CONQUERING CANCER
SAVING LIVES

Mayo Clinic
Proton Beam Therapy Program
A MALIGNANT TUMOR IS A TYRANT

Cancer takes all the body's resources for itself — invading and displacing surrounding tissues. Abolishing the tyrant can be difficult, especially when it entrenches itself in or near organs where surgery, chemotherapy and radiation risk damaging vital tissue.

Mayo Clinic is fighting back. With your help, we can deploy our newest weapon — proton beam therapy.

Proton beam therapy safely passes through sensitive organs and attacks cancer where it lives.

We are seeking $200 million in philanthropic support to launch Mayo's Proton Beam Therapy Program at the Minnesota and Arizona campuses.
THE BEST TREATMENT AVAILABLE

Conventional external beam radiation destroys the growth of cancer cells but also damages healthy, developing cells — causing many of the side effects associated with treatment.

MAYO’S PROTON BEAM THERAPY IS DIFFERENT.

We will use pencil beam scanning to deliver concentrated radiation to the tumor without exposing surrounding healthy tissue.

Mayo Clinic’s pencil beam scanning offers:

- The most precise form of radiation therapy.
- Greater control over radiation doses.
- Shorter treatment times.
- Fewer side effects.

Conventional radiation passes through the body, damaging healthy tissues as well as cancer cells, causing many side effects.

Proton beam therapy using pencil beam scanning targets cancer, has better tumor control and few side effects.

We invite you to invest in our Proton Beam Therapy Program to conquer cancer.
Pencil beam scanning gives physicians the greatest accuracy, allowing them to “paint” a tumor with radiation. For instance, if a tumor is shaped like a “C,” only the cancerous portion is treated and the healthy tissue within the “C” is spared.

The narrow proton beam is created with the use of a fixed particle accelerator called a synchrotron. It consists of magnets arranged in a ring and a copper cavity that uses electric waves to accelerate protons to nearly two-thirds the speed of light.

When protons have reached the energy level needed to treat cancer at a specific location and depth in the body, a computerized system directs the beam to the tumor with submillimeter accuracy.

“This technology saves lives. We want to bring pencil beam scanning to our patients right now. It’s for them. It’s for their loved ones.”

— Robert L. Foote, M.D., Chair, Radiation Oncology at Mayo Clinic Rochester

At the heart of the facility is a **synchrotron** that is 55 feet in circumference and accelerates protons to nearly two-thirds the speed of light.
CHILDREN BENEFIT THE MOST

Because a child’s tissue is still developing, it is most vulnerable to the side effects of conventional radiation therapy.

Mayo Clinic will have eight treatment rooms with the capacity to treat 2,400 patients annually, including about 250 children.

For example, 8-year-old Josh is a fairly typical case for children with brain tumors. When conventional radiation hits the cancer, it affects healthy, developing tissue, too, causing serious side effects such as loss of hearing, sight and hormone production. Growth delays and lower IQ may also result, which means Josh falls behind socially and educationally.

With your support, we can do better for children like Josh who battle cancer every day. Our goal is to ensure Josh grows up healthy and happy.
PROTON BEAM THERAPY WILL SAVE LIVES. A proton beam delivers concentrated radiation within a narrow region referred to as the “Bragg peak.”

Radiation from a proton beam is deposited directly into a tumor. This keeps healthy tissue safe.

TREATMENT FOR MANY TYPES OF CANCER, INCLUDING:
- head and neck
- eye
- breast
- lung
- liver
- gastrointestinal
- prostate
- sarcomas
- central nervous system

PRECISE, SAFE AND BENEFICIAL
Proton beam therapy has been shown beneficial in the treatment of tumors located throughout the body as well as many pediatric cancers and benign tumors.
A computer controlled, robotic table positions patients to precisely focus the proton beam on a tumor.
The Richard O. Jacobson Building on Mayo Clinic’s campus in Rochester, Minn., will begin treating patients in mid-2015.

The Rochester building is named in Mr. Jacobson’s honor in recognition of his generous gift to Mayo Clinic and our proton beam program.
Mayo Clinic’s campus in Phoenix, Ariz., will begin treating patients in spring of 2016.

“...When a patient comes to Mayo with a tumor, we fight it with everything we have. The day that we can wield proton beam therapy, the odds in the battle against cancer are heavily weighted in our favor.”

— Steven E. Schild, M.D., Chair, Radiation Oncology at Mayo Clinic Arizona
YOUR FOCUSED IMPACT

Benefactors are the foundation of Mayo Clinic research and advancements. Generous philanthropy is allowing us to offer proton beam therapy to patients and save more lives.

Mayo Clinic is at the forefront of proton beam therapy and cancer research, converting science into real benefits for every patient, every day. As a not-for-profit organization, we reinvest all earnings and gifts into improving patient care.

Proton beam reduces health care costs because it decreases the number of treatments in select patients, creates fewer side effects and lowers the incidence of recurrent cancer.

“By supporting Mayo, you help people throughout the country and around the world.”

— Richard O. Jacobson
The Benefactor as Catalyst
Richard Jacobson has always enjoyed good health. He would come to Mayo Clinic mainly for routine checkups and recognize all the good work surrounding him as he walked the halls. That motivated him to make a difference.

In 2010, Mr. Jacobson’s lead gift gave lift to the Mayo Clinic Proton Beam Therapy Program, but we need new gifts to make it reality.
We all know someone with cancer. Whether a father or a friend. A neighbor or coworker. Cancer has a devastating reach, indifferent of age, race or gender.

Generous philanthropy allows Mayo Clinic to offer proton beam therapy to patients, providing hope and healing to those with cancer.

WE INVITE YOU TO INVEST IN OUR PROTON BEAM THERAPY PROGRAM.