Meningococcal ACWY Vaccines

I. Current Vaccines:
   A. Sanofi Pasteur: Menomune® (MPSV4) – Polysaccharide
      MPSV4 has been discontinued by manufacturer.
      It will not be available after September 2017.
      Therefore all references to MPSV4 have been removed from this order.
   B. Sanofi Pasteur: Menactra® (MenACWY-D) - Conjugated
   C. GlaxoSmithKline: Menveo® (MenACWY-CRM) – Conjugated
   D. MenACWY refers to MenACWY-D and MenACWY-CRM collectively.
   E. Hib-MenCY (MenHibrix®) has been discontinued by manufacturer

II. Type of Vaccine: Both available vaccines, Menactra® (MenACWY-D) and Menveo® (MenACWY-CRM), contain killed antigens against four meningococcal serotypes (A, C, W-135, and Y) and are conjugated to diphtheria toxoid proteins but have no significant boosting effect against diphtheria.

III. Vaccine Interactions:
   May be given simultaneously or at any interval with other vaccines or TB skin test

IV. Storage:
   Refrigerate on shelf at 36-46º F (2-8º C). Do not freeze. Do not place in door.

V. Dose / Route / Site:

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Dose</th>
<th>Site</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>Menactra® and Menveo® = MenACWY</td>
<td>0.5mL</td>
<td>Deltoid</td>
<td>Intramuscular</td>
</tr>
</tbody>
</table>
VI. A. Schedule / Ages / Intervals:

**Call MHD physician for clients in all risk groups except Healthy Persons aged 11 - 21 years**

<table>
<thead>
<tr>
<th>Dose</th>
<th>Recommended Age for Healthy Adolescents</th>
<th>Minimum Age for High Risk</th>
<th>Maximum Age</th>
<th>Recommended Interval</th>
<th>Minimum Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>11-12 years</td>
<td>2 months for MenACWY-CRM (Menveo®)</td>
<td>18 years preferred for Healthy</td>
<td>Not applicable</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>9 months for MenACWY-D (Menactra®)</td>
<td>21 years allowed for Healthy*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Booster</td>
<td>16 years</td>
<td>Not applicable</td>
<td>None for High Risk*</td>
<td>Varies. See chart below.</td>
<td>2 months</td>
</tr>
</tbody>
</table>

* See Immunization Program Policy on Eligibility for Adult Vaccines.

VI. B. Schedule / Ages / Intervals for **Healthy Persons aged 11 - 21 years**:

**Call MHD physician for clients in all risk groups except Healthy Persons aged 11 - 21 years**

<table>
<thead>
<tr>
<th>Risk group</th>
<th>Primary series &amp; Catch Up</th>
<th>Booster dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy Persons aged 11 - 18 years</td>
<td>1 dose at age 11 or 12 years</td>
<td>If most recent dose at age &lt;13 years, give booster at age 16 years</td>
</tr>
<tr>
<td>Catch up:</td>
<td>1 dose at age 13 – 18 years</td>
<td>If most recent dose at age 13 - 15 years, give booster at age 16 - 18 years, and ( \geq 8 ) weeks after first dose*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If most recent dose ( \geq 16 ) years no booster needed</td>
</tr>
</tbody>
</table>

* The high likelihood that the adolescent will miss a vaccination later must be weighed against the minimal benefits of delaying the booster for up to 3 years (slightly fewer local reactions and extending the period of immunity to as late as age 21 years).

| First-year college students aged \( \leq 21 \) years living in residence halls | Catch up: | Not applicable |
| Catch up: | 1 dose if unvaccinated or if most recent dose at age <16 years | |
VI. C. Schedule / Ages / Intervals for clients at High Risk for MenACWY disease.

**Call MHD physician for clients in all risk groups except Healthy Persons aged 11 - 21 years**

<table>
<thead>
<tr>
<th>Risk group</th>
<th>Primary series &amp; Catch Up</th>
<th>Booster dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children aged 2 - 23 months with</td>
<td>4 doses of MenACWY-CRM (Menveo®) at ages 2, 4, 6, and 12–15 months</td>
<td>Boosters are only needed if risk condition persists or recurs.</td>
</tr>
<tr>
<td>1) Functional or anatomic asplenia, including sickle cell disease. (Consider asking “Has your doctor told you that your [child’s] spleen is not working?”)</td>
<td>Catch up: If age &lt;7 months 2 doses of Menveo®, ≥2 months apart</td>
<td>Initial booster: If &lt;7 years at previous dose … 3 years after completing primary series</td>
</tr>
<tr>
<td>2) HIV (human immunodeficiency virus) infection</td>
<td>If age 7-23 months 2 doses of Menveo®, ≥3 months apart (Dose #2 at age ≥12 months)</td>
<td>If ≥7 years at previous dose … 5 years after completing primary series</td>
</tr>
<tr>
<td>3) Persistent complement component deficiency including inherited or chronic deficiencies in C3, CS-9, properdin, factor D, factor H, or taking eculizumab (Soliris®). (Usually persons with complement deficiency will be under the care of infectious disease specialists due to recurrent bacterial infections.)</td>
<td>If age 9-23 months and NOT HIV and asplenia 2 doses of MenACWY-D (Menactra®), ≥3 months apart (Complete PCV 13 series then start Menactra® at least 4 weeks later. Most recent dose of PCV13 and Menactra® must be 4 weeks apart)</td>
<td>Continued boosters: every 5 years after the initial booster</td>
</tr>
<tr>
<td>Persons aged ≥2 years with the risks above</td>
<td>2 doses, ≥2 months apart (Complete PCV 13 series then start Menactra® at least 4 weeks later. Menactra® &amp; previous dose of PCV13 must be 4 weeks apart)</td>
<td></td>
</tr>
<tr>
<td>1) Microbiologists routinely working with <em>Neisseria meningitidis</em></td>
<td>If age 2-23 months, same as asplenia, HIV, and complement deficiency above, except ≥2 months apart for travelers.</td>
<td></td>
</tr>
<tr>
<td>2) Traveling where meningococcal disease is hyper-endemic including countries in the African meningitis belt or the Hajj (pilgrimage to Mecca)</td>
<td>If age 2-16 years, 2 doses, ≥2 months apart (Menactra® &amp; previous dose of PCV13 must be 4 weeks apart)</td>
<td></td>
</tr>
<tr>
<td>3) Potential contact to case of meningococcal A, C, W, or Y as in an outbreak</td>
<td>If age &gt;16 years, 1 dose</td>
<td></td>
</tr>
<tr>
<td>4) Military recruits</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
VII. Special Considerations:
A. Call MHD physician for clients in all risk groups except Healthy Persons aged 11 - 21 years
B. Menactra® or Menveo® (MenACWY) is routinely recommended for all children 11-12 years of age who have never previously been vaccinated with meningococcal vaccine.
C. A booster dose is recommended at 16 years of age.
D. Menactra® or Menveo® (MenACWY) is also recommended for persons who are at increased risk for meningococcal disease including:
   1. functional or anatomic asplenia, including sickle cell disease
   2. infected with human immunodeficiency virus (HIV)
   3. complement component deficiencies including inherited or chronic deficiencies in C3, CS-9, properdin, factor D, factor H, or taking eculizumab (Soliris®)
   4. traveling to or residing in areas where meningococcal disease is endemic or hyperendemic including countries in the African meningitis belt or the Hajj (pilgrimage to Mecca).
   5. potential contact to case of meningococcal A, C, W, or Y as in an outbreak
E. MenACWY-D (Menactra®) should be given either before or concomitantly with DTaP, because of the potential for lower immunologic response to meningococcal strains when MenACWY-D is administered 30 days after DTaP.
F. Children with HIV or with functional or anatomic asplenia, including sickle cell disease, should receive MenACWY-CRM (Menveo®) at ages 2 through 23 months. They should not receive MenACWY-D (Menactra®) before age 2 years because MenACWY-D lowers the immune response to PCV13 in children under the age of 2 years. MenACWY-CRM does not lower immune response to PCV13 in children under 2.

VIII. Contraindications:
A. Moderate to severe acute illness, regardless of temperature.
B. Oral (or equivalent) temperature of ≥ 102.2°F (39°C), regardless of perceived acuity of illness.
C. Known severe allergic reaction to any component of the vaccine, or serious reaction to previous dose of vaccine.
D. Latex allergy – see general “Contraindications” page(s) of these immunization orders.

IX. Precautions:
A. Pregnancy and breastfeeding are NOT contraindications to MenACWY.
B. Persons with a history of Guillain-Barré syndrome with the following additional conditions should be referred to their private medical provider for meningococcal vaccination
   1. Current, new, unexplained, or unstable neurologic symptoms (including new onset of seizures)
   2. History of neurologic symptoms associated with prior immunization with any vaccine (There are rare reports of Guillain-Barré syndrome occurring in association with Menactra® administration, but there is no evidence showing that Menactra® caused those cases of Guillain-Barré syndrome.)
C. For persons on short-term immunosuppressive therapy, call the MHD physician to determine whether to wait to vaccinate after immunosuppressive therapy is complete.
1. Meningococcal vaccines are not live-virus vaccines, and therefore are not contraindicated for immunosuppressed individuals (see the “Immunosuppression” section of these medical orders).
2. However, an individual receiving immunosuppressive therapy may possibly have a reduced immune response to the vaccine.

X. Reactions:
A. Mild to moderate pain, swelling, erythema, itching at the injection site.
B. Low-grade fever.
C. Severe allergic or anaphylactic reactions are very rare.

XI. References:
A. ACIP Recommendations:
   1. Comprehensive, March 2013
      www.cdc.gov/mmwr/preview/mmwrhtml/rr6202a1.htm
   2. 2-23 months old high risk, June 2014
      www.cdc.gov/mmwr/preview/mmwrhtml/mm6324a2.htm
   3. HIV, November 2016
      www.cdc.gov/mmwr/volumes/65/wr/mm6543a3.htm
B. Pink book:
C. Package Inserts:  www.immunize.org/fda/#mena
   1. Sanofi Pasteur: Menactra® (MenACWY-D) - Conjugated
      www.vaccineshoppe.com/image.cfm?doc_id=12580
   2. GlaxoSmithKline: Menveo® (MenACWY-CRM) - Conjugated
      https://gsksource.com/pharma/content/dam/GlaxoSmithKline/US/en/Prescribing_Information/Menveo/pdf/MENVEO.PDF

[Signature]
Paul Hunter, M.D.
Associate Medical Director, City of Milwaukee Health Department
Assistant Professor of Family Medicine, UW School of Medicine & Public Health