



The Commonwealth of Massachusetts
 Executive Office of Health and Human Services
 Department of Public Health
 William A. Hinton State Laboratory Institute
 305 South Street, Jamaica Plain, MA 02130

DEVAL L. PATRICK
 GOVERNOR

JOHN W. POLANOWICZ
 SECRETARY

CHERYL BARTLETT, RN
 COMMISSIONER

Bureau of Infectious Disease
 Division of Epidemiology and Immunization
 Tel: (617) 983-6800
 Fax: (617) 983-6840
www.mass.gov/dph/epi
www.mass.gov/dph/imm

To: Pediatric Vaccine Providers - [Please share with colleagues and staff](#)
 From: Pejman Talebian, MA, MPH, Director, Immunization Program
 Robert Morrison, Vaccine Manager, Immunization Program
 Susan M. Lett, MD, MPH, Medical Director, Immunization Program
 Date: July 28, 2014
 Subject: Menveo Formulation of Meningococcal Conjugate Vaccine
 Recommended Down to 2 Months of Age for **High Risk** Infants

In October 2013, the Advisory Committee on Immunization Practices (ACIP) recommended immunization of children at **high risk** for meningococcal disease beginning at **2 months of age**.

- Menveo (MenACWY-CRM, Novartis) is currently the only quadrivalent meningococcal conjugate vaccine licensed for use in high risk children **beginning at 2 months of age**.
- Menactra (MenACWY-D, Sanofi Pasteur), also a quadrivalent vaccine, is licensed for use in high risk children **beginning at 9 months of age**.

The ACIP [recommendations](#) were published on June 20, 2014 (CDC. MMWR 2014; 63:527-530.)

The burden of meningococcal disease in infants is low in the United States therefore, **only** those infants at **high risk** for meningococcal disease are recommended to receive the meningococcal vaccine series. The number of infants nationwide estimated to be in the high risk groups is 3,000 to 5,000. Children who are not at high risk, should receive routine meningococcal vaccine at age 11-12 years.

Children 2 through 23 months at Increased Risk for Meningococcal Disease

Infants at increased risk of meningococcal disease are:

- those with persistent complement component deficiencies (C3, C5–C9, properdin, factor D, and factor H),
- those with functional or anatomic asplenia (including sickle cell disease),
- healthy infants in communities with a meningococcal disease outbreak for which vaccination is recommended, and
- those traveling to or residing in areas where meningococcal disease is hyperendemic or epidemic.

Change in Vaccine Ordering and Stocking Policy

The Massachusetts Department of Public Health (MDPH) has been providing both Menveo (MenACWY-CRM, Novartis) and Menactra (MenACWY-D, Sanofi) vaccines but currently requires practices to stock only one formulation. In anticipation of the approval and recommendation of Menveo down to 2 months of age, the Massachusetts Vaccine Purchasing Advisory Council (MVPAC) reviewed meningococcal vaccine policies during its April meeting. Menveo requires reconstitution and Menactra is in liquid form. Many providers have expressed a preference for being able to give a meningococcal vaccine that does not require reconstitution to their older patients. Therefore, the MVPAC recommended that providers be allowed to stock **both** Menveo and Menactra if they anticipate having high risk infants in their office that require Menveo administration.

Please note, at the current time, MDPH does not provide MenHibrix. Therefore, information about MenHibrix is not included in this memo.

Planning to Reduce Vaccine Administration Errors

There are important **differences** between Menveo and Menactra in their indications, approved ages and schedules for children under 2 years of age. In addition, children < 24 months of age with functional or anatomic asplenia (including sickle cell) should **NOT** be immunized with Menactra, due to potential interference with immune response. See below for more guidance.

MDPH Recommended 'Best Practice' to Avoid Administration Errors

- **Stock only one vaccine type** in inventory when formulations are not interchangeable.
- We recommend practices wanting to request Menveo for use in their high risk children consider ordering only Menveo for use in **ALL** of their patients.

Practices Stocking Both Menveo and Menactra Must Have a Plan to Reduce Chance of Vaccine Administration Errors

- Have policies and systems in place to prevent vaccine errors. Examples of policies to limit confusion and reduce the chance for vaccine errors include:
 - Limit administration of Menveo to those 2-23 months of age
 - Limit administration of Menactra to those ≥ 24 months of age
 - Store Menactra and Menveo in separate bins with a descriptive brightly colored label.
 - Menactra label should say it is **NOT** approved for use in those less than 9 months of age and should **NOT** be administered before 2 years of age to children with functional or anatomic asplenia (including sickle cell).
 - Menveo label should say approved for use beginning at 2 months of age.
 - If institutions are large, consider limiting use of Menveo to those areas seeing high risk or young children. But, will need plan to ensure pharmacies will not send Menveo to a non-designated area.
- Have a **communication plan** to ensure that **ALL** staff are aware of the important differences between formulations and their correct use.

It is critical for providers to review the attached guidance: Attachment 1. Meningococcal Vaccine Formulations (Menveo and Menactra), Attachment 2. Menveo and Menactra Vaccination of High Risk Children 2-23 Months of Age and Attachment 3. Guidance for the Reconstitution, Storage and Documentation of Menveo.

Vaccine Ordering

If you currently order vaccines using the Vaccine Management Module in the MIIS and you want to add a formulation not currently in your inventory, you will need to perform an additional step the first time you order the new formulation. Because the new formulation is not currently in your inventory, you will need to select “Add Vaccine from Formulary” at the bottom of the screen after you request doses of the other vaccines you are ordering. Because this vaccine will appear in your inventory after you receive the vaccine shipment, you will not have to perform this additional step when you place your subsequent order.

If you still are not using the Vaccine Management Module of the MIIS because you are not registered we strongly encourage you to register with the MIIS at: <https://contactmiis.info/enrollmentSite.asp> and click “Begin Site Enrollment”. If you have questions about registration, please call the MIIS Help Desk at 617-983-4335 or e-mail them at MIIShelpdesk@state.ma.us. If you are registered but have questions regarding placing your first online order, please call the Vaccine Unit at 617-983-6828.

Please keep in mind **vaccine doses should never be allowed** to expire before use or restitution (in the form of privately purchasing replacement doses) may be required. For practices that are only ordering Menveo for use in high risk patients, please ensure systems are also in place to use remaining doses of Menveo prior to expiration for vaccination other patients including routine administration of adolescents.

Reporting

Please report any problems or concerns encountered to the MDPH Vaccine Management Unit at 617-983-6828. Problems or concerns about the specific formulations should also be reported to the respective manufacturers: Sanofi Pasteur at 1-800-VACCINE (1-800-822-2463) or Novartis at 1-877-683-4732.

As always, we recommend that you report vaccine administration errors to the Institute for Safe Medical Practices (ISMP) via the Vaccine Error Reporting Program (VERP) website: www.ismp.org and report clinically significant adverse events to the Vaccine Adverse Event Reporting System (VAERS) at 1-800-822-7967 or www.vaers.hhs.gov/.

Questions

For questions about **vaccine ordering**, please call the Vaccine Management Unit at 617-983-6828. For questions about **vaccine recommendations**, please call the Immunization Program at 617-983-6800 and ask to speak to an immunization epidemiologist or nurse.

Guidance and schedules for those 24 months and older, can be found at [Prevention and Control of Meningococcal Disease. Recommendations of the Advisory Committee on Immunization Practices \(ACIP\)](#) (CDC. MMWR 2013;62[No.2]), Immunization Action Coalition’s [Meningococcal Vaccination Routine and High Risk: Recommendations for All Ages by Age and/or Risk Factor](#), and the references at the end of this memo.

References

Package Inserts on FDA website:

[Menveo Package Insert](#); [Menactra Package Insert](#) ; [MenHibrix Package Insert](#)

CDC. MMWR 2014;63:527-530. [Use of MenACWY-CRM Vaccine in Children Aged 2 through 23 Months at Increased Risk of Meningococcal Disease: Recommendations of the Advisory Committee on Immunization Practices, 2013.](#)

CDC. MMWR 2013;62:52-54. [Infant Meningococcal Vaccination: Advisory Committee on Immunization Practices \(ACIP\) Recommendations and Rationale.](#)

CDC. MMWR 2013;62(No.2). [Prevention and Control of Meningococcal Disease. Recommendations of the Advisory Committee on Immunization Practices \(ACIP\).](#)

[Meningococcal Vaccination Routine and High Risk: Recommendations for All Ages by Age and/or Risk Factor.](#) IAC February 14, 2014

IAC (1-14) [Vaccines with Diluent and How to Use Them](#)

CDC. [2014 Immunization Schedule for Persons Aged 0 through 18 years.](#)

Attachment 1. Meningococcal Vaccine Formulations (Menveo and Menactra)

1. Menveo (MenACWY-CRM) by Novartis

Menveo is now approved for vaccinating infants 2 through 23 months of age at increased risk for meningococcal disease. It is the **only** quadrivalent meningococcal conjugate vaccine currently licensed for use in children **aged 2 through 8 months** -- and is the **only** formulation approved for those less than 2 years of age with functional or anatomic asplenia (including sickle cell).



Menveo does not demonstrate immune interference with PCV7 and it can be administered concomitantly with PCV13. Children 2-23 months of age with functional or anatomic asplenia (including sickle cell) should receive Menveo concomitantly with PCV13. See Attachment 2 for the schedule for Menveo and Menactra Vaccination of High Risk Children 2-23 Months.

Menveo is supplied as **2 separate vials of vaccine**, which, when reconstituted, comprise **1 complete dose of vaccine**. Administering partial components of a reconstituted vaccine leaves patients unprotected. See Attachment 3 for Guidance for the Reconstitution, Storage and Documentation of Menveo that will decrease the chance of vaccine administration errors.

Novartis has additional information available, including educational aids about correct reconstitution, on their website at www.menveo.com.

2. Menactra (MenACWY-D) by Sanofi

Menactra is only approved for use beginning at **9 months of age**. In some trials, interference with immune response to some pneumococcal serotypes was suggested when Menactra was given with PCV7.



Because of the high risk for invasive pneumococcal disease, the ACIP recommends that children with asplenia (including sickle cell) should **NOT** be immunized with Menactra before 2 years of age to prevent interference with immune response to PCV13. In addition, children with asplenia should complete an age-appropriate series of PCV13 before vaccination with Menactra, which should **NOT** be given until ≥ 4 weeks after their last PCV dose. Menactra can be given concomitantly with PCV13 to those at high risk without asplenia starting at 9 months of age. (Asplenic children less than 2 years of age can and should receive Menveo starting at 2 months of age as described above.)

See attachment 2 for the schedule for Menveo and Menactra Vaccination of High Risk Children 2-23 Months.

Menactra is a liquid vaccine that does not require reconstitution and comes in 5 single dose vials per package.

Sanofi Pasteur has additional information about Menactra on their website at www.menactra.com. Contact Sanofi Pasteur at 1-800-VACCINE (1-800-822-2463) to report problems with Menactra vaccine and its administration, to ask questions about it, and to request materials or educational assistance.

Note: Due to differences in serogroup composition and licensure indication, the same vaccine product should be used for all doses in infants at increased risk for meningococcal disease, if at all possible. However, if the product used for prior doses of vaccination is unknown or not available, the vaccination series can be completed with any age and formulation appropriate meningococcal vaccine.

Attachment 2. Menveo and Menactra Vaccination of High Risk Children 2-23 Months

Vaccine	Primary Vaccination	Booster Doses ¹	Recommended for:	Not Recommended for:
Quadrivalent Vaccine				
Menveo (MenACWY-CRM) Novartis	<ul style="list-style-type: none"> ▪ 2, 4, 6, and 12 months <p><u>Age 7-23 months:</u> 2 doses with the 2nd dose being given in the 2nd year of life and ≥3 months after 1st</p>	<ul style="list-style-type: none"> ▪ 1st booster 3 years after primary series ▪ Additional boosters every 5 years 	<ul style="list-style-type: none"> ▪ complement component deficiencies ▪ functional or anatomic asplenia (including sickle cell disease) ▪ outbreaks ▪ infants who will travel to or residing in regions where meningitis is epidemic or hyperendemic 	
Menactra (MenACWY-D) Sanofi Pasteur	<ul style="list-style-type: none"> ▪ 9 and 12 months² 	<ul style="list-style-type: none"> ▪ 1st booster 3 years after primary series ▪ Additional boosters every 5 years 	<ul style="list-style-type: none"> ▪ complement component deficiencies ▪ outbreaks ▪ infants who will travel to or residing in regions where meningitis is epidemic or hyperendemic 	<ul style="list-style-type: none"> ▪ Those <24 months with functional or anatomic asplenia (including sickle cell disease)³

Note: Due to differences in serogroup composition and licensure indication, the same vaccine product should be used for all doses in infants at increased risk for meningococcal disease. However, if the product used for prior doses of vaccination is unknown or not available, the vaccination series can be completed with any age and formulation appropriate meningococcal vaccine.

¹ If the most recent dose was received before age 7 years, a booster dose should be administered 3 years later

² For infants receiving Menactra prior to travel, the two doses may be administered as early as 8 weeks apart.

³ Because of the high risk for invasive pneumococcal disease, children with functional and anatomic asplenia (including sickle cell disease) should **NOT** be immunized with Menactra before 2 years -- and it should be separated by ≥4 weeks after completion of all PCV13 doses to avoid potential interference with immune response to PCV13. These children can and should receive Menveo.

Adapted from Table [Summary of Recommendations for meningococcal vaccination of children aged 2-23 months at increased risk for meningococcal disease - Advisory Committee on Immunization Practices, 2013](#). CDC. MMWR 2014;63:528.

Attachment 3. Guidance for the Reconstitution, Storage and Documentation of Menveo (MenACWY-CRM)

Storage and Reconstitution

Novartis has comprehensive, step-by-step information available, including videos and educational aids about correct reconstitution, on their website at www.menveo.com/.

- Menveo is supplied as **2 separate vials of vaccine**, which, when reconstituted, comprise **1 complete dose of vaccine**. One vial contains just the MenA lyophilized conjugate vaccine component and the other vial contains the MenCYW-135 liquid conjugate vaccine component.
- The liquid vaccine component of Menveo must be used for reconstitution of the lyophilized one, administering just some of the components of a vaccine leaves patients unprotected,
- There are 5 complete doses (10 vials) in each package of Menveo. Store the vials of lyophilized and liquid vaccine **together in the box** in which they are packaged.
- Combine the liquid and lyophilized components of the vaccine just prior to vaccine administration to ensure that all 4 antigens of the vaccine are administered.
- To reconstitute, inject the liquid MenCYW-135 vaccine into the vial containing the MenA lyophilized vaccine. Invert and shake well after reconstitution, so the liquid is clear and colorless.
- Use reconstituted Menveo immediately. Discard if not administered within 8 hours of reconstitution.

Lot Numbers and Expiration Dates

- Menveo has 3 linked lot numbers. These lot numbers can be found on the main box and on each vial of vaccine (MenCYW-135 and Men A). The first letter changes to represent either carton, the liquid vial or lyophilized as follows:
 - The letter M precedes the number on the Menveo carton
 - The letter A precedes the number on the MenA lyophilized component
 - The letter X precedes the number on the vial containing MenCWY-135 liquid conjugate component
- When administering the vaccine, make sure the vials have the same lot number, except for the first character. The individual vials may have different expiration dates. When this is the case, the expiration date on the box is the earlier of the expiration dates. Novartis recommends providers record the lot number and expiration date displayed on the box as a best practice. Alternatively, you can record the lot number and expiration date by peeling off the labels printed on each vial and adding them to the Vaccine Administration Record.

Contact Novartis Vaccines Direct Customer Service 1-877-683-4732 to report any problems with vaccine reconstitution or vaccine administration, to ask questions about Menveo and to request materials or educational assistance.

See also, the Immunization Coalition's Vaccines with Diluent and How to Use Them at: <http://www.immunize.org/catg.d/p3040.pdf>

We recommend that you report vaccine administration errors to the Institute for Safe Medical Practices (ISMP) via the Vaccine Error Reporting Program (VERP) website: www.ismp.org and report clinically significant adverse events to the Vaccine Adverse Event Reporting System (VAERS) at 1-800-822-7967 or www.vaers.hhs.gov/.

See section above on **Reporting** for additional guidance on notification about medical errors or adverse events.