Proton Therapy
Changing the way you treat cancer

www.iba-protontherapy.com
In the world of medical technology, “state-of-the-art” is a continually moving target. To be on the leading edge, you need to offer the most advanced treatment. The clinical advantages of proton therapy compared to conventional radiation therapy are well known: it is a viable and successful option, with more than 80,000 patients treated worldwide. And as more people in medical and patient communities learn about the benefits of this advanced treatment, demand will increase, leading to the need for more proton therapy facilities.

IBA has designed, developed and equipped more proton therapy centers around the world than anyone else, providing equipment as well as scientific and engineering expertise. We use a pragmatic, modular approach that is scalable to meet your specific business goals. Whether you want a single- or multi-room facility, freestanding or as addition to your radiation therapy department, we can help your vision become a reality — and help you bring the real advantages of proton therapy to more patients and communities.
The most advanced cancer treatment

Proton therapy is used today to treat many cancers and is particularly appropriate in situations where treatment options are limited and conventional radiation therapy presents unacceptable risks to patients. These situations include eye and brain cancers, tumors close to the brain stem and spinal cord, prostate, liver, lung and breast cancers, and pediatric cancers.

How proton therapy works

Proton therapy is an advanced form of radiation therapy that uses a high-energy proton beam for cancer treatment. In contrast to conventional radiation therapy, proton beams deliver their maximum energy within a precisely controlled range, known as the Bragg peak, thereby reducing adverse effects to adjacent healthy tissues.

In IBA-equipped proton therapy centers, cyclotrons accelerate protons to an extremely high speed, generating a controlled beam, which is delivered very precisely in the treatment rooms, through a nozzle, to the targeted tumor. With proton therapy, there is significant potential to reduce side effects, improve overall outcomes in cancer treatment and offer a better quality of life to patients.

Key advantages of the proton beam in cancer treatment:

- Little to no radiation outside the tumor;
- Lower risk of induced disorders (e.g., secondary cancers or child growth abnormality);
- Better quality of life during and after treatment.

As a major cancer center, you cannot really move into the future without adding proton therapy to be part of what you can offer patients.

Dr. Zelig Tochner
Professor of Radiation Oncology
University of Pennsylvania Health System.
Precise Dose Delivery, Fewer Side Effects

Technological advances in conventional external beam radiation therapy have led to a new approach: Intensity Modulated Radiation Therapy (IMRT). To reach the right amount of dose in the target, IMRT multiplies the number of beam incidences needed and spreads unnecessary dose in the surrounding healthy tissue. For the patient, this means receiving a much higher integral dose during IMRT treatment compared to a similar treatment in proton therapy.

With proton therapy, you avoid depositing unnecessary dose in surrounding healthy tissues because the physics of protons enables the physician to deliver highly conformal treatments. Proton therapy delivers high-energy radiation doses directly to the tumor.

Today, cancer affects us all:

- it is estimated that 1 person in every 3 will suffer from cancer during his lifetime;
- analyses indicate that 13% of us will contract more than one cancer, a proportion that has dramatically increased over the last years;
- the majority of the cancer patients will receive radiation therapy at some point during treatment.

However, data is strongly suggestive that, thanks to its precise dose delivery, proton therapy reduces by 50 to 80% the risk of radiation-induced secondary cancers. In the case of secondary cancers or cancer resurgence, retreatment is made possible by the lower Integral Dose delivered during a proton therapy treatment.

Patient’s Testimony

When he learned he had prostate cancer, Ben Smith, a 55 year old aerospace engineer from Florida, analyzed his options and looked for the best treatment. Smith refused to risk the possible side effects (impotence and incontinence) and sought for a more palatable solution: proton therapy. “The proton beams are so precise; if that’s where you want the radiation to go, that’s where it goes”, he says. “After doing all the research, I thought, ‘This is it. This is what I have to have.’”

During his treatment at UFPTI, Smith, married with two children, enjoyed visits from his family and friends, read, attended some college football games and kept in shape at the local YMCA. Three weeks after his last therapy session, he returned to work.

One year later, Smith has regular blood analyses done and returns to UFPTI for follow-up visits. “Ben is doing great,” says his doctor. “His prostate has shrunk considerably and he has no side effects from his treatments.”

More precise dose delivery, fewer side effects, excellent results – proton therapy is changing how cancer is treated. IBA is helping to make this compassionate treatment modality available to more patients worldwide.

PROSTATE CARCINOMA.

Current X-ray therapy methods can result in excessive radiation doses in the rectum and bladder. With proton therapy, the prostate carcinoma can be treated with only 2 lateral beams delivered with the Pencil Beam Scanning method that reduces the dose delivered to the rectum and bladder. With this technique, the Integral Dose given to the patient is much lower; hence the patient has a lower risk of induced complications in surrounding healthy organs.

Pencil Beam Scanning can be used similarly for Intensity Modulated Proton Therapy and Single Field Uniform Dose treatments.

NON SMALL CELL LUNG CANCER (NSCLC).

The therapeutic dose delivered during X-ray treatment of lung cancer is often limited by the risk to healthy tissue surrounding the tumor. With proton therapy, the radiation dose delivered to the collateral lung and other healthy tissues surrounding the tumor can be reduced, creating a potential opportunity for dose escalation and consequent improved patient survival.

PEDiATRIC EPENDYMOma.

Proton therapy spares the hormone and intellectual centers of the brain, as well as the middle ear, more than the most sophisticated conventional radiation therapy techniques. Current literature indicates that avoiding even low doses to these important areas of the brain can significantly reduce adverse effects and the risk of secondary cancer.

1 Images with the courtesy of Stefan Both PhD, Assistant Professor of Radiation Oncology, University of Pennsylvania Health System.
MAKING PROTON THERAPY ACCESSIBLE TO PATIENTS WORLDWIDE

The key indications for proton therapy represent up to 30% of all cancers treated in conventional radiation therapy.

Despite this high potential, very few patients today are treated with proton therapy because access is so limited.

IBA is committed to changing this; we are dedicated to making proton therapy more available to patients, as well as more affordable to healthcare systems.
IBA, A SAFE PATH TO SUPERIOR TREATMENT

BE PART OF A COMMUNITY OF EXPERTS

Today IBA is the sole player in the proton therapy market that can enable its new customers to leverage the experience of its users’ community. IBA organizes on an annual basis the “Proteus User Meeting” which brings together practitioners from all sites installed by IBA, joined by IBA experts, in order to exchange best practices. Customers benefit from a learning curve that allows us to significantly reduce the time required to reach first patient treatments. Even before reaching an agreement, IBA shares its know-how in building design, project management and project financing with its future partners. Transparency and collaboration are key in advancing proton therapy. This is the reason why IBA and its customers work together to lay the foundation for advancing proton therapy as a universally accepted clinical treatment.

Leading institutions have already chosen IBA. Join them to develop the future of cancer care together.

FACTS:

— In 2011, more than 40% of patients who received proton therapy in an hospital environment were treated on an IBA system.
— IBA has installed over 50% of the clinical PT treatment rooms in the market.
— Over the first 10 projects, IBA reduced installation and commissioning times almost fivefold (from 57 to 12 months).
— Record time to first patient of 13 months from Building Occupancy Date at CDH (Chicago).
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25 YEARS OF EXPERIENCE AND INNOVATION, 22 REFERENCE CENTERS

IBA leads the world in regulatory clearance for Proton Therapy systems with FDA clearance in the United States, CE marking in Europe and KFDA clearance in South Korea. This together with experience gained on more than 20 projects worldwide ensures a safe and fast path to treatment while lowering substantially the technical and financial risk of the project.

BENEFIT FROM UNRIVALLED EXPERIENCE GAINED THROUGH 20+ PROJECTS

With more than 25 years of experience, IBA, the market leader, has designed and equipped the majority of clinically operating proton therapy centers around the world, with over 20 projects that are already operational or at various stages of development.

As access to proton therapy increases around the world, IBA continues to innovate and provide compassionate solutions with more patient-friendly treatment rooms and more precise therapies. Partnering and collaborating with renowned clinical institutions, IBA is committed to making proton therapy, the most precise cancer treatment, available worldwide.
Proton Therapy, at the Heart of Our Company

Over the years and through countless efforts in R&D and partnership with its customers, IBA has played an active role in developing proton therapy around the globe.

We deeply believe that proton therapy will help control cancer worldwide in the most compassionate way possible.

Having pioneered the field of proton therapy to become the worldwide leader today, IBA remains committed to following this path and offering its customers even more flexible and accessible state-of-the-art proton therapy solutions to make this extraordinary treatment modality available to more and more patients worldwide.

Proton therapy is and will remain our focus and the key driver of our company growth.

Years of continuous improvement lead IBA to meet the highest standard of quality at all levels of the organization. To ensure that the quality is well managed, IBA is certified ISO 13485 while meeting all quality requirements of regional regulatory bodies (FDA, CE marking, KFDA).

Patient Care is What Really Counts

Leveraging its experience and years of collaboration with its customers and partners, IBA has developed a deep understanding of what it takes to build, operate and maintain a proton therapy center. This experience has laid the basis for the services we have developed to ensure that we bring our customers’ projects to completion in the most efficient and cost-effective way, and make sure you have the time to continue focusing on the single most important element — patient care.

IBA’s experience and knowledge cover all aspects of the process, from site selection to design, construction, system integration and facility management.

Our commitment is to ensure your clinical success by providing reliable tools with the highest availability possible. To date, the IBA service organization experience has helped centers around the world to successfully deliver more than 300,000 fractions to cancer patients.

Your team will be able to focus on the clinical aspects of cancer care while the IBA team ensures that your proton therapy system runs at top performance and meets the highest safety and reliability standards.

IBA’s service offering includes:

— Consulting Services
— Upgrades and Migration
— Financing Support
— Education and Training
— Maintenance and Operation
— Information and Communication

“...Our experience with IBA has been excellent. The quality of the equipment has been wonderful. The people that they’ve had on board have been experts in their field, and they’ve done a wonderful job of maintaining our system and providing for a smooth operation.”

Stuart Klein, MHA Executive Director, University of Florida Proton Therapy Institute.

Facts:

— R&D represents 12% of IBA turnover and 13% of its workforce.
— On December 31, 2011, the IBA patent portfolio contained 326 patents or patent applications covering 117 different inventions.
— In 2011, proton therapy revenue growth was close to 50%.

For more information, please visit: www.iba-proton.com
PROTEUS SERIES: MEETING YOUR EVERY NEED IN PROTON THERAPY

IBA offers a modular approach to proton therapy that is scalable and adaptable to the specific goals of a particular medical group. A number of customers choose to start with a larger center of 3 or 4 treatment rooms, while others opt to expand their existing radiation therapy practice with a single proton therapy treatment room.

Based on this approach, IBA Proton Therapy has developed 3 proton therapy solutions with specific configurations to meet your every need in proton therapy:

1. ProteusPLUS: THE UNIVERSAL PROTON THERAPY SOLUTION

It offers the possibility to configure the center in accordance with customer needs, providing a choice of 4 different beam delivery modes and 4 types of treatment rooms ensuring perfect patient positioning. This proven proton therapy solution combines the latest technologies with the experience gained over 20 years of partnership with top clinical institutions.

2. ProteusTK2: THE TURNKEY TWO-ROOM PROTON THERAPY CENTER

This proton care center combines the latest technologies from the best partners and every device required to optimize cancer treatment. IBA has established long-term partnerships and collaboration programs with suppliers to achieve seamless interoperability with the ProteusTK2. Everything has been designed to ensure a fast, smooth and risk-free set up.

3. ProteusONE: THE COMPACT AND AFFORDABLE PROTON THERAPY SOLUTION

ProteusONE benefits from the latest technologies and offers extended treatment solutions, while having a footprint lower than the size of a tennis court. Its design enhances the patient experience by fostering a soothing environment while making the medical staff daily practice safer and easier. Smaller, more affordable, easier to install and easier to operate, ProteusONE helps make proton therapy available to more patients worldwide.

PROTONS ARE POSSIBLE

For many institutions, a barrier to proton therapy is the complexity of the project (high costs, large equipment, long project). To counter these barriers, IBA experts have developed the ProteusONE: a compact single-room system that substantially minimizes the space, reduces the cost and shortens the installation time required to build a proton therapy center.

With ProteusONE, protons are possible for more patients worldwide.

1 ProteusONE is the brand name of a new configuration of the Proteus 235 including some new developments subject to review by competent authorities (FDA, Notified bodies, et al...) before marketing.
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Technical specifications are based on standard operating conditions and may be subject to variations. Pictures and illustrations are not contractual.

ProteusPLUS is the brand name of the Proteus 235 FDA cleared and CE marked product. ProteusTK2 is a solution including a configuration of the Proteus 235.

ProteusONE is the brand name of a new configuration of the Proteus 235 including some new developments subject to review by competent authorities (FDA, Notified bodies, et al...) before marketing.

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IBA PROTON THERAPY

Having pioneered in the field of proton therapy to become the worldwide leader today, IBA remains committed to following this path and offering its customers ever more compact, flexible and accessible state-of-the-art proton therapy solutions.

Every day, our experts work relentlessly to make this extraordinary treatment modality available to more patients worldwide. Years of collaboration between IBA and its customers and partners helped treat over 20,000 patients worldwide. Leveraging this experience, IBA has developed a deep understanding of what it takes to build a proton therapy center.

Our customers benefit from a learning curve of over 20 years that allowed IBA to significantly reduce the time required to reach “first patient” treatment.

Leading institutions have chosen IBA to set-up their proton therapy center. Join them to develop the future of cancer care together.

VISIT US ONLINE AT:

www.iba-protontherapy.com