PET/CT scanning department

Having PET-CT scan for cardiac sarcoidosis

Please read the following information carefully, it may affect the quality of your scan.

Your doctor has requested that you have imaging for assessing possible cardiac sarcoidosis.

PET-CT scan

What is positron emission tomography (PET)?

PET is a medical imaging technique in which a pharmaceutical (drug) labelled with a small amount of radioactivity is injected into a patient. Once injected, the patient will be scanned to determine the distribution of the radioactive tracer within them. The most commonly used pharmaceutical in PET is flurodeoxyglucose (FDG), which behaves in a similar way to ordinary glucose in the body and allows your doctor to determine how your body is functioning.

What is CT?

CT (Computed Tomography) utilises x-rays to produce pictures showing the density of different organs within the body.

By combining these two techniques, we are able to provide important information about many conditions affecting the different organs of your body. This will help your doctor to plan the appropriate treatment for you.

Are there any side effects?

There are no known side effects from administration of the radioactive tracer. There is a small amount of radiation involved in the procedure (a similar amount to other diagnostic procedures such as CT) but the risks associated with this are minimal. The benefits of the scan will always far outweigh any potential risk from the radiation. However, it is important that you read the general points overleaf.

On arrival for your scan:

Once you arrive for your appointment you will be taken to a preparation room and will be asked to change into a hospital gown and remove all jewellery and metallic objects. We will check your blood glucose level. The procedure will be fully explained by one of our Radiographers who will also take a brief clinical history. If you have any questions this is a good opportunity to ask them.

Administration of the radioactive tracer

The tracer will be given in the form of an injection. Unfortunately we are not able to make use of Hickman lines or any other device that cannot be removed immediately after injection.
Generally, we will insert a cannula if not already in place into a suitable vein about 15 minutes before we want to administer the radioactive tracer. We ask you to sit/lie down for the insertion of the cannula, the administration of the radioactive tracer and for at least one hour following this. The cannula will be removed as soon as the tracer has been given.

Having your scan
Once the radioactive tracer has been absorbed by your body, you are ready for your scan. Prior to your scan you will be asked to go to the toilet to empty your bladder. In the scanning room you will be asked to lie on your back on the scanning bed. Generally you will be scanned with your arms raised above your head, but in certain circumstances we may also scan you with your arms by your side. The bed will move through the scanner and collect images for between 30 and 90 minutes depending on the area to be covered.

After your scan
Once the scan is completed you will be able to leave the department immediately. You will be able to eat and drink what you like. You may go anywhere you wish but we ask you to avoid prolonged close contact with children for the rest of the day. This is to avoid exposing children to unnecessary radiation.

Results
The results of your scan will be posted within one week to the consultant who referred you.

To ensure that the required radioactive tracer is ordered for your scan we ask that you please confirm the appointment time with us. If the appointment is inconvenient for you we can arrange a mutually agreeable time.

Please call to confirm/change your appointment on 01223 349222.

Please arrive at PET CT department of Addenbrooke’s Hospital. Please see the attached map. It is imperative that you arrive on time for your appointment as the radioactivity has a very short shelf life. If you are late for your appointment we may not be able to proceed with your scan.

When you contact us to confirm your appointment you will need to tell us if you:

- Are diabetic
- Have any disability or special needs requiring ramp access
- Weigh over 100kg (16 stone)
- Are booked for any other appointments on the same day
- Are claustrophobic
- Have any difficulty lying flat for 45 minutes

**PET-CT scan** (Whole body scan) to assess inflammation in the heart muscle and the rest of the body. This procedure will take approximately two to three hours.
Diet and Fast: This part requires you to adhere to a high-fat, high protein, low-carbohydrate diet (details of which will be given in a separate leaflet), from the morning before to the day of your scan. You will then need to fast for 18 hours prior to your appointment time of PET-CT scan. This may sound like a very long time, but this will basically mean that you will stick to the diet the day prior to your scan, with an early dinner, and then simply skip breakfast on the morning of your PET scan. During this whole period we would like you to keep well hydrated.

When you arrive for your PET scan, your blood glucose level will be checked. We need your blood sugar to be at a fairly low level, which is the reason for the diet. You will then have an injection of radio-tracer. If high blood sugar levels are detected, your scan will need to be rescheduled.

Medications:
Please let us know your list of medication, particularly steroid medication. If you are diabetic, take your diabetes medications with food. During the fast, please avoid taking insulin or any other blood sugar lowering medication.

After your PET scan you can resume your normal activities and diet.

Dietary instructions
For your PET scan, we need you to follow a low carbohydrate, high fat, high protein diet before starting your fast for 18 hours prior to the time of your PET-CT scan injection.

Say your PET-CT scan is scheduled at 11:00; you will finish your special dinner by 17:00 on the earlier day and skip the breakfast on the day of your scan. You are allowed to have liquids as stated below but please make sure there is no sugar in it.

Here we provide lists of foods and drinks that are allowed, and not allowed. We have also provided sample diets for the day before the procedure if you need some ideas.

Please note that sugars in any form, including natural sugar in fruit, is strictly forbidden during the diet period.

Foods/drinks Allowed:

Beverages:
Water, mineral water, sparkling water, coffee, tea, herbal tea (without sugar), iced tea

Condiments and seasonings:
Salt, pepper, any natural herbs or spices

Dairy products:
Creme fraiche, double cream, sour cream, butter, eggs, any non-processed cheese

Fats/Oils:
Animal fats that are part of the meat you eat, butter/margarine, vegetable oils (olive, peanut, walnut, sesame, sunflower, rapeseed)

Fish/Shellfish:
Any non-processed fish/shellfish
Meat:
Any **non-processed** meat

Poultry:
Any **non-processed** poultry, along with their eggs

Vegetables:
Asparagus, artichokes, aubergines, broccoli, bok choy, brussel sprouts, bean sprouts, celery, cucumber, courgettes, cauliflower, fennel, garlic, kohlrabi, lettuce, leeks, mushrooms, okra, olives (non-processed), peppers, radishes, squash, scallions, shallots, spinach, tomatoes, turnips, and any fresh herbs.

Sweeteners:
Acesulfame-K, aspartame (NutraSweet), saccharine (Sweet 'N Low), stevia, sucralose (Splenda)

**Foods/Drinks not allowed:**
This is not an exhaustive list but if in doubt, please make sure that the carbohydrate content of the food you may consume is very low/none.

**Beverages:**
Any fizzy pop, any beers/ales, wines or spirits, drinking chocolate

**Condiments and seasonings:**
Tomato ketchup, barbecue sauce, Worcester sauce, cocktail sauce, honey mustard, any jams or syrups

**Dairy products:**
Milk, any **processed** cheese (e.g. dairy lea, baby belle)

**Fats/Oils:**
Lard, Dripping

**Fish/Shellfish:**
Any **processed** fish or shellfish

**Meat:**
Deli meats (e.g. pastrami, salami, chorizo, pepperoni), any **processed** meats

**Poultry:**
Any **processed** poultry

**Vegetables:**
Potatoes, beans, lentils, peas, beetroot, carrots, cabbage, parsnips, plantain, pumpkin, swede, sweet potatoes, sweetcorn, turnips, yam
Other foods:
Please avoid any pasta, bread, cereal, rice, fruit, chocolate, sweets, chewing gum etc.

Sample Menu
Please see below a list of sample menus for your meals the day before your test.
Choose 1 option from Group A and any amount of vegetables from the list from Group B to make up your meal.

Group A:
1) Coq au vin (Meat option)
Make the recipe as below and weigh out 250g (medium portion).
(250g = 1 serving)

Recipe
- 100g bacon rashers
- 1000g chicken leg quarters (weighed with bone)
- 50g butter
- 50g flour
- ½ tsp salt
- 600mls red wine
- ¼ tsp black pepper
- 100g shallots
- 1 tsp dried mixed herbs
- 100g mushrooms

Brown the bacon and chicken coated in seasoned flour, in butter. Add the shallots, mixed herbs and red wine, cover and simmer for 35-45 minutes. Add the mushrooms and cook for another 20 minutes.

2) Grilled salmon - (Meat free option)
(150g equal to 1 large salmon steak)

3) Quorn pieces - (Vegetarian option)
Fry 215g Quorn in 15g butter (use vegetarian butter) or 15g vegetable oil

4) Omelette (Egg option)
Make the recipe as stated below:

Recipe = 1 serving
- 4 Eggs
- 10mls water
- 10g butter
- 60g Cheddar cheese
- ½ tsp salt
- Black pepper for seasoning

Beat eggs with salt, pepper, water and cheese. Heat butter in pan. Pour in mixture and stir until thickens evenly. While still creamy, fold the omelette and serve.
Patient Information

Group B:

- Broccoli
- Cauliflower
- Celery
- Courgette
- Aubergine
- Cucumber
- Lettuce
- Curly kale
- Spinach
- Mushrooms
- Garlic
- Pepper
- Radish
- Watercress

Eat raw or cook the vegetables by steaming, boiling or microwaving. Do not add any additional butter or oil during the cooking process. Seasoning such as salt, pepper and herbs can be used.

**Additional information about**

**General points – please read carefully**

There is an outpatient cafeteria and canteen where refreshments and meals may be obtained.

Due to the nature of these investigations we advise that the patient should not be accompanied by anyone who is pregnant and should not bring young children to the department. With most of the investigations the level of radioactivity will have decreased to a safe level by the time the patient arrives home after the scan. However, some investigations require more specific restrictions with regards to contact with young children and these will be explained.

If the patient is pregnant or breastfeeding the department should be advised as soon as possible to determine if the investigation should proceed. As a general rule these investigations are not carried out on pregnant ladies unless clinically necessary and the dose of radioactivity will probably be minimised.

We are now a smoke-free site: smoking will not be allowed anywhere on the hospital site.
For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169.

**Other formats:**

If you would like this information in another language, large print or audio, please ask the department where you are being treated, to contact the patient information team: patient.information@addenbrookes.nhs.uk.

Please note: We do not currently hold many leaflets in other languages; written translation requests are funded and agreed by the department who has authored the leaflet.

**Document history**

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