**49 Immunizations**

\*\*Please note that travel vaccinations have not been addressed in this document.

Copies of the standard immunization schedule and the schedule to follow in individuals not immunized in infancy can be found at  [http://www.phac-aspc.gc.ca/im/is-cv/index-eng.php#a](http://www.phac-aspc.gc.ca/naci-ccni/is-si/index.html)

**CCFP Objectives:**

**1) Do not delay immunizations unnecessarily:**

***When to delay immunizations?***

 If patient has moderate to severe acute illness with or without fever.

 For example, a cold is not a reason to delay immunization.

***True contraindications to vaccination***

1.      Anaphylaxis upon administration of previous dose of a particular vaccine

2.      Anaphylactic reaction or other serious reaction to a component of a vaccine (ex. Eggs, thimerosal preservative)

3.      Pregnant or immunocompromised should not receive live attenuated vaccines

4.      Moderate to Severe acute illness

5.      Avoid DPTp and Td if neurologic disease, uncontrolled epilepsy, encephalopathy (current or within 7 days of administration of previous dose), or infantile spasms.

***When to immunize?***

1.      In infancy

2.      Before pregnancy

3.      Before traveling

4.      When new to the country if not previously immunized

**2) With parents who are hesitant to vaccinate their children, explore the reasons, and counsel them about the risks of deciding against routine immunization of their children.**

***Exploring fears and myths about immunizations***

**1.**      **Side effects** – Most common side effects are mild fever and sore extremity.  Serious reactions such as death, and encephalopathy are so rare that their incidence cannot be calculated.

**2.      Autism** – Concern regarding risk of vaccines causing autism. This was originally associated with a preservative agent called thimerosal. The original paper in the Lancet publishing this association was recently withdrawn and there have been no definitive cases to support this claim.  The only vaccines in Canada that are given to children and contain thimerosal are the multidose influenza vaccine and Hepatitis B.  Both these vaccinations are available in formulations that do not contain thimerosal (ex. Vaxigrip for children and pregnant mothers).  The only true contraindication to thimerosal is anaphylaxis.

**3.      Vaccines don’t work** – No vaccine is entirely effective.  If a vaccine-preventable disease outbreak does occur, some vaccinated individuals will contract the disease.  However the proportion of unvaccinated individuals who contract the disease will be much higher than the proportion of vaccinated individuals.

**4.      Vaccine-preventable diseases no longer exist in Canada** – Certainly some vaccine-preventable diseases are rarely, if ever, seen in Canada and herd immunity for unvaccinated individuals does occur.  However, unvaccinated individuals may still be exposed in their lifetime given the immigrant population that may not have been vaccinated or if the unvaccinated chooses to travel later in life.

***Why to immunize yourself or your child?***

1.      To protect yourself from common (HiB, Influenza, Varicella) or serious (Tetanus, Hepatitis, Meningococcemia) preventable infectious diseases.

2.      To protect individuals in society who are unable to receive vaccinations for true contraindications from common or serious preventable infectious diseases.

**3) Identify patients who will specifically benefit from immunization**

***Special Vaccinations***

1.      **Age > 65** – yearly influenza vaccine and once-in-a-lifetime **pneumococcal** vaccine.

2.      **Age < 65 with a high-risk medical condition** likely to result in severe consequence of getting preventable illness – yearly influenza vaccine and once-in-a-lifetime **pneumococcal** vaccine.

3.      **HPV** – quadravalent vaccine against HPV strains.  Currently indicated for **girls and women age 9 to 26**.  Not covered..  3 doses 0,2,6 months required.

4.      **Varicella** – routinely administered to **children** now, but consider vaccinating **adults who are susceptible**.

5 **Zoster**-given to 50 years and older SC in upper arm single dose –contraindicated in pregnancy ,active TB and HIV with CD4 less than 200

6.      **Palivizamab** – to prevent RSV in **children born at < 32 weeks** gestational age who will be younger than 6 months during RSV season and for **children < 2 years of age with BPD** who required oxygen in the 6 months before the RSV season (Nov – Apr).

7.      BCG – given to all children in some provinces (ex. NWT).

8. **Hep A vaccine**-2 doses 4-6 months a part .immunoglobulin can be given to immunocompromised children for short term prophylaxis.

9- **quadrevalent meningococcal vaccine**-protects from C,A,W-135 and Y.tp patients with a splenia,Hajj travelers,lab. Workers and military recruits.

10. **Rotavirus(RotaTeq**)-protect from gastroenteritis 3 doses given at age 6-12 weeks not covered.

11. **Rabies**-inactivated given IM only deltoid, 0,3,7,14 Ds with immunoglobulin day 0 post exposure to animal bite.

**4) Clearly document immunizations given to your patients.**

**5) In patients presenting with a suspected infectious disease, assess immunization status, as the differential diagnosis and consequent treatment in unvaccinated patients is different.**

**6) In patients presenting with a suspected infectious disease, do not assume that a history of vaccination has provided protection against disease (e.g., pertussis, rubella, diseases acquired while travelling).**

***Fairly self explanatory***

***Immunizations to avoid in pregnancy***

1.      MMR

2.      Varicella

3.      BCG (bacilli Calmette-Guerin vaccine)

4.      Smallpox

5. Zoster

***Immunizations with either unknown safety in pregnancy or to avoid unless benefit outweighs the risk***

1.      Yellow fever

2.      Typhoid

3.      Meningococcal

4.      Japanese encephalitis

5.      BCG

6.      Anthrax

7.      Polio

8.      Pneumococcal

9.      HPV

10.  Hepatitis A

**Administration of the vaccine**

Less than 1 year =anterolateral thigh

 After 1 year =deltoid muscle

If 2 live attenuated vaccines –give at same visit simultaneously or 28 a part

***National Guidelines for Childhood Immunization Practices***

(Explanations of each guideline found on above website.)

1.      Immunization services should be readily available.

2.      There should be no barriers or unnecessary prerequisites to the receipt of vaccines.

3.      Providers should use all clinical encounters to screen for needed vaccines and, when indicated, vaccinate children.

4.      Providers should educate parents in general terms about immunization.

5.      Providers should inform parents in specific terms about the risk and benefits of vaccines their child is to receive.

6.      Providers should recommend deferral or withholding of vaccines for true contraindications only.

7.      Providers should administer all vaccine doses for which a child is eligible at the time of each visit.

8.      Providers should ensure that all vaccinations are accurately and completely recorded.

9.      Providers should maintain easily retrievable summaries of the vaccination records to facilitate age-appropriate vaccination.

10.  Providers should report clinically significant adverse events following vaccination – promptly, accurately, and completely.

11.  Providers should report all cases of vaccine-preventable disease as required under provincial and territorial legislation.

12.  Providers should adhere to appropriate procedures for vaccine management.

13.  Providers should maintain up-to-date, easily retrievable protocols at all locations where vaccinations are administered.

14.  Providers should be properly trained and maintain ongoing education regarding current immunization recommendations.

15.  Providers should operate a tracking system (to generate reminders of upcoming vaccinations).

16.  Audits should be conducted in all immunization clinics to assess the quality of immunization records and assess immunization coverage levels.