



UW Medicine

使用 I131 進行的甲狀腺癌放射量測定 資訊、指示和預防措施



本手冊為將要接受放射性碘以幫助查找甲狀腺癌的病人給出指示。

放射性碘 (I131) 是什麼?

放射性碘 I131 是一種物質，用來查看甲狀腺腫瘤位於你體內的哪些部位。由於甲狀腺癌和甲狀腺組織都吸收碘，這便能幫助我們確定哪些部位有活躍的甲狀腺癌。

這項研究（亦稱“檢測”）稱為 I131 甲狀腺癌放射量測定。你亦可能曾用更大劑量 I131 治療甲狀腺癌。這種更大劑量稱為治療劑量。

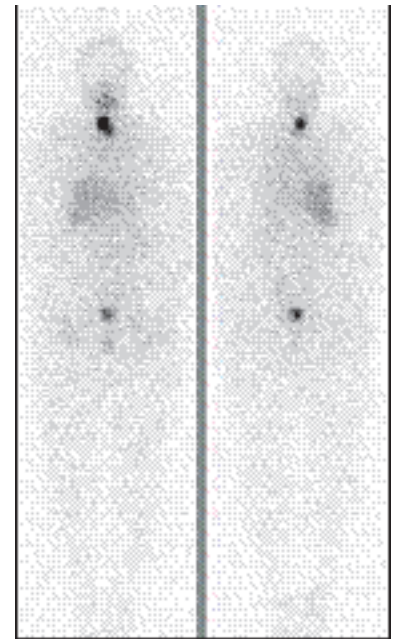
放射性碘如何起作用?

我們將要你吞服一劑 I131。

I131 將進入你的甲狀腺和任何有甲狀腺癌的部位，並在那裏被吸收掉。大部分沒有被甲狀腺組織吸收的 I131 在服食後 24 至 48 小時內從你的尿液、大便和其他體液中排出體外。被甲狀腺組織吸收的碘會留在你的體內較長時間。

I131 碘發出伽瑪射線（像 X 射線一樣），這種射線可以用特殊的“核子醫學”相機看到。這便讓我們可以看到殘餘的甲狀腺組織（甲狀腺切除手術後留下的小量組織）以及任何其他仍然有甲狀腺癌的部位。

它還可以讓我們測量到你體內和血液中的 I131 含量。我們將觀察你體內和血液中所含的 I131 在其後一周內減少了多少。這種資訊可用來為你具體制定 I131 治療劑量。



這些圖像是用一台特殊的“核子醫學”相機拍攝，圖像中顯示的陰暗區域是 I131 被身體吸收的部位。

我會有什麼預期步驟？

- 星期一，你要吞服一粒含有 I131 診斷劑量（3 豪居裡）的小膠囊。
- 在其後的 5 天內（星期一至星期五），我們每天將為你進行多次驗血和身體測量。
- 在星期三、星期四和星期五，我們將用一部“核子醫學”相機拍攝你頭部、頸部和身體的圖像，以尋找甲狀腺組織和甲狀腺癌的位置。拍攝這些圖像時，你將躺在手術臺上約 1 至 1 個半小時，讓相機掃描你的身體。

這種檢測的副作用是什麼？

放射性碘的副作用是十分罕見的，但是你可能會出現皮膚瘙癢、皮疹或麻疹。

如何為檢測做準備？

飲食

接受 I131 甲狀腺癌放射量測定研究前 1 周內，你必須實行**低碘飲食**。有關低碘飲食的指示，請訪問以下網站：www.thyca.org/rai.htm#diet。如果你不使用互聯網，請索取一份這些指示的列印件。

藥物

- 如果你是“戒斷”病人，你需要停止服食：
 - Synthroid (Levothyroxine)。在檢測前至少 6 周內停止服食此藥。
 - Cytomel (Liothyronine)。在檢測前 3 周內停止服食此藥。
- 如果你是“Thyrogen rTSH”病人，你不用停止服食任何甲狀腺藥物。
服食 I131 膠囊前，你有 2 天要接受 Thyrogen rTSH 注射。

服食 I131 診斷劑量的當天

- 約診前 2 小時，**切勿**進食或喝除水以外的任何東西。
- 服食診斷藥劑前要抽血檢驗。

婦女須知

- 如果你懷孕了，**務必**告訴我們。

- 如果你將接受 I131 且到了生育年齡，**你在服食放射性碘前必須做一次妊娠血液測試。**你可能要在接受 I131 放療當天再做一次這項測試。
- **如果你正在用母乳喂哺嬰兒，請告訴我們。**正在喂哺母乳的婦女**不能**服食放射性碘，因為碘可能會透過母乳傳給嬰兒，還可能使乳房組織因母乳中含有 I131 而暴露於額外的輻射。做完甲狀腺癌檢測並要接受 I131 放療的婦女必須停止母乳喂哺 3 個月，然後才能服食 I131 藥劑。

服食 I131 的診斷劑量後

- 服食碘膠囊後 2 小時內，**切勿**進食或飲用水之外的任何東西。空腹可確保你的身體吸收足夠量的放射性碘。
- 我們鼓勵你在整個星期裏繼續飲大量的液體。
- **繼續保持低碘飲食。**
- 將會為你安排在整個星期內進行抽血、全身測量和造影的時間。以下是接受 I131 甲狀腺癌放射量測定的病人的日間時間安排：

星期一	<ol style="list-style-type: none"> 1. 驗血，包括婦女妊娠測試。估計至少需要等 1 小時才能獲得妊娠測試結果。 2. 吞服 I131 膠囊（約診時間 30 分鐘）。 3. 吞服 I131 膠囊後 2 小時、4 小時和 6 小時進行抽血和身體測量（每次約診 30 分鐘）。
星期二	<ol style="list-style-type: none"> 4. 抽血和身體及頸部測量（約診時間 30 分鐘）。
星期三	<ol style="list-style-type: none"> 5. 抽血、身體測量和全身造影（約診時間 60 分鐘）。
星期四	<ol style="list-style-type: none"> 6. 抽血、身體和頸部測量、全身和頸部造影（約診時間 90 分鐘）。
星期五	<ol style="list-style-type: none"> 7. 抽血、身體測量和全身造影（約診時間 90 分鐘）。

輻射安全預防措施

重要須知：在第一個 48 小時內，請採取額外的預防措施，切勿讓你的體液接觸到你的孩子。

接受 I131 藥劑後 48 小時內，遵循以下預防措施：

- 切勿接吻。
- 使用衛生間後洗手。
- **切勿**與其他入共用食物、飲水玻璃杯和杯子、碗盤或銀食具。

誰負責審閱我的甲狀腺癌放射量測定，以及我何時獲得這些結果？

- 一名“核子醫學部”醫生將負責審閱你的甲狀腺癌檢測掃描結果。該醫生還將審閱你帶來的其他掃描結果。
- 如果安排你在甲狀腺癌檢測後接受 I131 放療，“核子醫學部”的醫生還可能告訴你有關你的檢測中的一些發現。
- 如果沒有立即為你安排 I131 放療，轉介你做這項測試的醫生會在 3 天內將你的甲狀腺癌檢測結果給你。

要瞭解更多資訊

請訪問“甲狀腺癌協會”網站 www.thyca.org。

打電話給誰

華盛頓大學醫療中心 (UWMC) 的病人

UWMC 影像服務部 206-598-6200
UWMC 核子醫學部 206-598-4240

下班時間以及周末和節假日，請致電 206-598-6190，要求傳呼當值的“核子醫學部”住院醫生。

西雅圖癌症照護聯盟 (SCCA) 的病人

SCCA 內分泌門診 206-288-1160

下班時間以及周末和節假日，請致電 206-598-6190，要求傳呼當值的“核子醫學部”住院醫生。

Harborview 醫療中心 (HMC) 的病人

HMC 放射科 206-744-3105

下班時間以及周末和節假日，請致電 206-744-3000，要求傳呼當值的“核子醫學部”專家。

有任何問題嗎？

你的問題很重要。如果你有任何問題或疑慮，請致電你的醫生或保健提供者。

參看本頁上“打電話給誰”中的 UWMC 和 SCCA 電話號碼，以及當這些部門下班後如何獲得幫助的資訊。

UW Medicine

Thyroid Cancer Dosimetry Using I131

Information, instructions, and precautions



This handout gives instructions for patients who will receive radioactive iodine to help look for thyroid cancer.

What is radioactive iodine (I131)?

Radioactive iodine I131 is a substance that is used to see where thyroid tumors are in your body. Both thyroid cancer and thyroid tissue trap iodine. This helps us find where there is active thyroid cancer.

This study (also called a “survey”) is called *I131 thyroid cancer dosimetry*. You may also have your thyroid cancer treated with a larger dose of I131. This larger dose is called a *therapeutic dose*.

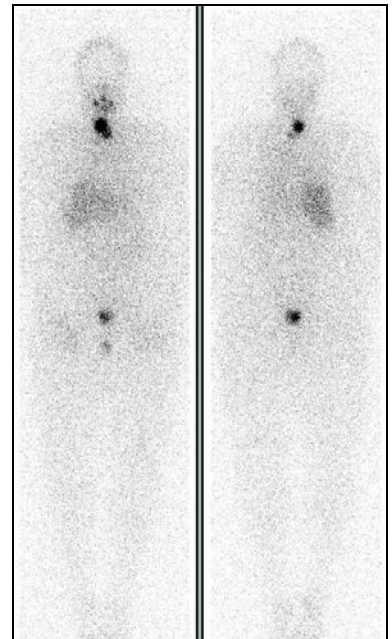
How does radioactive iodine work?

We will ask you to swallow a dose of I131.

The I131 will go to your thyroid and to any thyroid cancer sites, where it will be absorbed. Most of the I131 that your thyroid tissue does not absorb will leave your body in your urine, stool, and other body fluids over the next 24 to 48 hours. The iodine taken up by your thyroid tissue will stay in your body for a longer time.

The I131 iodine gives off *gamma rays* (like X-rays), which can be seen with special Nuclear Medicine cameras. This allows us to see *residual thyroid tissue* (small amounts that are left after thyroid removal surgery) and any other places where there is still thyroid cancer.

It also allows us to measure the amount of I131 in your body and blood. We will watch how much it decreases over the next week. This information is used to create a customized I131 therapeutic dose for you.



Images taken by a special Nuclear Medicine camera show dark areas where I131 is absorbed by the body.

What can I expect?

- On a Monday, you will swallow a small capsule that contains a diagnostic dose (3 millicuries) of I131.
- We will take many blood and body measurements each day for the next 5 days (Monday through Friday).
- On Wednesday, Thursday, and Friday, Nuclear Medicine cameras will take pictures of your head, neck, and body to look for thyroid tissue and sites of thyroid cancer. For these pictures, you will lie on your back on a table for about 1 to 1½ hours while the cameras scan your body.

What are the side effects of the survey?

Side effects from the radioactive iodine are very rare, but you may have itchy skin, a rash, or hives.

How to Prepare for Your Survey

Diet

You must be on a **low-iodine diet** for 1 week before your I131 thyroid cancer dosimetry study. For low-iodine diet instructions, please visit this website: www.thyca.org/rai.htm#diet. If you do not use the Internet, please ask for a printed copy of these instructions.

Medicines

- **If you are a “withdrawal” patient**, you will need to stop taking:
 - Synthroid (Levothyroxine). Stop taking this for at least 6 weeks before your survey.
 - Cytomel (Liothyronine). Stop taking this for 3 weeks before your survey.
- **If you are a “Thyrogen rTSH” patient**, you do not need to stop taking any of your thyroid medicines. You will receive Thyrogen rTSH injections on 2 different days before you take the I131 capsule.

On the Day You Take Your Diagnostic Dose of I131

- Do **not** eat or drink anything except water for 2 hours before your appointment.
- You will have a blood draw for lab tests right before you receive your diagnostic dose.

For Women

- You **must** tell us if you are pregnant.

- If you will receive I131 and are of childbearing age, **you must have a blood pregnancy test before you take the radioactive iodine.** This test may be done again on the day of your I131 therapy.
- **Please tell us if you are breastfeeding.** Women who are breastfeeding may **not** receive radioactive iodine, since it would be passed to the child through breast milk. It would also expose the breast tissue to extra radiation from the I131 in the milk. Women who will have I131 therapy after their thyroid cancer survey must stop breastfeeding for 3 months before they take the I131 dose.

After Taking Your Diagnostic Dose of I131

- Do **not** eat or drink anything except water for 2 hours after you swallow the iodine capsule. An empty stomach will ensure that your body absorbs enough of the radioactive iodine.
- We encourage you to continue to drink plenty of fluids throughout the week.
- **Stay on your low-iodine diet.**
- You will be scheduled throughout the week for blood draws, whole body measurements, and imaging sessions. Here is the daily schedule for patients who have I131 thyroid cancer dosimetry:

Monday	<ol style="list-style-type: none"> 1. Blood work, including a pregnancy test for women. Expect to wait at least 1 hour to get pregnancy test results. 2. Swallow I131 capsule (30-minute appointment). 3. Blood draw and body measurements at 2, 4, and 6 hours after swallowing the I131 capsule (30 minutes for each appointment).
Tuesday	<ol style="list-style-type: none"> 4. Blood draw and body and neck measurements (30-minute appointment).
Wednesday	<ol style="list-style-type: none"> 5. Blood draw, body measurements, and whole body imaging (60-minute appointment).
Thursday	<ol style="list-style-type: none"> 6. Blood draw, body and neck measurements, whole body and neck imaging (90-minute appointment).
Friday	<ol style="list-style-type: none"> 7. Blood draw, body measurements, and whole body imaging (90-minute appointment).

Radiation Safety Precautions

IMPORTANT: Please take extra precautions during the first 48 hours to keep your body fluids away from young children.

Follow these precautions for 48 hours after receiving your I131 dose:

- Do not kiss on the mouth.
- Wash your hands well after using the bathroom.
- Do **not** share food, drinking glasses and cups, dishes, or silverware.

Who reads the thyroid cancer dosimetry and when will I get the results?

- A Nuclear Medicine doctor will read your thyroid cancer survey scan. This doctor also will review any other scan results that you bring with you.
- If you are scheduled for I131 therapy after your thyroid cancer survey, the Nuclear Medicine doctor may also talk with you about some of the findings of your survey.
- If you are not scheduled for I131 therapy right away, the doctor who referred you for this test will give you your thyroid cancer survey results within about 3 days.

To Learn More

Visit the Thyroid Cancer Association website at www.thyca.org.

Who to Call

University of Washington Medical Center (UWMC) Patients

UWMC Imaging Services206-598-6200

UWMC Nuclear Medicine206-598-4240

After hours and on weekends and holidays, call 206-598-6190 and ask for the Nuclear Medicine Resident on call to be paged.

Seattle Cancer Care Alliance (SCCA) Patients

SCCA Endocrine Clinic.....206-288-1160

After hours and on weekends and holidays, call 206-598-6190 and ask for the Nuclear Medicine Resident on call to be paged.

Harborview Medical Center (HMC) Patients

HMC Radiology206-744-3105

After hours and on weekends and holidays, call 206-744-3000 and ask for the Nuclear Medicine Specialist on call to be paged.

Questions?

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

See "Who to Call" on this page for UWMC, SCCA, and HMC clinics and how to get help when these departments are closed.