

CT 引导肺活检

有关此医疗程序的说明

本讲义为患者解说 CT 引导肺活检。内容包括如何为此程序做准备、程序期间及之后的经历, 以及如何取得您的活检结果。

什么是 CT 引导肺活检?

CT 是代表 **电脑断层扫描**。CT 扫描是使用一台特殊的 X 光射线机拍摄人体内部器官及组织的详细图片。针刺活检是从肺内抽取样本最安全、最简便的方法。进行针刺活检时, 放射科医生会将针头穿过皮肤刺入组织。取样时可能使用注射器或自动针头。该样本会被送往实验室进行化检和诊断。

它是怎样工作的?

您会躺在 CT 机器内扫描。X 射线筒围绕您旋转时, 大量的 X 射线束会穿过您的身体。

机器会从多个角度拍摄图像, 形成该部位的横断面图像 (切面)。您的医生会在计算机上查看这些图像。

在 CT 引导活检的过程中, 您需要在 CT 检查床上保持静止, 时间可能长达 1 小时或更久。

我该如何作准备?

- 如果您患有糖尿病并使用胰岛素, 请与管理您糖尿病的医疗服务提供者沟通。由于您在 CT 扫描前 6 小时内不可进食, 您可能需要调整胰岛素的用量。
- 如果您平时服用阿司匹林或其他抗血凝药物 (血液稀释剂), 请遵循影像科预约人员提供的**停药**指示。他们已与门诊医生确认过您是否需要在活检前停用抗凝药物。
- 请安排一位负责任的成年人送您回家。您不能自行驾车回家, 也不能独自乘坐公交车、出租车或班车。
- 如果您怀孕了, 请告知您的医生。



CT 技师会协助您正确地躺卧在 CT 检查床上。

做活检的当天

在家中

- 保持正常饮食。
- 除胰岛素和抗凝血药物外, 按处方服用其他常规药物, 除非您的医生或放射科诊所工作人员另有指示。
- 请与您的司机确认, 确保他们能在检查后送您回家。



扫描此码可获得手册
的电子版本。

在医院

- 我们会要求您更换上医院的患者衣服进行检查。您所有的随身物品在整个就诊过程都会跟随您。
- 我们可能会要求您取下发夹发针、首饰、眼镜、助听器以及任何可能影响图像的可摘除的牙科物件。
- 如果您有可能怀孕，请在扫描开始之前告知放射科医生或 CT 技师。
- 进行手术的放射科医生或其助手会在活检开始前向您详细解释手术流程。他们会描述活检的操作方式、说明可能出现的问题，并为您提供手术后的护理建议和自我护理提示。请务必提出您所有疑问。
- 您需要签署一份知情同意书，确认您已理解我们上述内容并同意接受该手术。
- 我们在手术前会检查您的肾功能。如需补液，我们会通过手术前放置的静脉输液管（IV）为您输液。

CT 引导活检是如何进行的？

- 首先，放射科护士会将静脉输液管（IV）插入您手部或手臂的静脉中。在检查过程中，您可能通过 IV 液管接受液体或药物。在活检前，您还可能通过 IV 输液管接受轻度镇静剂（帮助您放松的药物）。
- CT 技师会协助您在 CT 检查床上调整合适体位。我们会使用枕头帮助您保持扫描所需的正确体位。
- 我们会通过前几组扫描来确认活检部位及最安全的穿刺路径。
- 随后我们会在皮肤上标记穿刺针插入点。我们会对插入点周围皮肤进行清洁消毒，并覆盖上无菌布。
- 随后，我们在穿刺部位注射局部麻醉剂（麻药）。这会使该部位麻木，您不会感到切口或活检针的刺入。
- 接着，我们在皮肤上做一个小切口。活检针将通过此切口插入。
- 我们要求您在整个过程中不要移动或咳嗽。我们可能还会在不同时间要求您屏住呼吸。每次我们要求您屏住呼吸时，请务必尽量做到。这将确保针头从正确的位置获取组织。
- 您的医生会使用 CT 图像引导针头到达正确位置并取出少量的组织。我们可能需要采集多个组织样本。
- 所有样本采集完毕后，取样针头会被取出。
- 待切口处出血停止后，我们会为其覆盖敷料。伤口仅有轻微出血，无需缝合。
- 活检结束后，您会前往短暂留观区。护士将对您进行监测以确保无异常。大多数患者在此停留 4 小时或更长些时间后方可离开。

在这个过程中我会有什么感觉？

- 当您接受局部麻醉时，会感到针头刺入时的轻微刺痛。
- 麻药注射并起效时，您可能会感到灼热感。该部位将在短时间内麻木。
- 您可能会感受到医生双手或活检针本身带来的压力感。
- 当针头刺入您的肺部时，您可能会开始咳嗽，并且可能会有少量血液从口中流出。这是正常现象，通常不会引起疼痛。这种情况通常会在几分钟后停止。

手术后我应该期待什么？

- 大多数情况下，您可以在活检后第二天拆除敷料。
- 您可在活检后第二天如常洗澡或淋浴。
- 活检后 24 小时内，请**不要**进行剧烈体力活动，如搬运重物、大量爬楼梯或运动等。
- 若您感觉良好，可在活检后 2 天恢复正常活动。
- 如果您计划在活检后 24 小时内乘机旅行，请与您的放射科医生沟通。
- 活检部位在局部麻醉消退后可能会有疼痛感。通常在手术后 12 至 48 小时内会逐渐缓解。
- 您也可能出现少量咳血的情况，尤其是如果您正在服用抗凝血药物。如果在活检过程中未出现咳血，这种情况应非常轻微。该症状会在手术后 12 至 48 小时内逐渐缓解。

谁来解读结果，我如何获取结果？

放射科医生会将详细报告发送给为您安排活检的转介医生。您的转介医生可能需要几天到一周，甚至更长时间才能收到活检结果。您的转介医生或护士会与您讨论结果。

您还可通过 **MyChart** 页面查看活检结果。如需获取影像资料的光盘副本，请致电 206.598.6206。

您与您的医生将根据需要共同决定后续步骤，例如针对问题的治疗方案。

紧急护理

如果您出现以下任何症状，**请立即拨打 911 并前往最近的急诊室：**

- 严重出血且无法止血，即使在对伤口施加压力后仍无法止血
- 胸痛
- 呼吸困难
- 言语不清
- 出现平衡障碍或无法正常使用四肢

联系电话

华盛顿大学医疗中心（UWMC）和西北医院（Northwest Hospital）

工作日早上 8 点至下午 4:30，请拨打介入放射科（IR）：

- Montlake 蒙特湖院区：206.598.6209，选择 2
- Northwest 西北医院：206.598.6209，选择 3

港景医疗中心（Harborview Medical Center）

工作日早上 8 点至下午 4:30，请拨打介入放射科（IR）电话：206.744.2857。

有疑问吗？

您的提问很重要。如果您有任何疑问或顾虑，请致电您的医生或医疗服务提供者。

UWMC – Montlake:

华大医疗中心-蒙特湖院区：

206.598.6209，选择 2

UWMC – Northwest:

华大医疗中心-西北医院：

206.598.6209，选择 3

Harborview Medical Center:

港景医疗中心

206.744.2857

非工作时间、周末及节假日：

请拨打 206.598.6190 并要求联系当班介入放射科（IR）住院医师。

CT: Guided Lung Biopsy

About your procedure

This handout explains a CT-guided biopsy of the lungs. It includes how to prepare for it, what to expect during and after your procedure, and how to get your results.

What is a CT-guided lung biopsy?

CT stands for *computed tomography*. A CT scan uses a special X-ray machine to take detailed pictures of the body's organs and tissues.

A *needle biopsy* is the safest and easiest way to remove lung tissue from the body. To do a needle biopsy, the radiologist will insert a needle through your skin and into your tissue. A syringe or an automated needle may be used to take the tissue sample. This sample will be sent to the lab for evaluation and diagnosis.

How does it work?

You will lie inside the CT machine for the scan. Many X-ray beams will be passed through your body as the X-ray tube revolves around you.

The machine will take pictures from many angles, forming cross-section images (*slices*) of the area. Your doctor will view the pictures on a computer.

During a CT-guided biopsy, you will need to hold still on the CT table for up to 1 hour or more.

How should I prepare?

- If you have diabetes and take insulin, talk with the provider who manages your diabetes. You may need to adjust your insulin since you will not be able to eat for 6 hours before the scan.
- If you normally take aspirin or other *anticoagulant* medicine (blood thinners), follow the instructions for **not** taking it that the Imaging Services scheduling staff gave you. They have checked with our clinic doctors about taking blood thinners before your biopsy.
- Plan for a responsible adult to drive you home after your procedure.
- Tell your provider if you are pregnant.



A CT technologist will help you get into position on the CT table.



**Scan for a digital copy
of this handout.**

On the Day of Your Procedure

At Home

- Eat your usual diet
- Except for insulin and blood thinners, take your other regular medicines as prescribed, unless your provider or the radiology clinic staff has told you otherwise.
- Check with your driver. Make sure they can take you home after your procedure.

At the Hospital

- We will ask you to change into a hospital gown for your procedure. All of your belongings will stay with you during your visit.
- You may be asked to remove hairpins, jewelry, eyeglasses, hearing aids, and any removable dental work that could affect the images.
- If there is any chance you may be pregnant, tell the radiologist or CT technologist **before** the scan begins.
- The radiologist who does the procedure, or an assistant, will explain this procedure to you in detail before your biopsy begins. They will describe how the biopsy is done, explain possible problems, and give you instructions and self-care tips for after your procedure. Be sure to ask all the questions you may have.
- You will need to sign a consent form that says you understand what you talked about and that you agree to have this procedure.
- We will check your kidney function before your procedure. If needed, you will receive fluids through the *intravenous* (IV) line that was started before your scan.

How is the CT-guided biopsy done?

- First, the Radiology nurse will insert an IV line into a vein in your hand or arm. You may receive fluids or medicine through the IV during your procedure. We may also give you a mild *sedative* (medicine to help you relax) through your IV before your biopsy.
- The CT technologist will help place you on the CT table. We will place pillows to help you hold the correct position during your scan.
- We will use the first few scans to confirm the biopsy area and the safest way for us to reach this area.
- We will then mark the needle insertion site on your skin. We will scrub and disinfect your skin around the insertion site, and put a sterile drape over the area.
- Then we will inject a local *anesthetic* (numbing medicine) at the insertion site. This will numb the area so you do not feel the incision or the biopsy needle.
- Then, a small incision will be made in your skin. The biopsy needle will be inserted through this incision.
- You will be asked not to move or cough during your procedure. You may also be asked to hold your breath at different times. You must try to hold your breath each time you are asked to. It will ensure that the needle is getting tissue from the right area.

- Your doctor will use the CT image to guide the needle to the correct site and remove a small amount of tissue. Several tissue samples may be needed.
- After all the samples are taken, the needle will be removed.
- After any bleeding has stopped at the incision site, we will place a bandage over it. Bleeding will be minor and you will not need stitches.
- After your biopsy, you will go to the limited-stay area. There, you will be monitored to make sure there are no problems. Most patients are monitored here for 4 or more hours before they leave.

What will I feel during the procedure?

- When you receive the local anesthetic, you will feel a slight pin prick from the needle.
- You may feel a burning sensation as the medicine is injected and takes effect. The area will become numb in a short time.
- You may feel some pressure from the doctor's hands or from the biopsy needle itself.
- When the needle enters your lung, you may need to start coughing and some blood may come out of your mouth. This is normal, and usually it is not painful. It should stop after a few minutes.

What should I expect after the procedure?

- Most times, you may remove your bandage the day after your biopsy.
- You may also bathe or shower as normal the day after your biopsy.
- For 24 hours after your biopsy, do **not** do heavy physical exercise such as heavy lifting, a lot of stair climbing, or sports.
- You may return to your normal activities 2 days after your biopsy if you feel up to it.
- If you plan to travel by air within 24 hours after your biopsy, talk with your radiologist.
- Your biopsy site may be sore as the local anesthesia wears off, but it should get better 12 to 48 hours after your procedure.
- You may also cough up a little blood, especially if you are on blood-thinning medication. This should be very minor if you did not cough up blood during your biopsy. This symptom will slowly ease 12 to 48 hours after your procedure.

Who interprets the results and how do I get them?

The radiologist will send a detailed report to the provider who referred you for the biopsy. It may take a few days to a week, or more, for your provider to get these results. Your referring provider or nurse will talk with you about your results.

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

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

Urgent Care

Call 911 and go to the nearest emergency room right away if you have any of these symptoms:

- Severe bleeding that will not stop, even after you apply pressure to the procedure site
- Chest pain
- Trouble breathing
- Slurred speech
- Balance problems or trouble using your arms or legs

Who to Call

University of Washington Medical Center and Northwest Hospital

Weekdays from 8 a.m. to 4:30 p.m., call the Interventional Radiology Department:

- Montlake: 206.598.6209, option 2
- Northwest: 206.598.6209, option 3

Harborview Medical Center

Weekdays from 8 a.m. to 4:30 p.m., call the Interventional Radiology Department at 206.744.2857.

Questions?

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

UWMC – Montlake:
206.598.6209, option 2

UWMC – Northwest:
206.598.6209, option 3

Harborview Medical Center:
206.744.2857

After hours and on weekends and holidays:
Call 206.598.6190 and ask to page the Interventional Radiology resident on call.