



病患醫療知識普及

成像服務



核子醫學心臟檢查

如何準備檢查

核子醫學心臟檢查可用於研究心臟的結構和功能。請閱讀本手冊並瞭解針對核子醫學心臟檢查如何做好準備、該檢查的原理、流程、您在檢查中的感覺及如何獲取檢查結果。

什麼是核子醫學心臟檢查?

核子醫學檢查是以放射性化合物來偵測和治療許多疾病。由於它利用放射線為人體造影，因此屬於放射學的一種。

醫學術語中的心臟與我們平常說的心臟同義。核子醫學心臟檢查主要檢查心臟的結構和功能。

該檢查的工作原理是什麼?

檢查心血管的最佳方式即是觀察血管中因運動而產生的血流變化。為進行此項檢查，您首先需接受一項休息態檢查，然後接受壓力測試。壓力測試通常是身體活動，旨在讓您的心臟比平常更賣力工作。

當您的心臟處於休息態時，您需注射一種「追蹤劑」（一種放射性物質）。之後，當心臟處於運動態時，需再次注射。追蹤劑將透過靜脈(IV)注射針管注射。追蹤劑會聚集在您的心臟中，並發出伽馬射線。一種特製照相機能偵測到這些射線，並生成顯示流向心臟的血液之影像。

我應該做哪些準備?

- 諮詢您的醫生您是否應在檢查前停服任何藥物。某些藥物可能會影響檢查結果。
- 如有下列情況，請致電核子醫學科 (206-598-4240):
 - 很難在您的手臂上插入靜脈注射針管。
 - 無法平躺並將雙臂張開舉過頭部超過 20 分鐘。
 - 患有哮喘或慢性肺病。
 - 膝蓋、臀部存在問題，或是無法保持平衡。

在檢查之前

- 檢查前 24 小時只能食用或飲用不含咖啡因的產品。切勿飲用去咖啡因的產品、咖啡、茶（包括花草茶）、可樂或任何一種軟飲料。也不要吃巧克力。
- 檢查前 6 小時嚴禁進食，但可以喝水。
- 檢查前至少 4 小時切勿抽煙或抽雪茄，也不要嚼煙草。

檢查當天

- 檢查當天不要在胸部塗抹任何乳霜、乳液或爽身粉。
- 穿著舒適的便鞋和寬鬆衣物。
- 請準時赴約。如果您遲到超過 15 分鐘，則可能需要重新安排檢查時間。
- 請準備在核子醫學科停留約 3 小時。
- 如果您患有睡眠窒息症且在使用 CPAP 機，則請在檢查當天隨身攜帶。

檢查的流程是什麼？

1. 首先，在您的手臂上插一根靜脈注射針管。接著注射少量的追蹤劑。追蹤劑不會對您造成任何影響。
2. 此時會要求您平躺，並將雙臂抬高超過頭部。您需要靜躺約 20 分鐘，在此期間伽馬照相機對您的心臟進行拍照。
3. 拍照完成後，我們會在您的胸部貼上心電圖 (ECG) 的電極，以進行壓力測試。在進行此步檢查時，您需要在跑步機上行走幾分鐘。電極會監測您行走時的心電活動，並時常測量您的血壓。在您停下來之前，我們會為您注射第二劑追蹤劑。由於此時進入心臟的血流量達到高峰，因此可幫助您的醫生偵測到運動期間心臟中是否有血流不足的部位。
4. 在注射第二劑追蹤劑後的一分鐘，您可停下來。您需要再次躺在檢查床上，以便拍攝更多影像。照相機在您的胸前以弧形曲線緩慢移動，此過程將持續約 20 分鐘。在進行此步檢查時，您需要平躺且不要移動。

有問題嗎？

您的問題對於我們而言非常重要。如果您存有任何問題或顧慮，請致電您的主治醫師或醫療保健服務提供者。診所的工作人員也能為您提供幫助。

- UWMC 成像服務熱線：
206-598-6200
- Harborview 成像服務熱線：
206-744-3105

5. 運動後拍攝的影像必須與您先前休息時所拍攝的心臟影像互相對照。經過對照，即可確認您在休息時流入心臟的血液是否有任何改變。
6. 如果您無法在跑步機上行走，則您無需運動。我們會讓您服用一種藥物來代替運動測試。然後，我們會為您注射追蹤劑。
7. 檢查結束後，一名核子醫學專科醫師會立即檢查這些影像的品質。如有需要，可能會拍攝更多影像。
8. 整個檢查過程需時約 3 小時，或可分為兩天進行。

我在檢查過程中會有什麼樣的感覺？

- 插入靜脈注射針管時，您會感到輕微不適。
- 我們會要求您在跑步機上不停地行走，直至您感覺疲勞或呼吸短促，或是感到胸痛、腿痛或出現其他令您想要停下的不適狀況為止。
- 如果我們讓您透過服用藥物而非運動來提高血流量，您可能會感到短暫的心神不定或呼吸短促。您還可能感到頭痛，以及腹部或胸部脹痛。如果藥物的副作用過於嚴重，或使您感覺非常難受，則我們會用其他藥物來解除這些副作用。但這類反應十分少見。
- 大部分患者在完成檢查之後均可立即恢復正常活動。您體內的輻射量會隨著時間的推移而減弱。此外，輻射量也會因追蹤劑隨著尿液或糞便排出體外而消失。

誰為我解釋檢查報告的含義，我將怎樣獲取我的檢查結果？

一名核子醫學專科醫師會檢查這些影像。然後，他會將您的結果報告交給您的主治醫師。您的主治醫師會與您討論檢查結果。

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Cardiac Nuclear Medicine Exam
Chinese

03/2005 Rev. 12/2010

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Cardiac Nuclear Medicine Exam

How to prepare for your exam

A cardiac nuclear medicine exam is used to study the structure and function of the heart. Read this handout to learn how to prepare for the exam, how it works, how it is done, what you may feel during the exam, and how to get your results.

What is a cardiac nuclear medicine exam?

A *nuclear medicine exam* uses radioactive compounds to detect and treat many diseases. It is a form of radiology, because radiation is used to take pictures of the human body.

Cardiac refers to the heart. A cardiac nuclear medicine exam checks the structure and function of the heart.

How does the exam work?

Blood vessels of the heart are best studied by watching how exercise changes the way blood flows through these vessels. For this exam, you will have a resting study and then a *stress test*. Usually, the stress test is physical exercise, to make your heart work harder than normal.

You will receive a *tracer* (a radioactive substance) when your heart is at rest and again when it is stressed. The tracer will be given through an *intravenous* (IV) line. It will collect in your heart and give off *gamma rays*. A special camera detects the rays and produces images that show the blood flow to your heart.

How should I prepare?

- Ask your doctor if you should stop taking any medicines before your exam. Some medicines can affect test results.
- Call the Nuclear Medicine Department at 206-598-4240 if:
 - It is difficult to place an IV line in your arm.
 - You cannot lie flat on your back with your both your arms extended above your head for 20 minutes.
 - You have asthma or a chronic lung disease.
 - You have problems with your knees, hips, or keeping your balance.

Before Your Exam

- Eat or drink only caffeine-free products for 24 hours before your exam. Do not drink *decaf* products, coffee, tea (even herbal), cocoa, or any kind of soft drink. Do not eat chocolate.
- Do not eat or drink for 6 hours before your exam. It is OK to drink water.
- Do not smoke cigarettes or cigars, or chew tobacco, for at least 4 hours before your exam.

The Day of Your Exam

- Do not apply any creams, lotion, or powder to your chest area on the day of your exam.
- Wear comfortable walking shoes and loose-fitting clothes.
- Please arrive on time. If you are more than 15 minutes late, your exam may need to be rescheduled.
- Plan to be in the Nuclear Medicine Department for about 3 hours.
- If you have sleep apnea and use a CPAP machine, please bring your machine with you.

How is the exam done?

1. First, an IV line will be placed in your arm. A small amount of the tracer will be injected. It should not make you feel any different.
2. You will be asked to lie on your back with your arms above your head. You will need to lie very still for about 20 minutes while the gamma camera takes pictures of your heart.
3. After the imaging is done, *electrocardiogram* (ECG) electrodes will be attached to your chest for the stress test. For this part of the exam, you will walk on a treadmill for a few minutes. The electrodes will monitor the electrical activity of your heart while you walk, and your blood pressure will be measured often. Before you stop walking, you will get a second dose of the tracer. It is given when the blood flow to the heart is at its peak. This helps your doctor see if there are areas of your heart that are not getting enough blood during exercise.
4. One minute after you get the second dose of the tracer, you will stop walking. You will be asked to lie on the exam table again for more pictures to be taken. The camera will move slowly in an arc over the front of your chest for about 20 minutes. You will need to lie very still during this part of the exam.

Questions?

Your questions are important. Call your doctor or health care provider if you have questions or concerns. Clinic staff are also available to help.

UWMC Imaging Services:
206-598-6200

Harborview Imaging Services:
206-744-3105

5. The pictures taken after you exercise are compared with pictures of your heart taken while you were resting. This will show if blood flow to your heart changes when you have rested.
6. If you cannot use a treadmill, you will not exercise. You will be given a drug that will replace the exercise test. You will then be given the tracer.
7. Right after the exam, a doctor with special training in nuclear medicine will check the quality of the images. More pictures may be taken, if needed.
8. The entire exam takes about 3 hours. It may also be done over 2 days.

What will I feel during the exam?

- You may have a little discomfort when the IV is placed.
- You will be asked to walk on the treadmill until you are too tired or too short of breath to keep going, or if you have chest pain, leg pain, or other discomfort that makes you want to stop.
- If you are given a medicine to increase blood flow instead of exercising, you may briefly feel queasy or short of breath. You may also have a headache and a feeling of fullness in your stomach or chest. If the side effects of the drug are severe or make you too uncomfortable, other drugs can be given to stop the effects. This kind of reaction is rare.
- Most patients can resume normal activities right after the exam. The radioactivity in your body will get less over time. Radioactivity will also go away as the tracer leaves your body in your urine and stool.

Who interprets the results and how do I get them?

A doctor with special training in nuclear medicine will review your pictures. This doctor will send a report of your results to your referring doctor. Your doctor will then share your exam results with you.

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