
CARE, DARE, SHARE, BE FAIR

The Story of IBA

NICOLAS COUPAIN

Lannoo

FOREWORDS

It's difficult to imagine being the parent of a thirteen-month-old with cancer.

When we went to the hospital, we discovered what we already suspected: a brain tumor. More precisely, an AT/RT tumor—one of the most aggressive types out there. When the doctors mentioned the possibility of radiation therapy, our response was immediate: “No.”

We'd heard about proton therapy but weren't sure if it was right for Viggo. We were shocked and felt it was incredibly unfair that such a promising technology wasn't available in Belgium. So, we took matters into our own hands and reached out to the Paul Scherrer Institute in Switzerland.

What mattered most was that Viggo maintained a good quality of life. In 2012, the benefits of proton therapy were not yet fully confirmed, but Swiss doctors mentioned survival rates of 60 to 70 percent, whereas statistics for an AT/RT tumor showed only 10 to 15 percent in the first year. With approval from our healthcare system, we traveled to Switzerland for nine weeks.

We were lucky—but this should be guaranteed. Every parent should have access to this option without having to struggle alone. Luckily, we had support: coworkers, friends, and family stood by us. When they asked how they could help, we told them: “Talk about proton therapy.”

For us, proton therapy was a lifeline. Once the treatment started, hope came back. How many children could have had the same chance? How many had to settle for a less suitable treatment simply because the best option wasn't available?

Today, fourteen years later, Viggo is doing well. He was bilingual by age four; his IQ is above average; his education and development are completely typical. Today, we believe that none of this would have been possible without proton therapy.

Our testimony is that of a family—but also a plea to make this treatment accessible to everyone. Because Viggo should not be an exception.

- STEVE & VALÉRIE MOMMAERTS,
VIGGO'S PARENTS

Long before I walked the corridors of Massachusetts General Hospital as a faculty member, I was sending my patients here.

For decades, working as a radiation oncologist at the University of California, San Francisco (UCSF), I encountered cases where the limits of conventional radiation were too consequential to accept. Whether a child with a brain tumor or an adult with a spinal cord tumor, I referred my patients to MGH, knowing and trusting that they would receive exceptional, unrivaled care.

In 2015, I joined the Harvard Radiation Oncology community and every experience here, every day, confirmed all that I had understood from a distance.

Proton therapy has transformed the way we think about radiation. Because protons deposit their energy at a precise, controllable depth, they can be targeted with an accuracy that conventional radiation cannot match. Tumors near critical structures—spinal cord, optic nerves, developing brain of children—these have been patients for whom proton therapy did not merely improve outcomes. It transformed them.

In the years since, we have treated thousands of patients at MGH. What we have witnessed, again and again, is not only survival, but also preserved quality of life. Children who finished school. Adults who returned to work. Families spared the long shadow of late effects. These outcomes are not incidental. They are the purpose. They are the vision.

This book marks forty years of a field that dared to ask: what if we could do better? The answer required physicists, engineers, clinicians, and institutions to work in concert. The history of proton therapy is, at its core, a story of collective ambition.

The work is far from over. The gap between what is scientifically possible and what is available to patients remains too wide. Too many children still receive treatments less precise than what we know is achievable. Closing that gap is not a commercial question. It is a moral one.

- DAPHNE HAAS-KOGAN,
MD PROFESSOR, HARVARD MEDICAL
SCHOOL | DEPARTMENT OF RADIATION
ONCOLOGY, MASSACHUSETTS GENERAL
HOSPITAL (MGH)

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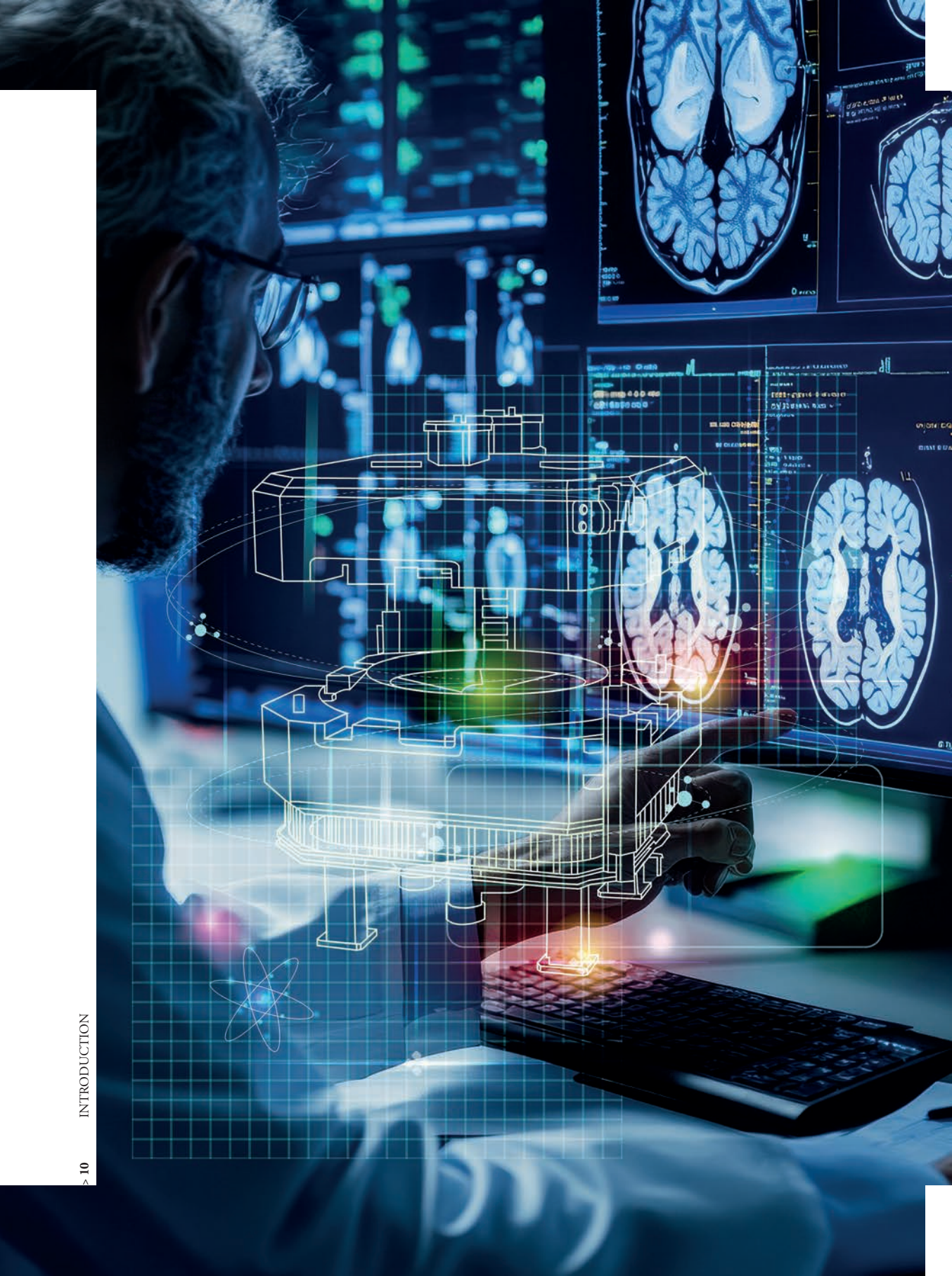


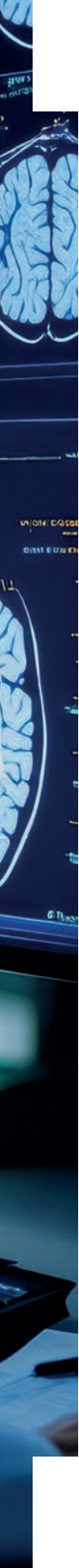
IBA treats cancer by setting up proton therapy centers and developing therapeutic radioisotopes.

INTRODUCTION

Boston, November 7, 2001. In a treatment room at Massachusetts General Hospital, a patient takes a decisive step in the fight against cancer, becoming the first person in the world to receive proton therapy delivered using a technology developed by a small company—one founded just fifteen years earlier in a university laboratory in Louvain-la-Neuve, Belgium. At once intimate and universal, this moment captures the very essence of IBA's journey: transforming bold scientific ideas into innovations that save lives. For the engineers, physicians, and entrepreneurs who dedicated years to realizing this vision, it signified far more than a technical or commercial achievement. It stood as living proof that the improbable can indeed become reality.

Since the delivery of this first life-saving proton beam, IBA has become the undisputed leader in proton therapy, with approximately half of all patients treated worldwide receiving care on its systems. Yet significant barriers remain for many patients who could benefit from this technology. Viggo, pictured on the cover as a young child, was among the fortunate. In 2012, at the age of one, he received a decisive course of treatment in Switzerland—care that enabled him to grow up like any other child. While IBA did not build this machine, the company worked tirelessly alongside Viggo's family in the fight to improve access to proton therapy.





IBA uses radioisotopes produced by its cyclotrons and chemical equipment to improve the accuracy of diagnoses.

These efforts, like many others described in the pages that follow, are part of a trajectory shaped by four guiding principles that IBA formalized in 2004 after a period of deep introspection: *care*, *dare*, *share*, and *be fair*. These core values resonate throughout IBA's history.

CARE relates to the clinical mission: patients, safety, quality, the well-being of team members, and their impact on the world.

DARE embodies technological courage, non-linear approaches, and a creative drive that rejects the idea that “we’ve always done it this way.”

SHARE suggests an open ecosystem, the flow of knowledge, and the sharing of collective achievements.

BE FAIR reflects balanced governance, reciprocity, and the pursuit of the common good.

These ideals are not fixed doctrines but sources of inspiration, continually tested by reality. Together, they form a framework that must be constantly reexamined and reinvented to sustain dialogue between science, medicine, and industry.

IBA's history has been shaped by both progress and setbacks—through leaps forward, unforeseen crises, and the need to rebuild balances repeatedly. This book invites readers to explore that journey and the philosophy behind it, illustrating how these values have been embodied—and sometimes challenged—by real-world situations. The aim is twofold: to preserve memory, ensuring the origins, choices, doubts, failures, and achievements that define IBA are not forgotten, and to shed light on the future by providing reference points for navigating an increasingly complex world.

IBA guarantees the quality
and precision of care delivered through
its dosimetry solutions.

The first part of this book traces IBA's journey while addressing a series of fundamental questions. How can ongoing innovation act as both a driver of growth and a necessity for survival in the most demanding areas of medical technology? How far can audacity be pushed without compromising the organization's integrity? How can mission and profitability be balanced? How can strong values be maintained when crises threaten to undermine everything? How can local roots and stable ownership support a global ambition? How did an SME founded in a university laboratory manage to bring together such a remarkable pool of talent around a distinct culture? And perhaps most challenging of all, how can time be managed—responding swiftly to customer expectations while building a resilient model?

The second part of this book examines IBA's philosophy: the principles that inspired its successive leaders, the development of its corporate culture from a technology start-up to an international group, and how the company's history prepares it for the future. How can a company like IBA maximize its positive contribution to society? What lessons has IBA learned from its past that will allow it to become an increasingly resilient and successful organization in the years ahead? Reflecting on decisions made, achievements realized, and challenges surmounted, a set of common themes appears. These constants are not just keys to understanding the past; they also act as compasses for navigating the future.

But before exploring this twofold narrative—encompassing both historical account and philosophical reflection—it is worth recalling its purpose. What is the point of these ion beams, gigantic magnets, and years of relentless research? IBA's particle accelerators serve four vital functions: diagnosing, treating, monitoring, and protecting.



IBA protects life by sterilizing medical devices with its Rhodotron-based irradiation solutions.

Diagnosis, first. Through IBA's radiopharmaceutical solutions, millions of patients each year benefit from more accurate diagnoses in oncology, cardiology, and neurology. The isotopes produced enable earlier detection of cancer, cardiovascular conditions, and neurodegenerative diseases, helping physicians to see, monitor, and anticipate.

Treatment, second. IBA's technologies enable the precise targeting of tumors with unparalleled precision while sparing healthy tissue. Each proton therapy center represents a promise: safer, more targeted, and more patient centered care. Treatment is no longer limited to proton therapy. IBA's accelerators also produce radioisotopes used in theranostics, an emerging approach that combines diagnosis and treatment within a single clinical pathway.

Control, constant. Precision lies at the heart of IBA's mission. Through dosimetry, the company guarantees that every dose delivered—both for imaging and treatment—is exactly as prescribed. By making the invisible visible, IBA safeguards quality.

Protect, always. By adapting its technologies to industrial needs, IBA contributes to the sterilization of medical devices, the improvement of materials, and the reduction of environmental impact. It is a discreet yet decisive contribution to the safety and quality of everyday life.

Over the decades, these applications have been refined and honed around a single guiding principle: applying the engineering of physics in the service of life.

This account is based on thorough research using both internal and external archives. It is shaped by many testimonials from those who contributed to the company's success. While not all can be named, none are forgotten. They are all acknowledged here with gratitude. Behind every technology, there are people; behind every patient treated, there is a story.





ACCELERATORS TO SAVE LIVES: THE EPIC STORY OF IBA

I

Installation of an IBA cyclotron at Belgium's first proton therapy center at the hospital in Leuven, Belgium, 2019.





A STAR IS BORN

[1986-1987]

Acknowledgements

I am very grateful to the members of the quartet who initiated and supervised the project—Yves Jongen, Pierre Mottet, Olivier Legrain, and Henri de Romrée—for trusting me with the task of researching and transcribing the history and philosophy of IBA. Their open-mindedness and dedication to transparency and pedagogy allowed me to carry out my research and write this book. Alongside them, around thirty employees, administrators, and clients generously shared their insights with me as firsthand witnesses to this entrepreneurial adventure. Although I haven't named them all, each contributed to this project. I want to especially thank Marie Gahylle and Giulia Marino for their invaluable logistical, organizational, and legal support, as well as Daniel Ernult for researching and selecting the illustrations. A big thank you to my dearest Marie, Caroline, and Nadine for their meticulous proofreading, and to Victoria and Noah for their support with documentary research. This book was made possible by the efficient and friendly collaboration of Michelle Poskin, editor-in-chief of Éditions Racine. It was beautifully designed by Dominique Hambÿe and carefully translated from French into English by Paula Cook.

Nicolas Coupain

Author **Nicolas Coupain**

Graphic design and layout

Dominique Hambÿe

Translation **Paula Cook**

Proofreading **Textcase** textcase.com

Royalties from the sale of the books will be donated to the Oncia Community Foundation > <https://oncia-community.org/>

The cover photo was kindly provided by the Mommaerts family.

All photographs are from the IBA collection except pages 22–23. © The Regents of the University of California, Lawrence Berkeley National Laboratory and page 167, X. Ding, X. Li, J.-M. Zhang, P. Kabolizadeh, C. Stevens, D. Yan, “Spot-Scanning Proton Arc (SPArc) Therapy: The First Robust and Delivery-Efficient Spot-Scanning Proton Arc Therapy”, in *International journal of radiation oncology, biology, physics*, 1 Dec 2016 ; 96(5):1107-1116.

Éditions Racine / Lannoo Publishers
<https://www.lannoopublishers.com/en>
Tour & Taxis – Entrepôt royal
Avenue du Port, 86C / bte 104A
B-1000 Brussels
Tel. +32 (0)2 646 44 44
www.racine.be

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ISBN 978-23-902-5388-4

Legal deposit D/2025/6852/8

Printed in Europe