HOW THIS GUIDE WORKS:

This guide is divided up into five sections, based on five key patient profiles, with the goal of helping you help your patients make informed vaccination decisions.

Each section provides information on specific vaccine-preventable diseases for which they may be at risk and the vaccinations they should consider.
What you should know about whooping cough:

- The Centers for Disease Control and Prevention (CDC) recommends that everyone, including those around babies, should be up-to-date with their whooping cough vaccination.\(^1\),\(^2\)
- Even healthy babies can get whooping cough.\(^3\)
- Your baby could be at risk for getting whooping cough.\(^3\)

What is whooping cough?

- Whooping cough is also called pertussis. It is a disease caused by bacteria.\(^4\)
- Whooping cough is a potentially serious, highly contagious, respiratory disease that can last for weeks.\(^4\),\(^5\)

What can happen when a baby develops whooping cough?

- Infants <12 months of age are more likely to suffer from complications of whooping cough than older age groups.\(^6\)
- Complications in infants can include hospitalization, pneumonia, seizures, brain disorders, and in very rare occasions, death.\(^6\)

How whooping cough is spread:

- It is spread from person to person, usually by coughing or sneezing while in close contact with others.\(^3\)
- Your baby can catch whooping cough from someone at home.\(^1\)
- Many people, including family members, who spread whooping cough may not know that they have the disease.\(^7\)
- In one recent study of infants who contracted whooping cough, approximately 85% got it from a member of their immediate or extended family, when a source of the infection could be identified.\(^8\)

FAQ:

**Can I assume other people are vaccinated against whooping cough?**

According to the National Health Interview Survey, 20.1% of 22,867 adults, 19 years of age and older, received the Tdap vaccine from 2005 through 2014.\(^9\)
PATIENTS WITH DIABETES
PATIENTS WITH DIABETES

Vaccine to consider: Hepatitis B

What do vaccines have to do with diabetes:

- Immunizations are not just for children. Protection from some childhood vaccines can wear off over time.¹
- Diabetes, even if well managed, can make it harder for your immune system to fight infections, so you may be at risk for more serious complications from vaccine-preventable diseases compared to people without diabetes.²
- Adults with chronic conditions, such as diabetes, are more likely to develop complications, including long-term illness, hospitalization, and even death, from certain vaccine-preventable diseases.²,³

What you should know about vaccines and diabetes:

- People living with type 1 or type 2 diabetes have higher rates of hepatitis B than the general population.⁴
- Outbreaks of hepatitis B associated with assisted blood glucose monitoring procedures have happened among people with diabetes.⁴
- People living with diabetes are at increased risk for hepatitis B if they share blood glucose meters, fingerstick devices, or other diabetes-care equipment such as syringes or insulin pens.⁴
- The best way to prevent hepatitis B is by getting vaccinated. The CDC recommends hepatitis B vaccination for all unvaccinated adults with diabetes 19-59 years of age.⁴
- People with diabetes are at increased risk for death from pneumonia (lung infection), bacteremia (blood infection), and meningitis (infection of the lining of the brain and spinal cord).²

References:
PATIENTS WHO ARE 16-23 YEARS OLD
**16-23 YEARS OLD**

**16-23**

**Vaccines to consider:** Meningococcal Group B (Meningitis B), Meningococcal Groups ACWY (Meningitis ACWY)*

* ACIP recommends routine Meningococcal ACWY vaccination in appropriate individuals starting at 11-12 years of age

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### Why are vaccines important in this age range?

- Although meningococcal disease is rare, teens and young adults 16-23 years of age as well as other individuals are at increased risk of contracting the disease. Teens and young adults can help protect themselves from meningitis ACWY and B by getting meningococcal ACWY and meningococcal B vaccines. Some schools and universities have requirements or recommendations for meningococcal vaccination. Some states require students entering colleges and universities to be vaccinated against certain diseases due to an increased risk among students living in residential housing.

### What is meningococcal disease?

- Meningococcal disease is an acute, severe illness caused by the bacterium *Neisseria meningitidis*. It can lead to an infection of the lining of the brain and spinal cord (meningitis). It can also lead to bloodstream infections (bacteremia or sepsis).

### What is bacterial meningitis?

- Bacterial meningitis is one type of infection resulting from invasive meningococcal disease. The disease is a rare but life-threatening condition caused by inflammation of the protective membranes covering the brain and spinal cord. Bacterial meningitis can progress quickly and can be fatal, sometimes within 24 hours.

### What you should know about meningococcal disease:

- Meningococcal disease can strike without warning—even in people who are otherwise healthy.
- Anyone can get meningococcal disease but certain people are at increased risk, including teens and young adults 16-23 years of age.
- There are at least 13 serogroups of *Neisseria meningitidis*. Serogroups A, B, C, W, and Y have historically caused most of the meningococcal disease worldwide. Three serogroups of *Neisseria meningitidis*—B, C, and Y—are the most common illnesses in people over the age of 11 in the United States. Two different meningococcal vaccines are necessary to help protect against serogroups A, C, W, Y and serogroup B.

### What can happen when someone develops meningococcal disease?

- Even when it is treated, meningococcal disease kills approximately 10 to 15 infected people out of 100.
- Of those who survive, up to 20 out of every 100 will suffer disabilities such as hearing loss, brain damage, kidney damage, amputations, nervous system problems, or severe scars from skin grafts.

### How is the bacteria spread?

- The bacteria can be spread from person to person through close contact such as coughing, sneezing, or kissing.
- Teens and young adults who live in close quarters, such as schools, dormitories, or military barracks, may be at an increased risk.

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**References:**

PATIENTS TRAVELING ABROAD
PATIENTS TRAVELING ABROAD

Vaccines to consider: Hepatitis A (HAV), Hepatitis B (HBV), Meningococcal Groups ACWY (Meningitis ACWY)

What do vaccines have to do with travel?
- Health risks for travelers are higher in developing countries and rural areas because of differences in sanitary conditions, available food and water sources, and immunization coverage.¹
- Immunization is one of the best forms of protection for all travelers. Some vaccine-preventable diseases rarely seen in the United States are still prevalent in other parts of the world.¹
- In addition to travel-related vaccines, the CDC advises you to make sure you are up-to-date with all routine vaccinations before you travel.¹
- Your risk of becoming ill while traveling depends in part on where you are traveling, the length of stay, activities while traveling, your health, and your vaccine history.

Hepatitis A

What you should know about hepatitis A:
- Hepatitis A is among the most common vaccine-preventable infections acquired during travel.²
- Some experts advise people traveling outside the United States to consider hepatitis A vaccination regardless of their destination.²
- Hepatitis A vaccine can help prevent hepatitis A.³

What is hepatitis A?
- Hepatitis A is a serious liver disease caused by the hepatitis A virus (HAV).³
- Hepatitis A infection can cause “flu-like” illness and jaundice (yellow skin or eyes, dark urine).³

What can happen when someone develops hepatitis A?
- People with hepatitis A often have to be hospitalized (about 1 out of 5 people).⁴
- Most people who get hepatitis A feel sick for several months.⁵
- Although rare, hepatitis A can cause liver failure and even death.⁵

How is hepatitis A spread?
- It is usually spread by close personal contact (sexual or household) with a person infected with the hepatitis A virus or ingestion of food, water, or other substance contaminated with the hepatitis A virus.⁵
- A person who has hepatitis A can easily pass the disease to others within the same household.⁴

Hepatitis B

What you should know about hepatitis B:
- All unvaccinated adults at risk for hepatitis B infection should be vaccinated. This includes people who travel to countries where hepatitis B is common.⁵
- Hepatitis B vaccine can help prevent hepatitis B and the serious consequences of hepatitis B infection, including liver cancer and cirrhosis, secondary to chronic hepatitis B infection.⁶

What is hepatitis B?
- Hepatitis B is a serious infection that affects the liver. It is caused by the hepatitis B virus.⁶

What can happen when someone develops hepatitis B?
- Hepatitis B can cause acute (short-term) illness leading to: loss of appetite, tiredness, pain in muscles, joints, and stomach, diarrhea and vomiting, and jaundice (yellow skin or eyes, dark urine).⁶
- Some people go on to develop chronic hepatitis B infection. Most of them do not have symptoms, but the infection is still very serious and can lead to liver damage (cirrhosis), liver cancer, and death.⁶
PATIENTS TRAVELING ABROAD (cont’d)

Vaccines to consider: Hepatitis A (HAV), Hepatitis B (HBV), Meningococcal Groups ACWY (Meningitis ACWY)

**Hepatitis B (cont’d)**

**How is hepatitis B spread?**
- Hepatitis B virus is spread through contact with the blood or other body fluids of an infected person.\(^6\)
- People can also be infected from contact with a contaminated object, where the virus can live for up to 7 days.\(^7\)

**Meningococcal Disease**

**What is meningococcal disease?**
- Meningococcal disease is an acute, severe illness caused by the bacterium *Neisseria meningitidis*. It can lead to an infection of the lining of the brain and spinal cord (meningitis). It can also lead to bloodstream infections (bacteremia or septicemia).\(^8\)

**What is bacterial meningitis?**
- Bacterial meningitis is one type of infection resulting from invasive meningococcal disease. The disease is a rare but life-threatening condition caused by inflammation of the protective membranes covering the brain and spinal cord.\(^9\) Bacterial meningitis can progress quickly and can be fatal, sometimes within 24 hours.\(^10\)

**What should you know about meningitis?**
- Meningitis ACWY vaccination is recommended for certain groups of people including anyone traveling to, or living in a part of the world where meningococcal disease is common, such as parts of Africa.\(^11\)
- Meningococcal disease often strikes without warning—even in people who are otherwise healthy.\(^12\)

**What can happen when someone develops meningococcal disease?**
- People with meningococcal disease can suffer disabilities such as hearing loss, brain damage, kidney damage, amputations, nervous system problems, or severe scars from skin grafts.\(^12\)

**How is the bacteria spread?**
- The bacteria can be spread from person to person through close contact such as coughing, sneezing, or kissing.\(^13\)

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**FAQ:**

Are there other vaccines you should consider based on travel?
For the latest travel vaccine recommendations, please visit:

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**References:**

PATIENTS CONSIDERING A NEW TATTOO OR PIERCING
What do vaccines have to do with getting tattoos and piercings?

- Hepatitis B virus is transmitted by contact with contaminated blood, blood products, and other body fluids. Poor infection control during tattooing or piercing could lead to infection with hepatitis B virus.¹

What is Hepatitis B?

- Hepatitis B is a serious infection that affects the liver. It is caused by the hepatitis B virus.²

What can happen when someone develops hepatitis B?

- Hepatitis B can cause acute (short-term) illness leading to: loss of appetite, tiredness, pain in muscles, joints, and stomach, diarrhea and vomiting, and jaundice (yellow skin or eyes, dark urine).²
- Some people go on to develop chronic hepatitis B infection. Most of them do not have symptoms, but the infection is still very serious and can lead to liver damage (cirrhosis), liver cancer, and death.²

How is hepatitis B spread?

- Hepatitis B virus is easily spread through contact with the blood or other body fluids of an infected person.²
- People can also be infected from contact with a contaminated object, where the virus can live for up to 7 days.³
- The hepatitis B virus has been found to survive for more than a week in dried blood.⁴

References: