

What do I need to know about proton therapy?

California Protons Cancer Therapy Center is committed to creating a world without cancer. An exceptional team led by internationally-known oncologists and medical professionals combine innovative technology and imaging devices to deliver proton therapy treatment, a more precise form of radiation therapy that leads to fewer side effects compared to x-ray radiotherapy.

Andrew Chang, M.D., an oncologist at California Protons, offers insight into some of the most common questions that cancer patients ask about proton therapy. Dr. Chang has more than 18 years of experience and has treated over 4,000 cancer patients.



California Protons offers three gantry-style treatment rooms, allowing the proton beam to be rotated 360 degrees around the patient for greater accuracy.

Why should I consider proton therapy over standard radiation?

Proton therapy is a very precise form of radiation therapy that results in less radiation exposure to normal healthy tissue in a patient's body. Patients can recover more quickly and report fewer side effects, along with minimizing the risk of developing secondary cancers as compared to standard x-ray radiation. For example, men with prostate cancer treatment report fewer incidences of bowel and bladder issues.

What is pencil-beam proton therapy?

California Protons was the first proton center in the nation to offer pencil beam proton technology in all of our treatment rooms. The most advanced delivery method of proton therapy is actively scanned pencil-beam proton therapy. This beam of protons is directed to an area within 2 millimeters of a tumor using powerful magnets. The high dose of radiation can be targeted to the unique shape and size of the tumor and can be directed to tumors very close to normal structures that we want to avoid damaging. The tight margin protects healthy tissues and the surrounding organs from radiation. Unlike the older passively scattered proton therapy treatment, pencil beam scanning technology further enhances the capabilities of proton beam therapy. This actively scanned pencil-beam technology also allows one to deliver Intensity Modulated Proton Therapy (IMPT) - fine-tuning the range and intensity of the proton beam to sweep this narrow proton beam across the tumor in fine strokes, increasing intensity and dose layer by layer inside the tumor.

Are all cancers and tumors treatable with proton therapy?

Proton therapy can be used to treat the same cancers and tumors that standard x-ray radiation treats. Just as with standard radiation however, there are cancers that

cannot be easily treated with protons, such as blood cancers. There are also cancers in which proton therapy is not appropriate depending on an individual patient's circumstances, such as the stage or prognosis of the cancer. Our team of physicians often see patients to provide second opinions on whether they would be a candidate for proton therapy as it is critical to evaluate each case individually to determine if proton therapy would be a good treatment choice. One particular area where we see many patients is for cancers that have returned in the same area after previous radiation treatment. With the precision of proton therapy, we are often able to deliver a second course of radiation that otherwise could not be done with standard x-ray radiation therapy.

What differentiates California Protons Cancer Therapy Center from other centers?

We are one of just two centers in the state of California. Our center features the latest third-generation proton equipment, which is among the most advanced technology available – actively scanned pencil beam proton therapy. Also, our team of physicians are among the most experienced with proton therapy in the world. Many of us were fortunate to have trained at the first proton center in the world which opened in 1990, and brought that decades of experience to the most advanced technology. Because of the excellent outcomes and the increasing numbers of proton centers, the number of cancer patients who choose proton therapy continues to increase each year.

In addition, we have combined all this with fully-rotating 360-degree gantries that have Cone-Beam CT volumetric imaging that allows us to align the beam with the tumor extremely well – this gives us high accuracy in addition to high precision!

How many cancer patients are treated with proton therapy?

Worldwide about 200,000 cancer patients have been treated with proton therapy. As a regional center, California Protons works with patients from all over the world. Locally, we are affiliated with UC San Diego Health Cancer Network and Rady Children's Hospital. Our center has treated over 3,500 patients since it opened in 2015.



Proton therapy, a form of very precise radiation therapy, is beneficial in the treatment of cancers and tumors for both adults and children.

How are the needs of children addressed at the Center?

Our physicians and staff work closely together with Rady Children's Hospital team members to create specialized treatments to meet the unique needs of pediatric patients. At our facility, pediatric patients have a separate entrance, their own treatment rooms plus attentive team members who work hard to ease the anxieties and fears that many children feel during treatment.

Will my insurance company cover the cost of proton treatment?

California Protons works with all insurance plans and is contracted with many private insurances, as well as Medicare. Our Insurance Team works closely with each patient to help them navigate through the process. Because each patient is unique and insurance plans differ, there is not a one-size fits all approach to coverage. If an insurance company initially denies services, we assist with the appeal process. Fortunately, we often are successful.

Do I need a physician's referral?

Many of our patients come directly to us. Sometimes a patient's insurance provider requires a referral for treatment, but we do not require one. However, in the case of Medicare or a PPO, a referral is not required. Our Insurance Team is available to answer questions and help navigate both the insurance and referral pathways.

Do you assist patients with accommodations? How about emotional support?

For people traveling from out of town, California Protons is contracted with several local hotels that offer our patients discounts during their stay. Support team members, such as our social worker, helps patients and their families locate housing and transportation, find support groups and address any hardships that arise. Our dietitian works with patients to develop a dietary plan to help them feel their best during treatment, and coordinates support groups for socialization.

Where can I get more information?

We have an excellent team of Patient Service Representatives that can answer many questions over the phone. During the COVID-19 crisis and Shelter in Place, we are offering telemedicine consultations and appointments via video conference. A waiting list is also available for those interested in taking a physician-led tour of the facility once social distancing protocols are lifted. And, a virtual tour of the Center will soon be available on our website. For more information, please visit www.californiaprotons.com, or call (858)433-4886.

How quickly can I get to your center? Do you have a waiting list?

We are able to offer consultations to see our physicians typically within 1 week. As we know cancer can move quickly, we are also able to see patients within 24 hours for urgent cases.

Andrew Chang, MD, radiation oncologist, is a leading expert in proton therapy and has treated more than 4,000 patients during his career.



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