ACAM2000® Smallpox Vaccine

This sheet is about exposure to the ACAM2000® smallpox vaccine in pregnancy and while breastfeeding. This information is based on available published research. It should not take the place of medical care and advice from your healthcare provider.

What is the ACAM2000®smallpox vaccine?

The ACAM2000® vaccine helps protect against smallpox, mpox, and other diseases caused by orthopoxviruses. The vaccine helps the body's immune system learn how to protect itself (make antibodies) against these viruses (orthopoxviruses) in general.

ACAM2000® does not contain live virus that could cause smallpox or mpox. However, this vaccine does contain a live virus from the orthopoxvirus family called vaccinia virus.

ACAM2000® can be given before or after exposure to an orthopoxvirus to help prevent illness or reduce symptoms. It is given as a single dose with a special kind of needle that makes multiple skin pricks on a small area. The area forms a small wound or lesion that may take up to 6 weeks to fully heal. During that time, the lesion must stay covered since vaccinia virus can spread from this area to other parts of the body or to other people before the lesion is fully healed.

Since ACAM2000® contains live vaccinia virus, there is a small chance that getting the vaccine could cause illness in certain people. The Centers for Disease Control and Prevention (CDC) does not recommend ACAM2000® for most women who are pregnant or breastfeeding, have weakened immune systems or certain underlying health conditions, or for those who live with or have close contact with these groups of people.

When there is a chance of being exposed to the virus that causes smallpox or another orthopoxvirus, it is important to continue taking steps to avoid exposure even after being vaccinated. The CDC has information on smallpox here: https://www.cdc.gov/smallpox/about/index.html and on mpox here: https://www.cdc.gov/mpox/. MotherToBaby has a fact sheet about mpox in pregnancy and breastfeeding at https://mothertobaby.org/fact-sheets/mpox/.

Is the ACAM2000® vaccine recommended for women who are pregnant?

ACAM2000® is not recommended for most women who are pregnant during non-emergency situations. This is because of the very rare chance of a serious infection in the developing baby called fetal vaccinia.

ACAM2000® is also not recommended for those who live with or have close contact with women who are pregnant. Another type of mpox/smallpox vaccine, called JYNNEOS™, is available in the United States that is not associated with fetal vaccinia. You can read more about JYNNEOS™ on the MotherToBaby fact sheet at https://mothertobaby.org/fact-sheets/mpox-smallpox-vaccine-jynneos/. Talk with your healthcare provider about what vaccine is right for you.

Does getting the ACAM2000® vaccine make it harder to get pregnant?

Studies have not been done to see if ACAM2000® can make it harder to get pregnant.

I just got the ACAM2000® vaccine. How long do I need to wait before I get pregnant?

To avoid the chance of fetal vaccinia, it has been recommended to wait 4 to 6 weeks after getting ACAM2000®, and until the lesion from the vaccine has fully healed, before trying to get pregnant.

Does getting the ACAM2000® vaccine increase the chance of miscarriage?

Miscarriage is common and can occur in any pregnancy for many different reasons. The ACAM2000® vaccine itself is not associated with an increased chance of miscarriage. However, cases of fetal vaccinia have been associated with miscarriage.

Does getting the ACAM2000® vaccine increase the chance of birth defects?

Birth defects can happen in any pregnancy for different reasons. Out of all babies born each year, about 3 out of 100 (3%) will have a birth defect. We look at published data to try to understand if an exposure, like the ACAM2000®

vaccine, might increase the chance of birth defects in a pregnancy.

Information on pregnancies accidentally exposed to live virus smallpox vaccines does not suggest an increased chance for birth defects. This information includes women who received the vaccine before they knew they were pregnant or conceived within 4 weeks of getting the vaccine.

Fever is a possible side effect of the ACAM2000® vaccine. A high fever in the first trimester can increase the chance of certain birth defects. Acetaminophen is usually recommended to reduce fever during pregnancy. For more information about fever and pregnancy, see the MotherToBaby fact sheet about fever/hyperthermia at https://mothertobaby.org/fact-sheets/hyperthermia-pregnancy/.

Does getting the ACAM2000® vaccine in pregnancy increase the chance of other pregnancy-related problems?

The ACAM2000® vaccine itself is not expected to increase the chance of pregnancy-related problems, such as preterm delivery (before 37 weeks of pregnancy) or low birth weight (weighing less than 5 pounds, 8 ounces (2500 grams) at birth). However, cases of fetal vaccinia have been associated with stillbirth, preterm delivery, and infant death. Infants who survive fetal vaccinia can have scars on the skin from the pox marks caused by the virus.

Does getting the *ACAM2000® vaccine* in pregnancy affect future behavior or learning for the child?

Studies have not been done to see if ACAM2000® affects future behavior or learning for the child.

Does getting ACAM2000® during pregnancy protect the baby from mpox after delivery?

It is not known if getting the ACAM2000® vaccine during pregnancy would protect the baby from mpox after delivery.

Breastfeeding and the ACAM2000® vaccine:

Studies have not been done to see if ACAM2000® passes into breast milk. However, a vaccinated woman could pass the vaccinia virus to an infant through close contact until the lesion from the vaccine is completely healed. For this reason, and because another kind of mpox/smallpox vaccine is available, the CDC recommends that ACAM2000® not be given to most women who are breastfeeding. If you received the ACAM2000® vaccine and are breastfeeding or pumping, talk to your healthcare provider about the best way to feed your baby until the lesion from the vaccine is completely healed.

It is not known if the antibodies (protection) a woman makes after getting an ACAM2000® vaccine can pass through the breast milk and protect the baby against mpox.

Talk to your healthcare provider about all of your breastfeeding questions.

If a man gets the ACAM2000® vaccine, could it affect fertility or increase the chance of birth defects?

Studies have not been done in men to see if the ACAM2000® vaccine could affect fertility (ability to get a woman pregnant) or increase the chance of birth defects above the background risk.

People who get ACAM2000® could pass the vaccinia virus to others through close contact or through shared items like towels and bedding until the lesion caused by the vaccine is completely healed. If a woman who is pregnant is exposed to the virus in this way, it could increase the chance of serious complications if the baby develops fetal vaccinia. For this reason, and because another type of mpox/smallpox vaccine is available, it is generally recommended that men who live with women who are pregnant not get the ACAM2000® vaccine.

If a man does get the ACAM2000® vaccine, it is recommended to wait 4 weeks after getting the vaccine, and until the lesion from the vaccine has fully healed, before trying to get a partner pregnant. If their partner is already pregnant, they should isolate from their partner for 4 weeks after getting the vaccine, and until the lesion from the vaccine is fully healed. They should also take steps to keep their clothing, bedding, bandages, and other contaminated items away from their partner.

For more information on paternal exposures, please see the MotherToBaby fact sheet Paternal Exposures at https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/.

Please click here to view references.

Questions? Call 866.626.6847 | Text 855.999.3525 | Email or Chat at MotherToBaby.org.

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