

MRI /CT scan under anaesthesia for children and adolescents

Your child is coming for a magnetic resonance imaging (MRI) or computed tomography (CT) scan.

Please tell your child about coming to the hospital and about the examination. Accurate information is important for a child, to maintain their sense of security and trust.

Magnetic resonance imaging (MRI) provides both precise anatomical and sometimes functional images without X-rays. The scan takes about 0.5–1 hour. During the scan, children must be completely immobile, which is why they receive a sedative for the duration of the scan. The child falls asleep after receiving the medication but can be woken up.

The MRI machine has an imaging tunnel of about 60–70 cm in diameter. The tunnel is ventilated, illuminated and open at both ends. From time to time, the camera makes a rather loud noise, so the child is given hearing protectors to wear. A contrast agent injected into a vein in the arm via a cannula may be used for magnetic imaging. The contrast agent does not contain iodine. The contrast agent provides information on tissue hyperaemia, improves the resolution of the target, and facilitates the interpretation of the images to obtain a reliable diagnosis.

Computed tomography (CT), or slice imaging, is a technique that uses X-rays to take cross-sectional images of a desired area. Children need to be completely immobile during the scan, which is why they are given a sedative for the duration of the scan. The examination table slides into the imaging machine. The machine has a large opening (about 80 cm) and is open at both ends, so the imaging does not feel oppressive. With CT equipment, the imaging time itself is very short, only a few minutes, but the time required for preparation for the examination is longer.

Preparing at home before coming to the hospital

The child must fast before the examination. Being without nutrition prevents vomiting during the examination. In other words, the child **MUST NOT** eat or drink anything before coming for the examination.

Specifications for being without food:

- Not eating for at least 6 hours before the examination, i.e. the time of arrival at the hospital
- You can still breastfeed your infant up to 4 hours before the examination.
- Infant formula can be given 6 hours before the examination.
- The child can take regular medication with a small amount of water in the morning. The medication must be administered no later than 2 hours before the arrival in the hospital.

The examination will not be conducted if the child has

- an upper respiratory tract infection, a cough,
- febrile upper respiratory tract infections and pneumonia
- gastroenteritis (e.g. stomach flu), or other viral diseases such as chickenpox

On the examination day at hospital

- Magnetic Resonance Imaging: Metal objects (e.g. jewellery, detachable braces) must be removed before the examination. The clothing must also be free of metal parts (e.g. press studs). If the child has a foreign object containing metal (e.g. a shunt) in their body, please contact the telephone number in the invitation letter in advance.
- Before the examination, the child will be given a sedative, as a nasal spray. After the spray is given, the child falls asleep in about 30 minutes. The nasal spray does not smell, taste or sting. An anaesthetic cream will be administered on your child's skin before applying an intravenous cannula ("sleep cap*"). A cannula can be used, for example, to administer a contrast agent, or the child can be put to deeper sleep during the examination, if necessary.
- A parent (1) can stay with the child until he/she falls asleep. After this, the parent may, if they so wish, go to eat or go to the children's care centre, 5th floor, to wait for their child.
- After the imaging, the child will be awakened and transferred to the children's care centre for follow-up. After the examination, the child will be tired and may fall asleep again. At the care centre, the child must be kept actively awake.

After the examination

- After waking up, the child may first drink and then eat, according to their condition.
- The child will be discharged home according to their condition, usually during the afternoon.
- On the day of the examination, the child must not be left alone because he/she may be more tired than normal.

At home

- If a child is nauseous, it is good for them to drink only small amounts at a time. Forcing food and drink is not recommended.
- Rest is important after anaesthesia. There is no need to wake the child up overnight to check her condition. On the day of the examination, it is a good idea to avoid rough play and physical activity.
- Large fluctuations in temperature, such as taking a sauna, sunbathing or going out in extreme cold, are not recommended on the day of the examination.
- The child may go to daycare / school the day after the anaesthesia.
- It is good to talk with children about their hospital and anaesthesia experiences so that there is nothing that stays weighing on their mind.