



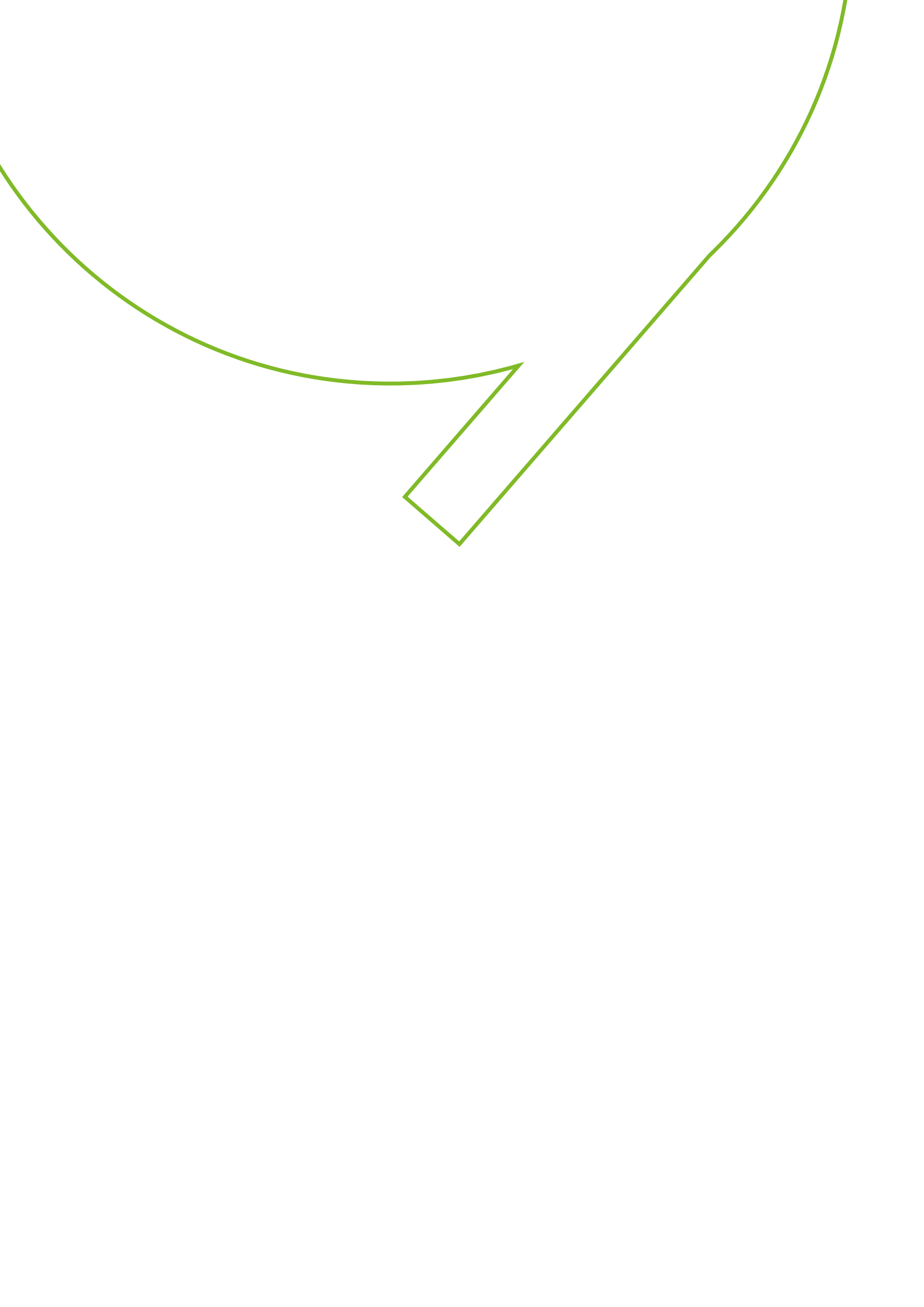
Life.
Science.



SOLUTION PAPER —

Patient & Staff Experience.

Proteus®ONE



Key insights in this Solution Paper

Proton therapy is one of the most precise and powerful forms of radiotherapy today, that minimizes damage to healthy tissues and potentially reduces side effects. **Proton therapy could therefore have a hugely positive long-term impact on many patients, especially the most vulnerable pediatric patients.** Proton therapy offers the possibility to reduce risks for growth and development abnormalities, preserve cognitive functions, and improve quality of life for childhood cancer survivors^{1,2,3}.

IBA has been leading the way in proton therapy for over 35 years. **ProteusONE is one of the most compact and versatile proton gantry systems available.** The workflow-driven design, open gantry with imaging, verification and treatment at iso-center as well as undisputed beam properties, may enable you to qualify a greater number of patient indications and pediatric patients for proton therapy as compared to other proton systems on the market.

Adding ProteusONE to your facility offers more treatment options to your patients while increasing your institution's attractiveness for cancer patients, leading to increased patient referrals and hospital profitability. Its human-centric design creates a patient-compliant environment, optimizes staff access, and allows the use of cutting-edge technology, making it the ultimate choice for radiation therapy centers. This design not only empowers staff but also paves the way for a promising future in radiotherapy for your institution.

In this Solution Paper, discover:

- How proton therapy with ProteusONE increases hospital attractiveness and patient referrals
- Why patient experience is key for optimal outcomes and profitability
- How the ProteusONE staff experience contributes to talent attraction and retention



This Solution Paper is primarily intended for

- Hospital Executives
- Heads of Radiotherapy Departments
- Radiotherapists



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How proton therapy with ProteusONE enhances hospital reputation & patient referrals

Proton therapy is an innovative treatment modality which offers new possibilities for patients and your center. ProteusONE helps you think big and scale smart, keeping you at the forefront of precision medicine.

A treatment with fewer side effects

Because it targets tumors more precisely, and achieves greater sparing of healthy tissues, proton therapy may have fewer side-effects than other types of radiation therapy⁴. **Patients are more likely to lead healthy lives again, experiencing fewer post-treatment side effects.**



Patient case

Paul, a prostate cancer patient treated at the Northwestern Medicine Proton Center in the United States, explains in a patient story published on the Northwestern Medicine website⁵: *"I heard my friends complaining about their side effects, and I thought, 'This is no way to live'".* After researching proton therapy, he received 44 fractions of treatment. He shares: *"Proton therapy is unbelievable. It's like 'Star Wars'. My friends regret not getting second opinions".*

Better cancer care with increased options

ProteusONE is the **most versatile proton therapy system** on the market. Its **compact, yet open design**, combined with a **fully iso-centric workflow** for imaging and supine treatment and **pure beam properties**, provides your administration and staff with **more flexibility to qualify patients for proton therapy** and have a positive impact on their lives.

On its website, Mount Elizabeth Hospitals in Singapore, a ProteusONE user, explains⁶: *"With procedures such as proton beam therapy, we have helped patients broaden their treatment options, with the goal of minimizing the side effects of cancer treatment and increasing survival outcomes".*

This is particularly relevant for the treatment of children. Dr Ivan Tham, Radiation Oncologist at Mount Elizabeth Hospitals, points out in The Straits Times⁷: *"When we treat a child with cancer, we are particularly concerned about the impact of radiation on growth and development. Proton therapy helps to reduce the amount of radiation received by the child's growing body".*

Proton therapy can also contribute to hospital attractiveness and reputation. In the United States, Corewell Health (formerly Beaumont) Hospital Royal Oak, one of the proton therapy pioneers and ProteusONE early adopters, earned *"high performing"* recognition in the cancer field in the U.S. News & World Report 2023-2024 Best Hospitals ranking⁸. The University of Texas MD Anderson Cancer Center, which also offers proton therapy treatment, is ranked as the number one cancer hospital in the United States.

Several studies have shown cancer patients are willing to travel further than their local hospitals for better care^{9,10}. Some of them even travel abroad to access treatments unavailable in their home countries¹¹.

As an example, Corewell Health Hospital Royal Oak in Michigan was contacted by a patient from California with sacral chordoma, a rare form of bone cancer. The patient travelled nearly 4,000 kilometers to receive proton therapy treatment.

The halo effect

The addition of a proton therapy unit in a radiotherapy department generates a halo effect, contributing to increased referrals and New Patient Start volumes.



**32 % New Patient Start
(NPS) volume increase¹²**



**27 % photon & proton
patient starts increase¹³**



**20 % new radiotherapy
patients increase¹⁴**



We recognized very early that proton therapy, with ProteusONE, resulted in an increase in referrals to our department. Within the first six months of treating, we witnessed a “halo effect” resulting in referrals from competing centers and a dramatic increase in patient self-referrals.

People in our region have always trusted Willis-Knighton Cancer Center for next-generation care and technology, so coming to our center was a logical choice. Having proton therapy and being one of the first centers in the United States to offer it, only increased patient confidence. As the only proton therapy site in Louisiana, we helped pioneer and continue to expand the application of this technology.

Since 2014, proton therapy continues to improve our quality and it remains very gratifying to receive statewide and national referrals to our department as a result.



DR LANE R. ROSEN

Director of Radiation Oncology Services

Willis-Knighton Cancer Center, Shreveport, Louisiana, United States



Why patient experience is key for optimal outcomes & profitability

At IBA, patients are at the heart of everything we do. Our ProteusONE system aims to offer the most comfortable treatment experience to patients fighting cancer.

Patient-centric design

IBA's ProteusONE supine proton therapy system has been created with the users for the users. At the start of our journey, we reached out to major international proton therapy institutes to help us design a 'next-generation and more human-centric system'. Together, our goal was to design a system that **enhances workflow support for users while enabling more patients to qualify** for proton therapy, thereby making this advanced treatment more widely available.

We set out to create a more affordable solution compared to previous and current proton therapy equipment facilitating the adoption of proton therapy by institutions. Additionally, **the open gantry design, as opposed to a closed gantry, increases the ability to accommodate complex patient indications and treatment positions that might otherwise be excluded from proton therapy.**

Additionally, based on insights from proton patients, healthcare staff, and experts, IBA collaborated with Philips Design to develop a high-end therapy machine. This machine creates a **human-centric and appealing environment**, transforming a cold hospital setting into a more patient-friendly treatment room.

ProteusONE enables **imaging and treatment at the iso-center with full patient access**, which can facilitate **easier anesthesia setup**.

Philips Ambient Experience solutions can also be incorporated into the room design to create an interactive healthcare environment. This approach uses modern technology and people-centric design to provide a more comfortable and soothing experience for both patients and staff, enhancing workflows and **increasing operational efficiency**. Patients can select their preferred theme, light, sound, and video prior to undergoing treatment. By creating a more relaxing environment, **patients tend to be less anxious and are more likely to comply with staff instructions which can potentially reduce motion, having a positive impact on the overall treatment delivery and experience.**



Anything that helps ease the patient's nerves or calms them down and helps them settle into a relaxed position, supports the overall treatment process.



DENNIS VARGHESE

Former Chief Therapist

University of Kansas Cancer Center, Kansas City, United States

Key benefits of the Philips Ambient Experience in multiple clinical settings¹⁵

70%

reduction in rescans

80%

reduction in sedations

83%

of survey respondents believe the Ambient Experience is impactful in alleviating patient anxiety



reddot design award
best of the best

The ProteusONE and Ambient Experience combined treatment solution received a reddot design award, one of the most sought-after marks of quality for good design. The jury stated that:

"The 'Ambient Experience' design concept is an expression of a holistic approach that is groundbreaking in the world of medical design".



Better outcomes & increased profitability

In the medical field, and even more so in radiotherapy, **patient satisfaction and positive experiences are gaining recognition as crucial elements for successful treatment outcomes and improved profitability of medical institutions.**

Deloitte research reveals that higher patient experience ratings are associated with higher profitability¹⁶. Improving the patient experience can help a hospital improve its financial performance by strengthening patient loyalty, building reputation and brand, and boosting utilization of hospital services through increased referrals to family and friends.

As such, measurement of patient-reported outcomes (PROs), including symptoms, is an essential component to cancer care focused on the illness impact to the patient and family¹⁷. It has been shown that proton therapy provides favorable quality of life and patient-reported outcomes profiles for selected brain, head & neck, lung, and pediatric cancers¹⁸.

In a study conducted on breast cancer patients in the United States, patient satisfaction with service quality was an independent predictor of survival¹⁹. The authors concluded that further exploration of a possible meaningful relationship between patient satisfaction with the care they receive and outcomes in breast cancer is indicated.

To support patients during their treatment, **the ProteusONE treatment room design aims to provide a more positive and comfortable experience compared to classic operational treatment rooms.**



By looking at proton therapy center design through the lens of patient journey, we can address practical considerations while creating a pervasive sense of comfort, helping to lessen the impact of treatment and increase a sense of ease²⁰.



PAULA WILLIAMS
Principal Healthcare & Proton Therapy
Stantec Design Services



Greater comfort for pediatric patients

Radiotherapy can be intimidating for patients, especially when they are at their most vulnerable state. This is especially true when treating children, who frequently experience distress and anxiety. **ProteusONE's open gantry allows parents to be by their children's side during set-up, helping to reassure them.**

However, children are often unable to remain still, which leads to many centers sedating pediatric patients²¹. Sedation has a financial cost, requiring the presence of a large team.

It can also have a psychological and emotional impact on children.

Different approaches can contribute to reducing the need for sedation, with more pediatric patients able to receive radiotherapy awake²².

The ProteusONE human-centric design including the Ambient distraction may potentially support clinicians in their decision to lower the average age of children who need to be sedated.



Patients describe our ProteusONE room as kind of Sci-Fi or like walking into an amusement park ride. It's something to get their mind off of what's happening.

MATTHEW RODRIGUEZ

Proton Therapy Therapist

Willis-Knighton Cancer Center, Shreveport, Louisiana, United States



How the ProteusONE staff experience contributes to talent attraction and retention

ProteusONE offers an exciting new modality in cancer treatment, helping you attract the very best talent and retain your valued staff. It allows you to offer growth and development opportunities, supporting greater satisfaction, engagement, and motivation.

Cutting-edge technology

According to a study conducted in the United States²³, the motivations of radiation therapists entering the field have considerably evolved. Just two decades ago, new therapists were likely motivated by job security, short educational programs, high demand, and high pay. **New therapists entering the field are highly motivated by patient care and the rapid advancements of technology, such as the increasing adoption of proton therapy.**

As such, more healthcare workers could seek opportunities in proton therapy. Moreover, exciting new developments are under way, which could further increase its clinical relevance and accessibility in the coming years. This includes DynamicARC[®]* proton therapy, a new technique allowing to deliver treatment during gantry rotation, making it faster, simpler and sharper.

By being an early proton therapy adopter, you could get a head start and competitive advantage compared to other radiotherapy centers, boosting your talent attraction.

*DynamicARC[®] is the registered brand of IBA's Proton Arc therapy solution which is currently under research and development. DynamicARC[®] will be available for sale when regulatory clearance is received. Due to a continuous research and development program, IBA reserves the right to make changes in design, technical descriptions, and specifications of its products without prior notice. Some features are under development and may be subject to review by competent authorities.

Easy day-to-day operations

ProteusONE is designed to make the proton therapy clinical workflow more efficient, making procedures smoother and less stressful for healthcare staff. **The open gantry design and 360-degree accessibility around the treatment table significantly improve the day-to-day treatment experience**, providing easy patient access and facilitating communications and cooperation. Anesthesia is made easier, allowing more space for the equipment and for the staff to set-up the patient.

The open environment also provides several advantages for treating non-coplanar fields. With the open gantry and verification immediately available at iso-center with the oblique imaging system, treating a vertex field for cases such as central nervous system, craniospinal irradiation and head & neck is much easier in some configurations compared to the difficulty experienced with proton therapy systems with a closed gantry. **Over 90% of IBA users agree an iso-centric workflow is essential.**

In addition, ProteusONE's people-centric design does not only have a positive effect on patients. The Ambient Experience user survey conducted by Philips also shows that **staff tends to prefer working in a room with a human-centric design as it offers a more inspiring environment.**



I think a room like ours has an impact on our workers too. It goes beyond the patient. I believe it definitely affects the attitude of the therapists, because it's not just a basic hospital room. It feels like something special. And I don't think you can put a price on that as far as the morale of my therapists goes. I need them to be in a very good place to take care of our patients.

DANIEL SPEIR

Chief Radiation Therapist

Willis-Knighton Cancer Center, Shreveport, Louisiana, United States



Throughout the entire training process, I felt ProteusONE's design was quite logical. It is very easy to learn how to use it. In addition, it has a reliable design which allows us to treat patients with confidence.

MEI LING CHEN

Senior Radiotherapist

Taipei Medical University Hospital – Proton Center, Taipei, Taiwan





Training & community support

The addition of proton therapy offers your staff the opportunity to acquire new skills. **IBA has designed a Proteus user curriculum which provides comprehensive training on the Proteus system** including hands-on experience, as well as on-site and remote Application Specialist support so that your clinical team is well prepared and confident to start clinical operations.

This training and support have been described as follows by our clients: *"Very informative. All my questions were answered"*, *"The application specialist was knowledgeable and helpful"* and *"Clear and effective training"*. The majority of users believe ProteusONE is

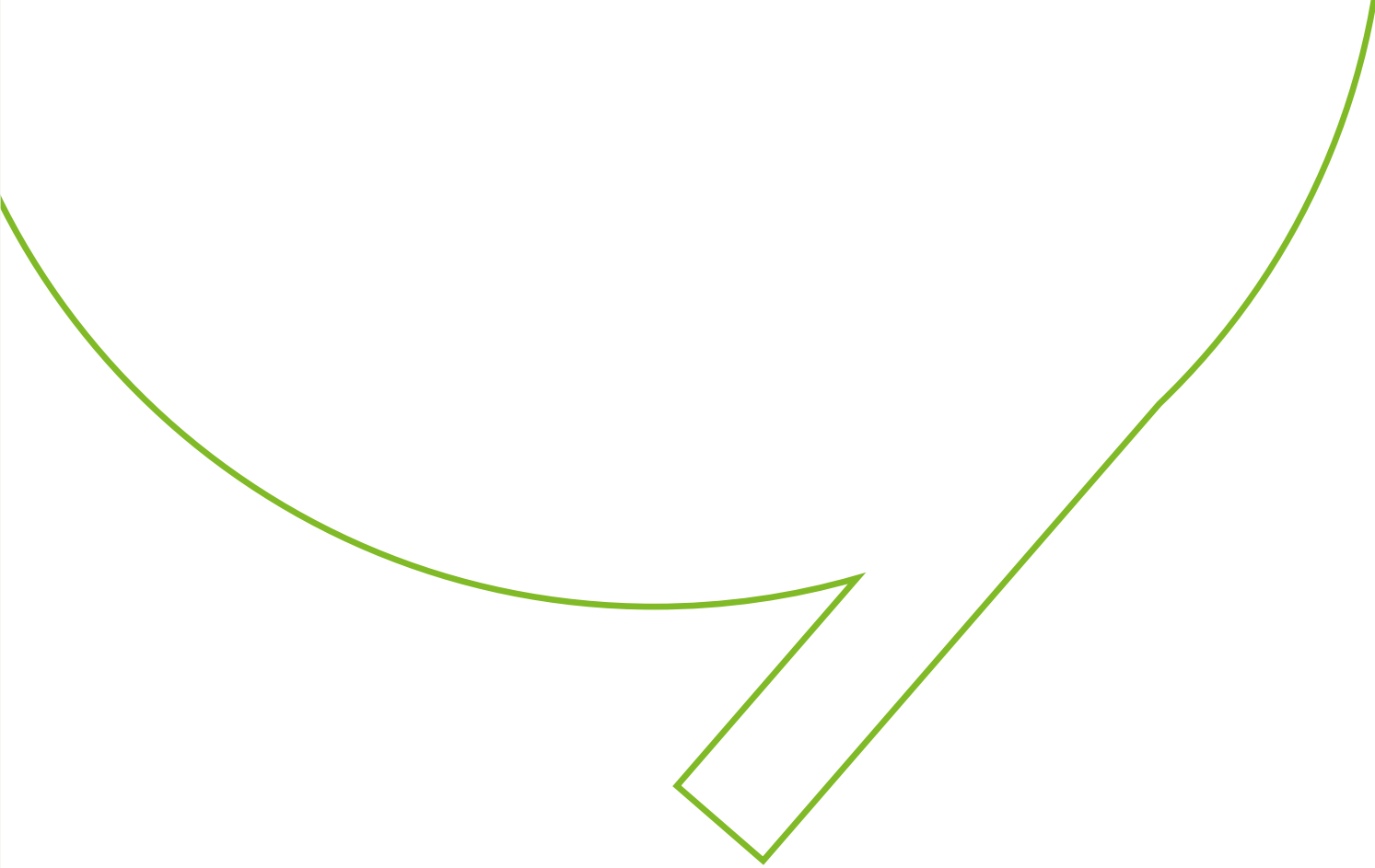
easy to learn, with a quick learning curve. In addition, IBA can facilitate proton therapy clinical education, with an off-site internship with an experienced Proteus user offering a comprehensive clinical training.

Beyond the initial training, all IBA users have access to Campus. This unique collaboration network allows to share knowledge and experience in proton therapy. It offers a wealth of resources, allowing all stakeholders to learn about proton therapy and find the information they need at every stage of their journey. IBA users are at the heart of Campus. They build, contribute, and benefit from this community.

Campus • your proton therapy community



CLICK OR SCAN THE QR CODE
TO CREATE YOUR ACCOUNT
AND START DISCOVERING CAMPUS



Proton therapy is continuously evolving and training is key. Campus strives to provide what the community needs, enabling experienced users to share with newcomers.



DR ALEJANDRO MAZAL

Technical Director and Head of Medical Physics
Quirónsalud Proton Therapy Center, Madrid, Spain



We have incredible expertise on our proton therapy team here to know how to best use this technology. Several of our physicians and medical physicists trained at the best cancer centers in the world, including Harvard and MD Anderson, and are experts in proton therapy. We are also engaged in ongoing clinical trials with colleagues around the world to further improve and refine cancer treatment with this and other tools.



DR RONALD CHEN

Chair of Radiation Oncology
University of Kansas Medical Center, Kansas City, United States

Essential takeaways

- Leverage proton therapy to boost your hospital attractiveness and reputation and generate increased referrals
- Look into how to provide the best possible patient experience to facilitate treatment, achieve optimal outcomes and enhance your profitability
- Consider the impact proton therapy could have on talent attraction and retention, with development opportunities for your staff

We hope this overview gives you a better understanding of how ProteusONE and IBA contribute to exceptional patient and staff experience helping you boost your reputation, attractiveness and financial performance.

Contact us !



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TO CONTACT US!

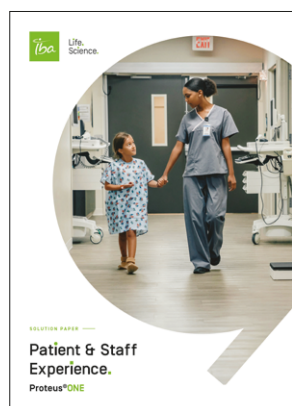
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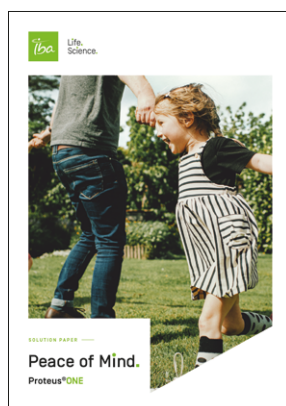
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Available resources

This Solution Paper is part of a series highlighting the unique benefits of proton therapy with ProteusONE for cancer centers:



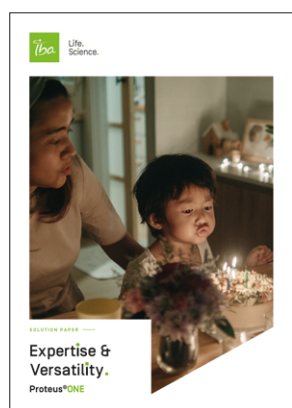
Patient & Staff Experience



Peace of Mind



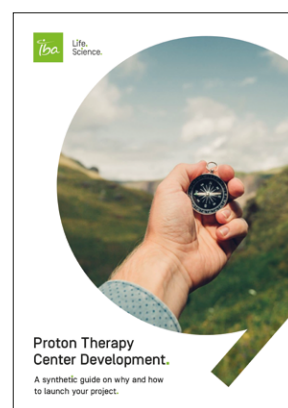
Scalability & Sustainability



Expertise & Versatility



Why Beam Quality Matters



Proton Therapy
Center Development
- Synthetic Guide

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