mitralis
Diagnostisch Centrum

X-ray examination of the skeletal, respiratory and/or abdominal system.

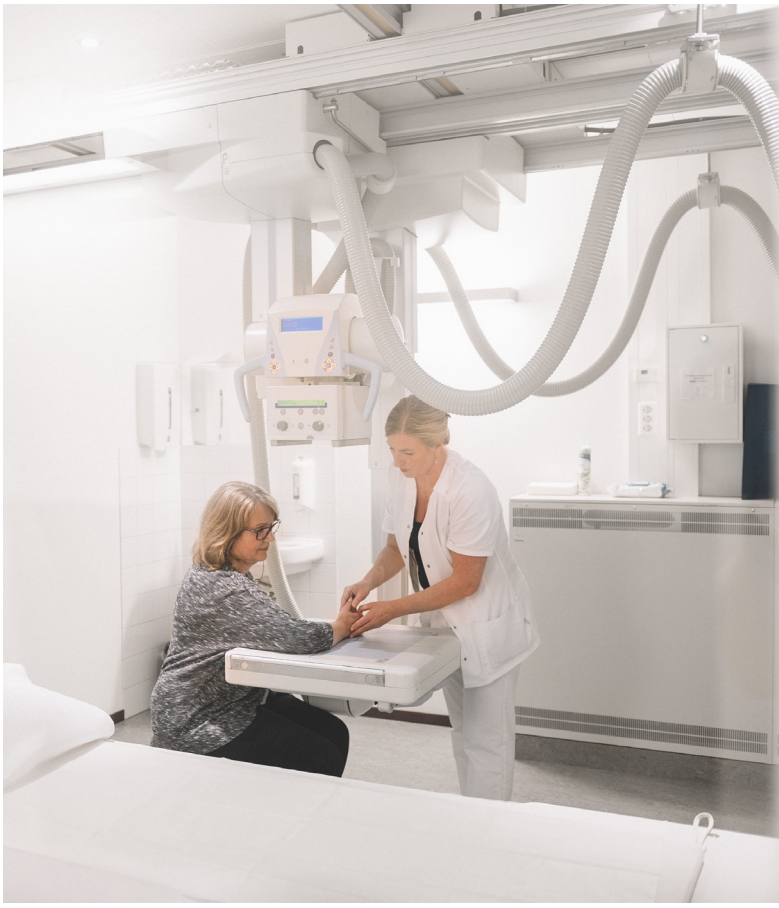
Your doctor has referred you to Mitralis Diagnostic Center for a skeletal, respiratory and/or abdominal X-ray examination.

The purpose of the study
The purpose of the examination is to get an image of any abnormalities of the skeletal, respiratory and/or abdominal organs.

What is an x-ray examination?
Ionizing radiation is used to take an X-ray image. The amount of radiation used is minimal. For example, the amount of X-rays used in an image of the heart and lungs corresponds to the dose a person is exposed to during an airplane trip to America. X-rays penetrate the human body to varying degrees. Just as sunlight can penetrate a glass window but not the window frame. This can cause a shadow of the shape of the window when the sun shines. Similarly, an X-ray shows a shadow image of the body part under examination.

The course of action before and during the examination
We ask you to register to the front desk at Mitralis Diagnostic Center at the start time of the appointment. You can then take a seat in the waiting room until the X-ray technician takes you to the examination room. Before the examination, please remove any clothing from the part of your body to be imaged. You can keep wearing your underwear.

You must also remove jewelry, piercings, dental prosthetics, bras and other metal containing objects that are in or near the area being photographed. From the changing room, you will enter the examination room. Depending on the examination, the X-ray technician will ask you to stand, lie down or sit in a certain position. Using a light field, the X-ray technician sets up the equipment. If the picture is taken in the area of the lungs or diaphragm, the X-ray technician will ask you to inhale or exhale and then hold your breath. You should not move while the picture is being taken to avoid blurring on the x-ray.



Possible pregnancy
Should a woman of childbearing age get an X-ray examination that puts the uterus directly in the beam, such as a photograph of abdomen, pelvis, lower back? If so, it must first be certain that the patient cannot be pregnant.

You should report a possible pregnancy yourself, but the staff in the Radiology department also pays attention.

If it is not clear whether the woman is pregnant, the examination is postponed until it is certain. Is postponement irresponsible? Then the woman will be treated as if she is pregnant. The radiologist consults with the doctor in charge.

Supervisors
For elderly and physically disabled patients or children, it may be desirable for a family member or another supervisor to be present during the examination. Are you an accompanying person and (possibly) pregnant? Then you may not be present at the examination as an accompanying person. Please arrange for another accompanying person.

Safety
We make every effort to safely handle X-rays.
- Minimal use of radiation in examinations
- Shielding rooms with lead walls
- Continuing training of staff
- Regular monitoring of equipment

After the examination
Once all the X-rays have been taken, the X-ray technician checks them for technical quality. If the pictures are successful, you may return home. If you have been referred by your primary care physician for an emergency airway radiograph or possible bone fracture, a radiologist will review the images before you go home. The radiologist will determine if it is necessary to refer you to the hospital emergency department.

The duration of the study
The examination takes about 10 to 15 minutes.

Results
Within 24 hours of the examination, the radiologist reviews the images and makes a report of them. This report is forwarded to the applicant (in many cases your family doctor) with whom you will make an appointment to discuss the results yourself.

X-ray

X-rays are a type of radiation not found in nature and are generated in an X-ray machine.

X-rays do not penetrate the human body equally well everywhere. Just as the sun can shine through the glass but not through the frame of a window. This creates a shadow with the shape of the window. Similarly, an X-ray shows a shadow image of the body part being examined.

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Beyond the radiation we use in an X-ray department, you are also exposed to natural radiation daily. Most of the natural radiation reaches you from outside the earth. But radiation also comes from within the earth's surface itself.

The ALARA principle
ALARA means As Low As Reasonably Achievable. This means that trained and qualified personnel take the X-rays and that the equipment is checked regularly. The X-ray technician ensures that a good picture is taken with as little radiation as possible.

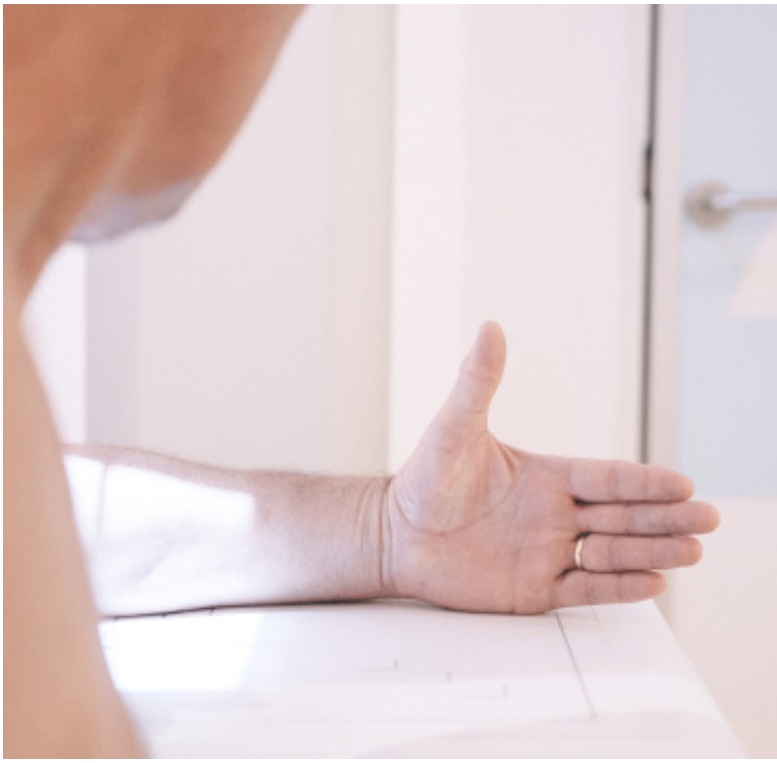
Radiation exposure in the Netherlands
The SIEVERT (Sv) is the unit in which the radiation dose received by a person is defined. The average radiation dose for a person in the Netherlands is 2.1 mSv/year. This radiation dose consists of:

Radiation from natural sources (natural radiation): 1.4 mSv/year. Radiation from artificial sources (medical purposes): 0.7 mSv/year

More information can be found on the website of the National Institute for Public Health and the Environment (RIVM), among others.

Risk when using ionizing radiation
When taking an X-ray, the radiation dose is so low that it cannot directly cause any abnormality in the human body. With a high dose of radiation, however, an effect is measured. With the data from those measurements, a good estimate of the risk can be made. This risk appears to be smaller than the risk of surgery or the use of some medications.

If it is necessary to take an X-ray, the benefit of the examination will outweigh the disadvantage. For example, X-rays help assess bone fractures, diagnose pneumonia or detect breast cancer. You do not notice the radiation dose both during and after the X-ray imaging. When the imaging stops, there is no more radiation. This is the case in nuclear examinations with radioactive substances.



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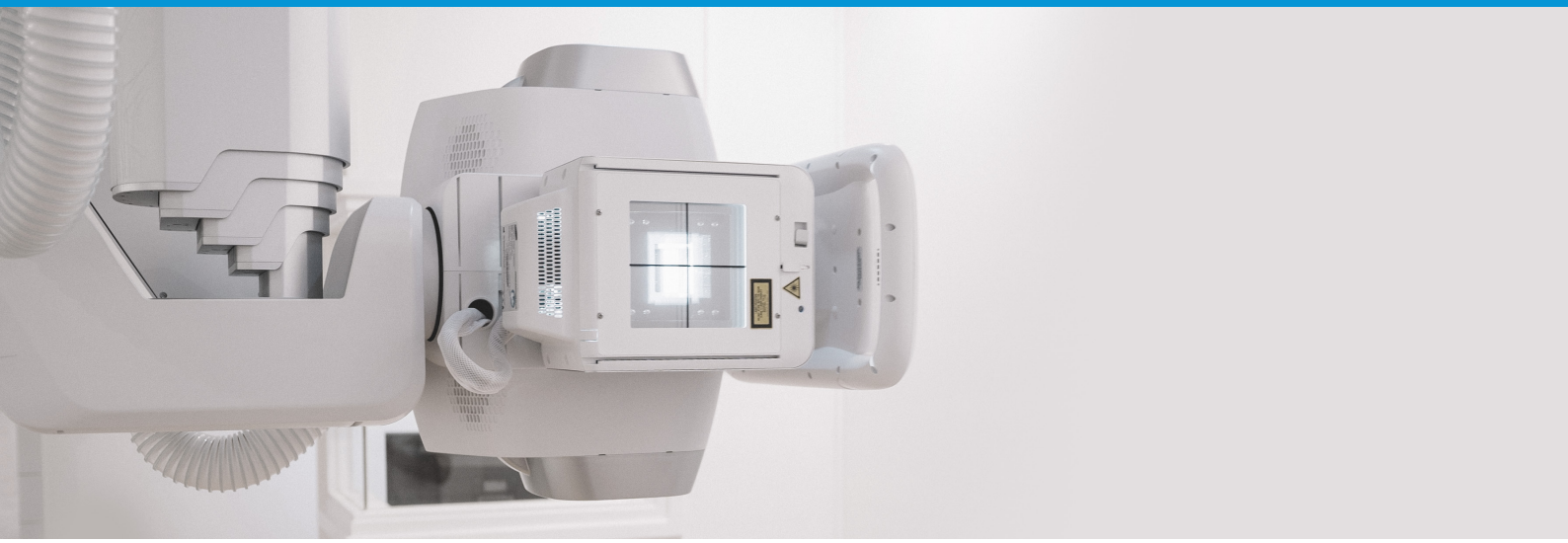

Pregnancy

For the pregnant woman, the risk from radiation is no greater than for any other woman. The unborn child does have extra sensitivity to radiation, due to the rapidly growing tissues. The degree of sensitivity of these tissues depends on the number of weeks you are pregnant. The recommended measures for performing X-ray examinations are always the same. As long as the abdomen is not in the beam of radiation (for example, an X-ray of the lungs or of the feet), the X-ray can be done as usual, without a lead apron. But it should always be considered whether the X-ray examination is really necessary. Whether the examination really needs to be done will be looked at even more strictly than usual. Possibly, in consultation with the radiologist, an examination without X-rays (e.g. ultrasound) can be considered, if this is possible. Also, in some cases, the examination may be postponed until after delivery. If you are pregnant, please inform your doctor or the radiographer before the X-ray examination.

Precautions

The X-ray technician makes sure that through some tools and technical knowledge, the dose given is kept as low as possible. By making the beam smaller (diaphragm), the amount of radiation you receive is kept as low as possible.

Because specialized personnel take the X-rays, the risk of misaligned equipment and unnecessary photos is minimized. Certain materials (lead, for example) can block X-rays. If assistance is needed in taking an X-ray, your supervisor is often asked to help. The supervisor is then given a coat with lead parts on for protection.

If the beam falls on a patient's genitals, no additional precautions need to be taken. In fact, research has shown that when a lead cover is used, the disadvantages outweigh the advantages. The reduction in dose due to lead cover is very small, while the assessment of the photo is limited because not everything is clearly visible due to the smaller dose.

Questions?

If you have any questions after reading this information, please ask your treating physician or the X-ray lab technician(s).

By phone, please contact:
Mitralis Diagnostic Center, tel. no. 045 8 200 100