“IT’S MORE THAN…”
A Toolkit for Meningitis B Vaccination Campaigns

http://generatehealthstl.org/programs/immunization/
This toolkit was adapted from the ‘Beware of B’ Toolkit developed by the Indiana Immunization Coalition, which is available at:
www.vaccinateindiana.org

For more information about The “It’s More Than...” campaign and the Generate Health Immunization Initiative, please contact:

Kendra Copanas
Executive Director

1300 Hampton Ave. Suite 111
St. Louis, MO 63139

Phone: (314) 880-5719
Email: kcopanas@generatehealthstl.org
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Provider Background and Resources

“IT’S MORE THAN...”

http://generatehealthstl.org/programs/immunization/
PROVIDER BACKGROUND AND RESOURCES

The materials in this section are provided to inform student health providers and university administrators about the national recommendations and state requirements for Meningitis B vaccination. These provider materials are from trusted sources including: Missouri Department of Health and Senior Services (MoDHSS), the National Foundation for Infectious Diseases (NFID), and the Centers for Disease Control (CDC). Additionally, this section contains Missouri specific resources such as the required vaccination schedule and meningitis case reporting form.

Use of the Materials in this Section:

1. Raise awareness of meningitis B vaccination amongst student health providers and other providers that treat college-aged students
2. Inform providers on the national MenB recommendations.
3. Inform providers about Missouri specific legislation and provide them with resources on Men B.
College Students and Meningococcal Disease: Are Students Protected?  
Additional Q&A

GENERAL

Responses By William Schaffner, MD, National Foundation for Infectious Diseases (NFID) medical director and professor of Preventive Medicine and Infectious Diseases at Vanderbilt University School of Medicine

Define “short term protection” for the MenB vaccine.
The duration of protection achieved by either MenB vaccine has not yet been defined. Given this uncertainty, “short term protection” may be interpreted as “several years”, but please note that the actual duration of protection has not been established.

What vaccination is recommended? Quadrivalent AND Serogroup B? One or the other?
Routine vaccination with a quadrivalent vaccine that protects against four major meningococcal serogroups (A, C, W, and Y) is recommended for all adolescents at age 11-12 years with a booster dose at age 16 years.

For adolescents and young adults, CDC recommends that a MenB vaccine series may be administered to people 16 through 23 years of age with a preferred age of vaccination of 16 through 18 years. This recommendation is designed to allow the clinician to make a MenB vaccine recommendation based on the risk and benefit for the individual patient.

Are a student’s close family recognized as at high risk and recommended to receive a MenB shot?  
No, unless, of course, some of the family members also are 16 through 18 years of age. Also, we would suggest using care when using the term “high risk”; the absolute risk of MenB disease in adolescent and adult populations in the US is very low. That said, the risk is elevated above this very low baseline in late adolescence and young adulthood.

I have heard that Trumemba can be given as a two vaccine series, instead of three. What do you think about this?  
As noted during the webinar, Trumemba now is FDA-approved for a 2-dose series (0, 6 months). The antibody levels achieved by this 2-dose series appear to be somewhat lower than after 3 doses. This might have an influence on duration of protection. The ACIP has not yet commented on the 2-dose series.

Do you recommend Trumemba or Bexsero for MenB? What is the cost per shot? Is the MenB vaccine usually covered by insurance?  
Under ordinary circumstances, the CDC has not expressed a preference for either of the meningococcal B vaccines. However, in the case of an outbreak, in some cases, the CDC has been able to conduct lab testing and determined that one of the B vaccines would work better in response to that particular case or outbreak. We recommend you check with individual insurance companies to determine coverage/cost.

Updated September 2016
Is there a recommendation for students who receive their second (booster dose) prior to turning 16? (For example, we are seeing many students receive their vaccine at their annual physical. Sometimes this may occur one to four months before they turn 16 and they are getting their booster at that visit.) We assume this question refers to the booster dose of MenACWY. Although these intervals should not be a substantial issue, recall that you want the duration of protection to be as long as possible, so we would encourage later immunization if possible.

I am a VFC reviewer. Should I be encouraging providers to give MenB at the same time they are giving the second dose of MenACWY?

Any individual who will be receiving both MenACYW and MenB can get a dose of MenB at the same time they get the second dose of MenACYW. There are no contraindications to receiving MenACYW and MenB at the same visit (in different anatomic sites).

Do you have any recommendation regarding upper age limit for vaccination?

Both the MenB vaccines are FDA-licensed for use in persons 10 through 25 years of age. The ACIP initially recommended that all persons 10 years of age or older who are at increased risk for meningococcal disease should receive MenB vaccine (Category A recommendation). These include:
- Persons with persistent complement component deficiencies.
- Persons with anatomic or functional asplenia.
- Microbiologists routinely exposed to isolates of meningococci.
- Persons exposed because of an outbreak of MenB disease.

Subsequently, the ACIP added a recommendation that the MenB vaccine may be administered to adolescents and young adults (ages 16 through 23 years) on the basis of the healthcare provider’s evaluation and discussion with the patient (Category B recommendation).

I am a community pharmacist and am located very near a college campus. Do all college students fall in the category of being eligible to receive the MenB vaccine even if there is NOT a current outbreak? Yes, but not just college students; a MenB vaccine series may be administered to people 16 through 23 years of age with a preferred age of vaccination of 16 through 18 years. This recommendation is designed to allow the clinician to make a MenB vaccine recommendation based on the risk and benefit for the individual patient.

How is the vaccine constructed and why did it take so long to develop? The humoral response, as published in the NEJM, was mediocre. Is there an immunity from other sources that might account for the great results seen, for instance, at Princeton?

There were several scientific challenges to creating MenB vaccines. Prominent among them was that the MenB serogroup is antigenically diverse. This is in contrast to the A, C, W, and Y serogroups which are antigenically stable. The two vaccines are constructed differently. In brief, Trumembac consists of two recombinant antigens; Bexsero is composed of three recombinant proteins and outer membrane vesicles containing an outer membrane protein. The vaccine used in the Princeton outbreak was Bexsero. Although not a perfect match with the outbreak strain, two of the vaccine antigens were expressed in the outbreak strain. Two months after the second dose of vaccine, 66% of recipients had measurable serum bactericidal activity against the outbreak strain, a traditional surrogate measure of protection. However, responses to two reference meningococcal strains were excellent (87% to 100%). The outbreak ceased; whether the vaccination campaign played a role (minor or major) remains provocatively unknown.

Updated September 2016
Further Detail Provided by Susan Even, MD, executive director of the University of Missouri Student Health Center, Chair of the ACHA Vaccine Preventable Disease Advisory Committee

The two MenB vaccines were developed using different procedures and the complexity is such that I don’t think one could adequately explain the process. The capsule of meningococcal B bacteria makes it much harder to devise a vaccine against it. Humoral measures of antibody response are only representations of the actual human immune response, which is not measurable. Strains of Men B in different locations are antigenically and genetically diverse. MMWR October 23, 2015/64(41):1171-6 gives a complete explanation of the two B vaccines (MenB-FHbp and MenB-4C) in the section titled "MenB Vaccine Immunogenicity and Safety"

CAMPUS-RELATED QUESTIONS

Responses by Susan Even, MD, executive director of the University of Missouri Student Health Center, Chair of the ACHA Vaccine Preventable Disease Advisory Committee

What is the final recommendation for student nurses working in acute care areas and also living in dorms?
There are no specific recommendations regarding Meningitis B (or any meningococcal vaccines) for healthcare professionals or healthcare professional students. If a nursing student lives in a dorm and the campus follows the CDC recommendations for meningococcal vaccine, that student should have the booster MCV4 vaccine (at age 16 or later) and should be given the option to obtain one of the 2 MenB vaccine series.

Campuses with previous outbreaks (or considered to still be in an outbreak status) are promoting universal immunization for MenB. Given the current ACIP/CDC guidelines, how do these impact campuses that have not experienced a case of meningococcal disease? How do you know when you are no longer in an "outbreak" status?
First, if a campus is not in "outbreak status," there are no specific recommendations regarding universal immunization of students for MenB. Campuses should enforce the recommendation for booster of the quadrivalent MCV4 at age 16 or later and may offer the option of a MenB vaccine series, with the caveat that in the event of a future MenB outbreak, there may be additional or different MenB vaccine recommendations based on the genetics pattern.

To my knowledge, there is no guideline that outlines when a campus is no longer in outbreak status. At this time, that decision would be made in coordination with local, state and CDC officials. There may be more definitive guidance in the future through ACIP deliberations.

Would you recommend a booster for a 25-year-old going back to graduate school but living in their own apartment and not the dorms?
A 25 year old grad student living off campus is not considered at increased risk for meningococcal disease, so I would not recommend a meningococcal vaccine (either the quadrivalent MCV4 or MenB series.) However, if an outbreak of MenB occurred on that campus, there would be a determination regarding the population at risk which could possibly include the 25-year-old grad student.

Do you know of any schools requiring MenB for incoming first year students residing on campus?
Other than schools that are in "outbreak status," I am not aware of any requiring MenB for first year students living on campus. That said, there is no database that I am aware of that outlines the immunization requirements of institutions of higher education in the US.

Updated September 2016
Are there any serological tests available to evaluate post vaccine immunity? The serologic tests that have been used by the pharmaceutical companies to evaluate post-vaccine antibody levels are not available commercially as far as I know.

OUTBREAK RESPONSES-RELATED QUESTIONS

Responses Provided by Jonathan Fletcher, MD, director, Medical Services Princeton University

Were there any reports of vaccine failures? (i.e. students who completed the two- or three-dose series who became infected with a "vaccine homologous" strain) After our immunization clinics were implemented, there were no new cases among Princeton students, although a student from another school was exposed to the same strain from a Princeton student.

Were there any issues around parental consent for vaccines if student was not yet 18 years old? I am not aware of any problems with parental consent - by mid-year we have extremely few students under 18

Any insight on how to successfully lobby a Board of Regents, legislators, or other governing bodies to make the MenACWY vaccine a hard requirement for immunization compliance? Men ACYW is a hard requirement to register for classes, and there is a NJ law requiring universities to report on vaccine compliance.

For additional information on Meningococcal disease, visit www.nfid.org/meningococcal. For resources to use on college campuses, visit www.nfid.org/meningitis-toolkit.

Updated September 2016
Planning for Prevention: Tips to Manage Meningococcal Disease Outbreaks on Campus

Meningococcal disease (meningitis) is a rare but deadly bacterial infection. In addition to the serious medical impact, even one case on a college campus can cause social anxiety and fear among students and parents, often taking up a great deal of campus resources. Serogroup B is the most common cause of meningococcal disease in US adolescents and young adults. It is also the cause of recent college outbreaks of the disease.

Parents may think their college-age children are protected against meningococcal disease because they received the routinely recommended quadrivalent vaccine (ACWY) — but, that vaccine does not protect against serogroup B disease. Students may request the serogroup B vaccine from their healthcare professional. Vaccines to protect against serogroup B became available in the US in 2014. Yet, very few adolescents and young adults have received it.

The National Foundation for Infectious Diseases (NFID), a nonprofit organization dedicated to educating the public and healthcare professionals about the causes, prevention, and treatment of infectious diseases, offers the following tips to help increase and maintain a high level of awareness about meningococcal disease and prevention through vaccination:

- **Encourage** all incoming and returning students to get vaccinated according to CDC and state recommendations. Take every opportunity to inform students and their parents, including welcome packets, orientation, health center visits, website updates, and social media, about vaccines available to help protect against the disease.

- **Educate** students, prospective students, and parents with credible information. Use resources from reliable sources, such as NFID and CDC, for access to the latest information. Links to valuable resources are available at: www.nfidi.org/meningitis-toolkit.

- **Evaluate** resources and discuss how you would respond to a meningococcal disease case on campus.
  - Meet with relevant department heads/administrators, student and community leaders, and healthcare professionals to discuss the level of knowledge about the disease, symptoms, potential impacts on campus, and college vaccine requirements/recommendations.
  - Establish relationships with local news media so that they understand the issue, can help promote information about the disease, and can help during a crisis. Provide easy access to information on all aspects of meningococcal disease, including diagnosis, treatment, transmission, and prevention to inform current and future media coverage.

- **Establish** a meningococcal disease response team, including representatives from health services, communications, administration, and the local community. Encourage team members to review the recommendations in the NFID report (http://www.nfidi.org/meningococcal-b), based on real experiences with meningococcal disease serogroup B cases/outbreaks. Meet on a regular basis to discuss how your students can best be protected.
Two serogroup B meningococcal (MenB) vaccines are currently licensed for use in persons aged 10–25 years in the United States. The two vaccines are MenB-FHbp (Trumenba, Pfizer, Inc.) (1) and MenB-4C (Bexsero, GlaxoSmithKline Biologicals, Inc.) (2). In February 2015, the Advisory Committee on Immunization Practices (ACIP) recommended use of MenB vaccines among certain groups of persons aged ≥10 years who are at increased risk for serogroup B meningococcal disease* (Category A) (3), and in June 2015, ACIP recommended that adolescents and young adults aged 16–23 years may be vaccinated with MenB vaccines to provide short-term protection against most strains of serogroup B meningococcal disease (Category B1) (4). Consistent with the original Food and Drug Administration (FDA) licensure for the two available MenB vaccines, ACIP recommended either a 3-dose series of MenB-FHbp or a 2-dose series of MenB-4C. Either MenB vaccine can be used when indicated; ACIP does not state a product preference. The two MenB vaccines are not interchangeable; the same vaccine product must be used for all doses in a series. In April 2016, changes to the dosage and administration of MenB-FHbp were approved by FDA to allow for both a 2-dose series (administered at 0 and 6 months) and a 3-dose series (administered at 0, 1–2, and 6 months) (5,6). In addition, the package insert now states that the choice of dosing schedule depends on the patient’s risk for exposure and susceptibility to serogroup B meningococcal disease. These recommendations are regarding use of the 2- and 3-dose schedules of MenB-FHbp vaccine (Trumenba) and replace previous ACIP recommendations for use of MenB-FHbp vaccine published in 2015 (3,4). Recommendations regarding use of MenB-4C (Bexsero) are unchanged (3,4).

Methods
The ACIP Meningococcal Vaccines Work Group identified studies of the comparative immunogenicity, safety, and antibody persistence of 2- and 3-dose schedules of MenB-FHbp vaccine by consulting with the manufacturer and searching PubMed using the search terms “meningococcal serogroup B vaccine,” “Trumenba,” and “MenB-FHbp.” One relevant published clinical trial (7) and unpublished data from the same trial (Pfizer, unpublished data) were identified that compared immunogenicity and safety of 2- and 3-dose schedules of MenB-FHbp vaccine. Additionally, unpublished data were identified (Pfizer, unpublished data) for participants in the same trial who were enrolled in an extension study designed to evaluate antibody persistence annually for 48 months and response to a single booster dose approximately 48 months after the primary series. The Work Group reviewed published and unpublished immunogenicity and safety data from the clinical trial and unpublished antibody persistence data and booster dose response data. The type and quality of evidence supporting the use of MenB vaccines in adolescents and young adults (including college students) and persons at increased risk for serogroup B meningococcal disease were evaluated previously using the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) framework (3,4,8,9). Summaries of the Work Group discussions and data reviewed were presented to ACIP in June and October 2016, and recommendations were approved by the voting ACIP members at the October 2016 meeting (detailed meeting minutes are available at https://www.cdc.gov/vaccines/acip/meetings/meetings-info.html).

MenB-FHbp Immunogenicity
Previous ACIP policy statements have described the assessments of MenB-FHbp immunogenicity data for persons aged ≥10 years that supported FDA licensure (3,4,8,9). The immunogenicity of 3-dose versus 2-dose MenB-FHbp schedules in

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*Persons with persistent complement component deficiencies (including inherited or chronic deficiencies in C3, C5–C9, properdin, factor D, factor H, or who are taking eculizumab [Soliris]); persons with anatomic or functional asplenia (including sickle cell disease); microbiologists routinely exposed to isolates of Neisseria meningitidis; persons identified as at increased risk because of a serogroup B meningococcal disease outbreak.

1Category A recommendations are made for all persons in an age- or risk-factor-based group. Category B recommendations are made for individual clinical decision making. https://www.cdc.gov/vaccines/acip/reci/grade/about-grade.html.


adolescents and young adults was evaluated in a clinical trial conducted in Europe among 1,450 persons aged 11–18 years (7) (Pfizer, unpublished data). Participants were randomly assigned to one of five groups. Group 1 received MenB-FHbp at months 0, 1, and 6, and received a saline injection at month 2; group 2 received MenB-FHbp at months 0, 2, and 6 and saline at month 1; group 3 received MenB-FHbp at months 0 and 6 and saline at months 1 and 2; group 4 received MenB-FHbp at months 0 and 2 and saline at months 1 and 6; group 5 received MenB-FHbp at months 2 and 6 and saline at months 0 and 1 (referred to as 0, 4 months below). Serum bactericidal antibody activity, measured using human complement (hSBA) was used as a correlate of protection to assess vaccine immunogenicity (10,11). Immunogenicity in the trial was assessed as the percentage of subjects who achieved an hSBA titer greater than or equal to the lower limit of quantification of the assay (hSBA titer ≥1:8) to each of the four selected serogroup B meningococcal strains tested (7,12). For purposes of this evaluation, immunogenicity was assessed as the proportion of subjects who achieved an hSBA titer ≥1:8** to all four selected strains tested (composite response) (Pfizer, unpublished data).

Among the 3-dose schedules evaluated, 83.1% of subjects in group 1 (0, 1, 6 months) and 81.7% of subjects in group 2 (0, 2, 6 months) had a composite response (hSBA titer ≥1:8) to all four strains tested at month following the third dose (Table) (Pfizer, unpublished data). Among the 2-dose schedules, group 3 (0, 6 months) had the highest percent of responders, 73.5%; 58.9% of subjects in group 5 (0, 4 months) and 56.8% of subjects in group 4 (0, 2 months) had a composite response to all four strains tested at 1 month following the second dose. In addition, whereas geometric mean antibody titers (GMTs) were higher to all four strains tested among subjects who received 3 doses compared with those who received 2 doses, group 3 (0, 6 months) had the highest GMTs among all 2-dose schedules (7).

** Lower limit of quantification for the MenB strain expressing FHbp A22 was hSBA titer ≥1:16.

### MenB-FHbp Antibody Persistence

Antibody persistence data through 48 months and response to a single booster dose at approximately 48 months were evaluated for participants aged 11–18 years in the clinical trial described who also enrolled in an extension study (Pfizer, unpublished data). The percentage of subjects with protective titers to all four of the serogroup B meningococcal strains tested was evaluated at 1, 12, 18, 24, 36, and 48 months following completion of the aforementioned 2-dose and 3-dose schedules and at 1 month following the booster dose at 48 months. An hSBA titer ≥1:4 was considered protective, a lower level of activity than the hSBA titer of ≥1:8 used to assess immunogenicity. Among subjects enrolled in the extension study who received the 2-dose (0, 6 month) schedule and the 3-dose (0, 2, 6 month) schedule, the percentages of subjects with protective hSBA titers to the four selected strains did not statistically differ at any time point (Figure 1). At 1 month following completion of the primary series, 78.9%–98.9% of subjects who received the 2-dose schedule and 86.5%–99.1% of subjects who received the 3-dose schedule had protective hSBA titers to the four selected strains. For both groups, the percentage of subjects with protective antibodies declined sharply at 12 months after completion of the primary series and remained stable through 48 months after vaccination (Figure 1). The hSBA responses and GMTs following a single booster dose at approximately 48 months after primary vaccination for the group that received the 2-dose schedule were not statistically different from those of the group that received the 3-dose schedule (Figure 2).

### MenB-FHbp Safety

MenB-FHbp safety data have been reported previously (3,4,8,9). No significant increased risk for serious adverse events has been identified among >4,250 subjects aged 10–25 years in seven clinical trials who received at least 1 dose of MenB-FHbp (4,6,8,9). The most common adverse reactions observed in the 7 days after receipt of MenB-FHbp were pain at the injection site (≥28% of subjects), fatigue (≥40%), headache (≥35%), myalgia (≥30%), and chills (≥15%). Safety and tolerability profiles were similar among subjects aged 11–18 years who were randomly assigned either a 3-dose or 2-dose series of MenB-FHbp (6,7).
Morbidity and Mortality Weekly Report

FIGURE 1. Persistence of hSBA responses ≥1:4* against four selected serogroup B meningococcal strains† in subjects aged 11–18 years,‡ up to 48 months (m) after completion of a 2-dose (0, 6 months) or 3-dose (0, 2, 6 months) series of MenB-FHbp

Abbreviation: hSBA = serum bactericidal antibody activity, measured using human complement.
* Expressed as a percentage, with error bars representing 95% confidence intervals.
† Serogroup B meningococcal strains expressing FHbp (factor H binding protein) of subfamily A (A22, A56) or subfamily B (B24, B44).
‡ Number of subjects for persistence time points: 0, 6 m = 99–116; 0, 2, 6 m = 92–114.

ACIP Recommendations

These recommendations are regarding use of the 2- and 3-dose schedules of MenB-FHbp vaccine (Trumenba) and replace previous ACIP recommendations for use of MenB-FHbp vaccine published in 2015 (3,4). Recommendations regarding use of MenB-4C (Bexsero) are unchanged (3,4).

Persons aged ≥10 years at increased risk for serogroup B meningococcal disease (Category A recommendation). For persons at increased risk for meningococcal disease and for use during serogroup B meningococcal disease outbreaks, 3 doses of MenB-FHbp should be administered at 0, 1–2, and 6 months to provide earlier protection and maximize short-term immunogenicity. However, if the second dose of MenB-FHbp is administered at an interval of ≥6 months, a third dose does not need to be administered.

Adolescents and young adults aged 16–23 years (Category B recommendation). When given to healthy adolescents who are not at increased risk for meningococcal disease, 2 doses of MenB-FHbp should be administered at 0 and 6 months. If the second dose of MenB-FHbp is administered earlier than 6 months after the first dose, a third dose should be administered at least 4 months after the second dose.

CDC Guidance for Use

There are two MenB vaccines licensed for use in the United States among persons aged 10–25 years. Either MenB vaccine can be used when indicated; ACIP does not state a product preference. The two MenB vaccines are not interchangeable; the same vaccine product must be used for all doses in a series. The minimum interval between any 2 doses of MenB vaccine is 4 weeks. On the basis of available data and expert opinion, MenB-FHbp or MenB-4C may be administered concomitantly with other vaccines indicated for this age, but at a different anatomic site, if feasible. ACIP will consider MenB vaccine booster doses for persons at increased risk for serogroup B meningococcal disease as data become available.
FIGURE 2. Persistence of hSBA responses ≥ 1:4* and GMTs† against four selected serogroup B meningococcal strains§ at 48 months (m) in subjects aged 11–18 years¶ after completion of a 2-dose (0, 6 months) or 3-dose (0, 2, 6 months) series of MenB-FHbp, and hSBA responses ≥ 1:4 and GMTs to a booster dose of MenB-FHbp at approximately 48 months after primary vaccination.

No randomized controlled clinical trials have been conducted to evaluate the use of MenB vaccines in pregnant or lactating women. As stated in previous ACIP reports on MenB vaccines, vaccination should be deferred in women known to be pregnant or lactating unless the woman is at increased risk for serogroup B meningococcal disease, and, after consultation with her health care provider, the benefits of vaccination are considered to outweigh the potential risks. Additional information for health care providers and parents can be found at https://www.cdc.gov/ meningococcal.

Precautions and Contraindications
Before administering serogroup B meningococcal vaccines, health care providers should consult the package inserts for precautions, warnings, and contraindications (6, 7, 3). Adverse events occurring after administration of any vaccine should be reported to the Vaccine Adverse Event Reporting System (VAERS). Reports can be submitted to VAERS online, by fax, or by mail. Additional information about VAERS is available by telephone (1–800–822–7967) or online (https://vaers.hhs.gov).
Summary

What is currently recommended?

Two serogroup B meningococcal (MenB) vaccines are currently licensed for use among persons aged 10–25 years in the United States: MenB-FHbp (Trumenba) and MenB-4C (Bexsero). The Advisory Committee on Immunization Practices (ACIP) currently recommends routine use of MenB vaccines among persons aged ≥10 years who are at increased risk for serogroup B meningococcal disease (Category A recommendation), including persons who have persistent complement component deficiencies; persons who have anatomic or functional asplenia; microbiologists who routinely are exposed to isolates of Neisseria meningitidis; and persons identified to be at increased risk because of a serogroup B meningococcal disease outbreak. Adolescents and young adults aged 16–23 years may also be vaccinated with MenB vaccines to provide short-term protection against most strains of serogroup B meningococcal disease (Category B recommendation). Consistent with the original Food and Drug Administration (FDA) licensure for the MenB vaccines, ACIP recommended either a 3-dose series of MenB-FHbp or a 2-dose series of MenB-4C. Either MenB vaccine can be used when indicated; however, they are not interchangeable, and the same product must be used for all doses.

Why are the recommendations being modified now?

Changes to the dosage and administration of MenB-FHbp were approved by FDA to include both a 3-dose series (administered at 0, 1–2, and 6 months) and a 2-dose series (administered at 0 and 6 months).

What are the new recommendations?

These updated recommendations are regarding use of the 2- and 3-dose schedules of MenB-FHbp vaccine (Trumenba). For persons at increased risk for meningococcal disease and for use during serogroup B meningococcal disease outbreaks, ACIP recommends that 3 doses of MenB-FHbp be administered at 0, 1–2, and 6 months. When given to healthy adolescents who are not at increased risk for meningococcal disease, ACIP recommends that 2 doses of MenB-FHbp should be administered at 0 and 6 months. Recommendations regarding use of MenB-4C vaccine (Bexsero) are unchanged. Either MenB vaccine can be used when indicated; however, they are not interchangeable, and the same product must be used for all doses in a series.

Acknowledgments


References

Resolution No. 10/16-3

ADVISORY COMMITTEE ON IMMUNIZATION PRACTICES

VACCINES FOR CHILDREN PROGRAM

VACCINES TO PREVENT MENINGOCOCCAL DISEASE

The purpose of this revision is to update the recommended vaccination schedule and intervals for Trumenba®, one of the serogroup B vaccines covered by the resolution.

VFC resolution 6/16-1 is repealed and replaced by the following:

A. Meningococcal Conjugate Vaccines (MenACWY and HibMenCY)

Eligible groups

- Children aged 2 months through 10 years 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-C9, properdin, factor H, or factor D or taking eculizumab [Soliris®])
  - 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.

- All children aged 11 through 18 years

Recommended Vaccination Schedule and Intervals

Recommended schedules and intervals for meningococcal conjugate vaccines can be found at the following links:

- www.cdc.gov/mmwr/pdf/rr/rr6202.pdf
- www.cdc.gov/mmwr/preview/mmwrhtml/mm6324a2.htm
Recommended dosage

Refer to product package inserts.

Contraindications and Precautions
Contraindications and Precautions can be found in the package inserts available at http://www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/UCM093833

B. Serogroup B Meningococcal Vaccines (MenB)

Eligible groups
- Children aged 10 through 18 years at increased risk for meningococcal disease attributable to serogroup B, including:
  - Children who have persistent complement component deficiencies (including inherited or chronic deficiencies in C3, C5-C9, properdin, factor H, or factor D or taking eculizumab [Soliris®])
  - Children who have anatomic or functional asplenia, including sickle cell disease
  - Children identified to be at increased risk because of a meningococcal disease outbreak attributable to serogroup B
- Children aged 16 through 18 years without high risk conditions may also be vaccinated

Recommended Vaccination Schedule and Intervals

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Vaccine</th>
<th>Dosing Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>10–18 years</td>
<td>MenB (Bexsero®, GSK)</td>
<td>Two doses, at least one month apart (0 and 1-6 month schedule)</td>
</tr>
<tr>
<td>10–18 years</td>
<td>MenB (Trumenba®, Pfizer)</td>
<td>Persons at increased risk for meningococcal disease and for use during serogroup B outbreaks: Three doses (0, 1-2, and 6 month schedule) Healthy adolescents who are not at increased risk for meningococcal disease: Two doses (0, 6 months)²</td>
</tr>
</tbody>
</table>

Table Notes:
1. Use of brand names is not meant to preclude the use of other comparable US licensed vaccines.
2. If the second dose is given at an interval of <6 months a third dose should be given at least 6 months after the first dose.
Recommended dosage

Refer to product package inserts.

Contraindications and Precautions
Contraindications and Precautions can be found in the package inserts available at
http://www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/UCM093833

[If an ACIP recommendation or notice regarding meningococcal vaccination is published
within 12 months following this resolution, the relevant language above (except in the eligible
groups sections) will be replaced with the language in the recommendation and incorporated by
reference to the publication URL.]

Adopted and Effective: October 19, 2016

This document can be found on the CDC website at:
# Missouri School Immunization Requirements

## Vaccines Received 0-18 Years of Age

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Age</th>
<th>Birth</th>
<th>1 Month</th>
<th>2 Months</th>
<th>4 Months</th>
<th>6 Months</th>
<th>9 Months</th>
<th>12 Months</th>
<th>15 Months</th>
<th>18 Months</th>
<th>19-23 Years</th>
<th>2-3 Years</th>
<th>4-6 Years</th>
<th>7-10 Years</th>
<th>11-12 Years</th>
<th>13-15 Years</th>
<th>16-18 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B (Hep B)</td>
<td>1st dose</td>
<td>2nd dose</td>
<td>3rd dose</td>
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<tr>
<td>Diphtheria, Tetanus, Pertussis (DTP/P)</td>
<td>1st dose</td>
<td>2nd dose</td>
<td>3rd dose</td>
<td>4th dose</td>
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<tr>
<td>Inactivated Poliovirus (IPV)</td>
<td>1st dose</td>
<td>2nd dose</td>
<td>3rd dose</td>
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<tr>
<td>Measles, Mumps, Rubella (MMR)</td>
<td>1st dose</td>
<td>2nd dose</td>
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<tr>
<td>Varicella (VAR)</td>
<td>1st dose</td>
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<tr>
<td>Tetanus, Diphtheria, Pertussis (Tdap)</td>
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<tr>
<td>Meningococcal (MCV)</td>
<td>1st dose</td>
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</table>

### Range of recommended ages for all children

- See the catch-up schedule for the doses required and minimum intervals between doses for those children who fall behind or start late.
- AAP recommends that vaccine doses administered <4 days before the minimum interval or age be counted as valid, therefore the Missouri Department of Health and Senior Services will allow for the four day grace period.
- All students starting kindergarten as of and after the beginning of the 2005-2006 school year through the end of the 2009-2010 school year shall have one dose of varicella vaccine or a written statement documenting previous varicella (chickenpox) disease signed by the parent or guardian or a licensed doctor of medicine (MD) or doctor of osteopathy (DO) or his or her designee and must be on file with the superintendent or designee.
- All students starting kindergarten as of and after the beginning of the 2010-2011 school year shall have two doses of varicella vaccine or a written statement documenting previous varicella (chickenpox) disease signed by a licensed healthcare provider (e.g., school or occupational clinic nurse, nurse practitioner, physician assistant, physician) and must be on file with the superintendent or designee.
- All students starting eighth grade as of and after the beginning of the 2010-2011 school year shall have one dose of Tdap (tetanus, diphtheria, and pertussis) vaccine.
- All students starting eighth grade as of and after the beginning of the 2015-2016 school year shall have one dose of MCV vaccine.
- All students starting 12th grade as of and after the beginning of the 2015-2016 school year shall have two doses of MCV, unless the first dose was administered to a student who was 16 years of age or older, in which case only one dose shall be required.

1. Hepatitis B (Hep B) vaccine. (Minimum age: birth)
   - Infants who did not receive a birth dose should receive 3 doses of a HepB-containing vaccine on a schedule of 0, 1 to 2 months, and 6 months starting as soon as feasible.
   - Administer the second dose 1 to 2 months after the first dose (minimum interval of 4 weeks), administer the third dose at least 8 weeks after the second dose AND at least 16 weeks after the first dose. The final (third or fourth) dose in the HepB vaccine series should be administered no earlier than age 24 weeks.
   - Administration of a total of 4 doses of Hep B vaccine is permitted when a combination vaccine containing Hep B is administered after the birth dose.

2. Diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine. (Minimum age: 6 weeks)
   - Administer a 5-dose series of DTaP vaccine at ages 2, 4, 6, 15 through 18 months, and 4 through 6 years. The fourth dose may be administered as early as age 12 months, provided at least 6 months have elapsed since the third dose.
   - Administer a 4-dose series of IPV at ages 2, 4, 6 through 18 months, and 4 through 6 years. The final dose in the series should be administered on or after the fourth birthday and at least 6 months after the previous dose.

3. Inactivated poliovirus vaccine (IPV). (Minimum age: 6 weeks)
   - Administer a 4-dose series of IPV at ages 2, 4, 6 through 18 months, and 4 through 6 years. The final dose in the series should be administered on or after the fourth birthday and at least 6 months after the previous dose.

4. Measles, mumps, and rubella (MMR) vaccine. (Minimum age: 12 months)
   - Administer a 2-dose series of MMR vaccine at ages 12 through 15 months and 4 through 6 years. The second dose may be administered before age 4 years, provided at least 4 weeks have elapsed since the first dose.

5. Varicella (VAR) vaccine. (Minimum age: 12 months)
   - Administer a 2-dose series of VAR vaccine at ages 12 through 15 months and 4 through 6 years. The second dose may be administered before age 4 years, provided at least 3 months have elapsed since the first dose. If the second dose was administered at least 4 weeks after the first dose, it can be accepted as valid.

6. Tetanus and diphtheria toxoids and acellular pertussis (Tdap) vaccine. (Minimum age: 10 years)
   - Administer 1 dose of Tdap vaccine to all adolescents aged 11 through 12 years.
   - Tdap may be administered regardless of the interval since the last tetanus and diphtheria toxoid-containing vaccine.

7. Meningococcal conjugate vaccines.
   - Administer a single dose of Menactra or Menveo vaccine at age 11 through 12 years, with a booster dose at age 16 years.

Missouri’s School Immunization Requirements is compatible with the current recommendations of the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention (CDC), the American Academy of Pediatrics, and the American Academy of Family Physicians. This schedule includes recommendations in effect as of January 1, 2014, for children aged 0 through 18 years. Additional information is available at cdc.gov/vaccines/schedules/index.html. Schools should consult the relevant ACIP statement for detailed recommendations available at cdc.gov/vaccines/pubs/ACIP-list.htm. For additional information, visit Missouri’s Immunization Program web site at health.mo.gov/immunizations or call toll free 800-219-3224.
MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES
RECORD OF INVESTIGATION OF BACTERIAL MENINGITIS OR BACTEREMIA CASE REPORT

PATIENT'S NAME (LAST, FIRST, M.I.)

PARENTS NAME IF NOT AN ADULT

TELEPHONE NUMBER

ADDRESS (NUMBER, STREET, CITY, STATE, ZIP CODE)

HOSPITAL

PATIENT CHART NO.

PLACE EMPLOYED OR SCHOOL ATTENDED

OCCUPATION

DETACH HERE - PATIENT IDENTIFIER INFORMATION IS NOT TRANSMITTED TO CDC

1. STATE (RESIDENCE OF PATIENT) (1-2)
2. COUNTY (RESIDENCE OF PATIENT) (3-12)
3. STATE CONDITION LD. (13-18)
4. CDC ID. (19-24)
5. HOSPITALIZED? (25) YES, DATE OF ADMISSION (26-31)

1. NO

6. DATE OF BIRTH (32-37) MO DAY YEAR
7A. AGE (38-39)
7B. IS AGE IN DAY/MO/YR? (40)
7C. IF <2 YEARS OF AGE IS PATIENT IN DAYCARE? (41)

1. DAYS
2. MONTHS
3. YEARS
4. Unknown

8. SEX (42)

1. MALE
2. FEMALE

9A. RACE (43)

1. WHITE
2. BLACK
3. AMERICAN INDIAN/ALASKAN NATIVE
4. ASIAN/PACIFIC ISLANDER
5. OTHER

9B. ETHNIC ORIGIN (44)

1. HISPANIC
2. NON-HISPANIC
3. OTHER

10. OUTCOME (45)

1. SURVIVED
2. DIED
3. UNKNOW

11. PHYSICIAN'S NAME AND TELEPHONE NUMBER

12. TYPE OF INFECTION CAUSED BY ORGANISM (CHECK ALL THAT APPLY)

a. PRIMARY BACTEREMIA
b. MENINGITIS

1. BLOODSTREAM INFECTION
2. Meningitis
3. Cellulitis
4. Erysipelas
5. Impetigo
6. Other skin infections

13. BACTERIAL SPECIES ISOLATED FROM ANY NORMALLY STERILE SITE (CHECK ALL THAT APPLY)

1. NEISSERIA MENINGITIS
2. HAEMOPHILUS INFLUENZAE
3. GROUP B STREPTOCOCCUS
4. GROUP A STREPTOCOCCUS
5. LISTERIA MONOCYTOGENES
6. other bacterial species

14. SPECIMEN FROM WHICH ORGANISM ISOLATED (CHECK ALL THAT APPLY)

1. BLOOD
2. CSF
3. Pleural Fluid

15. DATE FIRST POSITIVE CULTURE OBTAINED (72-77)

16A. DID PATIENT RECEIVE HAEMOPHILUS B VACCINE? (79)

1. YES
2. NO
3. UNKNOWN

16B. WHAT WAS THE SEROTYPE? (147)

1. TYPE a
2. TYPE b
3. Other (specify)

16C. IF H. INFLUENZAE WAS ISOLATED FROM BLOOD OR CSF, WAS IT RESISTANT TO:

1. AMPCILLIN
2. CHLORAMPHENICOL
3. RIFAMPIN

17. IF NEISSERIA MENINGITIS WAS ISOLATED FROM BLOOD OR CSF, WAS IT RESISTANT TO:

1. AMPICILLIN
2. CHLORAMPHENICOL
3. RIFAMPIN

SUBMITTED BY NAME OF AGENCY

TELEPHONE NUMBER

DATE

RETURN COMPLETED REPORT TO: MISSOURI DEPARTMENT OF HEALTH AND SENIOR SERVICES, SECTION FOR COMMUNICABLE DISEASE PREVENTION PO BOX 360, JEFFERSON CITY, MO 65102


Generate Health | IT'S MORE THAN | http://generatehealthstl.org/programs/immunization

MO 58-2558 (10-04)
CD 2M
**CONTACTS (HOUSEHOLD AND OTHER)**

<table>
<thead>
<tr>
<th>NAME AND ADDRESS</th>
<th>AGE</th>
<th>SEX</th>
<th>RELATION TO PATIENT</th>
<th>SIMILAR ILLNESS? ONSET DATE</th>
<th>LABORATORY SPECIMEN</th>
<th>DATE COLLECTED</th>
<th>RESULT</th>
<th>CHEMO-PROPHYLAXIS (DOSE &amp; DATE)</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

**FOLLOW-UP NOTES**

Underlying causes or prior illness:

- [ ]
- [ ]
- [ ]
- [ ]

Cochlear Implant (y/n):

- [ ]

Deaf/Profound Hearing Loss (y/n):

- [ ]
- [ ]
- [ ]
ADDITIONAL RESOURCES

National Foundation for Infectious Diseases
www.nfid.org
Search for: Meningococcal Disease Toolkit

Centers for Disease Control and Prevention
www.cdc.gov
Search for: Meningococcal Disease

National Meningitis Association
www.nmaus.org
Search for: B Meningococcal Disease

Immunization Action Coalition
www.immunize.org
Search for: Ask the Experts: Disease & Vaccines - Meningococcal Disease

Meningitis Research Foundation
www.meningitis.org
Search for: MenB vaccine

Missouri Department of Health and Senior Services
www.health.mo.gov
Search for: Meningitis Vaccines

Missouri Senate Bill No. 635, 98th General Assembly, Section: 167.638

Toolkit Updates and Campaign Materials
http://generatehealthstl.org/programs/immunization
Talking Points and Parent Resources

“IT’S MORE THAN...”

http://generatehealthstl.org/programs/immunization/
TALKING POINTS & PARENT RESOURCES

The materials in this section are meant to serve as quick guides for providers and parents when talking to young adults about getting the MenB vaccine.

Use of the Materials in this Section:

1. Print provider talking points and post them in provider work spaces.
2. Deliver copies of the parent talking points to parents of students and patients who are thinking about getting vaccinated.
3. Provide young adults who are getting vaccinated with the resources they need to track their immunizations.
4. Post or provide copies of “What you need to know” or “Frequently Asked Questions” so that providers, parents and young adults to inform them about the dangers of Meningitis B and encourage vaccination.
TALKING POINTS FOR PROVIDERS

1. Adolescents and young adults have an increased risk of contracting meningococcal disease, also known as meningitis, which is a bacterial infection that can lead to lifelong complications and even death. 2 in 10 young adults who contract meningitis will have amputation of limbs, deafness, and brain damage. 1 in 10 adolescents and young adults who contract this disease will die. Meningitis B is #morethan the flu!

2. Living in communal living spaces, using shared locker rooms and bathrooms, sharing drinks, and kissing are all things that your child may do in college. As meningitis is spread by saliva, these activities will put your child at increased risk for getting meningitis. As of 2016, Missouri requires that all students living in on-campus housing be vaccinated unless the student has a medical or religious exemption. 

   While the vaccine for MenB is not required for students living off-campus, I recommend it for all individuals age 16-23 years and for any person working in close contact with students.

3. Fortunately, there are two types of vaccines available to protect individuals against the different serogroups of meningococcal disease:
   
   - The quadrivalent meningitis vaccine, MCV4, protects against four serogroups (A, C, W, and Y). It is recommended that adolescents are vaccinated at ages 11 to 12 years, with a booster dose at 16 years.
   
   - Meningitis serogroup B, or MenB, continues to cause outbreaks on college campuses. Two vaccines, Bexsero and Trumenba, protect against MenB.
TALKING POINTS FOR PARENTS

1. Adolescents and young adults have an increased risk of contracting meningitis, which is a bacterial infection that can lead to lifelong complications and even death.

2. Meningitis is spread by saliva and secretions. Living in dorms, using shared locker rooms and bathrooms, sharing drinks, and kissing are all things that will put *you* at risk of getting this illness.

3. Make an appointment at your student health center to ask about the two vaccines, MCV4 and MenB.

4. If *you* get a fever, headache, stiff neck, nausea, vomiting, and/or a rash please make an appointment at the student health center right away. The symptoms are often similar to the flu, but to be safe, make an appointment.

TIPS FOR PARENTS

* Keep an accurate record of your child’s vaccinations and boosters. Make a copy for your child to take to college.

* Remind your child to get vaccinated if they have not already.

* Encourage your child to go to the university’s student health center or a medical office if he or she has any of the following symptoms:
  - Fever
  - Vomiting
  - Exhaustion
  - Rash
  - Stiff neck
  - Headache
  - Confusion
  - Nausea

* If your child experiences sudden or severe symptoms (as listed above) encourage them to seek immediate medical attention!
**Meningococcal Disease**

**What You Need to Know**

**What is meningococcal disease?**
Meningococcal disease is an infection caused by the bacterium *Neisseria meningitidis* that can affect the blood stream, brain and spinal cord. There are thirteen different serogroups of *Neisseria meningitidis* that can cause disease, five of which cause the most disease in the United States. Meningococcal disease is the leading cause of bacterial meningitis in the United States.

About 1,000 people get meningococcal disease each year in the United States. Although meningococcal disease is somewhat rare, 10 to 14 percent of infected people die from the disease. In instances where it is not fatal, it can lead to permanent brain damage, loss of hearing, loss of arms and legs and potentially lifelong disability.

Although anyone can contract meningococcal disease, it is most common in infants less than one year of age, in adolescents 16 to 21 years of age and in people with certain medical conditions, such as the lack of a spleen. Adolescents and young adults have an increased incidence of disease, accounting for nearly 15 percent of all United States cases. College students are susceptible to meningococcal disease because they live in close quarters and often share food, drink and cosmetics.

**What are the symptoms of meningococcal disease?**
The symptoms of meningococcal disease may include high fever, chills, nausea, exhaustion and a rash. Early symptoms of meningococcal disease can be mistaken for influenza. An infected person may become seriously ill very quickly. If any of these symptoms are unusually sudden or severe, seek medical attention immediately.

**How is meningococcal disease diagnosed?**
Meningococcal disease is diagnosed by taking blood and spinal fluid samples from a person who is possibly infected. The medical laboratory will grow and identify the bacteria in culture to give a confirming diagnosis.

Antibiotics can be used to treat meningococcal infections and reduce the risk of death, but sometimes the infection has caused too much damage to the body for antibiotics to prevent death or serious long-term disabilities.

**How does meningococcal disease spread?**
Meningococcal disease is spread person-to-person through exchange of respiratory and throat secretions. Kissing, sharing drinking glasses, food or eating utensils, sharing a cigarette or lipstick, coughing and having close social contact (living in the same household) are examples of how this disease spreads.

**How can you reduce the risk for getting meningococcal disease?**
The best way to reduce the risk of getting meningococcal disease is through immunization. Other ways to reduce the risk of meningococcal disease are to avoid sharing items that have touched someone’s mouth such as cups, bottles, food, cosmetics and smoking materials.

What is the meningococcal vaccine?
There are three kinds of meningococcal vaccine available in the United States:

- Meningococcal conjugate vaccine (MCV4) protects against A, C, Y and W-135 serogroups and is the preferred vaccine for people 9 months through 55 years of age.
- Meningococcal Serogroup B vaccine (MenB) protects against serogroup B and is for people without high risk conditions 16 through 23 years of age.
- Meningococcal polysaccharide vaccine (MPSV4) protects against serogroup A, C, Y and W and is the only meningococcal vaccine licensed for people older than 55 years of age.

Who should get the meningococcal vaccine?
The Centers for Disease Control and Prevention (CDC) recommends two doses of MCV4 for adolescents.

- The first dose at 11 or 12 years old, with a booster dose at 16.
- For those who receive the first dose at 13 through 15 years of age, a booster dose is recommended at 16 through 18.
- For those who receive the first dose after 16, no booster dose is needed.

CDC recommends MCV4 or MPSV4 for:

- Individuals who have a damaged spleen, whose spleen has been removed or who have sickle cell disease.
- Individuals who are traveling to countries in which meningococcal disease is epidemic.
- Individuals who are at an increased risk of a meningococcal A, C, Y and W-135 disease due to an outbreak.

CDC recommends MenB vaccine for:

- Individuals who are at an increased risk because of a meningococcal serogroup B disease outbreak.
- Individuals who have a damaged spleen, whose spleen has been removed or who have sickle cell disease.
- Individuals who are 16 through 23 years without high risk conditions.

How effective is the recommended meningococcal vaccine?
MCV4 vaccines are 85 percent effective in protecting against four of the five major strains of the bacteria responsible for meningococcal disease.

Have Questions?
Individuals who have questions or concerns about meningococcal disease should contact their health care provider.

Children may be eligible to receive free vaccines through the Vaccines for Children program before their 19th birthday. Contact the Missouri Department of Health and Senior Services or your local public health agency to find out if your child is eligible.
Immunization Record Resources

Vaccine Administration Record for Adults

CDC: Find Your Child's Immunization Record
https://www.cdc.gov/vaccines/programs/iis/contacts-locate-records.html#state

Tips for Finding Vaccine Records
http://www.vaccineinformation.org/finding-vaccine-records/

ACIP: Acronyms for Vaccines
https://www.cdc.gov/vaccines/acip/committee/guidance/vac-abbrev.html

CDC: State Vaccination Requirements Search Engine
https://www2a.cdc.gov/nip/schoolsurv/schlmmRqmt.asp

CDC: Find Your Child's Immunization Record
https://www.cdc.gov/vaccines/programs/iis/contacts-locate-records.html#state

Wallet-size Records Resources

Immunization Action Coalition
American College of Obstetrics and Gynecology
Colorado.gov
### WALLET SIZED IMMUNIZATION RECORD

**Front:**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Type of vaccine</th>
<th>Date given m/o/day/yr</th>
<th>Health care professional or clinic name</th>
<th>Date next dose due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B</td>
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<tr>
<td>Diphtheria,</td>
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<tr>
<td>Tetanus,</td>
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<tr>
<td>Pertussis</td>
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<tr>
<td>Influenza</td>
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To learn more about vaccines, visit www.vaccineinformation.org and www.immunize.org

**Back:**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Type of vaccine</th>
<th>Date given m/o/day/yr</th>
<th>Health care professional or clinic name</th>
<th>Date next dose due</th>
</tr>
</thead>
<tbody>
<tr>
<td>H. Influenza</td>
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<tr>
<td>Polio</td>
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<tr>
<td>Pneumococcal</td>
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<tr>
<td>Rotavirus</td>
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Get vaccinated against influenza each year to protect yourself and others around you.

Generate Health | IT'S MORE THAN | http://generatehealthstl.org/programs/immunization
FREQUENTLY ASKED QUESTIONS:

MENINGOCOCCAL DISEASE

What is meningococcal disease?
Meningococcal disease is any illness that is caused by Neisseria meningitidis, a type of bacteria, also called meningococcus. These illnesses can be severe including infections of the lining of the brain and spinal cord (meningitis) and bloodstream infections (bacteremia or septicemia). Three different types (or serogroups) of the bacteria, serogroups B, C, and Y, are the most prevalent in the United States. Nearly 50% of all cases are caused by serogroup B.

Why is meningococcal disease serious?
In 2016 there were 3 cases of meningitis in the state of Missouri. In the first 6 months of 2017, there were 6 cases in Missouri, an increase by 3 cases from the previous year. Meningococcal disease is one of the most severe vaccine-preventable diseases. 1 out of every 10 people who get the disease will die and 2 in 10 will suffer serious and permanent problems including brain damage; amputation of arms, legs, fingers, or toes; hearing loss; and kidney damage.

What are the symptoms of meningitis?
Early symptoms of meningitis are often mistaken for flu or less serious illnesses, which can cause a delay in diagnosis and treatment. Symptoms progress very quickly and may include: stiff neck, high fever, headache, nausea, vomiting, purplish rash, and exhaustion. Death can occur within as little as 24-48 hours. Students who experience these symptoms, especially if they are sudden, progressive or severe, should be seen by a medical profession as soon as possible.

How does meningococcal disease spread?
Meningococcal disease is spread from person to person. Respiratory and throat secretions, such as saliva or spit, can spread the bacteria during close contact, such as kissing or sharing drinks. Living in dorms or using shared locker rooms and bathrooms increases exposure to the bacteria.
FREQUENTLY ASKED QUESTIONS:

MENINGOCOCCAL DISEASE CONTINUED

How can meningococcal disease be prevented?

Vaccination is the best protection against disease. There are two types of vaccines available:

1. MCV4 protects against serogroups A, C, W, and Y; vaccination is recommended for all adolescents age 11 to 12 years, with a booster dose at 16 years. Most teens receive the first dose of MCV4; however, only three in ten receive the booster dose.

2. MenB protects against serogroup B, the most common meningococcal disease serogroup in the United States. Vaccination is recommended for anyone age 16 to 23 years, with a preferential recommendation for those 16 to 18 years.¹ ²

Will insurance cover vaccines against serogroup B disease?

Yes. The Vaccines for Children (VFC) program provides serogroup B vaccines at no cost for eligible students (up to 18 years of age). In Missouri, all VFC providers are required to stock meningococcal b vaccine. Private insurance also covers serogroup B vaccines; however, it is important to check with individual payers.

Find a Missouri VFC Provider by Zipcode at:

https://ogi.oa.mo.gov/DHSS/VFC/index.html

1. https://www.cdc.gov/meningococcal/about/symptoms.html
2. https://www.cdc.gov/meningococcal/about/causes-transmission.html
University and College Campaign Materials

“IT’S MORE THAN...”
UNIVERSITY AND COLLEGE CAMPAIGN MATERIALS

This section begins with a letter that was sent to college and university presidents, admissions staff, student health providers, and residential life officers to educate their students and staff on the dangers of Meningitis B and to make them aware of new Missouri legislation on MenB vaccination.

The materials in this section are intended to be used in a campus wide campaign for Meningitis B vaccination. Use the materials in this section to promote awareness, inform and educate students and parents, and motivate young adults to get vaccinated.

Use of the Materials in this Section:

1. Send letters, e-Newsletters and/or emails to all students and parents informing them of the dangers of Meningitis and provide them with resources to get vaccinated. Students who live on-campus are required by Missouri law to get the vaccination. Vaccination is recommended for all other students and staff.

2. Contact media outlets to let them know that you are partnering with the “It’s More Than...” campaign to get more young adults vaccinated against Meningitis B.

3. Post to social media outlets such as Twitter, Facebook, and Instagram urging your students to get vaccinated. Use the hashtag #MoreThan to indicate you are partnering with the “It’s More Than...” campaign.

4. Add images from the section "Social Media Images, Handouts and Posters" to media posts and mailings to add power to the messages.
SAMPLE LETTER TO PARENTS AND STUDENTS

Dear Parents, Guardians and Students,

We are writing to inform you about Missouri recommendations that any student living in on-campus housing to receive the vaccination for Meningitis. Meningococcal disease is caused by a bacterium called Neisseria meningitidis. Symptoms of a meningococcal infection may include a high fever, headache, stiff neck, nausea, confusion and a rash. This disease can become severe very quickly and often leads to deafness, loss of arms or legs and even death. The bacteria are spread from close person to person contact through the exchange of nose and throat secretions, by activities such as using shared bathrooms and locker rooms, kissing or sharing food or drinks. Often, the early symptoms may be confused for the flu, a cold, or even, a hangover.

There are 2 types of meningococcal vaccines available in the United States. Vaccines for meningococcal serogroups A, C, W, and Y are made from sugars found in the surface of the bacteria while the vaccine for serogroup B is composed of proteins found on the bacteria. These vaccines do not contain live meningococcal bacteria. **Because MCV4 vaccines do not provide protection against serogroup B disease and MenB vaccines do not provide protection against serogroup A, C, W or Y, it is recommended that adolescents and young adults receive both MCV4 and MenB vaccines.**

The United States Centers for Disease Control and Prevention (CDC) recommends vaccination of children with MCV4 vaccine (Menactra and Menveo) at 11 or 12 years of age, with a booster dose of the vaccine at 16 years of age. The CDC also recommends that a MenB vaccine (Bexsero and Trumenba) may be administered to persons 16 through 23 years of age with a preferred age of vaccination of 16 through 18 years. This permissive (Category B) recommendation allows the clinician to make a MenB vaccine recommendation based on the risk and benefit for the individual patient. Students living in on-campus housing are considered at risk.

The meningitis MCV4 vaccine is recommended for students living in dorms or on-campus housing. However, to be fully protected against meningitis, we recommend that all students receive both MCV4 and MenB vaccines.

More information about meningococcal disease can be found at:

- The Centers for Disease Control and Prevention (CDC) website: [http://www.cdc.gov/vaccines/vpdvac/mening/default.htm](http://www.cdc.gov/vaccines/vpdvac/mening/default.htm)

* This letter is available for download at www.generatehealthstl.org/programs/immunization
Meningitis B is ‘More than a Hangover’ So, Get Vaccinated!

<INSERT UNIVERSITY> reminds (Parents / Students) that a vaccine is available to protect against meningitis B. The meningitis B bacteria – a strain that accounts for 50 percent of meningococcal disease cases – is especially dangerous for college students because the disease is easily spread. Dorm living, shared bathrooms, crowded events, and sharing food and drinks are all catalysts for spreading the bacteria. Since the spring of 2013, meningitis B outbreaks have occurred on 5 major college campuses in the U.S.

Every year, approximately 1,000 Americans contract meningococcal disease, a rare but deadly disease. 1 in every 10 cases prove fatal and 2 out of every 10 cases will suffer from permanent disabilities, such as brain damage, loss of limbs, hearing loss and/or other serious impacts to the nervous system. Many young people have been vaccinated for meningitis serogroups A,C,W and Y, but not for serogroup B.

<INSERT UNIVERSITY> urges its students to get vaccinated against meningitis B at one of the following locations on or close to the <INSERT UNIVERSITY> campus:

<INSERT LOCATION(S) ON OR AROUND CAMPUS WHERE VACCINE CAN BE ADMINISTERED>

You can protect yourself from #MeningitisB by:

1. Not sharing items that have touched someone else’s mouth... like cups, cigarettes, lip gloss, bottles, etc.
2. Refraining from close contact, like kissing, coughing, and smoking with those who are ill with flu-like symptoms.
3. Getting vaccinated against meningitis B.

For more information on the “It’s More Than...” campaign, please visit:

http://generatehealthstl.org/programs/immunization/

See who is talking about MenB on Facebook and Twitter using the hashtag #Morethan
<INSERT UNIVERSITY> URGES STUDENTS THAT MENINGITIS B IS ‘MORE THAN THE FLU’ AND TO GET VACCINATED

FOR IMMEDIATE RELEASE

<INSERT DATE>

<INSERT CITY> -- Each year, approximately 1,000 people contract meningococcal disease in the United States. The Centers for Disease Control (CDC) has found that among those who become infected, 1 in every 10 cases prove fatal and 2 out of every 10 cases will suffer from permanent disabilities, such as brain damage, loss of limbs, hearing loss and/or other serious impacts to the nervous system. Since the spring of 2013, meningitis B outbreaks have occurred on five major college campuses in the U.S.

This fall, <INSERT UNIVERSITY> is linking up with the ‘MORE THAN...’ campaign – a statewide effort to educate parents and students about the benefits of the meningitis B vaccination, and to make it easy to obtain the important protection needed while in college. Most students have been vaccinated against several strains of meningitis, but not meningitis B – a strain that accounts for 50 percent of all cases in persons 17 to 23 years of age in the U.S. Until recently, there was no vaccine to combat the B strain of meningitis.

The meningitis B vaccine is critically important for college students, those who are some of the most likely to contract the disease. Dorm living, shared bathrooms, crowded events, sharing food and drinks are all catalysts for spreading the bacteria. With college students potentially the most at risk, preventing meningitis is a top priority at <INSERT UNIVERSITY>.

<INSERT UNIVERSITY> urges its students to get vaccinated against meningitis B at one of the following locations close to the <INSERT UNIVERSITY> campus:

<INSERT LOCATION(S) ON OR AROUND CAMPUS WHERE VACCINE CAN BE ADMINISTERED>

For more information on the “It’s More Than...” campaign, please visit:

http://generatehealthstl.org/programs/immunization/

See who is talking about MenB on Facebook and Twitter using the hashtag #Morethan
SOCIAL MEDIA TIPS

* Always check with your University or College media and marketing staff before posting these materials to your social media accounts.

* Your University posts can also contain links to news articles as new meningitis stories are published. Check out the “Media Coverage and Personal Stories” section for links to news articles. Articles will be updated as they are published on our campaign website at: www.generatehealth.org/programs/immunization

* Add one of our .png images shown in the “Handouts and Posters” section of this toolkit. Feel free to add your own university logo to the images. Downloads are available at www.generatehealth.org/programs/immunization

* Add a picture of your school mascot!
TEMPLATE SOCIAL MEDIA POSTS

Recommended Hastags:

- #morethan
- #getvaccinated
- #MeningitisB
- #MenB
- #getvaxxed

Twitter:

<INSERT SCHOOL MASCOT/NICKNAMES>: #MeningitisB is #morethan the flu. 1/10 young adults who contract meningitis will die

<INSERT SCHOOL MASCOT/NICKNAMES>: #MeningitisB is #morethan a hangover. 2/10 young adults who get meningitis suffer brain damage and limb amputation

<INSERT SCHOOL MASCOT/NICKNAMES>: #MeningitisB is #morethan a kiss. Meningitis is spread through saliva and can kill in 24-48 hours #getvaccinated

<INSERT SCHOOL MASCOT/NICKNAMES>: #MeningitisB is #morethan sharing a drink. Meningitis is spread through saliva and can kill in 24-48 hours #getvaccinated

<INSERT SCHOOL MASCOT/NICKNAMES>: Kick off the semester with the #meningitisB vaccine available at the <INSERT UNIVERSITY STUDENT HEALTH CENTER> It’s #morethan the flu!

#DYK: #MeningitisB is the most common strain of meningitis? 50% of all cases of life-threatening meningitis are serogroup B. It’s #morethan the flu!

<INSERTSCHOOLMASCOT/NICKNAMES>: the CDC recommends the #meningitisB vaccination for anyone ages 16 to 23. Have you been vaccinated? #morethan
Facebook:

Did you know the MCV4 meningitis vaccination for high schoolers does not vaccinate you against #meningitisB? Meningitis B accounts for 50% of all cases in persons 17 to 23 years of age in the U.S. Meningitis B is #morethan the flu. #getvaccinated

Attention <INSERT SCHOOL MASCOT >! 18-24 year olds are at risk for contracting #MeningitisB, which is much #morethan the flu! Know the signs and symptoms: fever, headache, nausea or vomiting, and stiff neck. Get your vaccination at the <INSERT UNIVERSITY STUDENT HEALTH CENTER or WALGREENS LOCATION>! #getvaccinated.

The CDC recommends that anyone ages 16 to 23 get the #meningitisB vaccine. Have you been vaccinated yet? <INSERT SCHOOL MASCOT> has! Get your vaccine at the <INSERT UNIVERSITY STUDENT HEALTH CENTER or WALGREENS LOCATION>! #morethan (picture of mascot)

Instagram:

Since Spring 2013, #meningitisB outbreaks occurred on 5 major college campuses. To get your meningitis b vaccine visit, <INSERT UNIVERSITY STUDENT HEALTH CENTER or WALGREENS LOCATION>! It’s #morethan the flu.

Did you know the most common strain of meningitis is #meningitisB and college students are among the most likely to contract it? Meningitis is #morethan a hangover, get vaccinated like <INSERTSCHOOLMASCOT> did!

College students are the most likely to contract #meningitisB – yet very few are vaccinated. Have you gotten your vaccine yet? It’s #morethan the flu, it’s #MenB.
Social Media Images,
Handouts, and Posters

“IT’S MORE THAN...”
SOCIAL MEDIA IMAGES, HANDOUTS, AND POSTERS

This section contains infographics, graphics for social media and postcard templates. These images are available in .png and .pdf formats on our website at:

www.generatehealthstl.org/programs/immunization.

Use of the Materials in this Section:

1. Add these images to a post about Meningitis on your Facebook, Twitter, or Instagram account.

2. Use .png image files to print large posters. Hang the posters in areas where students study, work, and play. Posters are easily seen in areas like the library, dorms, cafeteria, and/or student health center.

3. Print handouts for students using the downloadable image files on our website.

4. Send postcards to parents and students before the start of the semester, reminding them to get vaccinated before the semester begins.
MENINGOCOCCAL DISEASE CAN BE DEADLY

1 in 10 people who get it die

UP TO 2 IN 10 SUFFER FROM PERMANENT COMPLICATIONS

- brain damage
- kidney damage
- deafness
- limb loss

EARLY SYMPTOMS:
Often mistaken for flu or other less serious illnesses

SYMPTOMS USUALLY PROGRESS FAST!
High fever, headache, stiff neck, confusion, nausea, vomiting, exhaustion, purplish rash, and death can happen in as little as 1-2 days

WHAT INCREASES YOUR RISK OF MENINGOCOCCAL DISEASE?

16+ Being an adolescent or young adult (16-23 years old), whether you’re in college or not

Spending time in large groups (from parties to dorms)

Participating in behaviors like kissing or sharing drinks (where saliva is shared)

TWO KINDS OF VACCINES PREVENT AGAINST MENINGOCOCCAL DISEASE

MenB is the most common cause of disease in adolescents and young adults*

MenB VACCINE

MenACWY VACCINE

*Cases in 11-24 year olds in the US by meningococcal type (2009-2013)

Visit nfid.org/meningococcal to learn more about vaccines to prevent meningococcal disease

Generate Health | IT’S MORE THAN | http://generatehealthstl.org/programs/immunization
IT'S MORE THAN THE FLU

Meningitis B is a life-threatening illness
BUT it can be prevented

SIGNS AND SYMPTOMS

- Vomiting
- Drowsiness
- Fever
- Stiff Neck
- Headache

HOW IT SPREADS

- Sharing Drinks
- Kissing
- Locker Rooms

MENINGITIS B IS THE MOST COMMON FORM OF MENINGITIS IN THE UNITED STATES.
AFTER CONTRACTING THE DISEASE YOU COULD BE DEAD IN 24-48 HOURS.

ASK ABOUT THE MCV4 & MEN B VACCINES AT YOUR STUDENT HEALTH CENTER

WWW.GENERATEHEALTHSTL.ORG/PROGRAMS/IMMUNIZATION

Generate Health | IT'S MORE THAN | http://generatehealthstl.org/programs/immunization
OPTION 1

IT'S MORE THAN A HANGOVER

GET VACCINATED FOR MENINGITIS B TODAY AT YOUR UNIVERSITY'S HEALTH CENTER

OPTION 2

IT'S MORE THAN A HANGOVER

GET VACCINATED FOR MENINGITIS B TODAY AT YOUR UNIVERSITY'S HEALTH CENTER

OPTION 3

IT'S MORE THAN THE FLU

GET VACCINATED FOR MENINGITIS B TODAY AT YOUR UNIVERSITY'S HEALTH CENTER

OPTION 4

IT'S MORE THAN THE FLU

GET VACCINATED FOR MENINGITIS B TODAY AT YOUR UNIVERSITY'S HEALTH CENTER

OPTION 5

IT'S MORE THAN A KISS

GET VACCINATED FOR MENINGITIS B TODAY AT YOUR UNIVERSITY'S HEALTH CENTER

OPTION 6

IT'S MORE THAN A KISS

GET VACCINATED FOR MENINGITIS B TODAY AT YOUR UNIVERSITY'S HEALTH CENTER

Generate Health | IT'S MORE THAN | http://generatehealthstl.org/programs/immunization
IT'S #MORETHAN A HANGOVER
#GETVACCINATED FOR
#MENINGITIS B

IT'S #MORETHAN THE FLU
#GETVACCINATED FOR
#MENINGITIS B

IT'S #MORETHAN A KISS
#GETVACCINATED FOR
#MENINGITIS B
POSTCARD OPTIONS FOR PARENTS & STUDENTS

FRONT OPTION A

IT'S MORE THAN A KISS
GET VACCINATED FOR MEASLES & TODAY AT YOUR UNIVERSITY'S HEALTH CENTER

FRONT OPTION B

IT'S MORE THAN A HANGOVER
GET VACCINATED FOR TODAY AT YOUR UNIVERSITY'S HEALTH CENTER

FRONT OPTION C

IT'S MORE THAN THE FLU
GET VACCINATED FOR MEASLES & TODAY AT YOUR UNIVERSITY'S HEALTH CENTER

FRONT OPTION D

IT'S MORE THAN A KISS
GET VACCINATED FOR MEASLES & TODAY AT YOUR UNIVERSITY'S HEALTH CENTER

FRONT OPTION E

IT'S MORE THAN A HANGOVER
TALK TO YOUR PROVIDER ABOUT MEASLES IMMUNIZATION BEFORE THE SEMESTER BEGINS
Students living in close quarters, like college dorms, are at highest risk for catching #MeningitisB. Recent outbreaks have occurred on 5 college campuses in the U.S. Know the risks and talk to your doctor about the #MenB vaccine before the semester begins. It’s #MoreThan the flu.

1 in 10 young adults who contract #MeningitisB will die.

www.generatehealthstl.org/programs/immunization

These materials were created by Generate Health "It’s More Than" campaign for use by partnering universities and colleges.
Media Coverage and Personal Stories

“IT’S MORE THAN...”

http://generatehealthstl.org/programs/immunization/
For the first time in 10 years, a new vaccine has been added to the requirements for Missouri schoolchildren. Students entering the eighth and 12th grades will need to have a meningococcal vaccine before school starts this fall.

Meningococcal disease causes meningitis, a highly contagious bacterial disease that starts with flulike symptoms of fever, fatigue and body aches but can escalate quickly to swelling of the brain and spinal cord. It can cause nerve damage and loss of limbs, and leads to death in 10 percent to 15 percent of patients. The disease can be treated with antibiotics if caught early, but the vaccine is the best way to prevent it.

With the new rule, Missouri joins a majority of states that have adopted the recommendations of the Centers for Disease Control and Prevention and the American Academy of Pediatrics.

In the last decade, there have been an estimated 162 cases of meningococcal disease in Missouri and 23 deaths, according to the state health department. Between 1,000 and 2,600 Americans are infected each year.

“By requiring the meningococcal vaccination, we will help prevent deaths and life-long consequences for individuals contracting the disease,” said Ryan Hobart, a spokesman for the Missouri Department of Health and Senior Services, which implemented the new rule.

Teenagers and college students living in close quarters are high risk groups for meningitis. The bacteria are primarily spread through the exchange of airway secretions and saliva through kissing or sharing cups, utensils or cigarettes.

“One once young people start gathering together, you want to vaccinate them when they’re first entering this high-risk age,” said Dr. Edwin Anderson, professor of infectious diseases at St. Louis University. “If we can prevent one serious illness or one death then I think we ought to use it.”

Missouri added the meningitis vaccine requirement for public university students before the 2015-2016 school year. Illinois has required the vaccine for public university students since 2002. The vaccine costs about $125 and is fully covered by most insurance plans or government programs for low-income families.

Though private universities are not covered under the state laws, Lindenwood and Fontbonne universities do require the meningitis vaccine for students. Freshmen living in St. Louis University dorms need to get the vaccine or sign a waiver acknowledging the risks.

Washington University mandated the meningitis vaccine last year. Freshman Emily Benatar died of bacterial meningitis in 2012. Alan Glass, director of student health services at Washington University, said they had 100 percent compliance in the first year of requiring the vaccine for entering freshmen.

A rarer strain of meningitis B not covered by the required vaccine has caused outbreaks at several colleges in recent years, including a current outbreak at Rutgers University in New Jersey. A meningitis B vaccine was rushed through the approval process for students at those colleges but lacks enough data for full CDC recommendation.

The kindergarten-through-12th-grade vaccination requirements in Missouri cover all students in public and private schools. The last vaccine added was for chicken pox in 2005. Medical and religious exemptions are available, but those students will be removed from schools if
There are 400 students with vaccine exemptions in the St. Louis Public Schools, said Surilla Shaw, the district’s school nurse coordinator. The district sent out notices to parents about the new requirement for meningococcal vaccines.

Public health departments are preparing for an influx of students needing the vaccine, said Theresa Turnbull, immunization program manager for the St. Charles County Department of Public Health.

“It is a very serious disease and that’s what I’d like to get across to parents,” she said.
MU student diagnosed with rare type of meningitis


By Alyssa Salela
Feb 25, 2015

COLUMBIA — During a weekend at home in mid-February, MU freshman Shelbi Basler began experiencing flu-like symptoms. Then she began to have a headache, a pain worse than she could even describe. The trip home to the St. Louis area turned into three days in the intensive care unit, another week in the hospital and at least two weeks at home.

Basler was diagnosed with meningococcal B meningitis, an illness so unusual in Missouri that doctors may see only one case per year.

"On the first night, they did not know if I was going to make it," Basler said.

Meningococcal vaccines, which protect against most types of this bacterial illness, are required for all residents of university-owned housing at MU. Although Basler lives in a residence hall and received the vaccine, it protects only against four of the five main strains that cause the disease, said Michael Cooperstock, pediatric infectious disease specialist at MU Women's and Children’s Hospital.

There has been no vaccine for this type of meningitis because a coating on the bacteria is similar to the human cell, making a traditional vaccine impossible because the body will not make antibodies against itself, Cooperstock said.

“You have to find other targets for the vaccine to work against,” Cooperstock said.

Vaccine manufacturers have used a method called reverse vaccinology. The conventional approach to creating vaccines is to cultivate pathogens, but with reverse vaccinology, scientists use genomic information to study vaccine development, according to the National Institute of Health.

This decreases the time needed to identify candidate vaccines and provide new solutions for those vaccines.

Two new vaccines have been created to help protect against meningococcal B meningitis. Both have been approved by the FDA for use in people ages 10-25, but they have not been widely
...recommended for the public by the Centers for Disease Control and Prevention’s Advisory Committee on Immunization Practices.

The committee will meet this week in Atlanta to discuss a possible recommendation for the new vaccines.

Cooperstock said he had not heard about Basler’s case, but if it is a single case, then the disease is still uncommon and the vaccines may not be critical.

“We always worry about it, but in Missouri, I don’t see an urgency,” Cooperstock said. "It is at a low level historically. Right now there is not a need to jump ahead of the proper vaccination testing procedure."

Cooperstock said a vaccine has been used in outbreak situations of the B strain and has been effective. However, the success so far could be due to other factors. The CDC defines an outbreak as three or more cases of the same strain within three months.

“It is not proof that it is effective, but it is proof that it did not fail,” Cooperstock said.

Meningococcemia can be fatal, evolving rapidly over the course of 12 to 24 hours. Cases are rare, however. Cooperstock estimated one case in central Missouri per year.

“We need to be on the lookout for that though,” he said. “We don’t want to miss it when we see it.”

The treatment for meningococcal meningitis is antibiotics. According to the CDC, patients may also need breathing support, medication to treat low blood pressure and wound care for damaged skin.

Basler said antibiotics made her non-contagious after 48 hours. She hopes to return to school between March 2 and March 9.

For now, she said, she is happy to be out of the hospital and recovering in her own home.
SIU student diagnosed with bacterial meningitis


by Amber Ruch, Digital Content Manager, and Brittany Jacob, Multimedia Journalist

April 25th 2017

The Southern Illinois University Carbondale student was diagnosed with bacterial meningitis on Monday, April 24 and remains in critical condition. Today we learn he is still in the hospital, but is improving.

It's a serious illness and is being considered a medical emergency for SIU's medical staff. The medical emergency alert sent to student phone is still top of mind at SIU today, and some students are more concerned than others. Reiley Duffy, a student at SIU's campus, was one of the students who was not too worried.

"I'm not really worried because one of my friends back home had meningitis before and I know what to expect with that...My best friends here got the email about the student being in one of her classes so that's the only thing I would be kind of precautions about," Duffy said.

Duffy said she will take her safety in her own hands. "I am making sure I wash my hands after using doors and handles and anything with other students like shaking hands," she said. Dr. Paul Bennett, the Medical Chief of Staff at SIU's Health Center, said washing your hands frequently is a good practice to avoid illness, but doesn't help much in this situation.

"The good news is it isn't easy to catch it. It has to be very close contact, basically a respiratory droplet – coughing, sneezing, kissing, sharing drinks, sharing cigarettes, sharing utensils, you know very very close contact," Dr. Bennett said. "So typically people that are just classroom contacts casual contact, meeting someone, talking to them, even hugging them is not a big risk."

There have already been about 20 people that have gone to the health center to be checked out. They were treated with an antibiotic called Rifampin as a preventative method. Bennett explained, "Right now we are asking anyone who thinks they might have been in contact to come in, let us talk with you. Let's evaluate your risk and what kind of exposure you may or may not have had."
According to the health center, that grad student became sick over the weekend. Monday morning his roommate called an ambulance to their apartment off campus. He was taken to the hospital where he was diagnosed. Dr. Bennett said those who contract it can get very ill.

“Typically people with bacterial meningitis, which is the most severe kind, are very sick,” Dr. Bennett said. “They often have fever, headache, light sensitivity, nausea, vomiting, neck stiffness. They are pretty sick individuals.”

The campus health officials said it can progress rapidly, so they say if you feel those symptoms, you should go to the hospital or Emergency Room as soon as possible. The Student Health Center is open from 8 a.m. to 4:30 p.m. Monday through Friday.

If symptoms develop when the health center is closed, students should go immediately to the nearest emergency room. Individuals who are not students should go to the emergency room or a primary care provider. Students who have questions or concerns, you call the health center at 618-453-3311.
Personal Story

NMA Advocates in Missouri—Evergrace Davis

Evergrace Davis’ son, Terrance, was 20-months-old when he contracted meningococcal disease, also known as bacterial meningitis. One morning, Terrance woke up with a cough and a fever. Evergrace initially thought her son had the flu, but suspected something more serious when his condition failed to improve. Evergrace took her son to the emergency room where doctors discovered he had meningococcal disease. Terrance spent two weeks in the hospital before he was well enough to go home. Thankfully, Terrance suffers no permanent disabilities and is a happy and active child. After speaking with other parents who lost their children to the disease or whose children suffer permanent disabilities, including amputations, Evergrace feels fortunate that Terrance survived without long-term health consequences.

“After I learned about the meningococcal vaccines, I had both of my daughters immunized. I encourage parents to speak with their child’s healthcare provider about immunization and determine the most appropriate approach to vaccination.”

NMA Speaker Requests can be made at the following link:
http://www.nmaus.org/about-nma/speaker-requests/
Authors and Editors: Rachel Bick, Sarah Kennedy, Rose Anderson-Rice

Date: July 25, 2017