Magnetic Resonance Imaging (MRI)

This sheet is about exposure to magnetic resonance imaging (MRI) in pregnancy and while breastfeeding. This information is based on published research studies. It should not take the place of medical care and advice from your healthcare provider.

What is magnetic resonance imaging (MRI)?

Magnetic resonance imaging (MRI) is a medical procedure used to create detailed pictures of the inside of the body to help diagnose certain diseases or conditions. During pregnancy, an MRI can create images of the pregnancy and provide healthcare providers with views of the placenta (the organ that develops in the uterus during pregnancy) and fetal organs, such as the brain, lungs, and abdomen (belly).

Unlike x-rays and computer-assisted tomography (CT) scans, MRI does not use ionizing radiation. Instead, MRI uses a strong magnetic field and radio waves to create images. A typical MRI scan takes about 20 to 90 minutes. MRIs are painless and are not expected to cause tissue damage.

MRI can be performed with or without contrast. Contrast is a special dye, usually given through a vein (IV), that helps certain organs, tissues, or blood vessels appear more clearly on MRI images. Most MRI exams during pregnancy are performed without contrast. Contrast may be used during pregnancy if the expected medical benefit outweighs the possible risks.

Can having an MRI make it harder for me to get pregnant?

It is not known if MRIs can make it harder to get pregnant.

I am pregnant. What if I need an MRI?

If you are pregnant or think you could be pregnant, tell your healthcare provider and the radiologist or MRI technologist before having an MRI. The American College of Obstetricians and Gynecologists (ACOG) and the American College of Radiology (ACR) state that MRI is not associated with known risks during pregnancy and can be performed during any trimester when medically needed. MRI should be used only when it is expected to answer an important clinical question or provide a medical benefit.

Does having an MRI increase the chance of miscarriage?

Miscarriage is common and can occur in any pregnancy for many different reasons. Studies have not been done to see if having an MRI can increase the chance of miscarriage.

Does having an MRI 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 research studies to try to understand if an exposure, like having an MRI, might increase the chance of birth defects in a pregnancy.

One study that looked at more than 1,700 pregnancies exposed to MRI during the first trimester did not find an increased chance of birth defects.

The MRI machine makes loud sounds. There has been interest in knowing if the MRI could affect fetal hearing. Several small studies have not reported hearing damage with exposure to MRI during pregnancy.

Does having an MRI increase the chance of other pregnancy-related problems?

Some studies have reported that having an MRI in pregnancy is not expected to affect the growth of a fetus. MRI has not been well-studied to see if it can increase the chance of other pregnancy-related problems, such as preterm delivery (birth before week 37 of pregnancy) or low birth weight (weighing less than 5 pounds, 8 ounces [2,500 grams] at birth).

Does having an MRI in pregnancy affect future behavior or learning for the child?

Studies have not been done to see if having an MRI during pregnancy can affect future behavior or learning for a child who was exposed during pregnancy.

Breastfeeding while having an MRI:

Since MRI uses only magnetic fields and radio waves, there is no need to stop breastfeeding after an MRI without contrast. Even when contrast is used, only a small amount passes into breast milk, and even less is absorbed by the infant. For this reason, the American College of Radiology (ACR) recommends that breastfeeding can continue as usual after a contrast-enhanced MRI and pumping and discarding breast milk is not usually necessary. Be sure to talk to your healthcare provider about all your breastfeeding questions.

If a man has an MRI, could it affect fertility or increase the chance of birth defects?

Studies have not been done to see if having an MRI could affect a man's fertility (ability to make healthy sperm) or increase the chance of birth defects. In general, exposures that fathers or sperm donors have are less likely to increase risks to a pregnancy. For more information, please see the MotherToBaby fact sheet Paternal Exposures at https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/.

Please click here for references.

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