

*“Proton therapy was the best treatment to take care of my breast cancer with less risk to my heart, my lungs, and my future.”*

—ProCure patient, breast cancer

ProCure



### **Proton therapy: Precise, proven treatment for breast cancer**

More than 232,000 new cases of invasive breast cancer are diagnosed in women every year, with another 2,300 diagnosed in men.<sup>1,2</sup> For patients like you whose treatment regimen includes radiation therapy, it is important to be aware that proton therapy is an option that can decrease risk of damage to organs such as the heart and lungs.

Proton therapy is precise, and thus better able to avoid surrounding organs.<sup>3-5</sup> By lowering radiation exposure to these areas, proton therapy may reduce the risk of developing heart disease, lung disease and other cancers.<sup>6-9</sup>

You can be confident that proton therapy is a good treatment choice—it has been successfully used to treat breast cancer at Massachusetts General Hospital as well as other leading hospitals around the world.<sup>3-5</sup>

The more information you have about treatment options like proton therapy, the more empowered you will become to make the best decision for your future. You can visit [ProCure.com](https://ProCure.com) or call a ProCure center to learn more about proton therapy and whether it is the right choice for you.

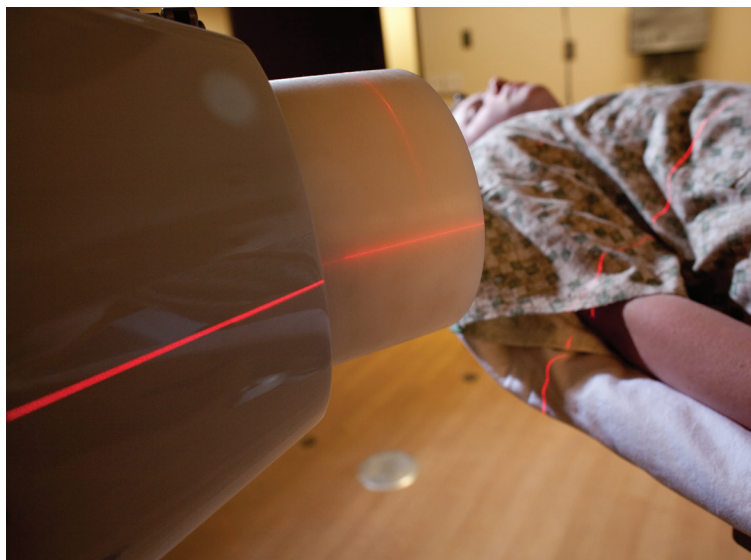
**Maximize treatment dose while  
minimizing risk of side effects**



## Advantages of proton therapy

### What is proton therapy?

Proton therapy is an advanced form of radiation therapy that is precise in treating cancer. This means that the tumor site can get treated with higher doses of radiation but with less risk of damage to surrounding healthy organs.<sup>3-5</sup>



### What can you expect with proton therapy at ProCure?

- Proton therapy is given in a state-of-the-art center with specialized medical equipment
- Treatment and care are given by a team of specialized doctors, nurses and healthcare professionals
- Most patients do not feel pain or discomfort during treatment. Skin side effects, if they occur, can be treated with creams prescribed by a ProCure radiation oncologist
- The time spent delivering proton therapy to the tumor is only about a minute or two, but the entire treatment session may take 30 to 60 minutes
- After treatment, you will most likely be able to go right back to your daily routine



*"The ProCure staff was like my second family. I knew I was going to miss this place once my treatment was finished."*

-ProCure patient, breast cancer

## Proton therapy is highly targeted with less risk to your heart and lungs

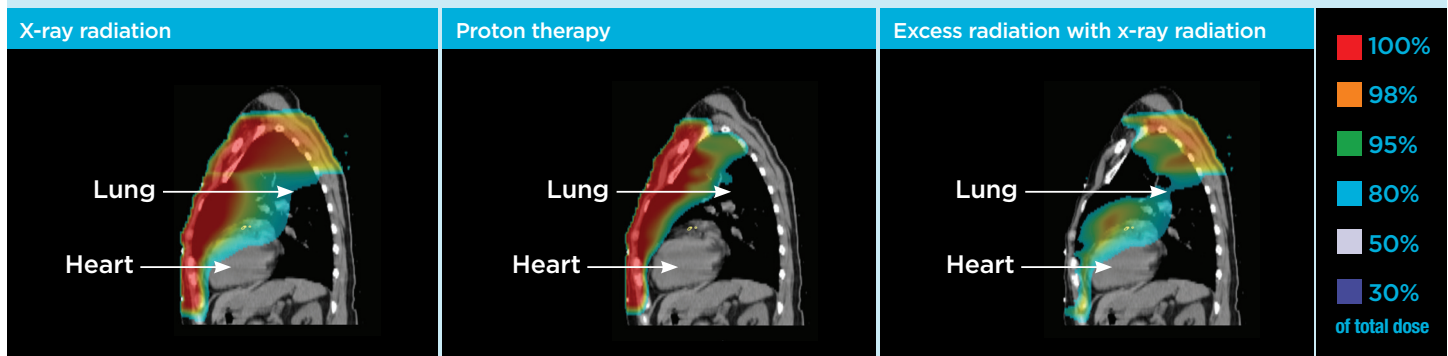
### What are the advantages of proton therapy versus other kinds of radiation in breast cancer?

While proton therapy and x-ray radiation therapy both treat breast cancer by killing cancer cells when they attempt to divide and multiply, there is an important difference. Other forms of radiotherapy can deliver more excess radiation to the heart and the lungs.<sup>3-5</sup> This additional radiation can cause side effects years, even decades, after treatment is completed.<sup>10,11</sup> These side effects include heart attack, heart and lung disease and even additional cancers.<sup>6-9</sup> One study found that the occurrence of major heart events increases with the dose of radiation delivered to the heart.<sup>10</sup>

Proton therapy can reduce the risk of major heart events by reducing radiation exposure to the heart. It also reduces the radiation to the lungs and healthy breast tissue.<sup>3-5</sup>

By reducing radiation delivered to the heart and lungs, proton therapy may reduce the risk of cardiac and lung disease in the decades following radiation for your breast cancer.<sup>6-9</sup>

#### Proton therapy delivers lower doses of radiation to the coronary arteries, heart, lung and other breast than x-ray radiation



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*"The ProCure staff has this ability to take so much of the stress away, from educating you about your cancer, to the environment. It's not like anything I've ever experienced before."*

-ProCure patient, breast cancer



# Proton therapy is the solution for many patients with breast cancer

## How do I know if proton therapy will work for me?

Many patients with breast cancer are good candidates for proton therapy. If you would like to better understand the use of proton therapy in your treatment, we can work with you and your physician to schedule a consultation with a radiation oncologist at a ProCure center. During the consultation, the radiation oncologist will discuss different treatment options with you and determine if you will benefit from proton therapy. The radiation oncologists at ProCure use many forms of radiation to treat breast cancer, so they will provide you with an educated treatment recommendation.

## How many proton treatments will I receive?

Treatments are usually given 5 days a week for 6 to 7 1/2 weeks, depending on the stage of your cancer and other factors.

## Can proton therapy be used along with other kinds of cancer treatment?

Yes. Proton therapy can be used in conjunction with surgery and chemotherapy.

## Is proton therapy covered by my insurance?

Proton therapy is covered by Medicare and many private insurance providers. Each ProCure center has financial counselors who are dedicated to guiding you through the insurance process. Please contact us if you have questions about coverage.



*"I knew I was going in for a medical treatment, but with every detail, I was amazed. At every step of the way, there was compassion and kindness—it's true care."*

—ProCure patient, breast cancer

### REMEMBER

## Proton therapy is a good choice for your breast cancer if you have:<sup>5,12,13</sup>

- A need for radiation to the lymph node areas
- Coexisting heart or lung conditions
- Cancer near your heart or lung that puts you at risk of receiving extra radiation to critical organs

**Visit [ProCure.com](http://ProCure.com) or a ProCure center to learn more.**

**References:** 1. American Cancer Society. Breast Cancer. Updated January 1, 2014. <http://www.cancer.org/acs/groups/cid/documents/webcontent/003090-pdf.pdf>. Accessed July 8, 2014. 2. American Cancer Society. Breast Cancer in Men. Updated January 1, 2014. <http://www.cancer.org/acs/groups/cid/documents/webcontent/003090-pdf.pdf>. Accessed July 8, 2014. 3. Moon SH, Shin KH, Kim TH, et al. Dosimetric comparison of four different external beam partial breast irradiation techniques: three-dimensional conformal radiotherapy, intensity-modulated radiotherapy, helical tomotherapy, and proton beam therapy. *Radiother Oncol*. 2009;90:66-73. 4. MacDonald S, Specht M, Isakoff S, et al. Prospective pilot study of proton radiation therapy for invasive carcinoma of the breast following mastectomy in patients with unfavorable anatomy - first reported clinical experience. *Int J Radiat Oncol Biol Phys*. 2012;84(suppl 3):S113-S114. Abstract 281. 5. Ares C, Khan S, MacArtain AM, et al. Postoperative proton radiotherapy for localized and locoregional breast cancer: potential for clinically relevant improvements? *Int J Radiat Oncol Biol Phys*. 2010;76(3):685-697. 6. Early Breast Cancer Trialists' Collaborative Group (EBCTCG). Effects of radiotherapy and of differences in the extent of surgery for early breast cancer on local recurrence and 15-year survival: an overview of the randomised trials. *Lancet*. 2005;366:2087-2106. 7. Deutsch M, Land SR, Begovic M, Wieand HS, Wolmark N, Fisher B. The incidence of lung carcinoma after surgery for breast carcinoma with and without postoperative radiotherapy: results of National Surgical Adjuvant Breast and Bowel Project (NSABP) clinical trials B-04 and B-06. *Cancer*. 2003;98(7):1362-1368. 8. Rubino C, Shamsaldin A, Le MG, et al. Radiation dose and risk of soft tissue and bone sarcoma after breast cancer treatment. *Breast Cancer Res Treat*. 2005;89:277-288. 9. Darby SC, McGale P, Taylor CW, Peto R. Long-term mortality from heart disease and lung cancer after radiotherapy for early breast cancer: prospective cohort study of about 300 000 women in US SEER cancer registries. *Lancet Oncol*. 2005;6:557-565. 10. Darby SC, Ewertz M, McGale P, et al. Risk of ischemic heart disease in women after radiotherapy for breast cancer. *N Engl J Med*. 2013;368(11):987-998. 11. Harris EER, Correa C, Hwang W-T, et al. Late cardiac mortality and morbidity in early-stage breast cancer patients after breast-conservation treatment. *J Clin Oncol*. 2006;24(25):4100-4106. 12. Data on File. Proton Collaborative Group. Phase II study of postoperative, cardiac-sparing proton radiotherapy for patients with stage II/III, loco-regional, non-metastatic breast cancer requiring whole breast or chest wall irradiation with lymph node irradiation. BRE008-12 protocol, amendment 1. 3/31/14. 13. Data on File. ProCure. Proton therapy for locally and loco-regionally advanced breast cancer—a treatment concept. 8/8/12.