



Radiation Treatment in Children

Information for families

Our staff knows that this is a difficult time for your child and your family. We will do our best to make the treatment go smoothly.

This handout provides details about the Cancer Center, our staff, and information about your child's radiation treatment.

Your First Visit: Consult

During your first visit to University of Washington Medical Center (UWMC), you will meet with a *pediatric radiation oncologist* (a doctor with special training to treat cancer with radiation). You will be given details about your child's radiation therapy and will have time to have your questions answered.

An attending doctor who specializes in pediatric radiation therapy will oversee your child's treatment. This doctor will advise on all treatment decisions. Our pediatric nurse practitioner and a radiation resident (a doctor being trained in radiation) will also be involved with planning and day-to-day management of your child's treatment.

It is important that your child come with you to this first visit. We will take a medical history and do a physical exam. Your child will be able to meet our staff and see the facility. We regret that we will not be able to see you if your child does not come with you to this first visit. You may call to reschedule if your child's health or treatment schedule conflicts with your appointment time. If your child is an inpatient at Seattle Children's, we can usually arrange for a pass and/or transportation so your child can come.

Anesthesia

Anesthesia (medicine to make your child sleep) is sometimes used to make sure your child does not move during the simulation and treatment process (see pages 2 and 3 for more information about simulation). It is most often used for very young children or those who have a hard time lying still. At your first visit, we will decide if anesthesia will be needed for treatment.

Your child may take the mask or alpha cradle mold home when the treatments are done.

If anesthesia is needed, your child must stop eating solid foods 6 hours before **every** procedure appointment. Clear liquids, such as apple juice or water, may be given up to 2 hours before the procedure.

For example, if the treatment is at 8 a.m., your child would stop eating at 2 a.m. They could drink clear liquids until 6 a.m., and then have nothing by mouth until after the procedure.

Treatment Planning Visits

Step 1: CT Simulation

A special *CT simulation scanner* is used to plan the exact treatment area. Your child will be asked to lie very still on a table while the doctor and radiation therapists locate the exact place where the high energy X-rays will be aimed. If anesthesia is required for treatment, the simulation will also be done with anesthesia.

In many cases, *contrast solution* will be given through an IV (*intravenous*) line to make it easier for the doctor to see inside your child's body. The contrast may be given in an IV line in your child's arm or through a *central line*. Please talk with your nurse about which one will be used for your child.

This precise planning process may take from 30 minutes to 2 hours. The average time is 1 hour, or 2 hours if anesthesia is required.

Immobilization Devices

Most times, the part or parts of your child's body that will be treated must stay very still during the radiation treatments. During the simulation visit, we will make *immobilization devices* that will help keep parts of your child's body from moving. Depending on the area of treatment, your child may need one or more immobilization device. Each device takes about 15 minutes to make. **These devices do not hurt.**

On the day of the simulation, our staff will tell you which devices are needed for your child. Each one will be used only during the radiation treatment appointment. We will keep the devices in our department until all treatments are done.

Here are the kinds of devices that may be used:

Bite Block

A bite block is similar to a dental mold made by a dentist. It holds the jaw in an open position. It is common to use a bite block for patients with tumors in the head or neck.

Mask

Your child will need a mask if they are having radiation to the head or if they will have anesthesia. The mask will keep their head in the same place each day. It is made of a plastic see-through mesh that is heated and softened in warm water, then molded over the face. At first, it feels like a warm, wet washcloth. The mask hardens as it cools and dries. After the mask is formed, it is removed and holes are cut out for the eyes, nose, and mouth.

Alpha Cradle

An alpha cradle is a Styrofoam mold that is made in the same position as the entire body or a limb. It is often used when a person needs to lie on their stomach for treatment, or to hold an arm or leg in place.

The cradle is made by mixing chemicals together in a big plastic bag. The child then lies down on the bag. The Styrofoam gets warm and forms a mold, like a plaster cast. It cools and hardens very quickly.

Step 2: Isocenter Marking and Film Day

After the CT simulation process is done, your doctor and *dosimetrists* (radiation planning specialists) will work together to create a treatment plan that will match your child's body and diagnosis. This planning is done on a computer, and can take up to 2 weeks.

Once the computer planning is complete, we will call you to let you know we are ready for the next step. The next appointment involves *iso marking* and *filming*. This is the final safety check before starting radiation treatment.

During this appointment, your child will be seen in 2 different rooms. The first room is the CT Simulation Suite. While your child is here, radiation therapists will locate the exact center of the treatment field, which was determined by the computer planning.

Next, your child will be moved to the radiation treatment room. Here, your child will get set up in their treatment position. X-rays will be taken to make sure the treatment field matches exactly what your doctor has prescribed on the computer.

Also, the therapist may mark your child's skin with permanent "dots." These marks are used to show the treatment area and to help the therapists line up the radiation beams the exact same way for each treatment. It is common to have a permanent dot covered by an "X" drawn with a semi-permanent marker. Please do not remove the semi-permanent markings unless your radiation therapist tells you to.

Once your child has started radiation, the radiation therapists will check X-ray films on a regular basis to make sure they are treating in the exact area that was prescribed. This work is very precise, and is done using tiny measurements called *millimeters*.

Treatment Scheduling

On the filming day, you will be given an appointment time for your child's daily treatment. Treatment is usually at the same time every visit. Please be on time.

If your appointment time does not work well for you or your child, please tell the radiation therapist at the treatment machine. New treatment times may become available.

At times, your child's treatment time may need to be changed. If this occurs, we will try to let you know as soon as possible.

Children often have morning treatment times when anesthesia is used. This appointment time may vary a little each day, depending on the number of children receiving anesthesia. A schedule is provided every Thursday for the next week.

During Treatment

Before treatment starts, you may go into the treatment room to help make your child comfortable, or to help them remove clothing, if needed. You must go to the waiting room during your child's treatment. Your child will be watched at all times by the therapists. When they are not in the room, the therapists will be monitoring your child on a closed-circuit TV. Your child will be able to talk with them through an intercom.

Your Child's Care Team

Radiation Therapists with special training run our 5 radiation treatment machines. They do the treatments after all the planning has been approved by your child's **Attending Radiation Oncologist** (a doctor with special training in radiation).

To offer the best service to our patients, our staff is skilled at running all the machines. Your child's "favorite" therapist could be moved to another machine during your child's treatment, but the therapists rotate just one at a time. Your child will always have at least one familiar therapist treating them.

Your child will see their doctor once a week, usually on Mondays. This is a good time for you to bring up any questions or concerns you may have, and for the doctors to see how the treatment is going. You

may find it helpful to write down questions as they come up and to bring them with you to your weekly visit with the doctor. But, feel free to bring up questions or concerns to our staff at any time. If you have questions or concerns, please leave a voice message at 206-598-8132.

A Pediatric Radiation Nurse (RN) and a Nurse Practitioner (ARNP) will talk with you about skin care and handling any side effects from the radiation treatment. Your nurses are also in contact with your nurse practitioners at Seattle Children's and/or Seattle Cancer Care Alliance (SCCA) to coordinate blood work or other visits.

A Clinical Dietitian is available to help you assess your child's eating and help you find ways to deal with any eating problems that may arise. This dietitian is a backup to your dietitian at Seattle Children's or SCCA.

A Social Worker can help you with any emotional issues that may arise and help find resources you may need. This social worker is a backup to your social worker at Seattle Children's or SCCA.

Child Life Specialists at Seattle Children's can help you prepare your child for radiation treatment.

General Information

Length of Treatment Visits

Radiation patients are scheduled every 15 to 30 minutes. This includes time to get your child into the right treatment position and to adjust the position of the machine. The radiation treatment itself lasts only a few minutes.

Blood Work

If the radiation oncologist orders a blood draw, we will let you know. If you already have a weekly clinic and blood draw appointment at Children's, there is no need to schedule another one. We will get those lab results. But, there are times when blood work may be done at University of Washington Medical Center (UWMC).

Ask your nurse if you have questions about blood work. Results will be ready the next workday. Please tell your nurse if you wish to get the results, or if you only want them sent to your child's doctor.

Questions?

For questions about your child's **treatment**, call your Radiation Oncology Nurse, weekdays 8 a.m. to 4 p.m. at 206-598-8132.

For questions about **scheduling**, call the Cancer Center front desk, weekdays 8 a.m. to 5 p.m. at 206-598-4100.

If your child becomes ill or has an emergency, take your child to Seattle Children's. If you or the doctors there have an urgent question when the Cancer Center is closed, call 206-598-6190 and ask for the Radiation Oncology Resident on call to be paged.

Skin Care

Good skin care is vital during radiation treatment. Your child's nurse will give you more information about skin care. Here are some important tips to remember:

- Keep the radiation area clean and dry.
- When applying lotions or creams to the skin in the treatment area, use **ONLY** the products we gave you.
- **Use cornstarch instead of baby powder.**
- Cover skin in the treatment field if your child will be in the sun for more than 15 minutes.

Side Effects

Most times, radiation side effects are limited to the area being treated. At your first visit, your child's radiation oncologist will talk about the side effects that your child may have. If any symptoms occur, please tell your radiation nurse or doctor.

Infections

If your child has an infection, please tell your radiation nurse. Symptoms of an infection may include a runny nose, sneezing, cough, fever, chills, body aches, or diarrhea. Tell us if the staff at Seattle Children's or SCCA has placed you or your child in *protective isolation*. Our guidelines for isolation are the same as the ones at Seattle Children's and SCCA.

Entertainment

We have toys, videos, and electronic games your child can use while you are at the medical center. You may check them out at the front desk of the Cancer Center and return them there.

Emergencies

If your child becomes ill or has an emergency, take your child to Seattle Children's. If you or the doctors there have an urgent question when the Cancer Center is closed, call 206-598-6190 and ask for the radiation oncology resident on call to be paged.

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