Thyroid Cancer Testing and Treatment Using Radioactive Iodine

Withdrawal (Hypothyroid) and Thyrogen-stimulated Thyroid Cancer

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Additional Information
(ask your health care team for a copy)

- Low Iodine Diet
- Thyrogen® (recombinant TSH)
- Cytomel® (Liothyronine, T3)
- Preparing for Your Radioactive Iodine (131I) Treatment (Inpatients)
Withdrawal (Hypothyroid) and Thyrogen-stimulated Thyroid Cancer Study Instructions

As per our instructions, you are scheduled to have a body scan performed on/around ________________. This is an overview of the instructions. **ONLY** follow instructions that are marked with an “X”, as not all will apply to you.

**Withdrawal (Hypothyroid) Thyroid Cancer Study**

___ Discontinue your Synthroid/Levoxyl/_______ on _______________ (last day to take)
___ Start Cytomel on _________________________ (when Synthroid, etc. stopped)
___ Discontinue Cytomel on _____________________ (last day) (2 weeks before scan)
___ Start Low Iodine diet on _________________________ (1 or 2 weeks before scan)

**Your schedule will be planned as follows:**

Day 1: Blood work and small dose radioactive iodine (also other tests, if ordered)

Day 2: Diagnostic whole body scan → visit with doctor → radioactive iodine treatment (if needed)

Day 3-10: Post-treatment whole body scan

**Thyrogen-Stimulated Thyroid Cancer Study and Treatment**

___ Do **NOT** stop your thyroid medicine

___ Start Low Iodine diet on _________________________ (1 or 2 weeks before scan)

**Your schedule will be planned as follows:**

Day 1: Blood work and Thyrogen injection #1

Day 2: Thyrogen injection #2 → small dose of radioactive iodine

Day 3: Blood work → diagnostic whole body scan → visit with doctor → radioactive iodine treatment (if needed)

Day 4-10: Post-treatment scan

**Thyrogen-Stimulated Thyroid Cancer Study Only**

___ Do **NOT** stop your thyroid medicine

___ Start Low Iodine diet on _________________________ (1 or 2 weeks before scan)
Your schedule will be planned as follows if STUDY ONLY:

Day 1: Blood work and Thyrogen injection #1
Day 2: Thyrogen injection #2
Day 3: Small dose radioactive iodine
Day 4: Blood work and whole body scan, plus visit with doctor

About Your Treatment

Welcome
Your doctor will develop an individual plan based on your diagnosis. Follow this care plan throughout your treatment. The following pages provide a general overview of your care plan. You and your caregiver will learn what you must do and what will happen during your treatment. We will work together to evaluate and treat your thyroid cancer. This material gives an overview of standard procedures and is not meant to be all inclusive or apply to all patients.

Radioactive Iodine (RAI or $^{131}$I) Treatment
One of the functions of a normal thyroid gland is to collect and trap iodine from foods that we eat. It uses the iodine to make thyroid hormones (T3 and T4). Cancer cells of the thyroid gland can still retain some ability to trap iodine. The RAI procedure can be used to treat most cases of thyroid cancer. Normal and abnormal thyroid tissue left in the body after surgery for thyroid cancer can concentrate RAI. This kills the thyroid cells which are the desired medical effects.

RAI is a part of your treatment for thyroid cancer. Patients receive this treatment for several purposes:
1. To eliminate any remaining thyroid cancer cells and to prevent recurrences.
2. To treat thyroid cancer metastases (in lymph nodes, lungs, bone, and other areas).

Diagnostic Tests
Before treatment with RAI, your doctor will order:
- Blood tests (including a pregnancy test in females)
- Thyroid cancer study (diagnostic or whole body thyroid scan)

The scan shows how much thyroid tissue and/or cancer remains. This helps your health care team to determine the treatment dose. In addition to a thyroid cancer study, other diagnostic tests may be order for you. This may include, but not limited to a chest x-ray and neck ultrasound.

Be sure to tell your nurse or doctor if you’ve had a CT scan or intravenous pyelogram (IVP) within 8 weeks of your scan and treatment. These tests may interfere with your thyroid treatment.

An additional post-treatment scan will also be performed 1-7 days after the treatment. The purpose of this scan is to make sure that no new lesions are identified.
It is important to note that patients who undergo a thyroid cancer study will NOT all receive a high treatment dose of RAI. This is especially true for patients who have been treated with RAI in the past. The thyroid cancer study may just be part of the routine monitoring of your thyroid cancer. Be sure to clarify your particular situation with your health care team.

**Preparation for Treatment**

**Medicines**
In order to achieve an optimal thyroid cancer study and treatment with RAI, the thyroid stimulating hormone (TSH) level must be elevated. There are 2 ways to achieve an elevated TSH:
1. Stop thyroid hormone (also called withdrawal) or
2. Receive injections of recombinant TSH (Thyrogen®-stimulated)

Many patients stop their thyroid hormone in preparation for treatment. However, some patients may stay on their thyroid hormone and be treated after receiving a series of Thyrogen® injections. In some cases, Thyrogen® is used for the diagnostic scan. Then the thyroid hormone withdrawal is undertaken if high dose therapy is planned. Thyrogen® is also used by itself without an associated thyroid cancer study. Your doctor will discuss with you the most appropriate option for your individual case.

If you take thyroid medicine, you will receive instructions on when to stop taking it, if applicable. Instead of your normal thyroid medicine, you may take a short-acting thyroid hormone or none at all. Again, your doctor will discuss this with you.

During thyroid hormone withdrawal, you may have these symptoms:
- Fatigued
- Cold
- Puffiness around the face
- Low heart rate
- Constipation
- Muscle cramps

These symptoms are expected during the period of hypothyroidism. They should improve within 2 weeks of resuming thyroid hormone after the RAI scan and treatment. Most patients tolerate this treatment well, but there are possible side effects. These side effects are detailed in the education handout on Thyrogen®.

**Diet**
To prepare for the RAI treatment, you will be asked to follow a low iodine diet for 1 or 2 weeks prior to the test. Follow the instructions in education handout “Low Iodine Diet.” For more information and recipes on a low iodine diet, visit the Thyroid Cancer Survivors’ Association website: [http://www.thyca.org/](http://www.thyca.org/)

**Diagnostic Whole Body Iodine Scan**
Before your RAI treatment, you will have a diagnostic whole body scan in the Nuclear Medicine department. It will show how much thyroid tissue and/or cancer, if any, remains in your body. The scan requires 2 appointments:
1st Appointment
- Eat a light breakfast.
- Report to your appointment as directed.
- You will be given a low-dose radioactive iodine solution or capsule.
- Do not eat for 30 minutes after receiving the dose.
- Continue to follow the low iodine diet.

2nd Appointment
- Plan at least 2 hours for the scan.
- Eat a light breakfast and continue to follow the low iodine diet.
- Report to your appointment as directed.
- Do not wear anything with metal (buttons or snaps).
- You will lie fully dressed on an exam table.
- The camera above you will take pictures of your body (head to your toes, then it will focus on the neck area).
- At your next scheduled appointment your doctor will review the scan with you. Your doctor will make a determination if RAI is needed. You may or may not be admitted for your RAI treatment.

Radioactive Iodine Treatment

If needed, your RAI treatment will be scheduled the same or next day after the scan. The decision to be treated as an inpatient or outpatient is one based on:
- Your age
- Medical condition
- The dose of the RAI to be administered
- Your personal preference
- Social situation

Most patients receive RAI treatment as an outpatient. Those patients being treated as an outpatient will be given personalized instructions by Nuclear Medicine. Plan to stay for approximately 3 hours for your treatment.

For those patients being treated as an inpatient, refer to the educational document “Preparing for Your Radioactive Iodine (131I) Treatment (Inpatients)” for complete details.

If you receive treatment as an inpatient, you will be released from radiation safety precautions when you are no longer considered to be radioactive to others around you. Once you are released from the hospital, you are safe to travel as needed. No additional instructions are needed.

Pediatric patients are usually admitted to the hospital. Child Life Specialists will be available to help your child with age-appropriate activities during their stay. Nurses will ensure your child is monitored appropriately. Each adult visitor will be allowed a brief 30 minutes visit each day. Exceptions may be made for particularly young children. A telephone will be available so that communication can be made between the child and his/her caregivers. The adult visitor needs to remain at least 6 feet from the child. Once inside the room, keep the bedside lead wall shield
between you and your child. You are not allowed to use the bathroom located inside your child’s room. Brief moments of hugging and touching are allowed, but no mouth to mouth kissing. Do not share eating utensils with your child during the visit. Wear gloves when in the child’s room and remove them before leaving the room. Also, wash your hands after exiting the room. In the rare event that the child does vomit, do not attempt to clean the child or the vomit. Instead, inform the nurse.

**MD Anderson Resources for Patients and their Families**

**Endocrine Center**  
Main Building, Floor 9, near Elevator A  
Monday through Friday, 8 a.m. to 5 p.m.  
713-563-7600

**Internal Medicine (Mays Clinic)**  
Mays Clinic (ACB) Building, Floor 6  
Monday through Friday, 8 a.m. to 5 p.m.  
713-563-7100

**Internal Medicine Center**  
Main Building, Floor 6, near Elevator A  
Monday through Friday, 8 a.m. to 5 p.m.  
713-792-2340

**Pediatrics Clinic (Robin Bush Child and Adolescent Center)**  
Main Building, Floor 7, near elevator C  
Monday through Friday, 8 a.m. to 5 p.m.  
713-792-6610

**Nuclear Medicine**  
Mays Building, Floor 6, near elevator T  
Monday through Friday, 7:30 a.m. to 5:30 p.m.  
713-563-6163

**Emergency Center**  
Main Building, Floor 1  
Monday through Friday after 5 p.m.  
Saturday, Sunday and Holidays  
713-792-3722
The Learning Center
The Learning Center is a patient education library. We provide current and reliable information on cancer prevention, treatment, coping and general health. Whether you’re looking to research a specific cancer topic or you have questions about services available at MD Anderson, we can help you find answers. Locations include:

713-745-8063, Main Building Floor 4
713- 563-8010, Mays Clinic (ACB), Floor 2
713- 745-0007, Jesse H. Jones Rotary House International Hotel