Experience the Power of Protons

Fighting Cancer Saving Lives

HAMPSON UNIVERSITY
PROTON THERAPY INSTITUTE
FIGHTING CANCER, SAVING LIVES
Dear Friends of Hampton University,

I have served as President of Hampton University since 1978. In my many wonderful years at this institution, I have observed and participated in a number of exciting developments. Of all of these, I believe the Hampton University Proton Therapy Institute (HUPTI) to be among the most notable. HUPTI is helping to save lives, ease human misery, and advance medical knowledge. One in three Americans will be diagnosed with cancer in his or her lifetime. In fighting this dreadful disease, HUPTI is impacting our community and the world.

Proton radiotherapy is one of the greatest technological advances of our age. This technology enables HUPTI to offer our patients the most precise radiation therapy available, targeting and killing tumors with millimeter accuracy, while sparing the healthy tissue and minimizing side effects.

As a patient treatment facility as well as a research and education center, HUPTI builds upon Hampton’s legacy of knowledge and innovation. HUPTI doctors and researchers are further developing the science of proton therapy and remain at the vanguard of the fight against cancer into the future. HUPTI is a catalyst for new scientific discoveries and increasingly accurate, advanced care for cancer patients.

HUPTI is the result of a unique public and private partnership between the Hampton Roads community, bringing together healthcare providers, business, education and industry leaders. I’m very pleased that these entities have pooled their talents and resources to make this showcase cancer center a reality.

I am looking forward to the coming years with hope, enthusiasm and anticipation.

William R. Harvey
President
Hampton University
Cancer is the 2nd leading cause of death for Americans.

Cancer is the leading cause of death
- Among women ages 40-79
- Among men ages 60-79

60% of all cancer patients receive some form of radiation therapy.

One out of every three Virginians will develop some form of cancer during his or her lifetime.

Hampton Roads has one of the highest incidence of prostate cancer deaths in the U.S.

Sources include: the American Cancer Society, the Center for Disease Control and Prevention, and the Virginia Cancer Registry.

Hampton University has joined the fight against cancer with its state-of-the-art cancer treatment and research facility, the Hampton University Proton Therapy Institute.
“When I first got the brain tumor diagnosis, it was such a scary thing to hear. However, when I researched the facility and the doctors and saw the experience and expertise of the staff, I felt totally confident. During treatment, the only side effect I experienced was minor fatigue. I was able to maintain my normal lifestyle. For me, proton therapy was the least invasive option and it saved my eyesight.”

– Deborah Owens
Former HUPTI Patient
Proton Therapy is the most precise form of radiation treatment. Proton therapy targets the tumors while sparing surrounding healthy tissue, causing far fewer side effects than traditional therapy.

Proton Beam Therapy vs. Conventional Beam Therapy

- Proton beam delivers minimal dose in front of the tumor, maximum dose to the tumor region and no dose behind it.
- Conventional beam therapy delivers x-ray radiation along the entire path through the patient, affecting healthy tissue along the way.

“The whole experience was a non-interruption of my lifestyle. I was able to play golf the entire time. Not to mention, I didn’t have any side effects, besides a sun-burn on my hip for two weeks. The staff was beautiful. I couldn’t have chosen a better facility.”

– James Moren, Hampton, VA  
Former HUPTI Patient

Conventional Radiation Therapy  
Deposits most energy before target and continues to deposit energy after target.

Proton Radiation  
Deposits most energy on target and zero energy beyond target.
"Proton therapy was the best option for me. I went online to do extensive research after receiving my diagnosis for prostate cancer because I had a friend who chose a different treatment and had a hard time, and I don’t believe in having hard times. I was able to continue my active lifestyle during treatment. My friends at the gym told me they didn’t know I was going through anything. I told them that’s the best part about this treatment. I never felt any depression or fatigue or any of those types of side effects, experienced with other treatment options."

– John Melvin
Hampton, VA
HU Class of ‘65
Former HUPTI Patient
**Benefits**

- Proton therapy is widely recognized as the most effective external beam method in the selective destruction of cancer cells
- Non-invasive
- Minimal side effects
- Most precise treatment, targeting only the tumor
- Healthy tissue around the tumor is spared

**Treatment Experience**

- Treatments are completely painless.
- The actual radiation time is two minutes or less.
- Patients receive outpatient treatment, with each appointment time being 20-30 minutes per day for one to nine weeks.

**Interesting Facts**

1) The protons at HUPTI may be accelerated to nearly 60% of the speed of light, about 180,000 km/s, or over 402 million miles/hour.

2) The HUPTI treatment gantries weigh over 90 tons each.

3) More than 100,000 patients around the world have been treated with proton beam radiotherapy.

4) Currently, approximately 500 patients are being treated daily in the United States.

5) Renowned scientist Robert R. Wilson first suggested the use of protons for treating cancer in his 1946 paper “Radiological Use of Fast Protons” (R. R. Wilson, Radiology, 47:487-491 (1946)).

6) The HUPTI facility has over 68 million pounds of concrete in the walls, which are in some places as much as 16 feet thick.

— Dr. Allan Thornton
HUPTI Radiation Oncologist
What treatments are available for cancer?

The three most common treatments for all cancer are surgery, chemotherapy and radiation therapy. Which of these treatments should be used is determined through a complex evaluation of the tumor type, the stage, the patient’s age and medical condition and the goals and desires of the patient and family. Not all cancers can be cured but the quality of life can be improved for most patients by appropriate treatment.

Why should I consider proton therapy rather than regular radiation?

“Regular” radiation, regardless of the source, be it a linear accelerator, an implanted radioactive source or one of the new computer-guided robotic machines, typically means x-rays. X-rays, when pointed at the human body, will almost immediately begin to deposit energy. As they move deeper they give up more and more of their energy hitting a peak then gradually tailing off until they exit the opposite side of the body. Radiation damage may be caused throughout this long path. Protons are an entirely different form of radiation from x-rays and they have a very different effect within the human body. Protons pass through the initial layers of tissue depositing little of their energy. But, at a programmed depth determined by the beam energy protons will very quickly give up all of their energy and stop. There is no exit dose and much less normal tissue is affected. For almost any cancer in any part of the body there will be, therefore, a tissue-sparing advantage with protons as compared to x-rays.

What are the side effects of proton therapy?

The side effects of proton treatment will depend on the part of your body being treated and the size and type of cancer involved. In general, fewer side effects and less severe side effects can be expected with protons as compared to standard x-rays. A detailed evaluation at our center is required to see if the advantages of protons are medically appropriate for any specific patient.

Do I have to have a referral from my local doctor to be considered from treatment?

Certainly not. You can schedule an appointment to see us at any time and we are always available by telephone. Our doctors will speak to you directly. If you are uncomfortable about asking for a second opinion because you fear your local doctor will be insulted, don’t be. All good cancer doctors encourage second opinions. We will be pleased to communicate with both you and your physician as you make your crucial treatment decisions.
Will protons make me radioactive?
No.

I live hundreds of miles from HUPTI. Where will I stay during treatment? What about my family?
Lodging arrangements have been considered a high priority since day one of our planning for this center. Hampton Roads has two international airports and numerous local hotels and on site facilities will be available. HUPTI is located in a beautiful setting convenient to shopping, entertainment, the seaside, and historic attractions. Don’t underestimate the importance of these amenities during your treatment. For the most part, our patients feel quite well during therapy. Participation in local activities can go a long way to dispelling the fear and anxiety that go along with cancer treatment. Our staff will assist you in finding accommodations that fit your needs.

How can I get more information on protons and HUPTI?
For additional information, please call 877.251.6838 or visit hamptonproton.org.

“Proton beam therapy is absolutely pain-free and takes just 15 minutes a day (only 60 seconds of which is actual beam radiation). Do your homework and research proton beam treatment on the Internet. Do not confuse proton therapy with photon therapy. There is a world of difference. I have absolutely no lingering adverse effects years after my 39 treatments ended. I play golf regularly and have had no fatigue during or after my treatment.”

– Ronald Moreau
Williamsburg, VA
Former Proton Therapy Patient
The first suggestion that energetic protons could provide an effective cancer treatment was made by renowned scientist Robert R. Wilson in a paper published in 1946. The first treatments were performed at particle accelerators built for nuclear physics research, such as the Harvard Cyclotron Laboratory.

The first hospital-based proton treatment center in the United States was built in 1990 at Loma Linda University Medical Center in Loma Linda, California. This was followed by the Northeast Proton Therapy Center at the Massachusetts General Hospital and the Indiana University Health Proton Therapy Center.

Today, cancer treatment with proton therapy is on the rise with many new centers projected to open in the next decade. The Hampton University Proton Therapy Institute (HUPTI) is the eighth proton facility in the country and the largest of its kind in the world, and is dedicated to remaining at the cutting edge.

HUPTI began in 2005 as a vision of Dr. William R. Harvey after hearing of this exciting cancer treatment modality from alumnus. Several months after President Harvey initiated the process for establishing the proton center, he appointed a team to investigate and evaluate Hampton’s ability and interest in establishing a proton facility in Virginia.

The committee recognized quickly that the unique combination of expertise needed for such a project existed at Hampton - an outstanding physics department with both a graduate medical physics program and strong ties to the nearby Thomas Jefferson National Accelerator Facility, a longstanding relationship with the local cancer treatment community in Hampton Roads, a history of successful scientific and other large project management, and the combination of vision and know-how to make it all happen.

Today, it is happening. The groundbreaking was held in July 2007 and HUPTI began treating patients in August 2010. HUPTI’s 400th patient was treated in September 2012.
Hupti is a Leader in Innovative Healthcare

- The largest free-standing proton therapy institute in the world
- The only proton therapy cancer treatment center in Virginia
- Additional beam-line dedicated to scientific research

Facility Facts

- $225M state-of-the-art research and treatment center
- 98,000 sq ft
- Total of five treatment rooms
- 4 Gantry rooms
- 1 Fixed beam room
- 65% prostate cancer treatments
- Remaining 35% includes liver, breast, lung, head and neck, sarcoma, pediatric and other cancers

“I am thankful to Dr. Harvey and the Hampton University team. The City of Hampton donated the 5.5 acres of land for the center because it is a tremendous investment for the city.”

– Ross Kearney, II
Former Hampton Mayor
“I was diagnosed with prostate cancer in October 2009. A week before my scheduled surgery, a friend suggested that I look into proton therapy as a treatment option. After researching proton therapy and a consultation with Dr. Sinesi, I was scheduled to begin proton therapy in August of 2010, becoming HUPTI’s very first patient. I was pleased that I didn’t feel a thing during treatments. I was amazed that I didn’t experience any side effects. This has been an incredible journey and an adventure of a lifetime.”

— Ronald Cosman
Hampton, VA
HUPTI’s First Patient

“In July of 2009 I received a diagnosis of prostate cancer. Because I had many friends who had issues with radiation I wanted to seek an alternative treatment. I decided on proton therapy and I am very happy with my decision. My appointments lasted about 30 minutes per day for about eight weeks. I haven’t had any after effects and I did not have to change my regular daily routine. After treatment I’d go home and work in my garden. I’ve been to every type of medical facility you can think of, but HUPTI stands apart from all of them. Being one of the first patients at HUPTI has changed my outlook on life.”

— Alfred Scott
Hampton, VA
Former HUPTI Patient

“After seeing an advertisement for a prostate cancer screening at a local hospital, I decided to get checked. Weeks later, I received a positive diagnosis for prostate cancer. I learned of the Hampton University Proton Therapy Institute through a family member. I decided to have proton therapy and I am very pleased with my decision. I haven’t had any side effects during or after treatment. The staff at HUPTI is professional and treated me with the utmost care. It was an honor to be one of the first patients. I commend President William R. Harvey for his vision to bring this facility to Virginia.”

— Thomas Hardy
Smithfield, VA
Former HUPTI Patient
“Proton therapy helped save our son’s life when he was diagnosed with spinal Ewing’s Sarcoma (a rare and aggressive cancer) at the age of 2 in 2007. We discovered proton beam treatment delivers targeted radiation to the cancerous site and avoids surrounding healthy tissue. We wanted to kill the cancerous tumor without affecting his other healthy organs and growing tissues. Today, our son is in remission and enjoying his life, as a normal happy little boy. We are so thankful we were able to get proton treatment for our son. We are also overjoyed that other children stricken with cancer will have the option to stay local by receiving treatment at Hampton University’s Proton Therapy Center in the near future.”

— Jim and Susan Ralston
Virginia Beach, VA
Parents of 7 year old Jacob
Founders, Pediatric Proton Foundation

“In November 2007, I began to lose eyesight in my right eye due to a recurrence of an inoperable brain tumor. By January 2008, I was completely blind in my right eye and faced losing vision in my left eye. After diligent research, heartfelt communication and divine intervention, I was quickly scheduled for proton therapy treatment. My doctors did not have much hope for me regaining my eyesight, but saving my vision in my left eye was their goal. Miraculously, after the second of twenty-eight treatments, I saw light. A week later, I saw motion. A week after that, I saw colors. After completing my twenty-eight treatments, I regained 100% of my sight back, with minor fatigue as my only side effect during the treatments. Proton therapy was my only option and it has saved my quality of life. Through “unbreakable faith” and proton therapy, I have 100% sight in both eyes, a spared pituitary gland (so I am able to have children in the future) and a memory center that is as sharp as a tack.”

— Rianta Wimberly
Upper Marlboro, MD
HU Class of ’99
Cancer is more than one disease and it requires more than one treatment approach. At the Hampton University Proton Therapy Institute an experienced team of doctors will review your case to determine the optimal treatment regimen. This may include surgery, chemotherapy and radiation. Protons are a special form of radiation which have a unique ability to penetrate normal tissue to a specified depth and then stop on a dime in a way that standard x-ray radiation simply cannot. The bottom line is that with protons, very often we can get more of the radiation dose on target than with traditional radiation treatments.

Proton beam radiation has been successfully used to treat cancer in the United States for more than thirty years. The ability of protons to target tumors while sparing normal tissues is widely recognized and for many cancer patients protons represent their only radiation treatment option. The Hampton University Proton Institute is treating a broad variety of cancers including some of the most technically challenging cases from across the country.

If you or a loved one is touched by cancer, I encourage you to call HUPTI for a consultation today.

— Christopher Sinesi, MD
Medical Director, HUPTI
GIFTING OPPORTUNITIES

Join Hampton University in the fight against cancer. Gifts and pledges may be designated for facilities, equipment or endowments that will support clinicians, graduate fellows and students. Private support is needed in the following areas:

**Naming Opportunities**

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<th>Name of Facility</th>
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<tr>
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<tr>
<td>Entire Building Name</td>
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<td>Pediatric Anesthesia Recovery Room</td>
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<td>Conference Room</td>
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**Endowment Opportunities**

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<td>Endowed Professorship in Clinical Research</td>
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For these and other giving opportunities, contact:

Hampton University, Office of Development, Hampton, VA 23668, 757.727.5356.

Gifts may be made in the following ways:

- Personal checks for gifts or payment on pledges
- Transfer of stocks, bonds and real estate
- Estate planning

“I have followed Hampton University’s proton program from conception, through design, construction, and start-up. The result is a magnificent facility that is already saving lives and – equally as important – preserving the quality of lives. Congratulations to Dr. Harvey and his team for bringing this breakthrough technology to Virginia.”

—Robert J. Marckini
Prostate Cancer Survivor

[hamptonproton.org  | 877.251.6838] Hampton University Proton Therapy Institute  | 15
The Hampton University Proton Therapy Institute is located in the Hampton Roads area of Virginia, a region rich in history, natural beauty, and entertainment options. Visiting patients may experience history at Colonial Williamsburg, try a thrill ride at Busch Gardens, enjoy a sail on the Chesapeake Bay, or cruise the boardwalk at Virginia Beach – all without ever going more than about half an hour from HUPTI.