

## Medical Imaging Tests during Pregnancy

We want you and your baby to be healthy. With this in mind, make sure you talk to your doctor if he or she has decided that you need a medical imaging test that uses radiation. Your doctor can tell you why he or she believes you need the test and the risks to your unborn child. This handout may help you decide if you want to have the imaging test done.

### What medical imaging tests use radiation?

A plain x-ray is a medical imaging test that uses radiation to make pictures of your body, such as a chest x-ray. A computed tomography scan also called a CT Scan is another type of test that uses radiation to make pictures of your body. Radiation cannot be seen, it is invisible.<sup>2</sup>

### Do all imaging tests use the same amount of radiation?

**No.** There are many types of imaging tests and each use different amounts of radiation. Plain x-rays use very small amounts of radiation. CT scans use more radiation depending on the type of CT scan.<sup>2</sup>

### How much radiation will I receive?

How much radiation you and your baby come in contact with or take into your bodies depend on the type of imaging test you are given which is measured in millirads.

Your body takes in or absorbs natural and man-made radiation. During your pregnancy, your baby may absorb about 200 millirads.<sup>3,4</sup>

Here are examples of how much radiation is used in medical imaging tests that your baby could be exposed to<sup>3,4</sup>:



**HIGH**—one CT scan of the abdomen (belly) is about 2,600 millirads.



**MEDIUM**—one CT scan of the chest is about 100 millirads.



**LOW**—one Chest x-ray is about one millirad or the same amount of radiation as 3 hours of sunshine.<sup>1</sup>



**VERY LOW**—one Dental x-ray is about 0.1 millirad or 1/10 of a millirad.



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## Other things to think about

In general, your baby is at most risk from the effects of radiation from the 4<sup>th</sup> week (1 month) to the 16<sup>th</sup> week (4 months) of pregnancy.

- ▶ Talk to your doctor or a radiation physicist if you are worried about your baby having any health problems from the radiation used in the imaging test.
- ▶ A radiation physicist measures how much radiation a patient receives from tests or treatments that use radiation. Your doctor and the radiation physicist can tell you how much radiation your baby could receive from any imaging tests you may be given.

Medical imaging tests that use radiation do not increase the overall number of babies born with birth defects. Even if you and your baby do not have any imaging tests with radiation, there is still a chance your baby will have a birth defect because 4 to 6 babies out of every 100 are born with some type of birth defect.

## Safety steps that will be taken during your medical imaging test

The technologist will place a lead shield over your belly. In most cases, he or she will keep the imaging test aimed only at the area where your body is being tested.

- ▶ A lead shield helps to block the radiation to those areas it is covering. This will reduce the amount of radiation to your unborn child.
- ▶ Other steps include having an ultrasound or a MRI (Magnetic Resonance Imaging) test. Ultrasounds and MRIs are imaging tests that do not use radiation. These other types of imaging tests are used when possible, but sometimes an imaging test using radiation is your doctor's best choice to treat you.<sup>2</sup>

<sup>1</sup> Source: "CDC Fact Sheet: CDC Radiation Emergencies: Radiation and Pregnancy. (May 2006) Online: [www.bt.cdc.gov/radiation/prenatal.asp](http://www.bt.cdc.gov/radiation/prenatal.asp)" (June 3, 2010)

<sup>2</sup> Source: Family Doctor.Org (June, 2010) Are X-rays safe during Pregnancy? Online: [www.familydoctor.org/online/famdocen/home/women/pregnancy/fetal/373.html](http://www.familydoctor.org/online/famdocen/home/women/pregnancy/fetal/373.html)

<sup>3</sup> Stabin, M.G. (December 2009). Doses from Medical Radiation Sources. Online: Health Physics Society: [www.hps.org/hpspublications/articles/dosesfrommedicalradiation.html](http://www.hps.org/hpspublications/articles/dosesfrommedicalradiation.html) (June 3, 2010)

<sup>4</sup> Dose conversion to millirad by Unicon Physics