

**OREGON HEALTH AUTHORITY**  
**IMMUNIZATION PROTOCOL FOR PHARMACISTS**  
**MENINGOCOCCAL VACCINES: A, C, Y, W**  
**UPDATED 11/23/2016**

**This Protocol does NOT cover meningococcal B vaccines. At this time, pharmacists can vaccinate with meningococcal B vaccines only by prescription.**

**Revisions from the ACIP as of October 2016:** <sup>1, 2</sup>

- HIV-infected persons aged  $\geq 2$  months should routinely receive meningococcal conjugate vaccine (serogroups A, C, W, Y).
- HIV-infected children aged  $< 2$  years should receive the vaccine in accordance with the age-appropriate, licensed, multidose schedule. Section IV A on page 9.
- Persons aged  $\geq 2$  years with HIV infection who have not been previously vaccinated should receive a 2-dose primary series of Men ACWY conjugate vaccine.
- Persons aged  $\geq 2$  years with HIV infection who have been previously vaccinated with one dose of meningococcal conjugate vaccine should receive a booster dose at the earliest opportunity, provided at least 8 weeks have elapsed since the previous dose, and then continue to receive boosters at the appropriate interval throughout life.
- Either MenACWY-CRM (Menveo<sup>®</sup>) or MenACWY-D (Menactra<sup>®</sup>) maybe used in HIV-infected persons.
- HIV-infected infants age 2–23 months should receive MenACWY-CRM (Menveo<sup>®</sup>) and **not** MenACWY-D (Menactra<sup>®</sup>) due to immune interference with PCV-13 (Prenar 13<sup>®</sup>).
- If MenACWY-D (Menactra<sup>®</sup>) is to be administered to a child at increased risk of meningococcal disease, including children who are HIV-infected, it is recommended that MenACWY-D (Menactra<sup>®</sup>) be given either before or concomitantly with DTaP.
- MenACWY is recommended for HIV-infected persons aged  $\geq 56$  years because of the need for revaccination (i.e. booster doses).

See order next page:

**I. OREGON IMMUNIZATION PHARMACY PROTOCOL:**

1. Check the ALERT Immunization Information System (IIS) to determine whether the patient needs this vaccine and any other vaccines.
2. Screen clients  $\geq 7$  years of age for contraindications.
3. Provide a current Vaccine Information Statement (VIS) and answer any questions.
4. Record all required data elements in the client's permanent health record.
5. Give a single 0.5mL dose of meningococcal vaccine according to ACIP recommendations, age-appropriate schedules and high-risk conditions.
6. Ask client to remain seated on the premises for 15 minutes after vaccination to decrease the risk of injury should they faint.
7. These vaccines may be given with most\* ACIP-recommended vaccinations.

\*See page 4, section II. A. footnotes  $\diamond\diamond$ ,  $\S\S$ .

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Immunizing Pharmacist Signature

Date

For multiple signatures see: [1.usa.gov/PharmacyImmunizationProtocols](http://1.usa.gov/PharmacyImmunizationProtocols)

**This order expires July 31, 2017**

**II. A. LICENSED QUADRIVALENT\* MENINGOCOCCAL VACCINES**

Product Name and Route of Administration	Vaccine Components	Recommended Age Range	Thimerosal
		Acceptable Age Range	
<b>Menveo<sup>®</sup> 10</b> $\diamond$ , $\S$ , ** (MCV4-CRM) (MenACWY-CRM) (Novartis) IM	Quadrivalent meningococcal conjugate vaccine containing capsular polysaccharide from serogroups A, C, Y and W-135 conjugated to 32.7 to 64.1 $\mu\text{g}$ CRM <sub>197</sub> protein (diphtheria)	11–12 years of age $\ddagger$	No (single-dose vials)
		$\geq$ 2 months of age	
<b>Menactra<sup>®</sup> 11</b> **, $\diamond\diamond$ , $\S\S$ (MCV4-D) (MenACWY-D) (Sanofi Pasteur) IM	Quadrivalent meningococcal conjugate vaccine containing capsular polysaccharide from serogroups A, C, Y and W-135 conjugated to 48 $\mu\text{g}$ of diphtheria toxoid	11–12 years of age $\ddagger$	No (single-dose vials)
		$\geq$ 9 months of age	
<b>Menomune<sup>®</sup> 12</b> (MPSV-4) (Sanofi Pasteur) SQ	Quadrivalent meningococcal polysaccharide vaccine containing 50 $\mu\text{g}$ of each of 4 purified bacterial capsular polysaccharides, A, C, Y, and W-135.	$\geq$ 2 years (unavailable)	No (single-dose vials)
			Yes (in diluent of multi-dose vial), 0.01%

Footnotes next page:

## II. A. LICENSED QUADRIVALENT MENINGOCOCCAL VACCINES Cont.

\* Quadrivalent meningococcal vaccination in the 3 years before the date of travel is **required by the government** of Saudi Arabia for **all travelers** to Mecca during the annual Hajj.<sup>14</sup>

◇ MenACWY-CRM (Menveo<sup>®</sup>) can be administered concomitantly with PCV-13 and after DTaP 1, 5, 10

§ MenACWY-CRM (Menveo<sup>®</sup>) is the only vaccine licensed for infants ≤9 months of age traveling to or residing in areas with hyperendemic or epidemic meningococcal disease.<sup>5, 10</sup>

‡ See Section III. A for Recommendations for Use.

\*\* Per OIP Medical Director until MPSV-4 is available.

◇◇ Because of high risk for invasive pneumococcal disease, children with functional or anatomic asplenia should **not** be immunized with MenACWY-D (Menactra<sup>®</sup>) before age 2 years to avoid interference with the immune response to PCV-13 (Prevnar<sup>®</sup> 13).<sup>5</sup>

§§ If MenACWY-D (Menactra<sup>®</sup>) is to be administered to a child at increased risk of meningococcal disease, including children who are HIV-infected, it is recommended that MenACWY-D (Menactra<sup>®</sup>) be given either before or concomitantly with DTaP to prevent interference with the immune response to DTaP.<sup>1</sup>

**II. B. LICENSED BI-VALENT MENINGOCOCCAL CONJUGATE VACCINE (Hib-MenCY-TT)<sup>13</sup>**

Product Name and Route of Administration	Vaccine Components <sup>◇ §</sup>	Recommended Age Range	Thimerosal
		Acceptable Age Range	
MenHibrix <sup>®</sup> * (Hib-MenCY-TT) GlaxoSmithKline IM (No longer being manufactured. Last doses will expire 09-2017)	Bivalent meningococcal conjugate vaccine containing 5mcg each of capsular polysaccharide from serogroups C and Y conjugated to <ul style="list-style-type: none"> <li>• 11.5mcg tetanus toxoid.</li> <li>• 2.5mcg of Hib polysaccharide conjugated to 6.25mcg tetanus toxoid.</li> <li>• 96.8mcg of Tris (trometamol)-HCL.</li> <li>• ≤0.72mcg residual formaldehyde.</li> </ul>	For high-risk <sup>‡ **</sup> individuals 2–15 months of age	None
		6 weeks to 18 months of age <sup>◇◇</sup>	

\*Does not include serogroup A, W–135 or B.<sup>13</sup>

◇ Immunization with MenHibrix<sup>®</sup> does not substitute for routine tetanus immunization.<sup>13</sup>

§Urine antigen detection may not have a diagnostic value in suspected disease due to H. influenzae type b within 1 to 2 weeks after receipt of a H. Influenzae type b-containing vaccine, including MenHibrix<sup>®</sup>.<sup>13</sup>

‡Infants with persistent complement component pathway deficiencies, functional or anatomical asplenia, complex congenital heart disease with asplenia and sickle cell disease, and areas of disease outbreaks.<sup>5</sup>

\*\*Infants traveling with their families to the Hajj or to the “meningitis belt” of sub-Saharan Africa need protection against serogroups A and W-135, which are not in MenHibrix<sup>®</sup>, and should receive MenACWY-CRM (Menveo<sup>®</sup>) for children ≥2 months of age before travel.<sup>2</sup>

◇◇May be given as early as 6 weeks and a late as 18 months of age for children in areas with C and Y outbreaks.<sup>7</sup>

### III. A. RECOMMENDATIONS FOR USE: QUADRIVALENT MENINGOCOCCAL VACCINES

#### Children 2 months through 10 years of age who are at increased risk for meningococcal disease attributable to serogroups A, C, W, and Y including:

- Children who have persistent complement component deficiencies (including inherited or chronic deficiencies in C3, C5–9, properdin, factor H, or factor D or taking eculizumab [Soliris<sup>®</sup>])
- Children who have anatomic or functional asplenia, including sickle cell disease
- Children infected with Human Immunodeficiency Virus (HIV)
- Children traveling to or residing in countries in which meningococcal disease is hyperendemic or epidemic, particularly if contact with local population will be prolonged (MenACWY vaccines only)
- Children identified to be at increased risk because of a meningococcal disease outbreak attributable to serogroups A, C, W, or Y.<sup>2</sup>

#### Routine vaccination is recommended for:

- Adolescents 11–18 years of age<sup>\*</sup>
- Adolescents with HIV disease<sup>◇</sup>
- These high-risk persons 2 months–55 years of age: §, ‡, \*\*, \*\*\*, ◇◇◇
  1. First year college students up through age 21 living in residential housing<sup>◇◇</sup>;
  2. Persons with persistent complement component deficiencies;
  3. Persons with anatomic or functional asplenia;
  4. Persons with HIV;
  5. Lab personnel who are routinely exposed to isolates of *N. meningitidis*;
  6. Military recruits;<sup>6</sup>
  7. Travelers to or residents of sub-Saharan Africa's "Meningitis Belt," during December to June;
  8. Visitors to Mecca in Saudi Arabia during annual Hajj; and
  9. Countries in which *N. meningitidis* is hyper-endemic or epidemic.<sup>§§</sup>
- To control outbreaks of meningococcal disease.<sup>‡‡</sup>
- MenACWY is recommended for HIV-infected persons aged ≥56 years because of the need for revaccination (i.e. booster doses).<sup>1</sup>

\* Administer MenACWY at age 11–12 years followed by a booster dose at age 16 years.<sup>6</sup>

◇ For adolescents with HIV, see table IV. A on page 9.

§ Menactra<sup>®</sup> (MCV4–D) is preferred among persons ≥9 months of age, and Menveo<sup>®</sup> (MCV4–CRM) is preferred for persons ≥2 months of age. Persons ≥56 years old for whom meningococcal vaccination is recommended should receive Menactra<sup>®</sup> (MCV4–D) or Menveo<sup>®</sup> (MCV4–CRM) until Menomune<sup>®</sup> (MPSV–4) is available. <sup>1, 5, 6</sup>

‡ Persons at prolonged increased risk for meningococcal disease should be revaccinated with Menactra<sup>®</sup> (MCV4–D) or Menveo<sup>®</sup> (MCV4–CRM) because of the need for revaccination (i.e. booster doses). <sup>1, 6</sup>

\*\* See MenHibrix<sup>®</sup> recommendations for children 6 weeks through 18 months of age. <sup>13</sup>

◇◇ May also be given to college students not living in dorms or to any adolescent upon request. <sup>6</sup>

§§ Contact a local travel clinic, health department, or the Centers for Disease Control and Prevention's (CDC) travel line (877-394-8747) travel web site for the list of high-risk countries. <sup>14</sup>

‡‡ An outbreak is defined as the occurrence of three or more confirmed or probable cases of meningococcal disease during a period of ≤3 months, with a resulting primary attack rate of ≥10 cases per 100,000 population. <sup>6</sup>

\*\*\* Because of high risk for invasive pneumococcal disease, children with functional or anatomic asplenia should not be immunized with MenACWY–D (Menactra<sup>®</sup>) before age 2 years to prevent immune interference with 13-valent pneumococcal conjugate vaccine (PCV13). May give Menactra<sup>®</sup> 4 weeks after the PCV-13 series is completed. It is recommended that MenACWY-D (Menactra<sup>®</sup>) be given either before or concomitantly with DTaP to prevent immune interference with DTaP. <sup>1, 15,</sup>

◇◇◇ MCV4–CRM (Menveo<sup>®</sup>) may be given concurrently with PCV13. <sup>5, 10</sup>

### III. B. RECOMMENDATIONS FOR MPSV4 (Menomune<sup>®</sup>)\*

- Travelers
- Persons at risk as a result of a community outbreak
- High-risk individuals ≥56 years who anticipate requiring a single dose<sup>◇</sup>

\* If MPSV4 (Menomune<sup>®</sup>) is unavailable, either quadrivalent conjugate vaccines (Menactra<sup>®</sup> or Menveo<sup>®</sup>) may be used. Per OIP Medical Director.

◇ For persons now  $\geq 56$  years of age who were vaccinated previously with one of the quadrivalent conjugate vaccines (Menactra<sup>®</sup> or Menveo<sup>®</sup>) and who are recommended for revaccination or for whom multiple doses are anticipated (e.g., persons with HIV, asplenia or microbiologists), one of the conjugate vaccines is preferred.<sup>1, 6</sup>

### III. C. RECOMMENDATIONS FOR Hib–MenCY–TT (MenHibrix<sup>®</sup>)<sup>13\*, ‡</sup>

#### Vaccination is recommended for:

- High-risk individuals 2–15 months of age:
  1. Persons with persistent complement component pathway deficiencies<sup>5</sup>
  2. Persons with anatomic or functional asplenia<sup>13</sup>
  3. Complex congenital heart disease with asplenia<sup>13</sup>
  4. Sickle cell disease<sup>13</sup>
- To control outbreaks of C or Y meningococcal disease. ◇
- The first dose may be given as early as 6 weeks and the 4<sup>th</sup> dose as late as 18 months of age for children in areas with C or Y outbreaks.<sup>\*, §, ‡</sup>

\* Infants traveling with their families to the Hajj or to the “meningitis belt” of sub-Saharan Africa need protection against serogroups A and W-135, which are not in MenHibrix<sup>®</sup>, and should receive a quadrivalent meningococcal conjugate vaccination licensed for infants  $\geq 2$  months of age (Menveo<sup>®</sup>) or  $\geq 9$  months of age (Menactra<sup>®</sup>) before travel.<sup>2</sup>

◇ An Outbreak is defined as the occurrence of three or more confirmed or probable cases of meningococcal disease during a period of  $\leq 3$  months, with a resulting primary attack rate of  $\geq 10$  cases per 100,000 population.<sup>6</sup>

§ Contact a local travel clinic, health department, Centers for Disease Control and Prevention’s (CDC) travel line (877-394-8747) or the travel website for the list of high-risk countries.<sup>14</sup>

‡ Not recommended for persons with HIV.<sup>1</sup>

**IV. A. RECOMMENDATIONS FOR HIV-INFECTED PERSONS: 1, 2**

Vaccine	Age of primary vaccination	Recommended schedule and intervals	Booster
MenACWY-CRM (Menveo®)	≤2 years of age	<b>4 doses:</b> 2, 4, 6, 12–15 months	≤7 years at previous dose: 1 booster 3 years after primary series.  ≥7 years at previous dose: Additional boosters every 5 years.
	7–23 months	<b>2 doses:</b> 12 weeks apart with the 2 <sup>nd</sup> dose after the first birthday	
	≥2 years of age	<b>2 doses:</b> 8-12 weeks apart	
MenACWY-D*, ◇ (Menactra®)	9-23 months	<b>2 doses:</b> 12 weeks apart	
	≥2 years of age	<b>2 doses:</b> 8-12 weeks apart	
≥2 years of age with 1 previous dose of either Menveo® or Menactra®		<b>1 dose</b> ASAP as long as at least 8 weeks have elapsed since the previous dose.	≤7 years at previous dose: 1 booster 3 years after primary series.  ≥7 years at previous dose: Additional boosters every 5 years.

\*Give Menactra at least 4 weeks after completion of all pneumococcal conjugate vaccine doses to prevent immune response interference.<sup>1</sup>

◇Give Menactra either before DTaP or concomitantly with DTaP to prevent immune response interference.<sup>1</sup>

**IV. B. RECOMMENDATIONS FOR 2–23 MONTHS OF AGE AT INCREASED RISK**

Vaccine	Infant age of primary vaccination	Booster doses if needed:	Indicated for infants with:	<u>Not</u> indicated for infants with:
MenACWY-CRM (Menveo®)*, †, ‡	2, 4, 6, and 12–15 months*	1st booster given 3 years after primary series  Additional boosters every 5 years	-Complement component deficiencies -Functional or anatomic asplenia or sickle cell disease <sup>§</sup> -Outbreak risk -Traveling to or residing in regions where meningitis is epidemic	
	OR <b>Catch-Up Schedule</b> 7–23 months receive: 2 doses 12 weeks apart with the last dose ≥ 12 months of age <sup>5</sup>			
MenACWY-D (Menactra®) <sup>§, †</sup>	9 and 12 months <sup>§</sup>	1st booster given 3 years after primary series  Additional boosters every 5 years	-Complement component deficiencies -Outbreak risk -Traveling to or residing in regions where meningitis is epidemic <sup>†</sup>	Functional or anatomic asplenia or Sickle Cell disease <sup>†</sup>
	OR <b>Catch-Up Schedule</b> 9–23 months: 2 doses 12 weeks apart			
Hib-MenCY-TT (MenHibrix®) <sup>§, †</sup>	2, 4, 6, and 12–15 months. Can give 4 <sup>th</sup> dose at 18 months of age.	1st booster given 3 years after primary series (using MenACWY). <sup>5</sup>	-Complement component deficiencies -Outbreak risk C, Y -Functional or anatomic asplenia or sickle cell disease. <sup>§</sup>	Traveling internationally to regions where meningitis is epidemic
	OR <b>Catch-Up Schedule</b> ≥ 12 months of age, 2 doses at least 8 weeks apart.			

\* Children 7–23 months can receive the second dose as early as 8 weeks after the first dose before travel. <sup>5, 14</sup>

◇ Because of high risk for invasive pneumococcal disease, children with functional or anatomic asplenia should not be immunized with MenACWY–D (Menactra<sup>®</sup>) before age 2 years to prevent immune interference with 13-valent pneumococcal conjugate vaccine (PCV13). MCV4–CRM (Menveo<sup>®</sup>) may be given concurrently with PCV13. Hib–MenCY–TT (MenHibrix<sup>®</sup>) may also be used concurrently with PCV13 if C and Y strains are indicated.<sup>5, 11</sup>

§ Hib–MenCY–TT is not to be used for booster doses. A quadrivalent meningococcal conjugate vaccine e.g. MenACWY–CRM (Menveo<sup>®</sup>) or MenACWY–D (Menactra<sup>®</sup>) should be used for booster doses.<sup>5, 13</sup>

‡ HIV-infected persons ≥2 months should routinely receive quadrivalent (serogroups A, C, W, Y) meningococcal conjugate vaccine.<sup>1</sup>

**IV.C. QUADRIVALENT (A, C, Y, W-135 only) VACCINE SCHEDULE FOR AGES 2–55 YEARS\***

Risk group	Primary series	Booster dose
Persons aged 11–18 years	1 dose Menactra <sup>®</sup> or Menveo <sup>®</sup> , preferably at age 11 or 12 years	At age 16 years if primary dose given at age 11 or 12 years
		3 years after primary dose, if primary dose given at age 13 through 15 years <sup>◊</sup>
		No booster needed if primary dose on or after age 16 years
Persons aged 11–18 years with HIV	2 doses Menactra <sup>®</sup> or Menveo <sup>®</sup> , 8–12 weeks apart	At age 16 years if primary series completed at age 11 or 12 years, then every 5 years after
		3 years after primary series, if primary series given at age 13 through 15 years, then every 5 years after <sup>◊</sup>
		Additional boosters every 5 years if primary series on or after age 16 years
1 <sup>st</sup> year college students ≤ 21 years old that are living in residential housing	1 dose Menactra <sup>®</sup> or Menveo <sup>®</sup>	None
College students ≤21 years of age living in residential housing who had received a single primary dose <16 years of age and ≥3 years earlier	N/A	1 dose
Persons aged 2–55 years with persistent complement component deficiency <sup>§</sup> or functional or anatomical asplenia <sup>†</sup>	2 doses, 8 weeks apart Menveo <sup>®</sup> , Menactra <sup>®</sup>	Every 5 years <sup>◊◊</sup>
Persons aged 2–55 years with prolonged increased risk for exposure <sup>**</sup>	1 dose Menveo <sup>®</sup> or Menactra <sup>®</sup>	Persons aged 2–6 years: 3 years after 1 <sup>st</sup> dose; then every 5 years if remains at risk <sup>◊◊</sup>
		Persons aged ≥7 years: 5 years after 1 <sup>st</sup> dose; then every 5 years if remains at risk <sup>◊◊</sup>

**IV.C.VACCINE SCHEDULE FOR AGES 2–55 YEARS Cont.**

\* While MCV4 vaccine is the preferred vaccine for all risk groups, MPSV4 is acceptable when available.<sup>6</sup>

◇ Per Oregon Immunization Program medical director.

§ Such as C5–C9, properdin, or factor D<sup>16</sup>

‡ Either conjugate vaccine is recommended 2 weeks before or  $\geq 2$  weeks after splenectomy. Persons aged  $\geq 56$  years old undergoing an elective splenectomy should receive MPSV4 if available, otherwise use either of the MenACWY vaccines.<sup>16</sup>

\*\* Microbiologists routinely working with *Neisseria meningitidis* and travelers to or residents of countries where meningococcal disease is hyperendemic or epidemic (e.g., “meningitis belt” of sub-Saharan Africa). Travelers to Mecca during the Hajj also should be vaccinated.<sup>6, 14</sup>

◇◇ The every 5-year booster dose schedule for persons with high-risk conditions takes precedent over the routine second dose schedule.<sup>3</sup>

#### IV.D. QUADRIVALENT MENINGOCOCCAL VACCINE RECOMMENDATIONS FOR ≥56 YEARS OF AGE<sup>2</sup>

Risk Group	Primary Series	Booster Doses
Previously unvaccinated persons who are not anticipated to remain at high risk because of a community outbreak or travelers to countries where meningococcal disease is hyperendemic or epidemic	1 dose of MPSV (Menomune <sup>®</sup> ) if available  <b>OR</b>  1 dose of MenACWY (Menveo <sup>®</sup> or Menactra <sup>®</sup> )	None
Previously unvaccinated persons with asplenia, persistent complement component deficiencies, or HIV	2 doses of MenACWY 8 weeks apart (Menveo <sup>®</sup> or Menactra <sup>®</sup> )	MenACWY (Menveo <sup>®</sup> or Menactra <sup>®</sup> ) every 5 years
Other previously unvaccinated persons at high risk who are anticipated to receive additional doses in the future (e.g., microbiologists routinely working with <i>Neisseria meningitidis</i> )	1 dose of MenACWY (Menveo <sup>®</sup> or Menactra <sup>®</sup> )	MenACWY (Menveo <sup>®</sup> or Menactra <sup>®</sup> ) every 5 years
Previously vaccinated persons at continued high risk		MenACWY (Menveo <sup>®</sup> or Menactra <sup>®</sup> ) every 5 years

**V. CONTRAINDICATIONS** <sup>10, 11, 12, 13</sup>

1. A severe allergic (anaphylactic) reaction to thimerosal (**Menomune**<sup>®</sup> multi-dose vial) or any other vaccine component, including diphtheria toxoid (for **Menactra**<sup>®</sup> and **Menveo**<sup>®</sup>) or tetanus toxoid (for **MenHibrix**<sup>®</sup>) or to dry natural rubber latex (for **Menactra**<sup>®</sup>).<sup>6</sup>
2. A severe allergic reaction following a prior dose of meningococcal vaccine.<sup>17</sup>

**VI. PRECAUTIONS** <sup>10, 11, 12, 13</sup>

1. Immunization should be deferred during the course of moderate or severe acute illness.<sup>19</sup>
2. **Apnea** following intramuscular vaccination has been observed in some infants born prematurely. Decisions about when to administer an intramuscular vaccine, including **MenHibrix**<sup>®</sup> and **Menveo**<sup>®</sup>, to infants born prematurely should be based on consideration of the individual infant’s medical status, and the potential benefits and possible risks of vaccination.

**VII. A. SIDE EFFECTS AND ADVERSE REACTIONS**<sup>10, 11, 12, 13</sup>

2 months – 24 months				
Type of Reaction	Menveo <sup>®*</sup>	Menhibrix <sup>®◇</sup>	Menactra <sup>®§</sup>	Menomune <sup>®‡</sup>
Tenderness	24-41%	15-46%	37%	Not recommended

Erythema at injection site	11-15%	15-46%	30%		
Irritability	42-57%	62-71%	57%		
Sleepiness	29-50%	49-63%	30%		
Persistent Crying	21-41%		33%		
Change in eating habits	17-23%	30-34%	30%		
Vomiting	5-11%		14%		
Diarrhea	8-16%				
Fever		11-26%	12%		
<b>2 years – 10 years</b>					
Injection site pain	31%	Not recommended	45%	11–18 yrs	26%
				59%	
Erythema	23%		22%	11%	8%
Irritability	18%		12%		12%
Induration	16%		19%	16%	4%
Sleepiness	14%		11%	30%	11%
Malaise	12%			22%	
Headache	11%			36%	
Anorexia			8%	11%	9%
Diarrhea			11%	12%	12%
<b>Adolescent and adult</b>					
Pain at the injection site	41%	Not recommended	18–55 years 54%	11–18 years 29%	18–55 Years 48%
Headache	30%		41%	29%	42%
Myalgia	18%				
Malaise	16%		24%	17%	22%
Nausea	10%				10%
Arthralgia			20%	10%	
Fatigue			35%	25%	32%
Diarrhea			16%	10%	14%

\* All data from Menveo® package insert, text box from page 1. <sup>10</sup>

◇ All data from MenHibirx® package insert, text box from page 1. <sup>13</sup>

§Menactra<sup>®</sup> package insert: Table 1, page 9 for individuals 9 months old. Table 2, page 11 for 2 years–10 years of age. Table 3 page 13 for 11–18 years of age. Table 4 page 15 for 18–55 years of age.<sup>11</sup>

‡Menomune<sup>®</sup> package insert: Table 1, page 10 for 2–10 years of age. Table 2 page 12 for 11–55 years of age.<sup>12</sup>

## VIII. STORAGE AND HANDLING<sup>10, 11, 12, 13</sup>

All clinics and pharmacies enrolled with the Vaccines for Children (VFC) Program must immediately report any storage and handling deviations to their health educator by calling 971-673-4VFC (4832).

Vaccine	Temp	Storage Issues	Notes
<b>Menactra<sup>®</sup></b>	Store at 2°–8°C 36°–46°F	Do not use if vaccine has been frozen. Report to health educator. Do not use after expiration date.	
<b>Menveo<sup>®</sup></b>	Store at 2°–8°C 36°–46°F	Reconstitute only with the MenCYW-135 liquid conjugate component. It should be administered promptly after reconstituted or stored ≤77°F (25°C) and administered within 8 hours of reconstitution. Do not use if vaccine has been frozen. Report to health educator. Do not use after expiration date.	Protect from light
<b>Menomune<sup>®</sup></b>	Store at 2°–8°C 36°–46°F	Vaccine should be administered within 30 minutes after reconstitution. Do not use if vaccine has been frozen. Report to health educator. Do not use after expiration date. Discard multidose vial 35 days after reconstitution.	Use immediately after reconstitution
<b>MenHibrix<sup>®</sup></b>	Store at 2°–8°C 36°–46°F	A single-dose vial should be used immediately after reconstitution. Do not use if vaccine has been frozen. Report to health educator.	Do not use diluent that has been frozen
<b>Diluent</b>	2–25°C 36°–46°F	Do not use after expiration date.	

## IX. OTHER CONSIDERATIONS

1. **Adverse Events:** epinephrine hydrochloride solution (1:1,000) and other appropriate agents and equipment must be available for immediate use in case of anaphylactic or acute hypersensitivity reaction. <sup>10, 11, 12, 13</sup>
2. **Immunocompromised:** individuals with altered immunocompetence may have reduced immune responses. <sup>10, 11, 12, 13</sup> In persons with HIV or persons receiving immunosuppressive therapy for dose schedule. See Recommendations for Use, Section III. A–IVB, pages 6–10. <sup>10, 11, 12, 13</sup>
3. **Pregnancy: Safety and effectiveness have not been established in pregnant women.**
  - Menveo<sup>®</sup> pregnancy registry: 1–877–311–8972. <sup>10</sup>
  - Menomune<sup>®</sup>: Use only if clearly needed. <sup>12</sup>
  - Menactra<sup>®</sup> pregnancy registry: 1–800–822–2463. <sup>11</sup>
4. **Lactation:** It is not known whether meningococcal vaccines are excreted in human milk. Use with caution in nursing mothers. <sup>10, 11, 12</sup>
5. MCV4-CRM, MCV4-D and MPSV4 meningococcal vaccines will stimulate protection only against infections caused by organisms from serogroups A, C, Y and W-135 meningococci. They are not protective against serogroup B meningococci. <sup>5</sup>
6. **MenHibrix<sup>®</sup>** vaccine stimulates protection only against infections caused by serogroups C and Y and is not protective against A, B, and W-135. <sup>13</sup>
7. **Menactra<sup>®</sup> or Menveo<sup>®</sup>** are recommended 2 weeks before or  $\geq 2$  weeks after splenectomy surgery for persons  $\geq 2$  years. <sup>16</sup>
8. Any of the six meningococcal vaccines can be used for outbreak control of a specific serogroup; however, MCV4 is the preferred vaccine if the population targeted includes ages & serogroups for which they are licensed. Persons  $\geq 56$  years are recommended for MPSV4 (if available) for specific outbreak control unless they have received MCV4 previously. <sup>6</sup>
9. **Antimicrobial chemoprophylaxis:** Antimicrobial post-exposure chemoprophylaxis of close contacts of sporadic cases of meningococcal disease is the primary means for prevention of meningococcal disease in the United States. <sup>18</sup> Close contacts include:
  - household members
  - daycare-center contacts
  - anyone directly exposed to the patient's oral secretions

Contacts of cases should be referred to their primary healthcare provider and local health department for treatment and follow-up. See Investigative Guideline for meningococcal disease for more details. <sup>19</sup>

10. Protective levels of antibodies are usually achieved 7–10 days after vaccination.<sup>17</sup>
11. Immunization with MenHibrix<sup>®</sup> does not substitute for routine tetanus immunization.<sup>13</sup>
12. Do not give MenHibrix<sup>®</sup> simultaneously with any other Hib-containing vaccine.<sup>13</sup>

## X. ADVERSE EVENTS REPORTING

Adverse events following immunization must be reported to the Vaccine Adverse Events Reporting System (VAERS). The VAERS online report form is available at <https://vaers.hhs.gov/esub/step1>.

A pharmacist who administers any vaccine must report to the OHA ALERT Immunization Information System in a manner prescribed by OHA within 15 days of administration. This replaces the former requirement to notify the primary health care provider. A pharmacist is not required to notify the primary health care provider. Oregon Administrative Rule 855-019-0290-(2)(3).<sup>20, 21</sup>

To request this material in an alternative format (e.g., Braille) or to clarify any part of the above order, contact the Oregon Health Authority Immunization Program at 971.673.0300 or 711 for TTY. For other questions, consult with the vaccine recipient's primary health care provider or a consulting physician.

Electronic copy of this protocol available at:

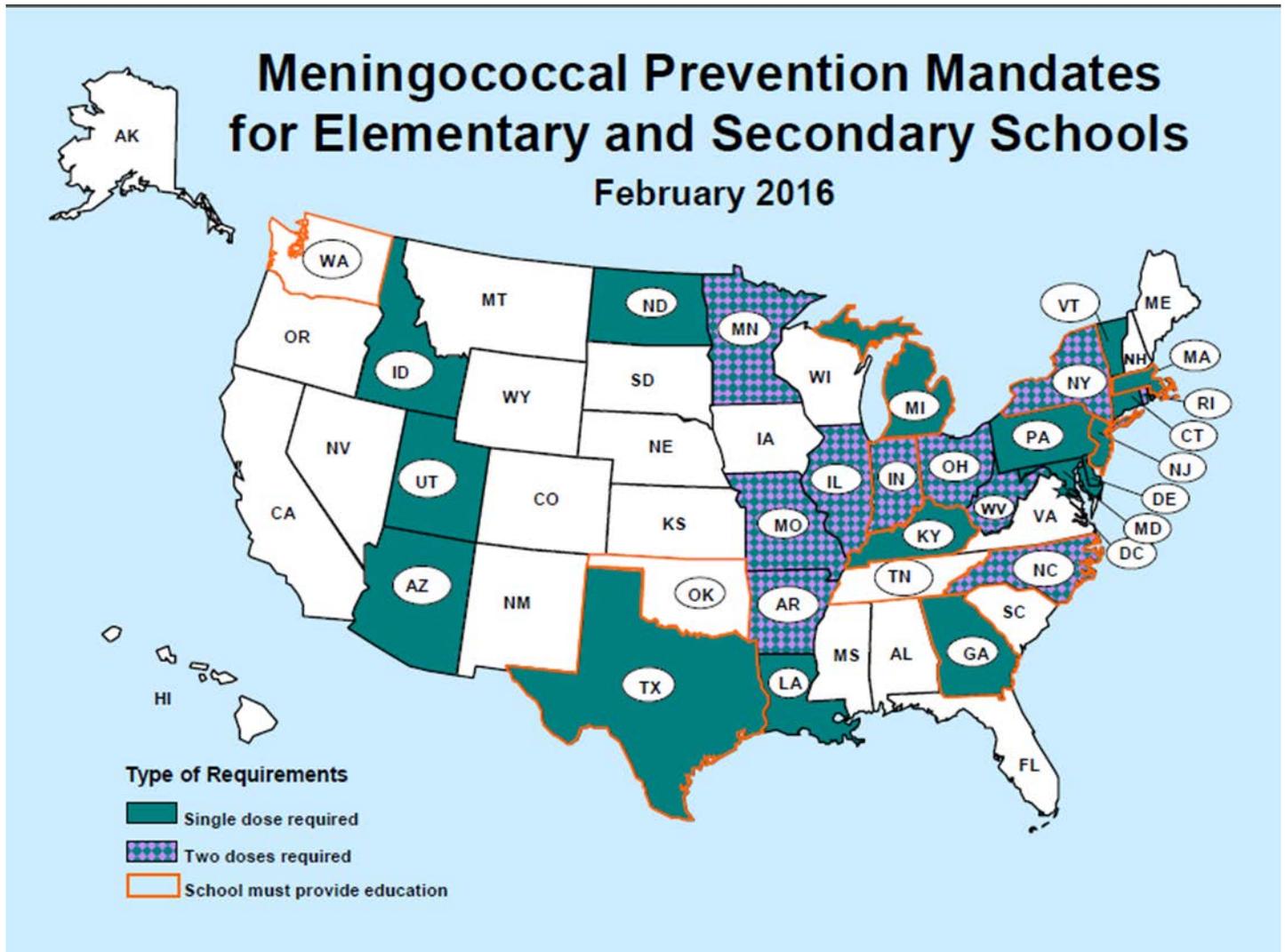
<http://1.usa.gov/PharmacyImmunizationProtocols>

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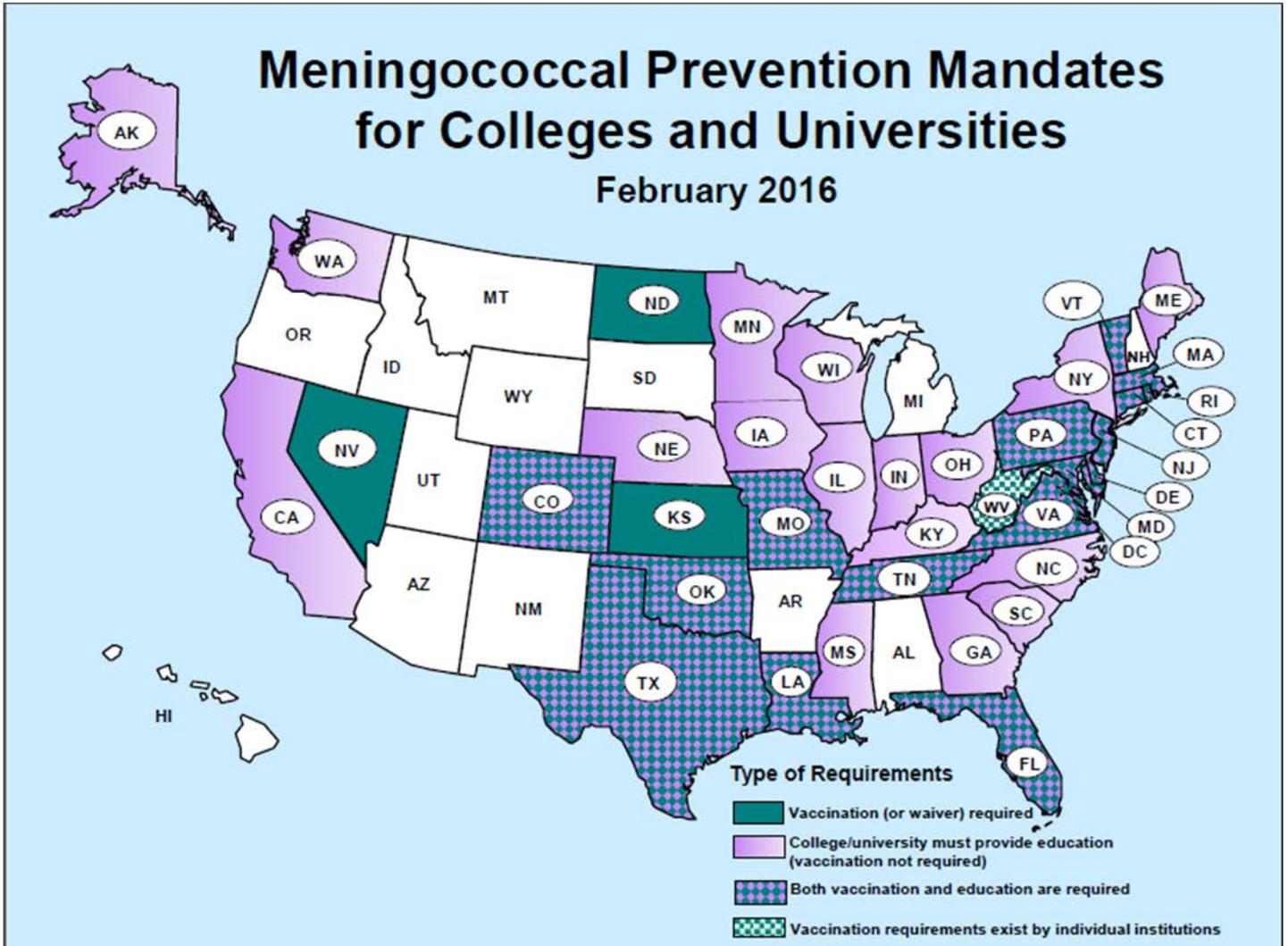
APPENDIX A:



Current as of 11-23-2016

[http://www.immunize.org/laws/menin\\_sec.pdf](http://www.immunize.org/laws/menin_sec.pdf)

APPENDIX B:



Current 11-23-2016

<http://www.immunize.org/laws/menin.pdf>