Vector-Borne Illnesses and Pregnancy: What Patients and Their Families Need to Know

Society for Maternal•Fetal Medicine
High-risk pregnancy experts

PATIENT EDUCATION SERIES

During pregnancy, it's important to be extra cautious about certain health risks, including illnesses spread by insect bites. These illnesses may not be common everywhere, but travel, seasonal changes, and climate shifts can increase your chances of exposure. Some infections can be more serious during pregnancy.

What are vector-borne illnesses?

Vector-borne illnesses are diseases that spread through bites of infected insects, such as mosquitoes, ticks, biting flies, or fleas. These insects pick up viruses or bacteria and pass them to people when they bite.

What vector-borne illnesses should I be aware of during pregnancy?

Several vector-borne illnesses can affect pregnant women, especially in certain parts of the world:

- **Dengue virus** is spread through the bite of infected *Aedes* mosquitoes. It is common in tropical and subtropical regions and is one of the most common vector-borne illnesses worldwide. It can cause a high fever, body aches, and in severe cases, bleeding and hospitalization.
- **Zika virus** is also carried by *Aedes* mosquitoes. In addition, it can be passed through sexual contact and from mother to fetus. Most people have mild symptoms or none at all, but Zika during pregnancy can cause serious birth defects.
- **Oropouche virus** is spread through the bites of tiny flies called midges. It is found in South and Central America and the Caribbean. The virus causes symptoms like fever, headache, and joint pain.
- **Chikungunya virus** is also spread through the bite of an infected *Aedes* mosquito. It causes fever and severe joint pain that may last for weeks or months.

What is my risk of getting a vector-borne illness?

Vector-borne illnesses are transmitted anywhere in the world where biting insects are active, especially in warmer climates and during the warmer seasons. In the United States, your risk is higher during spring, summer, and early fall, especially in states and jurisdictions with warmer climates, such as Florida, Texas, Southern California, Arizona, Hawaii, Puerto Rico and the US Virgin Islands. The risk also increases when traveling to tropical climates where these illnesses are more common, including Central America, South America, the Caribbean, parts of Africa, and South/Southeast Asia.

But because of more travel and changes in the climate, some of these diseases are now found in areas where they weren't seen before. Also, since *Aedes* mosquitoes can carry more than one virus, it's possible to be infected with multiple illnesses at the same time or at different times in your life.

Can a vector-borne illness affect my pregnancy?

Yes. Some vector-borne illnesses can lead to serious health problems during pregnancy. For example, dengue infection may increase the risk of hospitalization, heavy bleeding, or the need for intensive care. Other illnesses, like chikungunya and zika, are usually milder but can still cause symptoms such as fever, joint pain, or fatigue, which may contribute to pregnancy complications. Depending on the illness, risks may include preterm birth, low birth weight, stillbirth, or other delivery-related concerns.

Can a vector-borne illness affect the fetus?

Yes. Many vector-borne illnesses can be passed from the pregnant woman to the fetus. This is called a **congenital infection**. In some cases, these infections can lead to birth defects. For example, Zika virus has been linked to **microcephaly**, a condition where the fetal brain is smaller than normal. This can cause long-term problems with brain development, as well as hearing and visual impairment and **cognitive disorders**.

The risk of birth defects and their severity can vary depending on specific illnesses and the stage of pregnancy when the infection occurred. For more information, you can visit the Centers for Disease Control and Prevention (CDC) resources on Chikungunya, Dengue, Oropouche, and Zika viruses.

Are there vaccines for these infections and can I get them during pregnancy?

Currently, there are no vaccines available to prevent illness caused by the Oropouche and Zika virus. The vaccine against dengue, *Dengvaxia*, is not available in the United States, and it is **not** recommended during pregnancy. Due to low global demand, the manufacturer plans to stop making *Dengvaxia* in late 2026.

There are two vaccines approved to prevent Chikungunya virus in the United States: a **live-attenuated vaccine** (called IXCHIQ) and a **virus-like particle vaccine** (called VIMKUNYA). These vaccines are generally not recommended during pregnancy but may be an option after delivery or in situations where the risk of infection is high. New recommendations for the VIMKUNYA vaccine during pregnancy and breastfeeding are currently under review. You can talk to your healthcare provider if getting vaccinated after pregnancy is right for you, especially if you live in or plan to travel to areas where chikungunya is common.

What can I do to protect myself against vector-borne illnesses?

Take the following precautions to protect yourself against the bites of disease-carrying vectors:

Before Travel

- When making international travel plans, visit the CDC's Travel Destinations List to see whether travel preparations are recommended for your destination of interest.
- Avoid nonessential travel to high-risk areas for vector-borne illnesses. Check out the CDC's Travel Health Notices for the latest information.
- Use the CDC's Pregnant Travelers Page for general preparation tips.

During Travel

- Wear long sleeves and long pants when outdoors.
- Apply Environmental Protection Agency (EPA) registered insect repellents to skin and clothing.
- Avoid outdoor activity during dusk and dawn when mosquitoes are most active.
- Minimize exposure to open water sources outside and at home, which are breeding grounds for vectors.
- Keep your doors or windows closed or utilize fans, mosquito nets, or mesh screens on windows and doors to prevent contact with vectors.

After Travel

- If you develop any symptoms, such as a fever, headache, joint pain, or rash, see a healthcare provider as soon as possible.

What insect repellents are recommended during pregnancy?

One way to protect yourself is to use EPA-registered insect repellents. These repellents are both safe and effective, even during pregnancy. Look for products that contain:

- N, N-diethyl-meta-toluamide (DEET)
- Oil of lemon eucalyptus
- Picaridin
- Para-menthane-diol
- IR353

You may see natural products like wristbands, lotion, patches, or candles that use essential oils (such as peppermint, citronella, rosemary, or lemongrass). While these may seem like safer options, they are not EPA-registered and haven't been proven to protect against mosquito-borne disease.

Since vaccines are not available for all vector-borne illnesses, protecting yourself during pregnancy can also include avoiding nonessential travel. Before booking your trips, make sure to check the CDC's Travel Health Notices, which can inform you of areas to avoid traveling to.

Quick Facts

- Vector-borne illnesses are infections spread by insect bites, such as mosquitoes, ticks, and flies.
- Vector-borne illnesses are more common in tropical and subtropical areas, including parts of Central and South America, the Caribbean, Africa, South/Southeast Asia, and some parts of the southern United States.
- Some vector-borne illnesses can cause serious health problems during pregnancy, may pass from the pregnant woman to the fetus, and can lead to birth defects.
- There are currently no vaccines for Zika or Oropouche virus, and dengue and chikungunya vaccines are generally not recommended during pregnancy.
- You can reduce your risk by using EPA-registered insect repellent, wearing long sleeves and pants, and avoiding travel to high-risk areas.

Glossary

Congenital infection: An infection that a baby is born with, which was passed from the pregnant woman to the baby during pregnancy.

Cognitive disorders: Health conditions that affect how a person thinks, learns, remembers, or solves problems.

Live-attenuated vaccine: A vaccine that contains a weakened form of the virus or bacteria that causes a disease.

Microcephaly: A condition where a baby's head is smaller than normal, which can happen because the brain did not grow properly during pregnancy or stopped growing after birth.

Virus-like particle vaccine: A vaccine that contains a particle that looks like the virus that causes a disease but does not cause infection.

This resource was supported by the Society for Maternal-Fetal Medicine (SMFM) and the Centers for Disease Control and Prevention (CDC) cooperative agreement *CDC-RFA-DD-23-0004 Enhancing Partnerships to Address Birth Defects, Infant Disorders and Related Conditions, and the Health of Pregnant and Postpartum People*. The views expressed by the authors do not necessarily reflect the official policies of the Department of Health and Human Services nor represent an endorsement by the U.S. Government.

Last updated: August 2025