

使用 Ga-68 Dotatate 示踪剂做躯体 PET/CT 扫描

如何准备以及预期的流程

做 Ga-68 dotatate NETSPOT PET/CT 扫描以诊断肿瘤。本讲义解释了如何为扫描做准备，它是如何运作的，在扫描期间可能会有什么感受以及如何取得结果。

什么是使用 Ga-68 dotatate 示踪剂做 PET/CT 扫描？

此扫描是为了诊断神经内分泌肿瘤，神经内分泌肿瘤涉及神经系统和内分泌腺。在做这项扫描时，我们在患者的静脉注射一种称为示踪剂的放射性物质。

本扫描使用的示踪剂称为 *Ga-68 dotatate*。

注射示踪剂后，它会被体内的生长抑素受体吸收。某些类型的肿瘤有很多生长抑素受体。这些肿瘤包括类癌瘤（恶性肿瘤，通常位于消化道）、多发性骨髓瘤（骨髓中的肿瘤）和内分泌肿瘤（腺体中的肿瘤）。

注射后 1 小时，医生会使用特殊摄像机拍摄您的身体照片。摄像机执行 2 种类型的扫描：

- 正电子发射断层扫描（PET）可显出示踪剂在体内聚集的位置。
- 计算机断层扫描（CT）可提供身体结构的图片。

PET 和 CT 扫描共同协助医生看到细胞的变化。

该如何准备？

- 如患者在出生时被判为女性：请告诉医疗提供者是否怀孕或哺乳，或是否有可能怀孕。
- 如患者的治疗涉及奥曲肽 **octreotide**、帕瑞肽 **pasireotide**，或注射兰瑞肽 **lanreotide injections** 等药物，请在计划扫描时遵循以下特殊说明：
 - 奥曲肽（**Sandostatin**）：这是种每天服用的药物。在做 Ga-68 示踪剂扫描前 24 小时内不要服用此药物。请与开此药物的医生沟通。确认是否可以暂停药物以便做扫描。
 - 奥曲肽 LAR（**Sandostatin LAR**）：该药物每 4 周注射一次。将您的 Ga-68 示踪剂扫描安排在下次注射前 1 到 2 天。



- **帕瑞肽 (Signifor)：** 此药物每天服用 2 次。请与开此药的医生沟通。以确认是否可以暂停药物以便做扫描。然后请致电 206.598.4240 联系核医学预约前台安排做 Ga-68 示踪剂扫描。
- **帕瑞肽 LAR (Signifor LAR)：** 此药物每 4 周注射一次。请将 Ga-68 示踪剂扫描安排在下次注射前 1 到 2 天。
- **兰瑞肽 Somatuline Depot)：** 此药物每 4 周注射一次。请将 Ga-68 示踪剂扫描安排在下次注射前 1 到 2 天。

当我到达扫描室后预期的流程如何？

将有核医学技术人员、护士或两位一起，来协助患者做好扫描的准备。

- *如患者在出生时被判别为女性：* 请在扫描开始之前，告诉技术人员是否有可能怀孕。
- 我们会将 **静脉注射 (IV)** 导管插入患者手臂或手部的静脉中。
- 技术人员会将示踪剂注射到患者的静脉注射导管。
- 约需 45 分钟让示踪剂流经全身，这期间患者可休息放松。
- 然后，我们将带患者去 PET/CT 扫描室。
- 我们将请患者仰卧在扫描仪台上，双臂举过头顶。
- PET/CT 摄像机将拍摄图像。
 - 大多数扫描覆盖从颅底一直到大腿中部。此成像大约需要 25 分钟。
 - 如医生要求做全身扫描（从头顶到脚趾），则成像大约需要 1 小时。
- 预计整个扫描将在影像科待 2.5 至 3 小时。

扫描过程中会有什么感觉？

- 在 PET/CT 扫描期间，患者必须保持静止并正常呼吸。
- 放置静脉注射导管 IV 线时，可能会感到一些不适。
- 必须平躺，双臂举过头顶长达 25 分钟。我们将使用枕头垫在手臂下来提供支持。
- 在扫描过程中，患者的身体将位于摄像机内，但大多数情况下头部不会被封闭。如患者对封闭的环境有强烈的恐惧或担心疼痛，请与医生讨论使用 **镇静剂**（帮助放松的药物）。
- 大多数患者对示踪剂没有任何感觉。

扫描后需做什么？

扫描后，请多喝水。这有助于将示踪剂从身体中清除。放射性在一天内即可消失。

谁会读取扫描结果，如何获得结果？

放射科医生或核医学医生会查读扫描结果，如患者带来了以前的扫描影片，他们也还会查看。患者自己的医疗提供者将为患者提供扫描结果。医务人员应在 3 天内收到放射科医生或核医学医生的结果。

患者可与医务人员根据需要决定下一步治疗。

患者也可在 MyChart 页面上阅读结果。如需要图像的光盘复制，请致电 206.598.6206。

您有疑问吗？

我们很重视您的提问。当您有疑问或顾虑时，请致电您的医护人员。

- ☐ **UWMC Imaging Services 华**
大医疗中心造影部:
206.598.6200
- ☐ **Harborview Nuclear**
Medicine 海景医疗中心核
医部: 206.744.4473

PET/CT Ga-68 Dotatate Mid-body Study

How to prepare and what to expect

A Ga-68 dotatate NETSPOT PET/CT study is done to diagnose tumors. This handout explains how to prepare for the study, how it works, what you may feel during the study, and how to get your results.

What is a Ga-68 dotatate NETSPOT PET/CT study?

This study is done to diagnose neuroendocrine tumors, which involve both the nervous system and the endocrine glands. For the study, we will inject a radioactive substance called a tracer into your vein.

The tracer used for this study is called *Ga-68 dotatate*.

After the tracer is injected, it is taken up by somatostatin receptors in your body. Some types of tumors have a lot of somatostatin receptors. These tumors include carcinoid tumors (malignant tumors, usually in the digestive tract), multiple myelomas (tumors in the bone marrow), and endocrine tumors (tumors in the glands).

One hour after you receive the injection, a special camera is used to take images of your body. The camera does 2 types of scans:

- A *positron emission tomography* (PET) scan shows where the tracer has collected in your body.
- A *computed tomography* (CT) scan provides pictures of your body's structures.

Together, the PET and CT scans help your doctor see changes in your cells.



A PET/CT camera

How do I prepare?

- If you were assigned female at birth: Tell your provider if you are pregnant or breastfeeding, or if there is any chance you could be pregnant.
- If your therapy involves **octreotide, pasireotide, or lanreotide injections**, follow these special instructions when planning for your study:
 - **Sandostatin (octreotide):** This drug is given every day. Do not take this drug for 24 hours before your Ga-68 study. Talk with the doctor who prescribed this drug. Find out if it is OK to pause your medicine for this study.
 - **Sandostatin LAR (octreotide):** This drug is given every 4 weeks. Schedule your Ga-68 study for 1 to 2 days before your next injection.



Scan for a digital
copy of this handout.

- **Signifor (pasireotide):** This drug is given 2 times a day. Talk with the doctor who prescribed this drug. Find out if it is OK to pause your medicine for this study. Then call Nuclear Medicine Scheduling at 206.598.4240 to find out when to schedule your Ga-68 study.
- **Signifor LAR (pasireotide):** This drug is given every 4 weeks. Schedule your Ga-68 study for 1 to 2 days before your next injection.
- **Somatuline Depot (lanreotide):** This drug is given every 4 weeks. Schedule your Ga-68 study for 1 to 2 days before your next injection.

What can I expect when I arrive for the study?

A nuclear medicine technologist, a nurse, or both, will help you get ready for the study.

- *If you were assigned female at birth:* **Before** the study begins, tell the technologist if there is any chance you could be pregnant.
- We will insert an *intravenous* (IV) tube into a vein in your arm or hand.
- The technologist will inject the tracer into your IV.
- You will relax for about 45 minutes while the tracer flows through your body.
- We will then take you to the PET/CT scan area.
- We will ask you to lie on your back, with your arms above your head, on the scanner table.
- The PET/CT camera will take images.
 - Most scans cover from the base of your skull down to the middle of your thighs. This imaging takes about 25 minutes.
 - If your doctor has asked for a whole-body scan (from the top of your head to your toes), imaging will take about 1 hour.
- Expect to be in the Imaging Department for 2½ to 3 hours for your entire scan.

What will I feel during the scan?

- During the PET/CT scan, you must hold very still and breathe normally.
- You may feel some discomfort when the IV line is placed.
- You must lie flat on your back with your arms over your head for up to 25 minutes. We will use pillows to help provide support.
- Your body will be inside the camera during the scan, but most of the time your head will not be enclosed. If you have a strong fear of enclosed places or concerns about pain, talk with your doctor about *sedation* (medicine to help you relax).
- Most patients do not feel anything from the tracer.

What happens after the scan?

After the scan, drink plenty of fluids. This helps flush the tracer out of your system. The radioactivity is gone within a day.

Who reads the scan and how will I get the results?

A radiologist or nuclear medicine doctor will read your scan, and will also review past scans you may have brought with you. Your own provider will give you your scan results. Your provider should receive the results from the radiologist or nuclear medicine doctor within 3 days.

You and your provider will decide the next step, such as treatment for a problem, as needed.

You may also read your results on your MyChart page. If you need copies of your images on disc, call 206.598.6206.

Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

- ☐ **UWMC Imaging Services:**
206.598.6200
- ☐ **Harborview Nuclear
Medicine:** 206.744.4473