

Changes to patient shielding during X-rays

Frequently Asked Questions (FAQs) for patients, parents and caregivers

Beginning in 2024, St. Joseph’s Healthcare Hamilton and Hamilton Health Sciences are no longer using lead aprons (also known as “shields”) on patients undergoing X-rays. This change reflects advancements in X-ray technology and healthcare safety, and aligns with changes at other leading hospitals in Canada and the US. Previously, it was believed that lead aprons were useful in covering reproductive organs (testicles and ovaries) in patients. We now know this is not the case.

We understand patients will have questions about this change and have developed the following list of FAQs. **If you have further questions or concerns, please direct them to your care team.**

If you are a patient...

<p>Why do you not shield patients with lead aprons anymore?</p>	<p>We understand that this change may be surprising for patients who are used to wearing a lead apron while having an X-ray. Over the last 70 years, science and healthcare has come a long way in using better X-ray equipment and technology, while also capturing higher-quality images. We now use much less radiation and know more about how radiation affects the human body. Importantly, some parts of the body - like the testicles and ovaries - are less sensitive to radiation than we used to think.</p> <p>Most modern imaging machines now automatically determine how much radiation to use based on the part of the body being imaged. If a shield gets in the way, it could mean an increase in radiation dose.</p>
<p>Doesn’t shielding make me safer?</p>	<p>Since we started using X-ray imaging 70 years ago, the amount of radiation used has decreased significantly, and in most imaging exams is so small that the risk to the patient is either very small or zero.</p>
<p>But what’s the harm in shielding?</p>	<p>This is a valid question, and there are a few reasons why we do not recommend shielding:</p> <ol style="list-style-type: none"> 1) A shield may cover up parts of your body that your doctor needs to see. If this happens, we may have to repeat the X-ray, which results in another dose of radiation. 2) When the reproductive organs are far away from the part of your body being imaged, there is no benefit from shielding because the radiation dose is so low.
<p>Won’t radiation exposure to my testicles or ovaries harm my future children?</p>	<p>It is valid to be concerned that radiation could damage sperm or eggs and impact future children, and luckily this has been studied extensively over the years. The good news is that there is no evidence that this is true, even for people who have been exposed to much larger amounts of radiation than what is used in medical imaging.</p>

What if I'm pregnant?

We understand patients have more questions and concerns when an unborn family member is involved. The short answer is that not shielding your belly while pregnant poses no harm to you or the baby. On the flip side, shielding your belly doesn't provide any benefit. X-ray equipment provides better information than ever before and can capture quality images using much less radiation than in the past. Placing shielding over your belly could cover up the part of your body that your doctor needs to see. If this happens, the X-ray may have to be repeated, resulting in another dose of radiation.

Will you still shield me if I want you to?

For all of the reasons mentioned above, based on evidence and improved technology, we do not recommend using lead shielding during X-rays. But, if you maintain that we use a shield in your X-ray exam, we will honour your request if it is possible to do so without compromising the exam.

If you are a caregiver...

Why is my child not shielded now?

We understand that it may be surprising to some caregivers to learn that their child will not be wearing a lead apron/shield for their X-ray. We know more about radiation now than ever before and have advanced imaging equipment and technology that uses much less radiation than in the past. Shields can cover up parts of your child's body that are important for your doctor to see. If this happens, the X-ray may have to be repeated, resulting in another dose of radiation.

Why is my child not shielded if I am required to wear a lead apron while I am in the room with them?

Your child's doctor wants an image so that he or she can better see what is going on inside your child's body. This exposes your child to a little bit of radiation. Since we started using X-ray imaging 70 years ago, the amount of radiation used has decreased significantly, and in most imaging exams is so small that the risk to the patient is either very small or zero. Your doctor has weighed the benefits and risks to your child and determined that the benefit from having the information from the image is much higher than the risk from the radiation. Because you aren't being imaged, there is no need for you to be exposed to any radiation and so we give you an apron.

My child previously had an imaging exam where shielding was used, why the change in practice?

We understand that this change may be surprising for caregivers who are used to their child wearing a lead apron while having an X-ray. Over the last 70 years, science and healthcare has come a long way in using better X-ray equipment and technology, while also capturing higher-quality images. We now use much less radiation and know more about how radiation affects the human body. Importantly, some parts of the body - like the testicles and ovaries - are less sensitive to radiation than we used to think.

Most modern imaging machines now automatically determine how much radiation to use based on the part of the body being imaged. If a shield gets in the way, it could mean an increase in radiation dose.

Can I ask for a shield for my child?

For all of the reasons mentioned above, based on evidence and improved technology, we do not recommend using lead shielding during X-rays. But, if you maintain that we use a shield in your child's X-ray exam, we will honour your request if it is possible to do so without compromising your child's exam.