Expert Perspectives on the Vaccination of Individuals Who Are at Increased Risk of Meningococcal Disease Due to Medical Conditions: A Podcast

What is meningococcal disease and who is at increased risk?

Meningococcal disease is caused by the bacterium *Neisseria meningitidis*

It may lead to death in 10–15% of cases even when treated,[1] and permanent complications in up to 40% of cases[2]

Individuals at increased risk include those with certain medical conditions[†]:

Functional or anatomic asplenia, including sickle cell disease

Complement component deficiencies

Human immunodeficiency virus (HIV) infection

[†]Other groups at increased risk include individuals who take complement inhibitors, microbiologists routinely exposed to *Neisseria meningitidis*; individuals exposed during an outbreak; individuals who travel to or live in countries where meningococcal disease is hyperendemic or epidemic; first-year college students living in residence halls; and military recruits.[3]

What vaccines are recommended?

There are **two vaccine types currently recommended** by the Advisory Committee on Immunization Practices (ACIP) for use among individuals who are at increased risk for meningococcal disease due to medical conditions[3]:

Quadrivalent meningococcal conjugate vaccines (**MenACWY**) provide protection against serogroups A, C, W, and Y

Recommended for individuals ≥2 months of age who have functional or anatomic asplenia, complement component deficiencies, or HIV infection

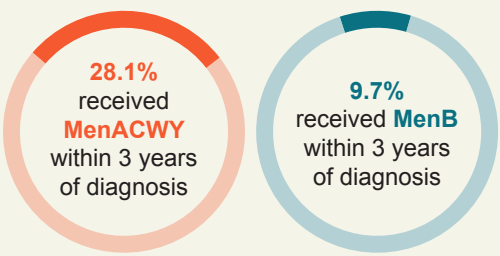
Serogroup B meningococcal vaccines (**MenB**) provide protection against serogroup B

Recommended for individuals ≥10 years of age who are diagnosed with functional or anatomic asplenia or complement component deficiencies

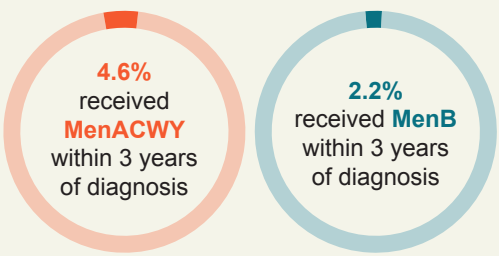
What is the current state of vaccination for individuals at increased risk due to medical conditions?

Despite current vaccine recommendations, research has shown that vaccination coverage among individuals who are at increased risk for meningococcal disease is low:

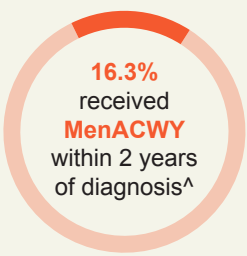
Asplenia, excluding sickle cell disease[4]:



Complement component deficiencies[5]:

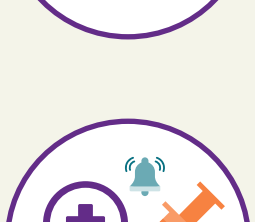


HIV[6]:



^there is currently no recommendation for MenB vaccination specifically for individuals living with HIV

How can low vaccination rates be addressed?



Improving medical education for healthcare providers

- Improving knowledge of vaccine recommendations and how they differ between **MenACWY** and **MenB** vaccines, and between routine and at-risk patient groups
- Increasing awareness of low vaccination coverage
- Tailoring medical education to the needs of particular provider types and their respective patient populations

Removing barriers to vaccine administration

- Vaccine administration at alternative sites of care
- Implementation of reminder systems tied to immunization information systems
- Bundling of preventative services and co-administering vaccines

Conclusions

- More work needs to be done to improve vaccination coverage among individuals at increased risk for meningococcal disease
- Minimizing implementation barriers and improving provider education are potential approaches to expand access and increase uptake
- Administering vaccines in alternative settings can increase accessibility

1. CDC. Meningococcal Disease: Diagnosis, Treatment, and Complications. 2020. Available from: https://www.cdc.gov/meningococcal/about/diagnosis-treatment.html. Last accessed: August 23, 2022; **2.** Shen, J; Begum, N; Ruiz-Garcia, Y *et al*. Range of Invasive Meningococcal Disease Sequelae and Health Economic Application - A Systematic and Clinical Review. BMC Public Health. 2022;22(1):1078; **3.** Mbaeyi, SA; Bozio, CH; Duffy, J *et al*. Meningococcal Vaccination: Recommendations of the Advisory Committee on Immunization Practices, United States, 2020. MMWR Recomm Rep. 2020;69(9):1–41; **4.** Ghaswalla, PK; Bengtson, LGS; Marshall, GS *et al*. Meningococcal vaccination in patients with newly diagnosed asplenia in the United States. Vaccine. 2021;39(2):272–281; **5.** Marshall, GS; Ghaswalla, PK; Bengtson, LGS *et al*. Low Meningococcal Vaccination Rates Among Patients With Newly Diagnosed Complement Component Deficiencies in the United States. Clin Infect Dis. 2022;75(1):155–158; **6.** Ghaswalla, PK; Marshall, GS; Bengtson, LGS *et al*. Meningococcal Vaccination Rates Among People With a New Diagnosis of HIV Infection in the US. JAMA Netw Open. 2022;5(4):e228573.

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