

Investing in the Future of Community Cancer Care

Radiation Oncology at St. Mary's Hospital is leading the way in cancer care with the installation of Richmond's first TrueBeam® linear accelerator, paired with the advanced HyperSight™ imaging solution. This next-generation technology uses state-of-the-art cone-beam computed tomography (CT) to produce faster, clearer images — enhancing both the accuracy and efficiency of radiation therapy.

Enhanced imaging is critical to empowering clinicians to precisely target radiation in cancer patients and reduce radiation exposure to organs and tissue near a malignant tumor. In addition to the quality of images generated, HyperSight's six-second image acquisition reduces the amount of time patients are required to hold their breath, which may improve their experience and reduce anxiety.

Key Features and Benefits:

- **Speed and Efficiency:** The new technology, called HyperSight, produces incredibly detailed images. This helps our radiation oncologists see exactly what's happening inside the body each day and make quick adjustments to a patient's treatment if needed — making care faster, safer and more precise.
- **Patient Comfort:** HyperSight was designed with patient comfort in mind. It captures images much faster — cutting breath-hold times and shortening how long each treatment session takes.
- **Precision and Accuracy:** HyperSight creates clearer, more detailed images — helping doctors deliver radiation with greater accuracy while protecting healthy tissue.

An Investment in Hope and Healing

This transformative project includes the construction of 2 concrete vaults specially designed to house a linear accelerator and CT scanner — and 8,000 square feet of interior renovations for control rooms, exam rooms, registration and support spaces.

Bon Secours Cancer Institute has long been a trusted source of expert, compassionate care for patients and families. But to meet the rising demand for advanced cancer treatment, we need our community's partnership.

Philanthropic support is essential. Donors are vital members of our care team, helping us deliver healing today and investing in the hope of tomorrow.

“We are thrilled to be able to offer our patients state-of-the-art treatment technology. The new linear accelerator will allow us to deliver more accurate, faster and overall cutting-edge treatments for cancers of all types.”

– **Christopher R. Chipko, M.D.**, Medical Director, Radiation Oncology





Technology at the Heart of Healing

Bon Secours Cancer Institute is uniquely equipped to provide specialized, compassionate care for cancer patients and their families, but we need the help of those who believe in our Mission to the growing needs of our community now and into the future. Donors are critical members of our care team. We can't do what we do without our community's support.

This \$15 million project will include a 2,700 square foot concrete vault capable of housing two linear accelerators and interior renovation of 8,000 square feet to include control rooms, exam rooms, registration and support spaces.

What is a Linear Accelerator?

A **linear accelerator, or LINAC for short**, is a type of machine used in **radiation therapy** to treat cancer. It delivers **high-energy x-rays or electrons** precisely to a patient's tumor, targeting cancer cells while sparing surrounding healthy tissue.

- **How it works:** It accelerates electrons in a straight line (hence "linear") using microwave technology. These electrons either directly treat surface tumors or are directed at a heavy metal target to produce high-energy x-rays.

- **Purpose:** To destroy cancer cells by damaging their DNA, preventing them from growing or dividing.
- **Precision:** Modern LINACs are highly advanced and can adjust beam shape, intensity and direction, allowing for image-guided and highly targeted treatments.

LINACs are the most common machines used in **external beam radiation therapy** and are a cornerstone of modern cancer treatment.

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