Welcome!

Thank you for choosing the UCSF Radiation Oncology Program. We look forward to caring for you!

Location: The UCSF Central Nervous System (CNS) Radiation Oncology Program is located at the University of California, San Francisco at the Moffitt-Long Campus (505 Parnassus Ave., Basement Level, Suite L-75).

Hours of Service: the office is regularly open from 8:00 A.M. to 5:00 P.M. Monday through Friday. We are closed on weekends and holidays.

How to Contact Us: For new patient appointments call (415) 353-8335. To speak to a nurse, call voicemail (415) 353-9325 during our regular hours of service. After hours and on weekends, call (415) 353-7175 and ask for the “on call” radiation oncology resident.

Getting Here: Public parking at UCSF Medical Center is available in the Millberry Union Garage at 500 Parnassus Ave. There are two garage entrances -- one on the north side of Parnassus Avenue and another on Irving Street, just east of Third Avenue. UCSF Medical Center is accessible via Muni streetcar line N-Judah, which stops at Second Avenue and Irving Street, as well as the # 6-Parnassus and # 43 – Masonic Muni bus lines which stop in front of the hospital. If you will be coming for daily radiotherapy please inquire about potential parking alternatives.

What is Radiation Therapy?

Radiation is a way of treating cancer and some non-cancerous conditions. The use of radiation for cancer treatment began over 100 years ago. Radiation therapy damages the DNA of the cancer cells and prevents them from reproducing. The cancer cells die when they can no longer multiply and the body naturally gets rid of them. Healthy tissues are spared the effects of radiation because unlike the cancer cells, normal cells have the ability to repair the DNA damage and recover. In addition, normal tissues are shielded as much as possible while targeting the radiation to the cancer site.
Types of Radiation Treatments

External Beam Radiotherapy

During external beam radiation therapy, beams of ionizing radiation in the form of X-rays or electrons are directed at the cancer from a machine (linear accelerator) located outside the patient’s body. These beams are intended to treat the specific region delineated by your physician. Information from your imaging studies (CT scan or CAT scan) or magnetic resonance imaging (MRI) scans may be utilized. This type of treatment will not make you radioactive. Three-dimensional conformal therapy (3D) or intensity modulated radiation therapy (IMRT) are both advanced forms of external beam radiation therapy.

Treatments are given as an outpatient procedure, usually once a day on regular weekdays (Monday through Friday except holidays). Each daily treatment is typically scheduled for approximately 15–20 minutes.

Stereotactic Radiotherapy

Stereotactic radiotherapy is a specialized form of external beam radiotherapy often used to treat small brain or spine tumors with very focused, large radiation doses over one to five treatment sessions. At UCSF, stereotactic radiotherapy to treat brain tumors (radiosurgery) is commonly delivered in a single session using the Gamma Knife. Stereotactic radiotherapy can also be delivered using a linear accelerator, such as the Cyberknife or Truebeam machines.

Radiotherapy Implants

Another form of radiation treatment involves surgically placing a radioactive material inside your body. This is commonly called brachytherapy. This involves putting a solid form of radiation in the shape of seeds, ribbons or capsules in or near the cancer cells. This allows treatment with a high dose of radiation to a smaller part of your body. This form of radiation treatment does mean that you will have some radiation inside you. Over time the amount of radiation weakens. The radiation exposure to other people becomes much less the farther away from you they are. You should speak with your radiation oncology doctor for specific information regarding exposure to others.

Your Health Care Team in Radiation Oncology:

Radiation Oncologist

A specialized medical doctor trained and credentialed in the use of radiation therapy used to treat people with cancer and other conditions.

Resident or Fellow

A resident is a licensed physician who is in a four year training program in radiation oncology. They may work with your physician. A fellow is a doctor that has finished their residency training but is spending an additional year in specialized training in a specific area of interest.
Administrative Assistant

The administrative assistant helps your physician schedule appointments for you, is available to answer some of your questions, and can direct you to the appropriate person at UCSF. The administrative assistant will help keep your records organized and get messages to your physician or nurse.

Central Nervous System (CNS) Radiation Oncology Nurse

When you are ready to begin treatment you will meet a radiation oncology nurse. Your nurse works with your physician and radiation therapists to care for you during your treatment. Your nurse will focus on education, assessment, symptom management and quality of life issues. Your nurse will explain to you how to best manage side effects such as skin care, headaches, nausea and vomiting, steroid tapers, etc. The nurse will also assist you in coordinating care with other doctors, medication refills, and lab results as needed. Your nurse may also come to your weekly appointment with your radiation oncology physician. If you have other questions, nursing staff are available during regular business hours.

All of our radiation oncology nurses are licensed registered nurses. Many of them have additional training and certification in oncology nursing. Advanced practice nurses (clinical nurse specialists and nurse practitioners) have completed a Master’s degree program.

Radiation Physicist and Dosimetrist

The radiation physicist has a Master’s degree or Ph.D. in medical physics. The physicists are responsible for maintaining and checking the treatment machines. They also help in the design and delivery of your radiation plan. Either a physicist or a dosimetrist under the supervision of the physicist plans the actual treatment and calculates the dose to be delivered as prescribed by the physician.

Radiation Therapist

Your radiation therapists have completed two to four years of specialized training in the delivery of radiation for medical use and are certified in radiation oncology. They operate your treatment machine day-to-day. They are instructed to call a physician or resident if for any reason the radiation plan cannot be delivered as exactly prescribed.

Neuropsychologist:

A neuropsychologist has a Ph.D. in Clinical Psychology and specializes in understanding how the structures of the brain relate to cognition (thinking, reasoning, remembering, imagining, learning words, and using language), emotion, and behavior. Neuropsychologists are trained to assess the cognitive strengths and weaknesses of people who have had illness or an injury to the brain, and offer strategies to improve brain functions for a better quality of life.

Social Worker

The social worker is available to help you and your family cope with your diagnosis and treatment of cancer. They can provide you with connections to community resources. The social worker may be able to assist with transportation, housing, emergency funding, home safety, and medical equipment. They are available to provide personal and family counseling.
**Oncology Dietitian**

Our oncology dietitian is trained in nutrition counseling for patients undergoing cancer treatment. They can evaluate your diet, assist with gaining or losing weight, give you recommendations to cope with symptoms (like constipation, difficulty eating, nausea, or lack of appetite). The dietitian can provide advice concerning specific diets, supplements and vitamins. They see patients for individual consultations and teach group classes for the UCSF Cancer Center at the Mount Zion campus.

**Other Health Care Providers**

Your team may also include a Medical or Neuro-oncologist, Surgeon (Neurosurgeon), Symptom Management Specialist, Palliative Care Physician/Nurse, Chaplain, Clinical Psychologist, Psychiatrist, Occupational Therapist, Physical Therapist or Speech Therapist.

**You**

You are also part of the team! Your role is to arrive on time for appointments, ask questions and talk about your concerns, let a team member know if you are having side effects or are in pain, and to follow the treatment recommendations provided by your nurse and physician.

**What to Expect**

Radiation may be given by itself without other treatments or it may be given with other therapies, like chemotherapy. In some cases radiation may be delivered before or after surgery. We will work closely with the other doctors on your team to coordinate your plan of care together.

**Consultation**

Your first visit to a radiation oncologist is called a consultation. Its purpose is for the physician to assess your medical condition, perform a physical exam, discuss the diagnosis and recommendations with you, and answer your questions. The initial consultation takes about one to one and a half hours. The expected benefits, risks and outcomes of your treatment will be explained. You should bring a list of questions with you for the physician. At this time other treatment options may also be discussed. You may find it helpful to bring an audio recorder to your appointment, in order to review the important details once you are at home. Be sure to ask the physician or nurse if they are comfortable with you recording the conversation. Feel free to ask the nurse or physician for recommend readings or websites that may provide additional information. The radiation oncologist will discuss your care with your referring doctor.

It is important that you bring a list of any medications you are currently taking (including over-the-counter medicines and dietary supplements) with you. It is also helpful if you supply contact information for your primary care physician and your other physicians. If you have outside radiology studies, it will speed up the process if you bring copies on a CD-ROM and the printed reports. Please fill out and bring the radiation oncology department’s health questionnaires that should have been mailed to you prior to your consultation. For patients who do not speak English, an interpreter will be provided by UCSF.

**Consent**

After your questions have been answered, you will be asked to sign a consent form prior to beginning radiation treatment. Signing the consent form means that you understand the risks and benefits of the radiation, and that you agree to the treatment.
Simulation (planning session)

The "simulation" is the first step in planning your radiation treatment. The purpose is to identify the area to be treated.

Before simulation begins, a photograph of your face will be taken for daily identification purposes. During the simulation process, you will most likely be positioned on a table, usually lying on your back. A custom mold or mask may be made to help keep you in the exact same position during your treatments and marks may be placed on the mold or mask to act as a reference for the daily set up of your treatments. Additional devices may be created for you depending on the directions of your physician.

The simulation may take up to an hour. Several medical professionals will be present. These include your physician and his or her resident and the simulation therapist(s). In most cases, simulation is done on a CT scanner in the department of Radiation Oncology.

Treatment Planning

The information from the simulation will be used to design your treatment. Your physician will outline the region(s) to be treated and the normal tissues to be protected, and specify what dose of radiation should be given. The dosimetrists and physicists are in charge of designing a treatment plan. The treatment plan is then reviewed and approved by your physician prior to your treatment. Treatment plans are made using computer calculations based on your planning CT scan. The plans may be complex. They must take into account the area to be treated, the surrounding normal tissues to be protected, and your specific shape and size. Several plans may be made and your physician will select the best one. This process generally takes several days.

Verification

Once the best treatment plan has been selected, you will come back for a practice session on the actual treatment machine. This process, called a "new start" or "dry run," will take about one half hour. You will be assigned to one of the treatment machines. At the time of the new start, you will be placed on the treatment machine with your mask and any other devices made for your treatment. X-rays will be taken to verify proper alignment. These will be compared to the plan. If your plan and position on the table meet the physician’s approval, you are ready to begin treatment.

At the time of this visit, you will also be scheduled for your daily treatment appointments with your therapist. If you have other appointments that conflict with your daily treatment time, such as chemotherapy, it is important to inform your therapist. The therapists can adjust your regularly scheduled time to assist these other appointments.

Daily Treatments

The specific number of treatments you receive is decided upon by your physician based on your type of cancer, its location, and other concurrent treatments. Most patients are treated 5 days a week, Monday through Friday, for about two to six weeks. Your normal cells will heal over the weekend. Most holidays we are closed.

Although side effects can vary among patients, you should be able to continue with many of your normal activities. Many patients come to treatment by themselves. If you are feeling tired, weak or need pain medications, you should have a family member, a friend, or other person available to help you.

You must check in at the front reception desk every day for treatment; this is to inform the radiation therapy staff that you have arrived for your appointment.
**Weekly Visits**

You will have a visit with your physician and sometimes a nurse every week during treatment. They will monitor your progress, help you manage any side effects, and discuss any new concerns. This is called an "on treatment visit" or weekly visit and will usually happen on the same day of the week. If you are having a problem but are not scheduled to see your doctor that day, speak to your therapist or stop by the nurse's station.

**Treatment Completion**

At your last weekly treatment visit or on the last day of treatment, you will be given follow-up instruction addressing the management of side effects, future imaging exams, appointments, and other referrals as necessary.

**Follow-up**

Typically, patients return for follow up within a month after finishing radiation therapy. The timing of later follow up visits will depend on a number of factors. Patients also follow up with their other oncology specialists.

**Possible Side Effects**

The side effects take about two weeks to appear and may worsen up until about two weeks after your last treatment. The nurses and doctor can help you manage your side effects. Let the doctors and nurses know if you are experiencing any side effects.

**Skin Changes**

One common side effect of radiation therapy is skin changes. The skin in the area that is being treated may become sore, red, dry or itchy. The reaction is similar to sunburn. Your physician or nurse will monitor your skin changes and offer you skin care recommendations. Do not use any lotions, skin care products, or wound care dressings on your skin without the advice of your physician or nurse.

Recommendations for skin care include:

- Avoid extreme temperatures around the treatment area (including hot tubs and saunas).
- Use gentle soaps on your skin; do not scrub your skin.
- Avoid sun exposure to areas in the treatment field.
- Use an electric razor if the radiation is to your head, neck, or face.
- Avoid makeup if the radiation is to your face.

**Hair Loss**

Some patients may experience temporary or permanent hair loss. This depends on the dose of the radiation delivered and the treatment area. Your doctor will tell you how your treatment may affect your hair.
Nausea

Nausea is a side effect that may result from radiation, especially radiation to the stomach, abdomen and sometimes the brain. Various medications can be prescribed to try to help your nausea. Smaller, more frequent meals and avoiding certain food also helps. Weight loss during your treatment can have negative side effects and should be avoided.

Constipation

Commonly patients experience constipation because they are not drinking as much fluid as usual. It can also happen because of taking narcotic pain medications, or with some kinds of chemotherapy which slow the movement of the bowels. To help relieve constipation try drinking more fluids and increase the fiber in your diet. Our dietician can discuss this problem with you and offer individualized suggestions and your physician can suggest stool softeners or other medications for you.

Fatigue

Feeling tired usually occurs closer to the end of treatment. If you feel more tired, you should pace your activities, take naps and go to bed earlier. Having some daily exercise, such as brief periods of walking (15-20 minutes), helps to fight the sensation of fatigue.

Anxiety

It is common for patients to experience anxiety, especially during the first few weeks of treatment. Often this feeling will improve as you become used to your routine. If you are having anxiety you can discuss this with your physician who can prescribe medication to help you.

Depression

Feelings of sadness are common in patients with cancer and can occur for many reasons. Being fatigued can sometimes make it harder to cope with these feelings. We offer support groups, social workers, clinical psychologists and individual counseling to help you. Medication is sometimes prescribed to help with these feelings. Ways in which one can help themselves cope include relaxation or meditation, exercise, talking with others, engaging in enjoyable activities and spending time with family and friends. Having an open talk about your feelings with your providers is encouraged. Referrals can be made at any time.

Changes in Thinking

Radiation therapy to the brain can cause problems months to years after treatment ends. Side effects may include memory loss, poor ability to concentrate, difficulty expressing oneself and changes in personality. If you experience any of these symptoms tell your physician. Your physician can refer you to see a Neuropsychologist who can formally assess changes in thinking, and provide recommendations and referrals to other health care providers who may assist in management of these issues.
Resources for CNS Cancer Patients

Programs at UCSF:

Ida and Joseph Friend Cancer Resource Center
1600 Divisadero Street, Suite B-101
San Francisco, CA 94115
Phone: 415-885-3693
Email: crc@ucsf.edu
www.cancer.ucsf.edu/crc

The Ida and Joseph Friend Cancer Resource Center promotes wellness and healing by providing patients and their loved ones with supportive care services and cancer-related information.

UCSF Cancer Risk Program (Genetic Counseling Service)
Phone: 415-885-7779

The Cancer Risk Program is a comprehensive genetic counseling service for families with a history of cancer and is the largest and most comprehensive genetic testing center for cancer in Northern California. Genetic counselors assess personal and family history, provide education and counseling and, when appropriate, offer genetic testing for cancer predisposition genes. Your physician can make a referral for you if it is appropriate for your type of cancer.

UCSF Symptom Management Service
2320 Sutter Street, Suite 102, San Francisco/1701 Divisadero Street, 5th Floor, San Francisco
Phone: 415-885-7671
http://www.ucsfhealth.org/programs/cancer_symptom_management/

The Symptom Management Service (SMS) is a consultation service offered to improve the quality of life and care of patients treated at the UCSF Helen Diller Family Comprehensive Cancer Center. The SMS provides treatment and counseling for both physical and emotional symptoms caused as a result of cancer. This includes treatment for pain, fatigue, depression, anxiety and spiritual distress. All SMS care is coordinated with your cancer treatments and the support of your cancer doctor. Your physician can make a referral for you to this service.

UCSF Osher Center for Integrative Medicine
1545 Divisadero Street, 4th Floor, San Francisco
Phone: 415-353-7700
http://www.osher.ucsf.edu/

Integrative health practitioners at the UCSF Osher Center combine modern medicine with proven practices from other healing traditions, to better relieve suffering, reduce stress, and maintain the well-being of their patients. Services available at the Osher Center include therapeutic yoga, mindfulness training, guided imagery, acupuncture, personal fitness training, Ayurveda, therapeutic massage, Integrative Oncology consultations, biofeedback and more.
UCSF Cancer Support Groups

Support groups offered through the UCSF Cancer Resource Center are free and available to all patients, whether or not you receive your health care at UCSF. Support groups are also offered for family members and significant others. You can find a listing of our current support groups at http://cancer.ucsf.edu/support/crc/support-groups. The Resource Center also maintains a database of support groups in the community and will help you find a group that suits your needs. Call 415-885-3693.

Peer Support Online, by Phone

http://cancer.ucsf.edu/crc/peer-support

The Peer Support Program offers cancer patients the opportunity to speak with cancer survivors or veteran patients who have "been there." This is a free, on-the-phone service. All cancer patients are welcome regardless of where their care is provided. Patients are matched with peer support volunteers according to criteria such as diagnosis, stage, age, gender or by preference of the person seeking support.

If you are interested in talking with a peer or becoming a volunteer, please call:
Margaret Gray (415) 885-7210 or email Margaret.Gray@ucsf.edu

For any problems or issues contacting support group leaders please call or email Naomi Hoffer
Program Coordinator of the Cancer Resource Center at
Naomi.Hoffer@ucsf.edu
415-885-3627

National Resources:

American Cancer Society

http://www.cancer.org
1-800-ACS-2345

National Cancer Institute (NCI)

http://www.cancer.gov/
1-800-4-CANCER (1-800-422-6237)
Available in English and Spanish

The National Cancer Institute is a public organization funded by the government providing many resources to cancer patients. The organization was formed after passage of the National Cancer Act in 1971. The NCI offers many resources for cancer patients including on-line live chat sessions, telephone information specialists and extensive information at their website.
National Brain Tumor Foundation
http://www.braintumor.org/
1-800-934-2873

American Brain Tumor Association
http://www.abta.org
1-847-827-9910

Acoustic Neuroma Association
http://www.anausa.org
1-800-200-8211

Brain Science Foundation
http://www.brainsciencefoundation.org
1-781-239-2903

The Healing Exchange Brain Trust
http://www.braintrust.org
1-617-876-2002

Brain Tumor Society
http://www.tbts.org
1-800-770-8287
RESOURCES FOR CAREGIVERS

Family Caregiver Alliance
http://www.caregiver.org
1-800-445-8106

Offers information, education, services, research and advocacy to support and sustain the work of families nationwide, caring for loved ones with chronic, disabling health conditions.

National Family Caregivers Association
http://www.nfcacares.org
1-800-896-3650

Educates, supports and empowers caregivers nationwide. Provides services to all caregivers independent of patient diagnoses, relationships, and life stages, to help transform family caregivers’ lives by removing barriers to well being.

UCSF Neurology Caregiver Corner Website:
https://wiki.library.ucsf.edu/display/NeurologyCaregiverCorner/Home

This website was created by the UCSF NeuroCaregiver Collaboration as a way to organize important information for caregivers of patients brain disease, be it brain tumor, neurodegenerative disease or traumatic brain injury. You will find links to information regarding particular illnesses, caregiver support groups, information for children and teens, symptom management, legal resources, health insurance, government benefits, and patient services.