccine side effects are minor, such as a sore arm or a mild fever, and go away on their own. These can be managed with over-the-counter medications like acetaminophen.
- ▶ Serious side effects, such as anaphylaxis (a serious allergic reaction causing hives, face and neck swelling, and difficulty breathing) or encephalitis (brain inflammation), are very rare. Serious side effects generally happen in fewer than one in a million people who get the vaccine. And some reported side effects are actually not due to the vaccine itself, but just happen coincidentally around the same time the vaccine is given.
- ▶ None of the vaccines currently in use have been associated with any negative long-term effects, and some have been in use for decades.
- ▶ There is no evidence that vaccines cause autism, sudden infant death syndrome, or other chronic diseases.

### Putting benefits and risks into perspective:

- ▶ The benefits of vaccines greatly outweigh the risks. The risk of a serious vaccine-preventable disease is many times greater than the risk of a serious vaccine side effect. For example, the risk of getting pneumonia from a measles infection is about 1 to 6 in 100, while the risk of getting pneumonia from the measles vaccine is only 2 in 1,000,000.

### Addressing concerns about vaccination arising from new studies and news stories:

- ▶ First, identify and acknowledge the concerns. Identify the source of the information and determine whether it comes from a trusted source, such as a published scientific paper or a national or provincial health organization. If not, explain that the information is less likely to be credible and point out any potential biases in the source. If the information comes from a published paper, see whether the findings came from case reports or a small epidemiological study showing a correlation. If so, explain that these preliminary findings need further investigation.
- ▶ Next, help the patient put this information into perspective and apply it to their own immunization decision. Use specific numbers to explain the risks and benefits (e.g., in this study, only 1 in 1,000,000 people had this side effect, but without the vaccine 1 in 50 people would get the disease, and of these 1 in 10 would have a serious complication such as deafness or brain damage). This helps balance our natural tendency to overestimate the frequency of rare risks, particularly those that are manmade, frightening, or memorable, and give too little weight to the benefits. If parents are deciding on immunization for their child, encourage them to consider the risks and benefits from the child's point of view. This can help overcome a natural bias to be more concerned about adverse effects caused by something we did (e.g., having a vaccine side effect) than from something we didn't do (e.g., getting a disease because we didn't have the vaccine). But when considered from the child's perspective, the child would prefer the option that had the lowest risk of injury or death, regardless of the cause.

Health care professionals are in an excellent position to communicate key facts on vaccine risks and benefits and help put this information into perspective so patients can make informed decisions about immunization. Use the tips and key points above to help you in your discussions.





## IMMUNIZATION NEWS

- ▶ Researchers are working on a new way to give vaccines using a skin patch with “microneedles” that dissolve into the skin, thereby delivering the vaccine dose. This painless, self-administered delivery system could help improve vaccination rates.
- ▶ Scientists have developed a new way to help predict which strains of flu virus will be dominant in a given flu season using mathematical techniques to examine the genetic profile of the strain. This could help with the process of selecting the strains to include in each year’s flu vaccine.

## VACCINE TRUTHS

- ▶ The concept of vaccine “hot lots”, where certain lots (i.e., batches) of vaccines are more likely to cause side effects, is misleading. Larger lots or lots in distribution for a longer time are more likely to have side effect reports, but this is just a function of the number of people exposed, not of an actual increased risk. Health Canada strictly monitors the safety of each vaccine lot and would recall any lots that caused more side effects than average.
- ▶ Vaccines are not just for children. Adults need to keep their vaccinations up to date, such as tetanus and diphtheria (every 10 years), and influenza (every year). Some adults may need other vaccinations—check with your doctor.

## IMMUNIZATION – DID YOU KNOW?

- ▶ This year’s flu shot contains the following strains of influenza: an A/California/7/09 (H1N1)-like virus; an A/Perth /16/2009 (H3N2)-like virus; and a B/Brisbane/60/2008-like virus.
- ▶ Premature babies should receive the same childhood vaccinations, on the same schedule at the same chronological age, as babies born at full term.



## PERTUSSIS UPDATE

Pertussis (whooping cough) is a respiratory infection caused by the bacteria *Bordetella pertussis* that causes cold-like symptoms and severe coughing spells. At the end of a coughing spell, people often make a “whooping” noise as they try to catch their breath, which is what gave whooping cough its name.

A vaccine for pertussis is part of the routine childhood immunization schedule. Although immunization has helped to decrease the rate of pertussis by more than 90% in the last 50 years, outbreaks still occur, usually every 3 to 5 years.

In 2010, outbreaks of pertussis occurred in a variety of North American locations. In Canada, outbreaks have been reported in British Columbia, Manitoba, and Saskatchewan, which reported five times its usual number of whooping cough cases during the year. In the United States, California saw its highest incidence of pertussis in more than 50 years, with over 6,700 reported cases. Outbreaks have also been seen in Michigan, Minnesota, Ohio, Pennsylvania, and Texas. These 6 states alone have accounted for over 60% of pertussis cases in the United States.

To reduce the risk of whooping cough, encourage parents to vaccinate their infants according to their provincial or territorial immunization schedule. Adults should also have protection against pertussis. It is recommended that they get 1 dose of pertussis vaccine (usually given as a vaccine combined with tetanus and diphtheria) in adulthood.



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## PREGNANT WOMEN AND TRAVEL VACCINES



Pregnant women planning to travel abroad should visit a travel clinic at least 6 weeks before they travel. They will need to let the doctor know that they are pregnant, how far along they are in their pregnancy, where they will be travelling, and for how long. They should also provide their immunization record or a list of vaccines they have already received.

Before travel, the doctor will want to make sure that the pregnant woman is up-to-date on her routine vaccinations, and depending on her destination the doctor may also recommend other vaccinations.

The following table shows the immunizations that may be recommended for travel, as well as available information on their safety during pregnancy. All of the vaccinations listed in this table are safe for breast-feeding mothers who are not pregnant.

IMMUNIZATION	SAFE IN PREGNANCY?
<b>Cholera</b>	No information on safety in pregnancy. Should only be used in high-risk situations, such as travel to areas with a cholera outbreak.
<b>European tick-borne encephalitis</b>	No information on safety in pregnancy.
<b>Hepatitis A</b>	There is no apparent risk during pregnancy, so this vaccine can be used for pregnant travellers who are at risk. Hepatitis A risk is high in the Indian subcontinent, Africa, the Middle East, parts of the far East (except Japan), Central and South America, and Mexico.
<b>Japanese encephalitis</b>	Because this vaccine does not have data on safety during pregnancy, it generally should not be used in pregnant women. However, it may be used in some cases if travel is unavoidable and the risk of exposure is high. The risks and benefits should be evaluated on an individual basis.
<b>Rabies</b>	May be used for pregnant women who have been exposed to rabies (post-exposure prophylaxis). The vaccine should not be used for pre-exposure prophylaxis unless there is a significant risk of exposure during travel.
<b>Typhoid</b>	Some typhoid vaccines are live, so they should not be used in pregnant women unless they are travelling to high-risk areas.
<b>Yellow fever</b>	Generally not recommended during pregnancy, but may be given to pregnant travellers if the travel is unavoidable and the risk of exposure is high. The risks and benefits should be evaluated on an individual basis.

## IEI NEWS

The Daphne Cockwell School of Nursing at Ryerson University endorses the educational materials and activities of the Immunization Education Initiative (“IEI”) and their role in the furtherance of nursing education in Canada.



## INTERESTED IN BECOMING AN IMMUNIZATION EDUCATION NURSE?

### Contact the IEI for more information!

Don't forget to visit the IEI website at [www.immunizationeducation.ca](http://www.immunizationeducation.ca)!

To stay informed on immunization news, bookmark or make [www.immunizationeducation.ca](http://www.immunizationeducation.ca) your home page.

Immunization Education Nurses are available to provide education sessions for your group or organization of health care professionals.

There are several presentations to choose from: *Administration Techniques*, *Communication Strategies*, *Immunology/Vaccinology*, *Immunization Overview*, and *Influenza*.

Each session takes about 1½ hours and light refreshments are provided.

**Best of all, there is no cost to your group!**

For further information or to book a presentation, please visit our website at [www.immunizationeducation.ca](http://www.immunizationeducation.ca).