

## Immunization Update

### **1. Rotavirus protection is changing from the two-dose Rotarix® schedule to three doses of RotaTeq®:**

Due to national vaccine purchasing decisions, BC will soon start receiving RotaTeq® vaccine for infants. Both vaccine products are live vaccines with comparable efficacy and safety data, recommended by the National Advisory Committee on Immunization (NACI) and used globally. The main difference is that RotaTeq® requires three doses at 2, 4 and 6 months of age in comparison to Rotarix® which requires two doses for full protection. The maximum age for administering dose 1 is 20 weeks less one day; maximum age for series completion is 8 months and zero days, with a minimum interval of 4 weeks between doses. Ideally, rotavirus vaccine series should be completed using the same product. However, over the next several months, you may be immunizing infants using both products. If any dose in the series was RotaTeq®, or if the product is unknown, a total of 3 doses of rotavirus vaccine should be administered.

**2. Influenza illness activity is subsiding and annual vaccination campaign is coming to a close:** Please return your unused influenza vaccines to your local health unit before the end of May so that BCCDC can get partial credit for the remaining inventory. Thanks for participating in this important campaign.

**3. New NACI guidance on pertussis vaccination in pregnancy:** Pertussis vaccine is now recommended for pregnant women, in every pregnancy, irrespective of previous Tdap immunization history. Routine maternal immunization during pregnancy will provide more robust protection of infants compared to immunization during outbreaks. As placental transfer of maternal antibodies is optimal in third trimester, Tdap vaccine should ideally be provided between 27 and 32 weeks of gestation, though it can be provided at any time from 13 weeks to delivery. This indication is not yet funded by the Province, hence, women will need to purchase Tdap vaccine at VCH Travel Clinic, other travel clinics or a pharmacy.

**4. A second Shingles vaccine is now available for purchase:** Shingrix®, an adjuvanted recombinant non-live vaccine, is available for prevention of shingles, in addition to Zostavax®, the live vaccine already available for some time now. Efficacy of Shingrix® in preventing shingles is reported at > 90%. Shingrix® is approved for use in immune competent individuals ≥ 50 years, administered IM in a two dose schedule with doses given 2-6 months apart. Vaccine can be administered to individuals who have previously received Zostavax®; while a five year interval has been examined in trials, shorter intervals (≥ 2 months) may be considered for individuals who would have derived lower efficacy from Zostavax® based on the age of administration (eg, >70 years).

**5. HPV vaccine continues to have the lowest acceptance rate of all vaccines offered in school. Please continue to recommend this vaccine.** Public health is pleased to offer HPV vaccine in grades 6 and 9, either in schools or at local health units. The following groups are eligible for free vaccine: Girls of birth cohort 1994 and younger are eligible until the age of 26; Boys born on or after Jan 1 2006; Transgender individuals 9-26 years of age; Males 9-26 years of age who are MSM, questioning their sexual orientation, or street-involved youth; and HIV positive individuals 9-26 years of age.

**6. BC Children's Hospital is operating a new Family Immunization Clinic:** M-F, 8:30-4:30, 604-875-3000

A new drop-in or pre-booked immunization service is available for children receiving other care at BCCH or BCW, and for their family members; or for children with underlying health conditions who are behind in their immunizations. Referral for these families is not necessary; however, physicians are invited to send a note if they have specific concerns. The clinic also welcomes the following referral situations: children who have experienced an adverse event and families are reluctant to continue with immunizations, needle-phobic/anxious children, or vaccine-hesitant families.

**7. VCH's phone based two year old immunization coverage survey will be commencing this summer.** As immunization of young children is a partnership between physicians and public health, this triennial survey provides us with the best coverage estimates for young children. You may be asked by parents or the UBC Vaccine Evaluation Centre (based on parental consent) for immunization records to support this survey. Your assistance in supporting this activity is truly appreciated and we will share the results with you once these are available.

## Routine and High Risk Infant and Childhood Immunization Schedule

Current as of April 2018. Please discard all previous schedules. Questions? Please call 604-675-3900.

AGE <sup>2</sup>	VACCINE ANTIGENS	TRADE NAME <sup>1</sup>	ADMIN. SITE
2 months	Rotavirus vaccine <sup>3</sup> Diphtheria/Tetanus/acellular Pertussis/HB/IPV/Hib Pneumococcal conjugate Meningococcal conjugate <sup>3</sup>	ROTATEQ INFANRIX <sup>®</sup> -HEXA PREVNAR 13 NEISVAC-C	Oral – give first IM vastus lateralis IM vastus lateralis IM vastus lateralis
4 months	Rotavirus vaccine <sup>3</sup> Diphtheria/Tetanus/acellular Pertussis/HB/IPV/Hib Pneumococcal conjugate  Meningococcal conjugate ( <i>at-risk infants only</i> ) <sup>4</sup>	ROTATEQ INFANRIX <sup>®</sup> -HEXA PREVNAR 13	Oral – give first IM vastus lateralis IM vastus lateralis  IM vastus lateralis
6 months	Rotavirus vaccine <sup>3</sup> <b>NEW</b> Diphtheria/Tetanus/acellular Pertussis/HB/IPV/Hib  Pneumococcal conjugate ( <i>at-risk infants only</i> ) <sup>5</sup> Hepatitis A vaccine ( <i>Aboriginal children only</i> )	ROTATEQ INFANRIX <sup>®</sup> -HEXA  PREVNAR 13 VAQTA or HAVRIX 720	Oral – give first IM vastus lateralis  IM vastus lateralis IM vastus lateralis
On or after 1 <sup>st</sup> birthday	Meningococcal conjugate <sup>4</sup> Pneumococcal conjugate Varicella MMR	NEISVAC-C PREVNAR 13 VARILRIX or VARIVAX III PRIORIX or MMR II	IM deltoid or IM vastus lateralis SC outer triceps SC outer triceps
18 months	Diphtheria/Tetanus/acellular Pertussis/IPV/Hib  Hepatitis A vaccine ( <i>Aboriginal children only</i> )	PEDIACEL  VAQTA or HAVRIX 720	IM deltoid  IM deltoid
2 years	Pneumococcal polysaccharide ( <i>at-risk children only</i> ) <sup>4</sup>	PNEUMOVAX 23	IM deltoid or SC outer triceps
K-Entry Starting age 4 years	Diphtheria/Tetanus/acellular Pertussis/IPV  Measles mumps, rubella, varicella (MMR-V)	BOOSTRIX-POLIO or ADACEL-POLIO PROQUAD	IM deltoid  SC outer triceps
Grade 6	HPV x 2 (0 and 6 months)	GARDASIL 9	IM deltoid
Grade 9	Tetanus/diphtheria/acellular pertussis (Tdap) Meningococcal conjugate A,C,Y,W-135	BOOSTRIX NIMENRIX	IM deltoid IM deltoid
Influenza	Influenza vaccine is provided free to infants 6-59 months of age and older children with risk factors; two doses one month apart are required for children 8 years of age and younger if receiving influenza vaccine for the first time.		
Catch – Up Vaccines	Catch up vaccines are vaccines that an eligible child may have missed previously. Public health nurses review histories and will offer these vaccines in kindergarten, grades 6 and 9.		

<sup>1</sup>Brand names provided in the table represent currently available products. These may change based on provincial supply.

<sup>2</sup>Please follow the recommended schedule which includes minimum age and minimum interval criteria for vaccines. Vaccines given too early or too close together may need to be repeated (e.g., MMR or Varicella given before 12 months of age).

<sup>3</sup>Rotavirus vaccines: For complete protection, a child needs two doses of Rotarix<sup>®</sup> or three doses of RotaTeq<sup>®</sup>. Ideally, rotavirus vaccine series should be completed using the same product. If any dose in the series was given with RotaTeq<sup>®</sup> or the product is unknown, a total of 3 doses of rotavirus vaccine should be administered. Maximum age for administering dose 1 is 20 weeks less one day, maximum age for series completion is 8 months and zero days, with a minimum interval of 4 weeks between doses.

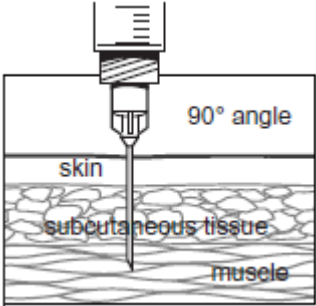
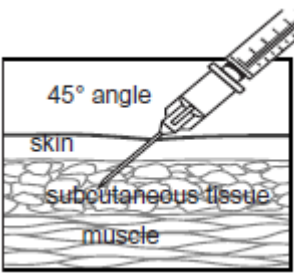
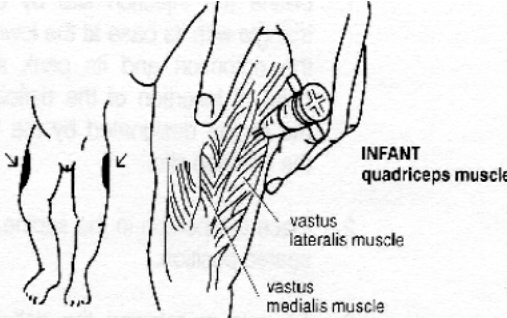

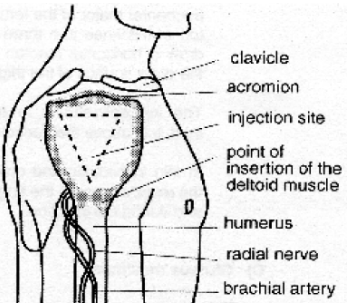
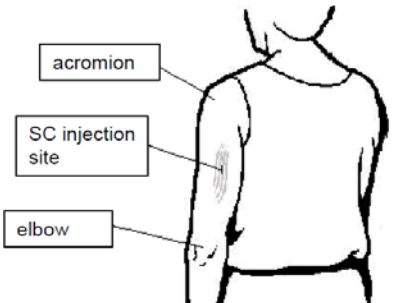
<sup>4</sup>Meningococcal conjugate C vaccine at 2 and 12 months for healthy infants; children at high risk of meningococcal disease (eg, those with functional or anatomic asplenia, immunodeficiency, transplant recipients) should be offered the meningococcal conjugate quadrivalent (A,C,Y,W-135, use Menveo<sup>®</sup>) free at 2, 4 and 12 months, a booster 3 years after last dose and then every 5 years.

<sup>5</sup>Additional Pneumococcal protection at 6 months and 2 years is provided free for infants with the following: anatomic or functional asplenia, sickle cell disease, hemoglobinopathies, immunosuppression, transplant recipients, chronic conditions of the heart, lung, liver, or kidney, diabetes, cystic fibrosis, chronic CSF leak, chronic neurological conditions that impair clearance of oral secretions, and cochlear implant.

## VACCINE ADMINISTRATION AND PAIN MANAGEMENT INFORMATION

### Tips for reducing and managing pain

- Breastfeeding is recommended during and after vaccine administration.
- Give oral RotaTeq® first to 2, 4, and 6 month old infants as sucrose contained in the vaccine acts as an analgesic.
- Use rapid injection technique. Inject rapidly and remove the needle in one swift motion.
- When giving multiple injections at the same visit, give biological products that are known to cause more stinging/pain last (e.g. MMR or Varicella).
- Please do not administer injections into the gluteus due to increased risk of adverse reactions and lower immune response obtained at this site.

	Intramuscular (IM) injection	Subcutaneous (SC) injection
<b>Vaccines</b>	<ul style="list-style-type: none"> <li>– Diphtheria, Tetanus, Pertussis</li> <li>– <i>Haemophilus influenza b</i></li> <li>– Hepatitis A, Hepatitis B</li> <li>– Human papillomavirus (HPV)</li> <li>– Influenza</li> <li>– Meningococcal – conjugate</li> <li>– Pneumococcal – conjugate</li> </ul>	<ul style="list-style-type: none"> <li>– Measles, Mumps, Rubella (MMR, MMR-V)</li> <li>– Varicella</li> <li>– Polio, inactivated (IPV)</li> </ul> <p><b>IM or SC:</b></p> <ul style="list-style-type: none"> <li>– Pneumococcal – polysaccharide</li> </ul>
<b>Needle &amp; Technique</b>	 <p><b>Gauge:</b> 22-25, depending on viscosity <b>Length:</b> Age 0-12 years: 7/8" - 1" Age ≥12 years: 1" - 1 1/2"</p>	 <p><b>Gauge:</b> 25-27 <b>Length:</b> Any age: 5/8" - 7/8" <b>Pinching skin</b> elevates SC tissue ensuring injection into SC tissue.</p>
<b>Site for age &lt;12 months</b>	<p>Inject the vastus lateralis (anterolateral thigh):</p>  <p><b>INFANT quadriceps muscle</b> vastus lateralis muscle vastus medialis muscle</p>	<p>Inject the fatty area of the antero-lateral thigh: <i>Note: SC vaccines are provided by exception only to clients younger than 12 months of age.</i></p>  <p>SC injection site</p>
<b>Site for age ≥12 months</b>	<p>Inject the deltoid muscle:</p>  <p>clavicle acromion injection site point of insertion of the deltoid muscle humerus radial nerve brachial artery</p> <p>Vastus Lateralis can be used for older children with small deltoid muscle mass.</p>	<p>Inject the upper outer triceps area:</p>  <p>acromion SC injection site elbow</p>