

# **Radiation Therapy**

## **Patient Handbook**



**MICHIGAN MEDICINE**  
UNIVERSITY OF MICHIGAN

**A Guide to Radiation Therapy**



# Radiation Therapy Handbook

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## Welcome

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Our goal at the University of Michigan, Department of Radiation Oncology and the Rogel Cancer Center is to provide our patients and families with the highest quality of care. This includes giving you the necessary treatments as well as providing the education and support needed during your treatments.

This guide provides answers to many common questions about radiation therapy treatment. We offer ideas to help you prepare for treatment; describe what treatment will be like, and make suggestions about how to care for yourself during treatment.

This booklet should be used along with the ***Radiation Therapy and You*** booklet produced by the National Cancer Institute (NCI). These two guides will be your main resources for information about radiation, managing side effects and understanding how to prevent worsening side effects. It is very important to use these books throughout your radiation therapy treatment. Additional information regarding ***Radiation Therapy and You*** can be obtained by contacting the Rogel Cancer Education Program at 734-647-8626, or email, [CCC-PERC@med.umich.edu](mailto:CCC-PERC@med.umich.edu)

Your health care team will also provide you with verbal and written instructions about your radiation therapy treatment. You should refer to these materials for information about your specific treatment plan.

## Important Phone Numbers

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Radiation Oncology Department (734) 936-4300  
(7am to 5pm; Monday-Friday) (800) 882-7150

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Brighton Center for Specialty Care (810) 263-4300  
Radiation Oncology  
(8am to 5pm; Monday-Friday)

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Paging Operator: For Urgent matters (734) 936-6267  
on weekends, holidays or after  
5pm on weekdays, contact the page  
operator and ask to have the “On-Call  
Radiation Oncology Resident” paged.

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Treatment Appointments (734) 936-4300

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Director of Operations (non-medical) (734) 647-9956

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Financial Counselor (734) 647-5299  
(800) 914-8561  
(800) 992-9475

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Child and Family Life Services (734) 936-6519

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Social Work (800) 888-9825

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## Preparing

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### What is radiation therapy?

An **Introduction to Radiation** video can be viewed online at the Radiation Oncology Department's website before your appointment. If you cannot watch this ahead of time, it will be shown to you on the day of your planning appointment, which is also called your "simulation" or sometimes just "sim".

<https://medicine.umich.edu/dept/radonc/patient-care>

Radiation Therapy (irradiation or radiotherapy) is the use of high energy radiation, primarily x-rays, to kill cancer cells. In high doses, radiation causes damage to cells by interfering with the cell's ability to grow and reproduce. Cells that are growing and multiplying are very sensitive to the effects of radiation. Because cancer cells reproduce more frequently than normal cells, they are more likely to be damaged by radiation. Normal cells can also be affected by radiation, but normal cells tend to be able to recover from radiation damage.

When radiation treatments are given for cancer, special care is taken to spare as much normal tissue as possible from radiation exposure. The radiation dose is carefully measured and aimed at the tumor to kill as many cancer cells with as little damage to normal tissue as possible.

Radiation Therapy can be used with surgery, chemotherapy and/or biologic therapy to cure, control or relieve symptoms in patients with cancer.

There are two kinds of radiation therapy: "external beam" and "internal". In external beam radiation therapy, a machine outside your body aims the radiation at your cancer cells. For internal radiation therapy (also called brachy

therapy or liquid radiation), the radiation is placed inside your body, near the cancer cells.

Most patients will receive external beam radiation and the rest of this guidebook will focus on this type of treatment. For more information about external radiation see Page 9 in your *Radiation Therapy and You* book. If your doctor recommends internal radiation, you will be given more information about this. For more information on internal radiation see the NCI guidebook.

Radiation Therapy can be used to treat almost any type of cancer, anywhere in the body. Radiation is also used to treat some benign (non-cancerous) conditions.

When radiation is combined with surgery, the radiation treatments may be given before or after surgery. When it is done before surgery it is used to shrink the size of a tumor to make removal easier. More commonly, radiation treatments are given after surgery to reduce the chance that the cancer will come back.

Radiation treatments may also be given in combination with chemotherapy treatments, given before, during or after radiation. Chemotherapy is sometimes given weekly, prior to radiation to sensitize the cancer cells to the effects of the radiation.

It takes many health care professionals and support staff to provide your radiation treatment. You will see some of these people each time you come into the department for your treatment, while others you may never see because



they work “behind the scenes”. Radiation staff includes, but is not limited to, the Radiation Oncologist, Resident Doctors, Nurse Practitioners, Physician Assistants, Nurses, Medical Assistants, Radiation Therapists, Dosimetrists and Physicists (see the glossary and your NCI *Radiation Therapy and You* booklet for more information about these people).

This is a good place to stop and review the section called “Questions and Answers About Radiation Therapy” in *Radiation Therapy and You* (Page 1).

### **About clinical trials**

Your doctor may talk to you about clinical trials, also called a research study or protocol, and may suggest that you think about joining one.

Clinical trials are used to test and develop new treatments. The goal of these trials is to find ways to improve treatment. While a study is active we do not know whether any benefit has been found. The trial must be closed and the data analyzed before the benefit is known and the treatment is made widely available to patients.

There may be some added risks associated with research. Your doctor will discuss in detail with you both the potential risks and benefits of joining the trial. Your written permission must be given before you can start on a clinical trial.

An oversight committee called an Institutional Review Board or IRB has the important job of reviewing all clinical trials that take place at the University of Michigan. The IRB is composed of cancer doctors, doctors in other specialties and lay people. The IRB reviews all clinical trials before they are available to

patients and again at different times during the research. This ensures the safety of clinical trials for patients.

Patients who are on a clinical trial receive a great deal of supportive care. Their reactions to the treatment are watched closely. The patient may choose to leave the study at any time. If a patient leaves a study for any reason, standard care will be started.

Clinical trials are voluntary. Your cancer will be treated whether you decide to join a trial or not. Talk to your doctor about any questions you have regarding clinical trials at the University of Michigan.

If you are on a clinical trial, your care will also be monitored and coordinated by a Clinical Research Coordinator. Their job is to collect data and help arrange your follow up appointments. They will work closely with you and your doctor.

### **Preparing for radiation therapy**

Starting radiation therapy can be scary. When you do not know what to expect, you may feel nervous or anxious about what is to come. This guide will help you prepare for your treatment by letting you know what steps are next in the process and how to prepare for each one.

**Consultation visit**

At your consultation visit, your Radiation Oncologist (and a Resident Doctor, Nurse Practitioner, or Physician's Assistant) will examine you and reconfirm your diagnosis with the use of your x-rays, medical images and pathology report to determine and discuss your treatment options. Once it is determined that you will undergo a course of radiation therapy, your simulation/treatment planning visit will be scheduled.

**Simulation/treatment planning**

Simulation is the first step of your treatment planning process, and it often includes a CT or MRI scan. A simulation is an imitation of your radiation treatment in the position that you will be treated. Treatment does not take place during the simulation. Your simulation may take 30-90 minutes depending upon the area being treated. You may get a call before your visit if there are special instructions, such as not eating before, not taking certain medications, arriving early to have your blood drawn, whether you will need an appointment to have an IV placed, or your power port accessed prior to your simulation.

Just before your simulation, you will have an arrival time that will appear on your schedule as "Please arrive by". During this time, you will watch a video, if you haven't already (see Page 7). After the video you will talk with your Radiation Oncology team about side effects specific to your kind of treatment, and how to manage them. It may be necessary for you to change into a gown, or drink a contrast solution during this appointment. You will then go from the clinic to our simulation room. Radiation Therapists will perform the simulation under the guidance of your Radiation Oncologist.

**Simulation Contrast Instructions**

Appointment Date \_\_\_\_\_

Arrival Time \_\_\_\_\_

 **Oral Contrast**

- No Required Preparations
- No Restrictions
- No Modification for Diabetics

 **IV Contrast**

- **NPO (Nothing by Mouth):** Nothing to eat four hours prior to simulation .

**Stop Eating** \_\_\_\_\_

- Clear Liquids are acceptable up to 2 hours prior to simulation Clear liquids: tea, black coffee, apple juice, lemon or lime Jell-O, clear chicken or beef broth, clear soda (7-Up, Sprite, Ginger Ale), water.

**Stop Clear Liquids** \_\_\_\_\_ **IV Contrast (Diabetic Patients)**

- **Insulin:** If the patient is diabetic and on Insulin, their instructions will be given to them at the time of consult if they are to have treatment.
- **Glucophage ,Glucophan or Metformin:** If the patient is on Glucophage, Glucophan or Metformin they need to refrain from taking this up to 48 hours following the CT. Their doctor may need to prescribe them an alternate medication.

 **IV Contrast (Pregnant and/or Breastfeeding)**

- If the patient is pregnant, the Radiation Oncologist will call the Radiologist to discuss adverse effects. If the patient is breastfeeding she will need to pump breast milk and save 48 hours' worth of breast milk before CT Simulation and discard all pumped breast milk 48 hours following the Simulation procedure.

Your Radiation Oncologist will decide if an immobilization device is needed for your treatment. If an immobilization device is needed, it will be made for you at this appointment and it will be used during your simulation and your treatment. It will be labeled with your name and stored in our department.

Some types of immobilization devices include:

- **Plastic Mesh Masks:** Are used for radiation therapy to the head (including brain) and neck regions. The masks are made from a hard plastic material that becomes very flexible in warm water. When it is wet, it shapes to the contour of your face, then dries quickly and hardens.
- **Foam Cradles:** Are made with a liquid Styrofoam that expands and hardens. As it expands, it forms to the shape of your body. While expanding, the foam gets very warm and cools as it hardens.
- **Vacuum Bags:** Are made by shaping a bean bag to your body, and removing the air in the bag with a vacuum.

**If you are having radiation to your head or neck:**

- Do not wear makeup and/or hair products the day of your simulation visit.
- Please notify your doctor if you know you have claustrophobia, anxiety, and/or if you have had difficulty with past MRIs.

The therapists will draw marks on your skin or on the immobilization device during simulation so that your exact position can be used for each treatment session. During simulation, laser beams are used to help confirm your precise alignment. These lasers are not harmful to you and are just for positioning purposes. Permanent tattoos may be given at the end of your simulation appointment, or on your first day of radiation treatment.

**If temporary marks are placed on your skin, be careful not to remove them before your first treatment. If the marks are gone at your first treatment visit they will have to be re-drawn which will add time to your visit.**

Pictures will be taken of the marks on your skin and of the position that you will be treated in. The pictures are for documentation purposes only and will be placed in your treatment chart.

In some cases, you may be given an injection of a special dye called IV contrast that helps your doctor to see certain organs more clearly on a scan. The Radiation Oncologist may also ask you to drink a contrast solution to help visualize other organs. You may be given instructions not to eat or drink before this appointment if contrast is being used. If you will be getting IV contrast, it is important to notify your doctor if you are on any medications that contain metformin. Metformin is sold as a generic drug used to treat diabetes and is also present within drugs named Glucophage®, Glucovance®, Avandamet and Metaglip.

**If you are getting IV contrast, it is important to tell your doctor if:**

- You have an allergy to IV contrast.
- You have a severe life threatening medication or food allergy and have never had IV contrast.
- You have severe asthma.
- You are taking medication that contains metformin.

All of the information from your simulation will be used to determine the type of treatment fields, energy and angle of the beams used for your radiation treatment. This planning can sometimes take several days after this appointment.

After your simulation, you will be taken on a tour of our department. You will be taught how to check-in, you'll see the treatment machines and shown the locker rooms and patient waiting rooms.

It takes about **7-10 business days** to plan your treatment. Once your treatment plan has been done, schedulers will call you to set up your appointment. The goal is to have your treatment time at the same time every day. We will do our best to schedule your visits at a time that works well for you. If this is not possible, you will be placed on a wait list until your preferred time is available.

**Note:** If you are receiving chemotherapy and you have been told that it must be given before your radiation treatment, the time of your chemotherapy will determine the time for **all** of your radiation therapy appointments.

Your Radiation Oncologist will prescribe the number of treatments for you and they may add on treatment appointments or cancel treatment appointments throughout the course of treatment. (See scheduling in the treatment section of this guide book.)

## Beginning Your Treatment

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### First visit to treatment unit

Skin in the area being treated needs to be clean and dry when you arrive for treatment. Radiation oncology is a scent free zone. This means you should not wear any fragrances, cologne, scented lotions, or aftershaves. This is necessary for your comfort as well as that of the other patients receiving treatment here. Patients may receive treatments that cause sensitivity to smells which can cause nausea.

Check-in at the computer that is located through the first set of double doors, on your left. There are reminder instructions and a map on the wall to the left of the computer. If you have any problems checking-in, see a Patient Services Assistant in the front lobby.

Most patients will need to wear gowns for their treatments. If you would like to wear your own clothing discuss this with your radiation therapist. In some cases, wearing sweatpants or loose fitting clothing is allowed. Otherwise, a gown or robe is available in the dressing room. You may bring a bathrobe, sweater or sweatshirt to wear over your gown. Lockers are available; but locks are not provided. You may bring a lock with you.

***For all patients' privacy and safety, only patients are allowed in the gowned waiting areas. Family and friends are asked to wait in the lobby and not in the halls outside the treatment rooms.*** If you need any help with dressing or while waiting, please let our staff know so that we can assist you, and still maintain the privacy of the other patients.



Before you begin your treatment, you will be placed on the treatment machine and you will have some digital images (x-rays) taken that will be compared to those taken during your simulation to verify your positioning. You may receive tattoos that are about the size of a freckle. Tattoos assist the radiation therapist in getting you in the correct position for each treatment. These tattoos are permanent. Your first visit to the treatment unit may or may not include your initial treatment.

During your radiation treatment you will be asked to lie very still. You will not see or feel anything but you may hear electrical noises. To help you relax, there is a CD player and iPod docking station in the treatment room. You are welcome to bring your own music to play while you are being treated. Although you are in the treatment room alone, the therapists are monitoring you through the use of an intercom and closed circuit television system. Most of the time spent in the treatment room is spent getting ready for the treatment (getting you into position, x-rays). In most cases the actual radiation treatment takes just a few minutes. Your first treatment visit should take about 60 minutes. After that, your daily treatment should only take about 25 minutes.

### **Scheduling of treatments**

The Patient Services Assistant is in charge of scheduling, cancellations and adjusting all treatment appointments. The goal is to have your treatment time at the same time every day. We will do our best to schedule your visits at a time that works well for you. If this is not possible, you will be placed on a wait list until your preferred time is available.

**Note:** If you are receiving chemotherapy and you have been told that it must be given before your radiation treatment, the time of your chemotherapy will determine the time for **all** of your radiation therapy appointments.

Sometimes we may have treatment unit delays that are out of our control. If this happens, we will try to accommodate you on one of the other treatment units. This may cause delays in our schedules. We will try to notify you of these delays as soon as possible. **Please make sure we have a phone number where you can be reached.**

Our goal is not to cancel appointments, but on rare occasions it may be necessary. In cases of severe weather, we do not close, however if you need to cancel due to unsafe conditions please call us as soon as you know.

We are closed on the holidays observed by the University of Michigan Hospital and Health System. This is reflected on your printed schedule that your Patient Services Assistant provides you.

**Be advised that your schedule may change. Ultimately it is the doctor who decides your treatment plan. There may be treatments added or removed from your schedule.**

Please address all scheduling issues with your Patient Services Assistant during the clinic hours located on Page 6 of this handbook.

## During Your Treatment

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### Side effects

It is normal to be concerned about the possible side effects of radiation therapy. These feelings can be overwhelming before treatment begins. It is important to discuss your concerns with your doctor or nurse. Remember that not all patients experience side effects in the same way. In fact, many people have few or no side effects from their treatment. The severity and type of side effects that occur will depend on:

- The treatment you are receiving
- The dose prescribed
- The area being treated
- How many treatments you receive
- Your current health

These side effects will be listed on the consent form that the doctor reviews with you. The consent form also lists short term and possible long term side effects. A signed copy of this form will be given to you.

**Even though certain side effects might be expected, you should always notify your doctor or nurse of any side effects that occur.**

Review the “Radiation Therapy Side Effects” section of *Radiation Therapy and You* before you begin your treatment. You will find a detailed description of some of the common side effects of radiation based on the area of the body being treated. It will provide suggestions about how to manage side effects that you might experience. Your health care team will give information to you as you progress through your treatments. Remember that everyone is different, and even someone with the same diagnosis and treatment can experience side

effects in different ways. Additional information about skin care can be found on Pages 26-29 of this guide.

### **Fertility preservation program**

Some men and women who receive chemotherapy, radiation therapy and surgery can become infertile, which means they are unable to have children. If you plan to have children, talk to your doctor before your treatment begins. For more information on fertility preservation, visit:

<http://www.mccancer.org/fertility-preservation>

Once at the web site, choose “For Male Patients” or “For Female Patients”.

### **On treatment visits**

Once a week while you are on treatment you will see your doctor in the Radiation Oncology Clinic, for a treatment visit. You may hear this referred to as an “OTV” or on treatment visit. These visits are required and each doctor has certain days in the clinic to see their patients. These appointments will not appear separately on your appointment calendar, and generally do not take long. However, if the clinic rooms are occupied or your doctor is with another patient you may have to wait. Reminders will be posted outside the locker room and in the waiting rooms. Your Radiation Therapists will also help to remind you about these visits.

## Frequently Asked Questions

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### **What should I bring?**

Please bring the following items with you on the day of treatment:

- If you need medications for nausea, pain or anxiety that you would normally take during your treatment time, please bring them with you so that you do not miss a dose.

You may also wish to bring:

- A lock if you want to lock up your personal items during treatment.
- A bathrobe or sweatshirt to wear over your gown.

### **Can I drive while I am on treatment?**

Driving to and from your treatments is usually not a problem, unless you are taking any medications that have a side effect of drowsiness or another doctor has told you that you cannot drive.

### **Where should I park?**

All patients in the department of Radiation Oncology receive free parking in our lot. You will be given a hang tag at check-in to place in your car. This gives you access to the parking lot in front of the Radiation Oncology lobby. Remember to always hang your tag on your rear view mirror. Radiation Oncology is not responsible for parking tickets. The parking is monitored by the City of Ann Arbor.

**Can I get help getting in and out of my car?**

There are wheelchairs available at the Radiation Oncology entrance. However, if you need assistance getting in or out of your car you should use the main entrance of the Cancer Center or University Hospital. A patient attendant at these locations can assist you in and out of your car and a transporter can bring you to the Radiation Oncology department, while your friend or family member parks your car in our parking lot.

**Can I bring my family to the treatment area?**

We encourage you to bring a friend or family member with you to your appointments in Radiation Oncology. When you are going back to the waiting areas for treatment we ask that your support person remain in the lobby.

**Should I eat before treatment?**

Many patients worry about eating before their treatment. Unless you are told to do otherwise, please eat as you normally would, don't skip any meals and take your medications as scheduled.

It is important that you eat a healthy diet that provides enough calories and protein during your radiation therapy treatment. There is a list of foods and drinks provided in the *Radiation Therapy and You* booklet on Page 54. You may be asked to provide information on any vitamins and supplements you are currently taking. It is recommended that you avoid taking more than the recommended daily dose of vitamins.

If you need help making sure that your diet is sufficient or you are told that your treatment may cause difficulty eating (nausea, diarrhea, loss of appetite, mouth and/or throat pain) you can meet with a Registered Dietitian at the Cancer Center.

Diet changes may be recommended if you are experiencing side effects that can be managed with diet, such as diarrhea, constipation or nausea, or bladder changes. Some of these suggestions can be found in your NCI ***Radiation Therapy and You*** book.

Please see a Patient Services Assistant to set up an appointment with a Registered Dietitian in the Cancer Center. This may be covered by your insurance while you are on treatment. Please call your insurance company to confirm coverage.

### **Is food available?**

Coffee and tea are available in the main lobby. Other food services are available throughout the hospital.

- Cafeteria: Located on level 2 of University Hospital, the cafeteria is open 24 hours a day, seven days a week.
- Einstein Bagels: Level 2 of University Hospital, in front of cafeteria. Open Monday through Friday, from 6:00 a.m. to 8:00 p.m. and weekends 6:00 a.m. to 2:00 p.m.
- Subway: Located inside the Cafeteria, open Monday through Friday 6:30 a.m. - 8:00 p.m., closed Saturday and Sunday.
- Victors Way Café - Located between University Hospital and Cancer Center, open Monday through Friday 6:30 a.m. - 5:00 p.m.
- Vending machines: There are vending machines available on level 2 in front of the cafeteria.

**Where can I fill my prescriptions?**

Any pharmacy is fine to use. However, it is preferred that you use hospital pharmacies that we are able to work closely with. These pharmacies have pricing that compares to other pharmacies.

**Cancer Center Building:** An outpatient pharmacy is located on level B1. Both prescription and non-prescription medications are sold there.

Hours: Monday through Friday: 9:00 a.m. to 5:30 p.m.

**University Hospital (Taubman Building):** An outpatient pharmacy is located on level 1 of the Taubman clinic building, near the main Information Desk. Both prescription and non-prescription medications are sold there. Hours: Monday through Friday 9:00 a.m. – 6:00 p.m. and Saturday 9:00 a.m. – 4:00 p.m.

**Brighton Center for Specialty Care:** An outpatient pharmacy is located on level 1 of the Brighton Center for Specialty Care building. Both prescription and non-prescription medications are sold there. Hours: Monday through Friday 8:00 a.m. – 5:00 p.m.

**Where do I get my blood drawn?**

You may need to have your blood drawn during your treatment. The frequency of blood draws depends on the area of the body being treated. Whenever possible, your blood will be drawn in the radiation oncology department or in the Comprehensive Cancer Center on level B2. Ask your MA or nurse for more information.

**Will my health insurance cover treatment costs?**

The Radiation Oncology Billing Office submits claims to insurance companies, government programs such as Medicare and Medicaid or to any other payer indicated by you. The billing office personnel will verify that billing forms are



complete and have all the necessary information for the payers to process and pay the claim. Please bring with you any referrals or authorizations which your insurance company requires in order to make payment for services.

During the first week of your radiation treatment, a Financial Counselor may meet with you. The Financial Counselor will discuss your insurance benefits relating to radiation therapy and answer any questions you may have about any payments you will be responsible for. At the same time you will receive a general explanation of the billing process at the University of Michigan. You can reach a Financial Counselor to answer your questions at (734) 647-5299, or 855-855-0863. Counselors are available Monday through Friday, between the hours of 8:00 a.m. and 4:30 p.m.

### **When should I contact my doctor?**

Notify your doctor for the following:

- Shaking chills or fever (a temperature of 101° F or 38.3° C). Notify your doctor immediately if you develop a temperature, do not delay
- Unusual cough, sore throat, lung congestion or shortness of breath
- Burning discomfort when you urinate
- Redness, pain or sores in your mouth
- Nausea, vomiting or inability to eat or drink for more than 24 hours
- Diarrhea (loose, watery stools) for more than 24 hours
- Constipation (no bowel movement in 2-3 days)
- Bleeding or unusual bruising
- Pain not controlled by your current medications
- Any new or unusual symptom that concerns you

Tell your doctor or nurse if you are having any new problems, even if they do not seem to be related to your radiation treatment. If the issues you are having are in fact not related to your radiation therapy, you will be referred to your primary care doctor or oncologist to discuss them.

**Who do I call with questions?**

Before you start your radiation therapy and throughout your treatment, you will be cared for by your Radiation Oncologist and the Resident working with them. After treatment has completed, and you are coming for follow-up care, you will be working with your Radiation Oncologist and the mid-level provider (Nurse Practitioner or Physician's Assistant). The nurses are available to help before, during and after treatment.

**On weekdays** (7:00 a.m. to 5:00 p.m.; Monday-Friday); contact the Radiation Oncology Department at (734) 936-4300 or (800) 882-7150.

**On weekends, holidays or after 5pm on weekdays;** contact the paging operator at (734) 936-6267 and ask to have the On-Call Radiation Oncology Resident paged.

## After Radiation Therapy Treatment

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On your last day of treatment or during your last on treatment visit, your doctor and or nurse will review what is normal to experience after radiation therapy treatment. The *Radiation Therapy and You* book is another valuable resource during the time after your treatments. Refer to it for any questions and then contact your health care team if you don't find answers.

### Instructions after completing radiation therapy

After radiation therapy, you may continue to have side effects related to your treatments. Below are some guidelines that will tell you what to expect and how to care for yourself after you complete your radiation treatments.

Most side effects that you experienced during your treatments will gradually improve. Some may get worse for a few days after treatment before they start to improve. However, some may persist for months or may even be permanent. Your doctor will ask you about your symptoms when you return for a follow-up visit. You may refer back to your consent form that was signed before you started treatment for a review of the short-term and long-term side effects.

**If at any time you have a question about a side effect, refer back to “When should I contact my doctor” on Page 24.**

**Skin care:** If you experienced a skin reaction during your treatments, it may worsen for 7-10 days after your final treatment and then begin to heal. Continue to gently wash and moisturize with recommended skin products as directed by your doctor or nurse. If you notice that areas of your skin become open or weepy, if you have a fever (101° F or above) or notice large amounts of thick drainage, contact your radiation doctor or nurse. Once the skin has healed, be sure to protect it from injury and avoid direct sun exposure. Use a sunscreen with a SPF rating of at least 30 if you cannot avoid the sun.

Skin changes can be different for each person. It is dependent on: which part of the body is being treated, the size of the area being treated, the dose of radiation, other illnesses, treatments, stress, infection, medication, and anemia. See the NCI *Radiation Therapy and You* booklet for more information about what to expect, and how to care for your skin changes.

**What you need to know.** Your skin in the area being treated should be gently cleaned and dry when you arrive for your daily treatments. Use mild soaps that are for sensitive skin.

If you use a skin care product before your treatment, allow four hours for it to absorb. The goal is to protect the skin that may be irritated by the radiation treatments. To prevent additional irritation in the area being treated; avoid shaving using a razor blade (electric shavers are okay to use during this time), avoid perfumes, powders or cosmetics in the area and avoid the use of deodorants and/or antiperspirants that contain aluminum. Your doctor may tell you it is okay to apply non-aluminum deodorants or to use pure cornstarch. **Warning: stop the use of cornstarch if you develop open areas.**

**In the area being treated:**

Your skin should be clean and dry before treatment.

Do not use deodorant, Anti-bacterial soap or heavily fragranced soap.

Avoid friction (scrubbing, scratching, tight clothing etc).

Your doctor may suggest one of the following items for you to use. They do not require a prescription (**Please talk to your doctor before using any product not listed**). **To use:** Apply to the area after your treatment and again before bedtime unless otherwise directed.

**Your doctor would like you to use the product checked below:**

- Alra:** Is a combination of aloe gel, vitamin E, lanolin, allantoin, and soluble collagen. It was designed to soothe skin affected by radiation therapy. It is water soluble and rinses off easily. Alra® can be purchased at the pharmacy on the first floor of the Taubman Center, at the pharmacy on B1 of the Cancer Center, or online at Alra's website <http://www.alra.com/> . **\*Dr Pierce's patients should only use this lotion\***



- Boiron® Calendula Ointment:** Calendula is a homeopathic treatment for burns. This ointment can be found at Whole Foods and Plum Market in Ann Arbor, or online.



- Aquaphor™:** Is a thick healing ointment that can be very soothing on skin that is dry and irritated from radiation. It is available in most drug stores over-the-counter. If you don't see it, ask your pharmacist.



- Pure Aloe gels (98%-99%):** Look closely at the label. Many aloe gels have high alcohol content, or contain other products that could irritate the skin. Buy aloe gels that are 98%-99% pure aloe, or use the gel directly from an aloe plant.



- Other:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Contact your doctor if you experience any of the following:**

- Raw open areas that are moist, have unusual drainage or foul odor
- Unrelieved pain
- Fever over 101°F

**Diet:** If you have been on a special diet to control the side effects of your treatment, follow this diet until the side effects have resolved. Then, slowly return to your normal diet. Diets high in protein and vitamin C will promote tissue healing.

**Activity:** Fatigue and weakness can continue for several weeks. You may need to have rest periods and/or pace your activities.

Additional Instructions:

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**Follow up visit**

Your first follow-up visit is scheduled for:

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Often, at your follow-up visit you will see a mid-level provider (Nurse Practitioner or Physician's Assistant) that works closely with your doctor. The doctor is available if needed.

Your appointment will be with:

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## Facing forward after cancer treatment

Dealing with the different side effects and life changes of cancer treatment can be hard on you emotionally as well as physically. Just as cancer affects your physical health, it can bring up a wide range of feelings that you may not be used to. It can also make many feelings seem more intense. They may change daily, hourly, or even minute to minute. This is true whether you're currently in treatment, done with treatment, or are family member or friend. These feelings are all normal.

Many people with cancer feel sad. They feel a sense of loss of their health, and the life they had before they learned they had the disease. Even when you're done with treatment, you may still feel sad. This is a normal response to any serious illness. It may take time to work through and accept all the changes that are taking place.

One of the hardest things after treatment is when you do not know what to expect next. Many cancer survivors feel that they had a lot of information and support during their illness and once treatment ends; they enter a whole new world - one filled with new questions.

There are a number of resources available to help you once you complete your radiation therapy including *Facing Forward* a book written by the National Cancer Institute which is available to all patients following treatment. If you did not receive this book after your treatment ended, contact our department or the Additional information regarding *Facing Forward* can be obtained by contacting the Rogel Cancer Education Program at 734-647-8626, or email, [CCC-PERC@med.umich.edu](mailto:CCC-PERC@med.umich.edu)

***Facing Forward*** is also offered as a one day session four times a year, with speakers on topics described in the NCI booklet. This class is available at no cost to UM patients and offers the opportunity to meet experts on survivorship issues (such as worker's rights, legal issues, managing health concerns etc.). Information about future dates can be found online at [www.cancer.org](http://www.cancer.org) or by calling the Cancer Answer line at 1-800-865-1125.



## Resources

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There are many resources available to patients and their families at the Department of Radiation Oncology and the Rogel Comprehensive Cancer Center that will help you throughout your treatment. These resources can be found in the Patient and Family Support Services Handbook. If you didn't receive a copy of this handbook, let us know.

Information about patient and family resources can be found by contacting the Rogel Cancer Education Program at 734-647-8626, or email, [CCC-PERC@med.umich.edu](mailto:CCC-PERC@med.umich.edu) or online at [www.mcancer.org](http://www.mcancer.org)

These services include:

- Nutrition Services and the Nutrition Counseling Clinic
- The Rogel Cancer Education Program
- Managing Emotions and the Psych Oncology Clinic
- Financial Assistance Programs
- Hair loss resources, community organizations and websites for hair loss products
- Information about chemotherapy, side effects and resources available at the Patient Education Resource Center (PERC)
- Information about the Facing Forward Program

### **Patient Education Resource Center**

The Rogel Cancer Education Program offers patients and families an Information Resource Specialist to assist those seeking additional patient education resource materials.

Hours of operation are Monday through Friday, 8:00 a.m. until 4:30 p.m.

Fax. 734 647-1901 Tel.734 647-8626 or email, [CCC-PERC@med.umich.edu](mailto:CCC-PERC@med.umich.edu)

## Lodging

The Patient and Visitor Hotel Accommodations Program is available to assist UMHS patients and hospital visitors secure lodging in Ann Arbor at the very best rates possible for the accommodations desired.

The Patient and Visitor Accommodations Program have negotiated rates with fourteen area hotels. These hotels have agreed to offer the best possible rates for patients and their families during their visit to the University of Michigan Health System. The rates for these hotels range from \$39 - \$192 per night, with amenities ranging from shuttle service, fitness rooms, indoor or outdoor pools, onsite restaurants and in-room dining. If your stay in the Ann Arbor area will be for six weeks or more, there are also extended stay hotels along with an apartment option with monthly rates ranging from \$900 - \$1800. Apartment amenities include cable TV, internet access and housekeeping service.

For reservations or more information, contact the Patient and Visitor Accommodations Program at (800) 544-8684 or (734) 936-0135 or visit the web site at <http://www.med.umich.edu/hotels>. Staff will take your information on accommodations, and make the reservation for you. You will receive information about the amenities of the hotel or apartment you will be using and directions to your lodging.

The goal of the Patient and Visitor Hotel Accommodations Program is to provide enhanced guest-services by handling the lodging needs of our patients and visitors so they can focus on the important things; providing support and care to loved ones or focus on their own care.

**Special considerations for pediatric patients**

Children of all ages are treated at Michigan Medicine Radiation Oncology Department. Some children, particularly infants, may need to be sedated or anesthetized for treatments and treatment planning appointments. Whenever possible, we will work with your child, through the use of play therapy, to obtain her/his cooperation without the use of medications.

We encourage children to bring stuffed animals, blankets, CD's with their favorite music, books or a parent's voice to help ease their fear.

To help your child become more familiar with the Radiation Oncology Department, we would recommend a tour that can be scheduled before they begin their treatment. In addition, it may be possible for your child to meet the Therapists that will be treating them.

While your child is having their radiation treatment, it is required that parents wait in the waiting areas and not the hall. This is requested for the privacy of other patients.

**Child and family life services**

Certified Child Life Specialists are available to offer support to you and your child before, during and after healthcare experiences. Child Life Specialists can help children, teens and young adults cope in different ways specific to their age, developmental level and needs. They will provide emotional support and advocate for the needs of pediatric patients and their families within the health care system.

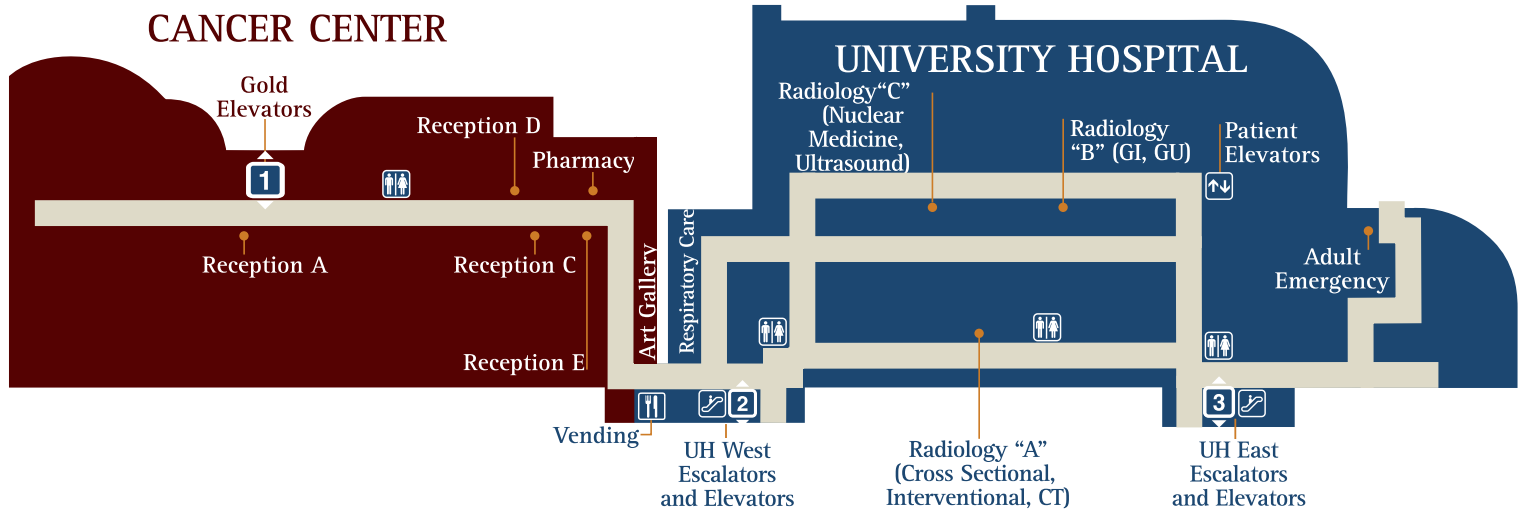
Child Life Specialists can help children and young people by preparing them for radiation using age appropriate language and other materials and play. They

may also teach them relaxation and coping techniques that can be used during radiation treatment, including; distraction, guided imagery, deep breathing and progressive muscle relaxation.






They will work with the Radiation Oncology team to help develop ideas that can help children manage and cope throughout their therapy.







Referrals are usually made for you to Child Life before the first radiation appointment. However, if you have not yet met with Child Life and would find their services helpful, you can contact them by calling (734) 936-6519 before their radiation planning (simulation) appointment.

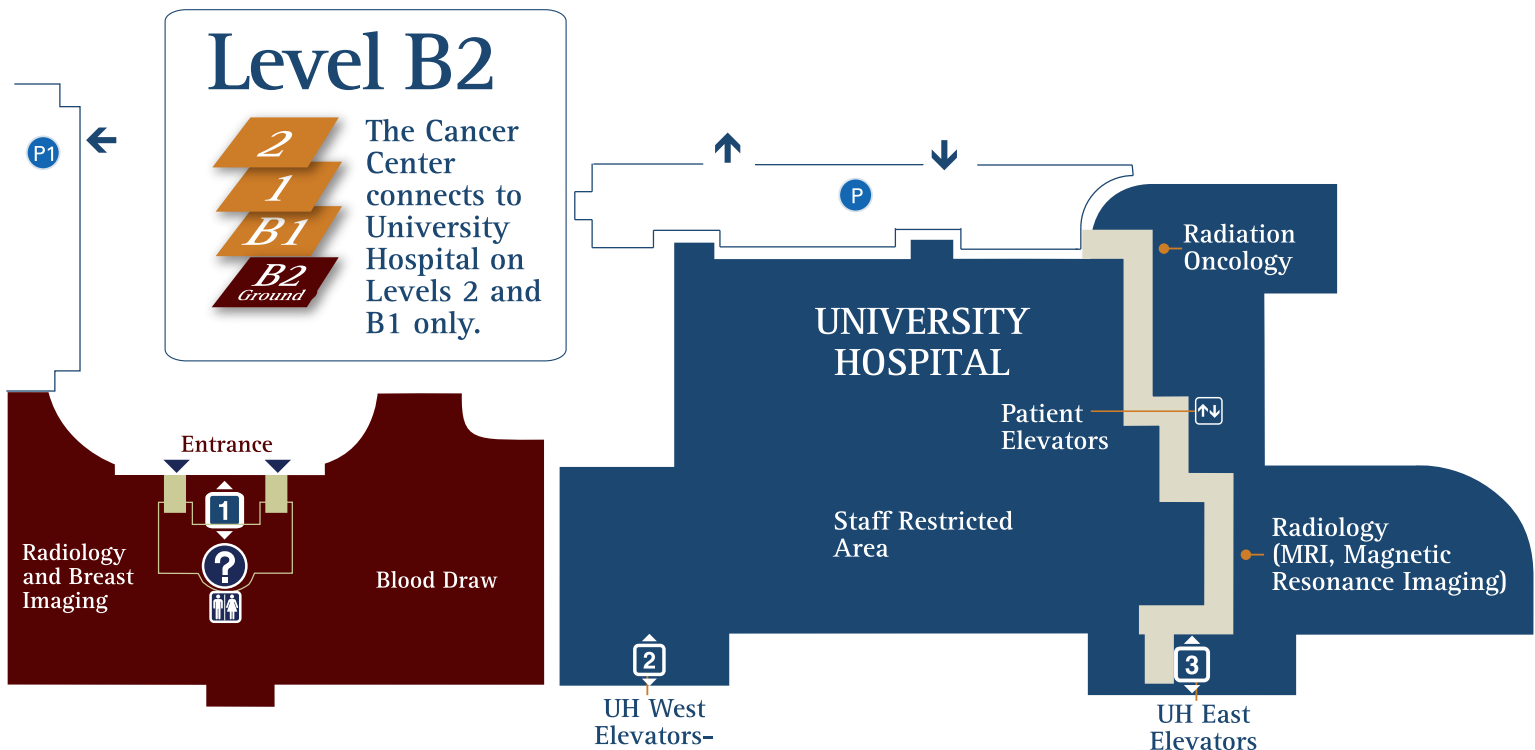
# Navigating the Medical Campus








## Level B1

 The Cancer Center connects to University Hospital on Levels 2 and B1 only.  
   
   
   


-  Public Pathway
-  Information/Registration
-  Elevators
-  Food Service
-  Restroom
-  Parking



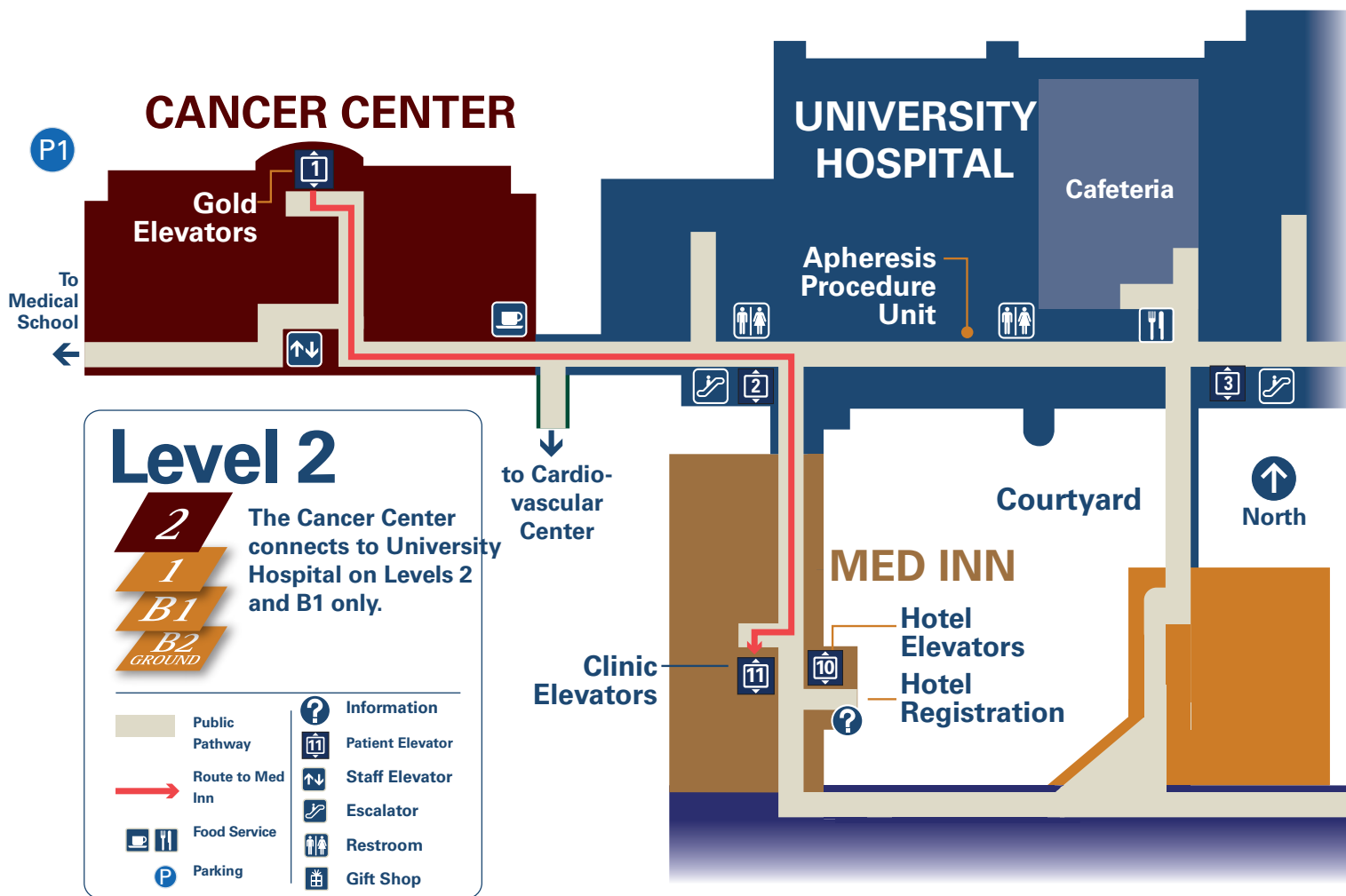
## Level B2

 The Cancer Center connects to University Hospital on Levels 2 and B1 only.  
   
   
   


# Navigating from the Cancer Center to the Med Inn

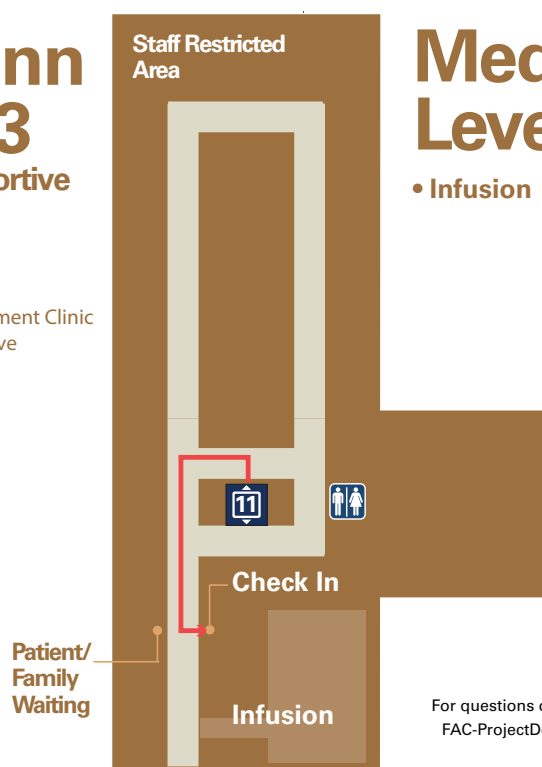


**ROGEL CANCER CENTER**  
MICHIGAN MEDICINE



## To Get from Cancer Center to Med Inn Elevators

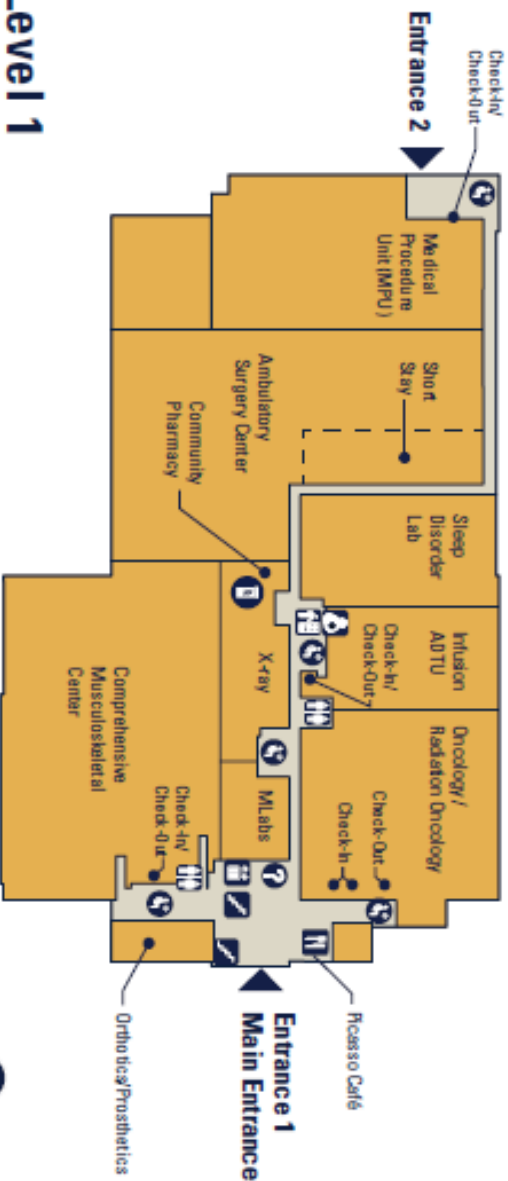
- In the Cancer Center, take Elevator 1 to Level 2.
- Exit elevators, follow the overhead signs to Elevator 11.
- The Elevator 11 bank is on your right, just past the Dentistry check-in desk.



**Level 1**

**Entrance 2**

Ambulatory Surgery Center  
 Short Stay  
 Medical Procedure Unit (MPU)  
 Gastroenterology/Physiology Lab  
 Sleep Disorder Lab  
 Pediatric Sleep Clinic  
 Sleep Clinic



**Level 1**



**Level 1**

**Entrance 1 (Main Entrance)**

Ambulatory Diagnostics and Treatment Unit (ADTU)  
 Community Pharmacy  
 Comprehensive Musculoskeletal Center  
 Back & Pain Center  
 Cardiac Rehab  
 EEG / EMG  
 Headache & Pain Program  
 MedSport  
 Neurosurgery  
 Occupational Therapy  
 Orthopedic Surgery  
 Orthotics and Prosthetics  
 Physical Therapy  
 Physical Therapy-PM&A  
 Rehab Psychology  
 Rheumatology  
 Speech-Language Pathology  
 Spine Clinic  
 Spine Physical Therapy  
 Wheelchair Seating  
 Wheelchair Seating

**Map Legend**

- ▶ Entry/Exit
- Public Parking/Accessibility
- Exit/Entrance
- Stairs
- Guest Services
- Restroom
- Lactation
- DMV
- Waiting
- Waiting/Screening Pharmacy



**MICHIGAN MEDICINE**  
UNIVERSITY OF MICHIGAN

**PATIENT/VISITOR  
MAP & GUIDE**

[www.UoMHealth.org](http://www.UoMHealth.org)









