

## Coronary CT scanning

### (And PET myocardial perfusion imaging if needed)

A computed tomography (CT) scanner uses X-rays to take cross-sectional images, or image 'slices'. CT scanning of the coronary arteries can be performed with the newest, fastest scanners capable of recording accurate images of the moving heart.

Some patients who have had a coronary CT scan will undergo PET myocardial perfusion imaging at the same visit. This is a type of PET scan (positron emission tomography) that examines blood flow to the heart muscle. The PET scan will be done if there are findings on the CT scan that need to be investigated further.

The PET/CT scanner has a wide opening (70 cm in diameter), so it can generally be used even for claustrophobic patients.

The scanning visit takes about 2-3 hours including the preliminary steps.

### How to prepare

The scan is done with a contrast agent, so a laboratory test to check kidney function (**plasma creatinine**) usually needs to be completed beforehand. If you know you have kidney failure, please contact the facility referring you to the study.

After the CT scan, the study may be continued with a PET scan. Please note the following instructions for this:

- Starting from the morning of the day before the study, do not eat **dark chocolate**. Otherwise you may eat normally.
- Do not drink **coffee, tea, cocoa, cola or energy drinks for 24 hours** before the study (starting from the morning of the day before the study).
- **Do not smoke for 6 hours** before your appointment (this also applies to other nicotine products).

**NOTE: The PET scan cannot be done if you have had coffee, tea, cocoa, cola or energy drinks!**

You can eat normally before the study.

Pregnant women do not normally have this procedure. If you think you may be pregnant, notify the PET Centre before you come in for the study.

## Medications

**Metformin medications** used to treat diabetes will be suspended for two days from the scanning date. They are normally resumed after 48 hours or when kidney function is found to be normal.

Such medications include:

- Avandamet
- Competact
- Diformin Retard
- Eucreas
- Glucophage
- Janumet
- Metforem
- Metformin
- Metgol
- Oramet-hexal

**Dipyridamole medication** (Persantin, Asantin, Dipyryn) must be suspended for **two days before the study**.

The study generally involves using nitrate to expand the coronary arteries and a beta blocker to slow the heart rate, so bring along information about the medications you use.

You may take your other medications as usual.

## What to expect at your appointment

Every patient is asked to complete an interview form. The scanning procedure will be reviewed with you in advance and a medical technician will help you practice holding your breath for a short time (less than 10 s) as required for the study.

- A monitor will be placed to keep track of your heart rate and an intravenous cannula (drip) will be inserted into your lower arm. The study will be painless except for the small prick to your arm.
- The physician who is conducting the study will give you a beta blocker as needed to slow your heart rate. Usually you will also be given nitrate to expand your coronary arteries just before the scan.
- Your heart will be scanned without a contrast agent first, and then with contrast injection. You will need to stay still and follow any instructions you are given for the study to be

successful. The radiologic technologist and the physician who is conducting the study will be able to see you and hear you throughout the study.

- The radiographic contrast agent contains iodine and may cause a warm feeling to spread over your body for a moment, and you may also notice a metallic taste in your mouth. This is normal, not an allergic symptom.
- If there are findings from the contrast scan that need to be investigated further, a PET scan will be done immediately afterwards. This scan uses a drug (adenosine) that increases blood flow to the heart muscle, making it possible to determine how the heart is affected by any coronary artery narrowing that was seen on the CT scan.
- You may feel some chest discomfort or pressure while receiving the adenosine, but it will go away as soon as the drug has been administered. The doctor will monitor your heart tracing and blood pressure continuously during the scan.
- The contrast scan takes less than 10 seconds and the PET scan about 4 minutes.

### **After the study**

You will not need to stay at the hospital for observation after the study. We recommend drinking more water than usual after the study. This is because the contrast agent is excreted through the kidneys into the bladder and leaves your body in urine, usually without causing side effects. However, if you notice feeling something out of the ordinary, contact the scanning facility or an emergency doctor.

Small amounts of iodine-containing contrast agents are excreted into breast milk, but absorbed only minimally from the digestive tract, so there is no need to pause breast-feeding.

The study results will be provided by a doctor at the ward or outpatient clinic that referred you.

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This instruction is intended for our patients who are in a care relationship.