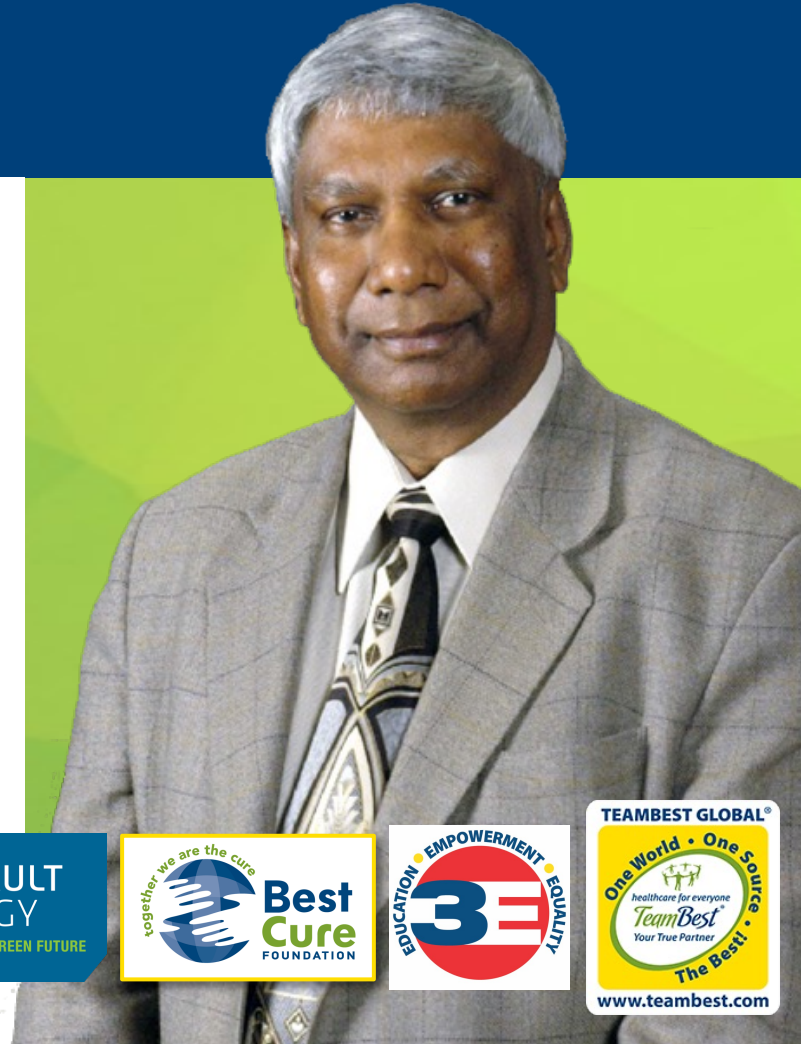


Krishnan Suthanthiran

krish@teambest.com

Founder and President
of Best Cure Foundation,
Kitsault Energy and
TeamBest Global
Companies



Rethinking Medicine—

*Future of Global Healthcare
Delivery in the 21st Century
Post Covid-19*



The Future of Global Healthcare Delivery in the 21st Century, Post COVID-19

Contributions of Best Cure Foundation and TeamBest Global Companies



Best medical international

TeamBest Theratronics ASIA

Best Cyclotron Systems

Best Particle Therapy

Best Theratronics

Best medical canada

Best medical italy

Best ABT Molecular Imaging

Best vascular



TEAMBEST GLOBAL®



www.teambest.com



arplay medical

HUESTISMEDICAL
making it affordable™

Best nomos®

Best Dosimetry Services

CNMC+ *Best* NDT
A TeamBest Company



Best entertainment
for everyone



**KITSALT
ENERGY**

FUELING THE GREEN FUTURE

Best Automation & Robotics



KITSAULT
ENERGY

FUELING THE GREEN FUTURE



Best
Cure
FOUNDATION



TEAMBEST GLOBAL[®]



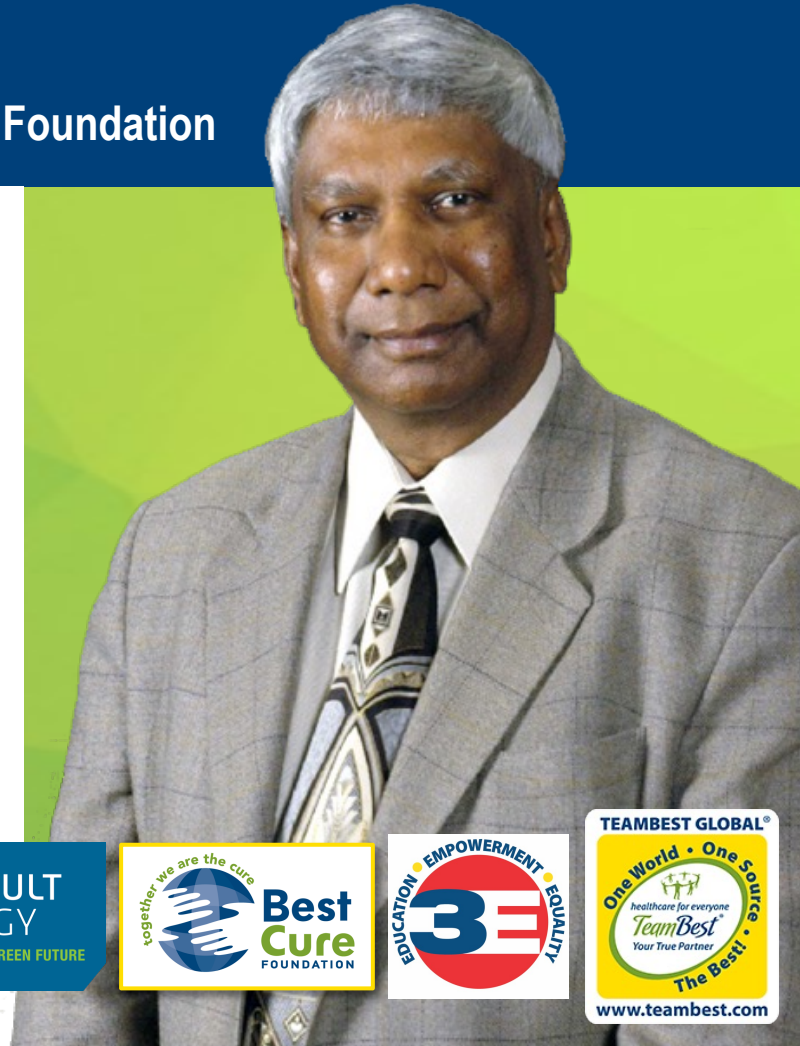
www.teambest.com

About Krishnan Suthanthiran

President TeamBest Companies & Founder of Best Cure Foundation

*A healthy person
has many wishes,
but the sick person
has only one.
Health is wealth.*

– Indian Proverb –

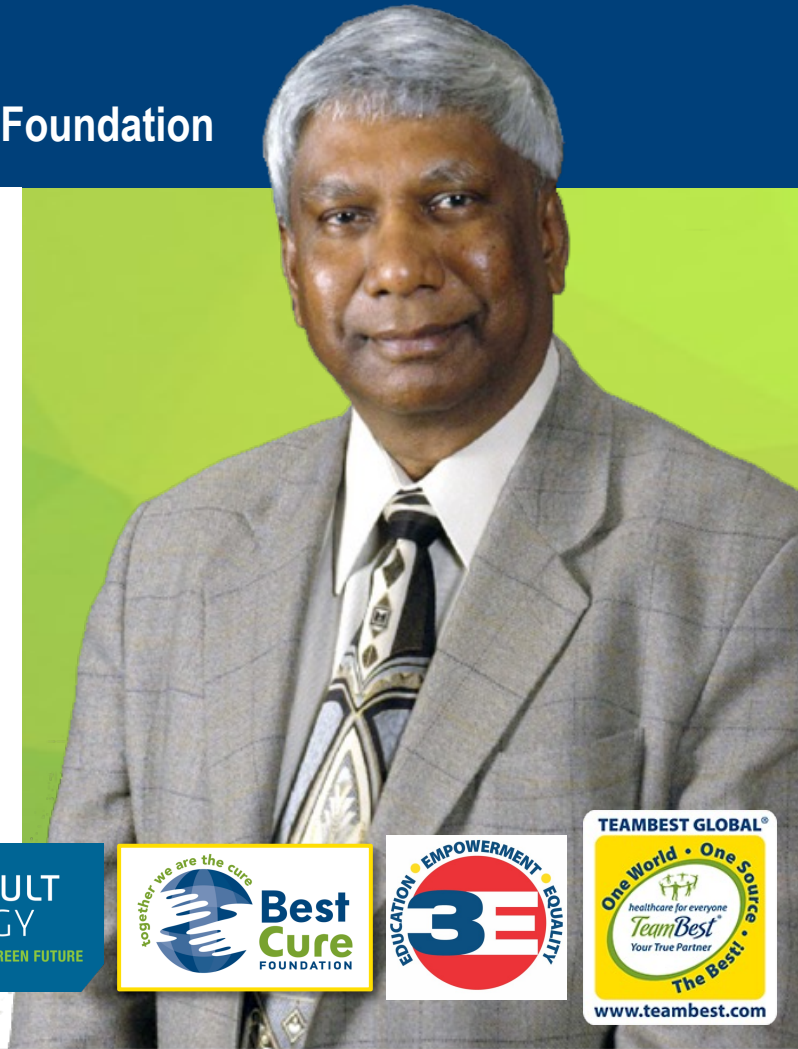


About Krishnan Suthanthiran

President TeamBest Companies & Founder of Best Cure Foundation

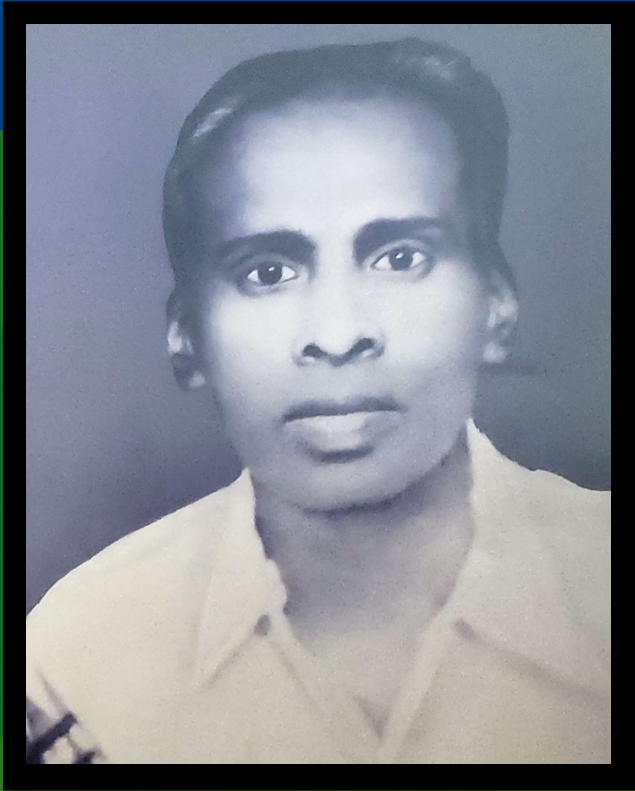
Life is a gift from our parents. We are born to live, and live to enjoy and cherish our gift. We can look at every obstacle as an opportunity or every opportunity as an obstacle. Who we are, what we are, and where we are, have a lot to do with the choices we have made and the ones we did not. Our career and service to the community are the outcome of what we do with the gift.

– Krishnan Suthanthiran –



Krishnan Suthanthiran's Parents





Krishnan Suthanthiran's Father

Having lost his father to cancer in 1968, Krishnan Suthanthiran launched his Global War on Cancer on April 29, 2015 in memory of him.



Global War on Cancer

Launched by Best Cure Foundation & TeamBest Companies

While there have been many significant improvements and advancements in medical technologies, many patients around the world do not receive timely interventions or the right care. Mr. Suthanthiran firmly believes more should be done. In 2007, he formed the Best Cure Foundation to work with TeamBest companies, and other leading-edge companies and experts, to establish a Hub-and-Spoke model of healthcare delivery systems to overcome these shortcomings. Best Cure Foundation's goal is to launch a “**Global War on Cancer**” that includes express and mobile clinics linked to general and super-specialty medical centers worldwide.



Global War on Cancer

Launched by Best Cure Foundation & TeamBest Companies

Mr. Suthanthiran has interacted with those in the private sector and government agencies, in more than 20 countries over the last few years in Asia, South America, the Middle East, and North America. In that time, he has stated, “It is clear that there is a groundswell of support for a better, affordable, and accessible healthcare delivery system globally.”

He has established and acquired a number of medical companies globally, in order to collect many of the technologies needed to establish a Proactive Healthcare Delivery System, focused on transparency of clinical benefits, outcome, and cost using a Total Health Approach – Prevention, Early Detection, and Effective Treatment for Total Cure.



Krishnan Suthanthiran's Mother



Krishnan Suthanthiran has established a division under BCF called “3E – Education, Empowerment and Equality” to promote the development and advancement of women. It is his belief that every man and woman was given birth to, nursed, and nourished by women, and therefore, they share a greater responsibility in juggling career and family, in raising children and caring for the home. In memory of his mother, Krish is proud to support women around the world in pursuing their goals through the 3E organization.



Best Cure Foundation's aim is to:

- Reduce the cost of healthcare worldwide by 30 percent or more
- Launch the Best Cure Total Health™ Program
- Increase transparency through Best Cure Proactive Healthcare™



Best Cure Foundation's aim is to establish:

- Express/mobile clinics and medical centers as non-profit, private, non-governmental organizations that are self sustaining
- Best Cure U.S. Health Corps
- Best Cure International Health Corps
- Best Cure Global Institute
- Best Cure Global Standard of Care
- Best Cure Global Purchasing Organization
- Best Cure Global Insurance



BEST CURE FOUNDATION'S GOALS



Mahatma Gandhi dreamt of a free India. Today, it is the world's largest democracy. President John F. Kennedy dreamt of landing a man on the moon; eight years later we took that "giant step for mankind." Reverend Martin Luther King dreamt people would one day be judged by their character rather than their color; he helped pave the way for Barack Obama to be elected President of the United States.





“I, too, have a dream—one shared by millions of our fellow citizens of the world—and a plan to realize this dream of quality healthcare and education that are affordable and accessible to all.”

—Krishnan Suthanthiran



Best Cure Foundation

GOAL 1

Providing **purified drinking water** and affordable sewer systems in every part of the world by 2040



Best Cure Foundation

GOAL 2

Establishing a global standard of **healthcare** delivery system using a hub & spoke model with express and mobile clinics linked to general and super specialty medical centers



www.teambest.com

Best Cure Foundation

GOAL 3

Reduce suffering/deaths from major diseases such as cardiac, cancer, diabetes, etc. by 50% by the end of the next decade

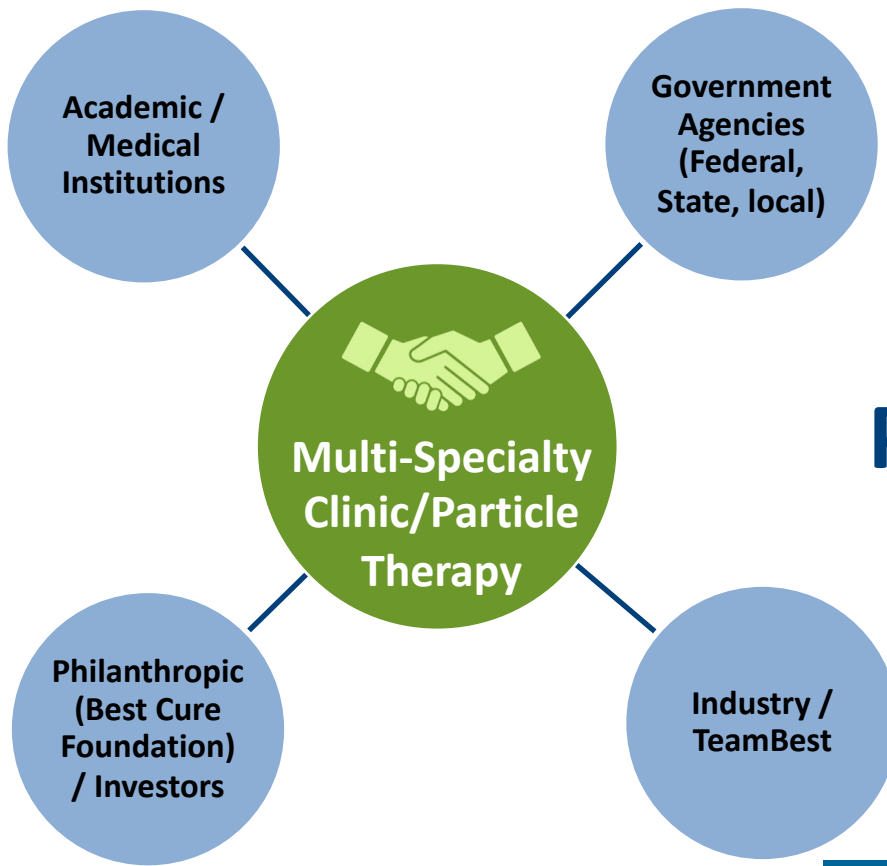




3E – Education, Empowerment and Equality
Promoting the development and advancement of women.



Public/Private Partnership Funding Model



TOTAL HEALTH SYSTEM

Prevention, Early Detection and Effective
Treatment for Total Cure



PROACTIVE HEALTHCARE DELIVERY

Full Transparency on Clinical Outcome,
Benefits and Cost



EXPRESS & MOBILE CLINICS

Linked to General Medical and
Multi-Specialty Medical Centers
Connected to 3-6 star Apartment Hotels



BEST CURE GLOBAL HEALTHCARE SYSTEM COMPRISES:

1. Best Cure Health System (non-profit)
2. Best Cure Insurance (non-profit)
3. Best Cure Clinical Research Institute (non-profit)
4. Best Medical Real Estate Investment Trust (for profit public company)
5. Best Medical Capital (for profit public company)
6. TeamBest Global (TBG) companies (for profit public company)



All of the non-profit organizations will be under the **BEST CURE FOUNDATION**, a non-profit, global, private, non-governmental organization founded in 2007 and supported entirely by Krishnan Suthanthiran



For-profit Companies can be under the umbrella of TeamBest Global, a public company



Brownsville Hospital | Brownsville, PA



Best Cure **Health System**

Brownsville, PA

Vision for the future:

- Blood Laboratory
- Imaging Center
- Radiation Oncology
- Medical "Isotope" Production
- Education & Rehabilitation Services
- Proton Therapy Center
- Healing Garden

Emergency Area

Brownsville Hospital | Brownsville, PA



Operating Room

Brownsville Hospital | Brownsville, PA



Physicians Scrub Room

Brownsville Hospital | Brownsville, PA



Intensive Care Unit

Brownsville Hospital | Brownsville, PA



Lobby

Brownsville Hospital | Brownsville, PA



Late former US Attorney General Robert F. Kennedy, brother of late former US President John F. Kennedy once said that, “Each time a man stands up for an ideal, or acts to improve the lot of others, or strikes out against injustice, he sends forth a tiny ripple of hope.” This historic quote is one that has influenced Mr. Suthanthiran’s strong compassion and hopes of improving quality of life by expanding quality healthcare and education around the world by making them affordable and accessible.





Kitsault, BC





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Kitsault, BC





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Kitsault, BC



www.teambest.com



Kitsault, BC



Albert Einstein once said that
“If at first, the idea is not absurd,
then there is no hope for it.”



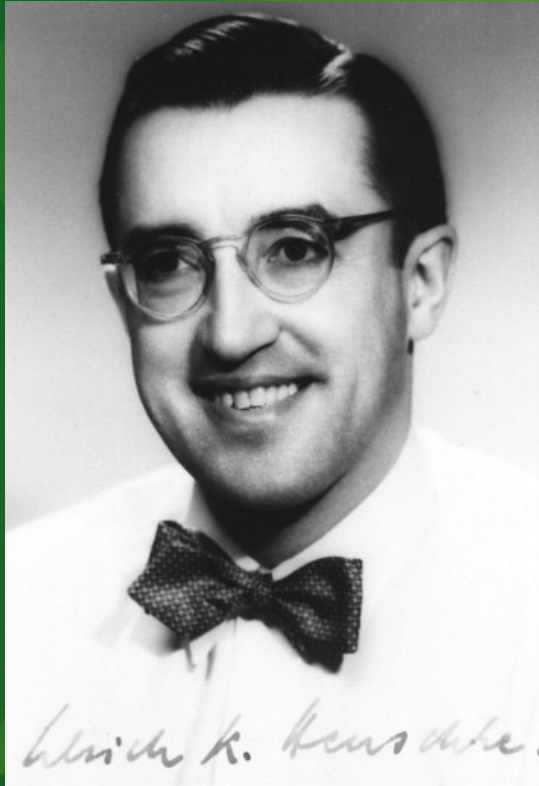
There is an African Proverb that says “If you want to walk fast, walk alone. If you want to walk far, walk together.”



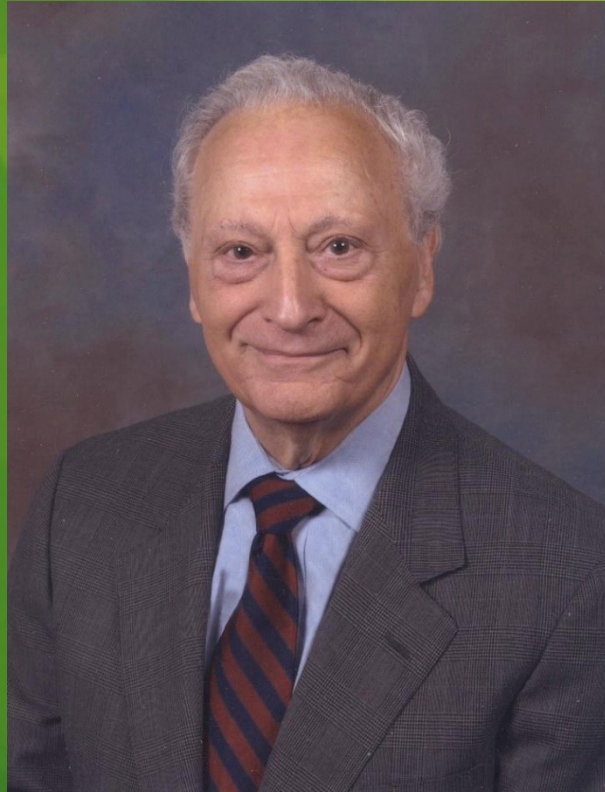
Total Brachytherapy Solutions – BEST MEDICAL INTERNATIONAL



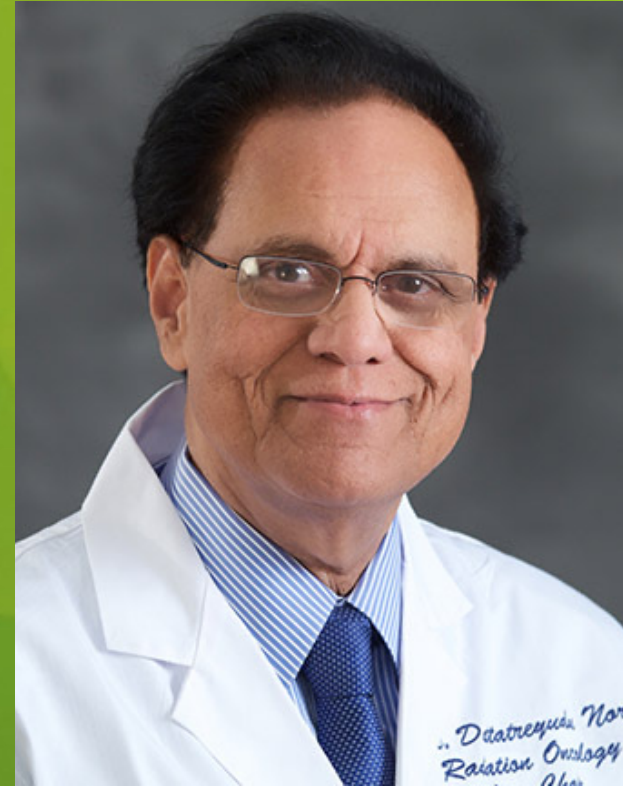
Brachytherapy Pioneers



Dr. Henschke

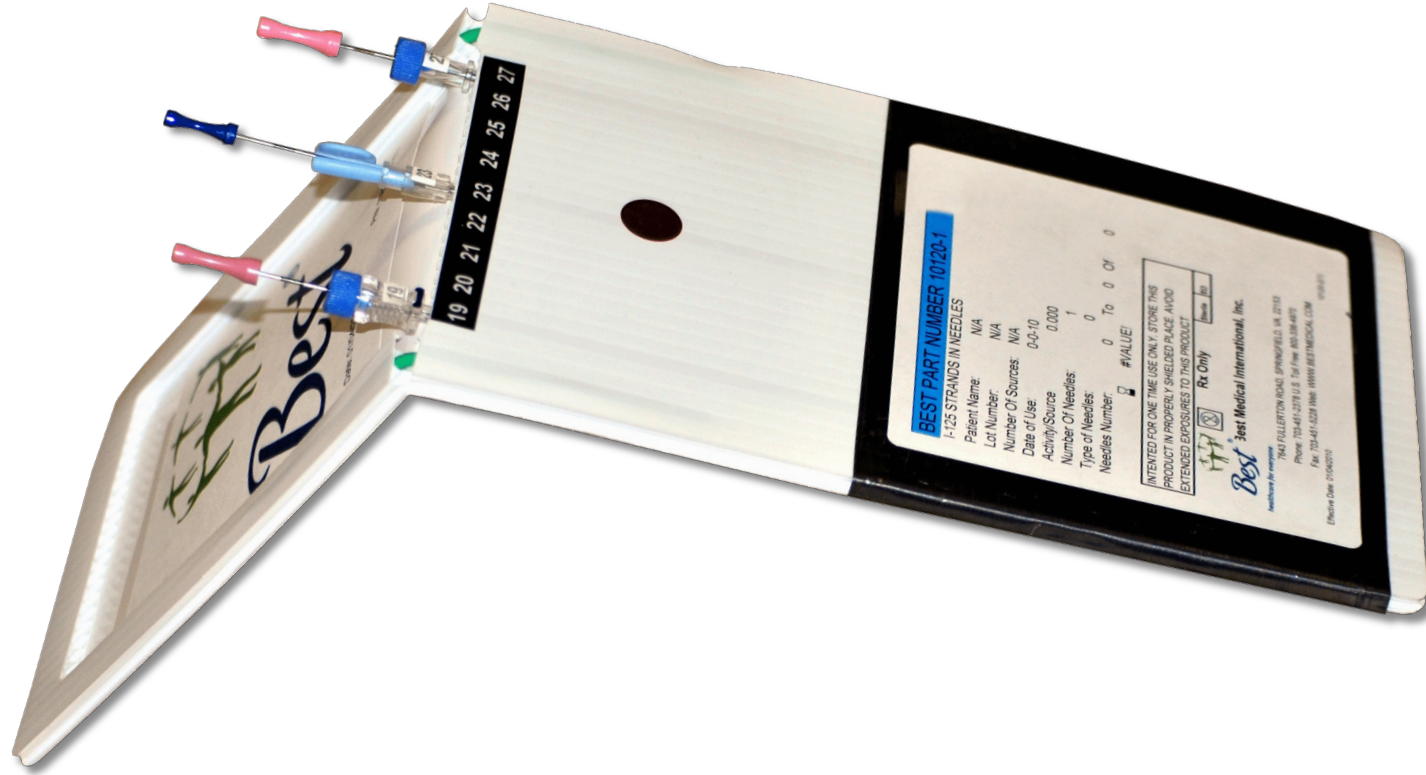


Dr. Hilaris

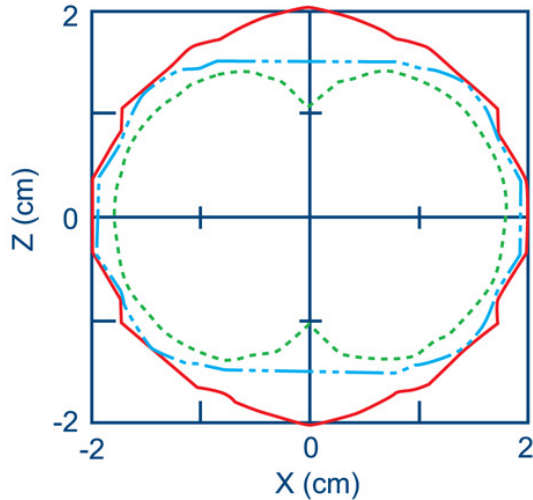


Dr. Nori

I-125 & Pd-103 Strands in Sterile Needle Sets

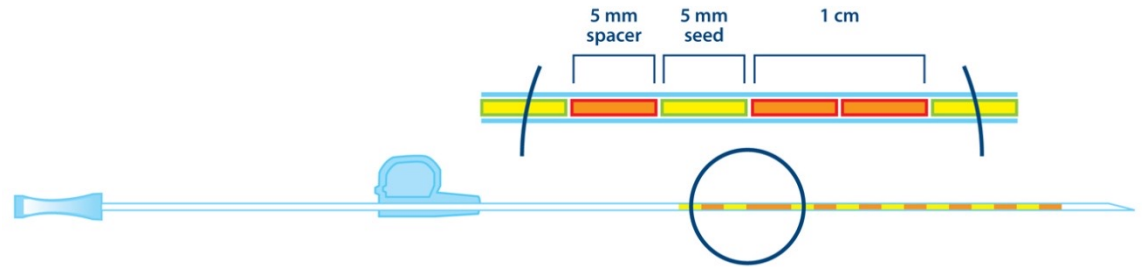


BEST[®] Seeds for Brachytherapy



Experimentally Measured Isodose Curves of 20 cGy/h from I-125 Seeds, Best[®] Model 2300 Series (solid red line), Model 6702 (broken blue line) and Model 6711 (dotted green line)

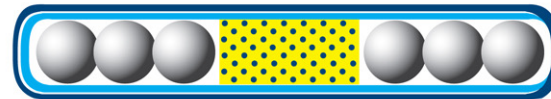
Ravinder Nath and Anthony Melillo
Medical Physics, 20(5), 1480 (1993)



Best[®] Iodine-125 Seed



Best[®] Palladium-103 Seed



INTRACAVITARY AND INTERSTITIAL RADIATION THERAPY IN THE MANAGEMENT OF NASOPHARYNGEAL CANCERS

Ulrich K. Henschke MD, PhD 420 East 66th Street New York, N.Y. 10021

Invited paper and exhibit presented at the XII International Congress of Radiology in Tokyo, Japan, October 6-11, 1969. Based on clinical and experimental work carried out in cooperation with Basil S. Hilaris MD, John S. Lewis MD, David G. Mahan BA, and Felix W. Mick and supported in part by PHS grant CS 9369.

INTRACAVITARY APPLICATIONS

We have used intracavitary applications routinely in combination with external supervoltage radiation-therapy for the primary treatment of all nasopharyngeal cancers.

As in the treatment of cancer of the uterine cervix, this combination of intracavitary and external radiation results in a better dose distribution and permits a higher tumor dose. And only with the help of an intracavitary applicator is it possible to deliver to the cancerbearing portions of the nasopharynx a higher dose than to the normal portions.

Intracavitary applications have been greatly facilitated by the remote afterloader, which we first described in 1964. It has three small cobalt-60 sources, each one millimeter in diameter and 500 to 1000 millicuries. During the treatment, the patient remains in a well shielded room, and the sources are inserted by remote control from a separate control room into the previously positioned nasopharynx applicator.

For the patient, the remote afterloader provides greater comfort due to the short treatment times of 10 to 20 minutes. For the physicians and the technicians, it completely eliminates radiation exposure.

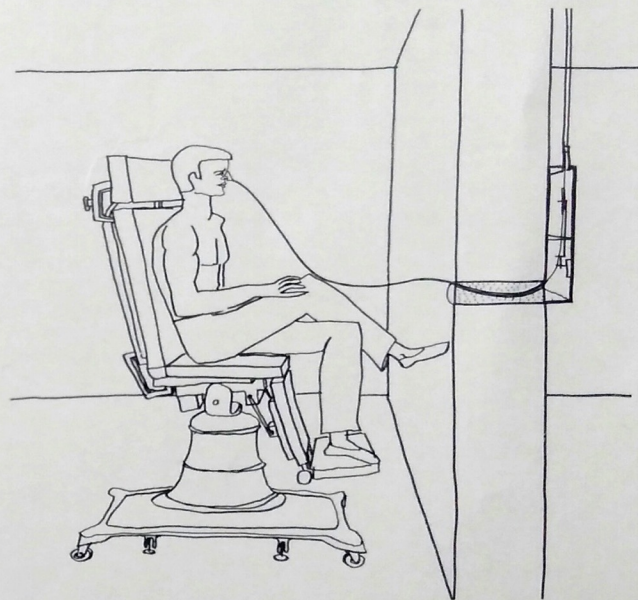


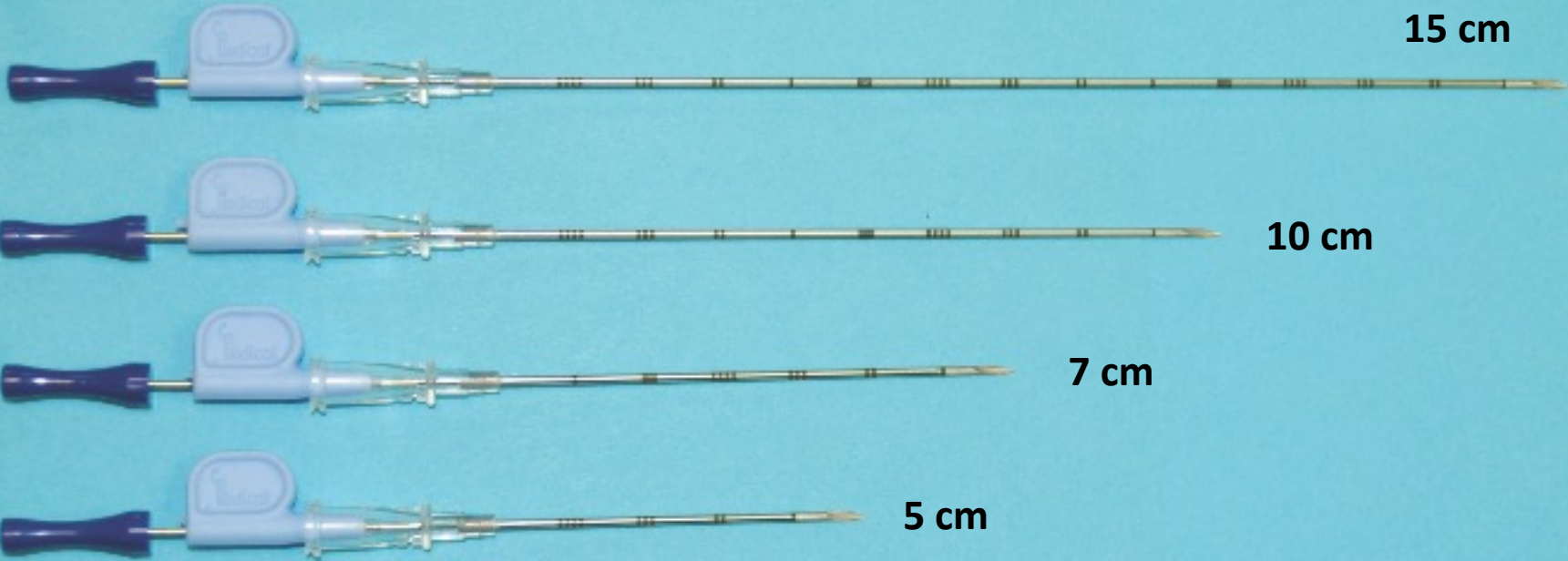
Fig. 1. Remote afterloading of intracavitary nasopharynx applicator.

BEST[®] HDR Afterloader

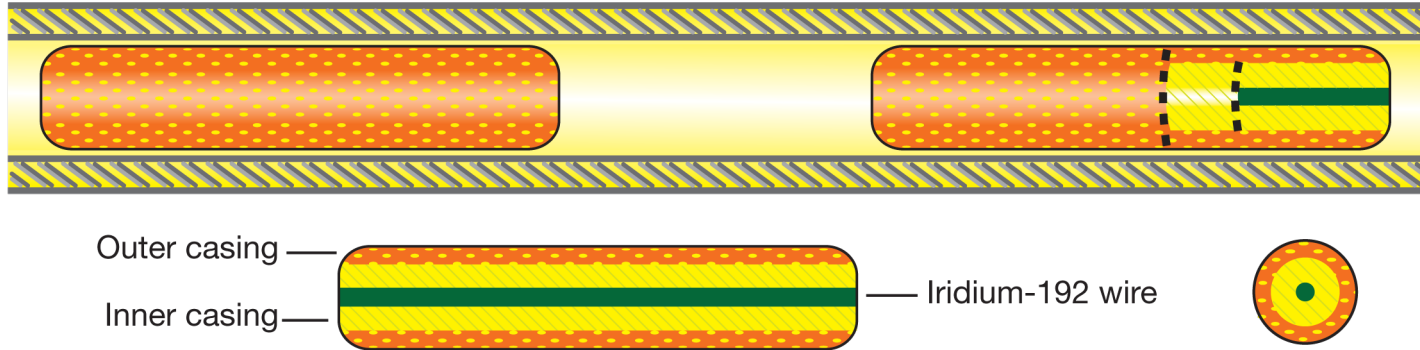


BEST[®] HDR Afterloader provides 20 channels for dose delivery with safety designs such as positive lock and verification for the transfer tubes, automatic check cable to verify the connections of all catheters and applicators, and radiation monitoring.

Best[®] Localization Needles

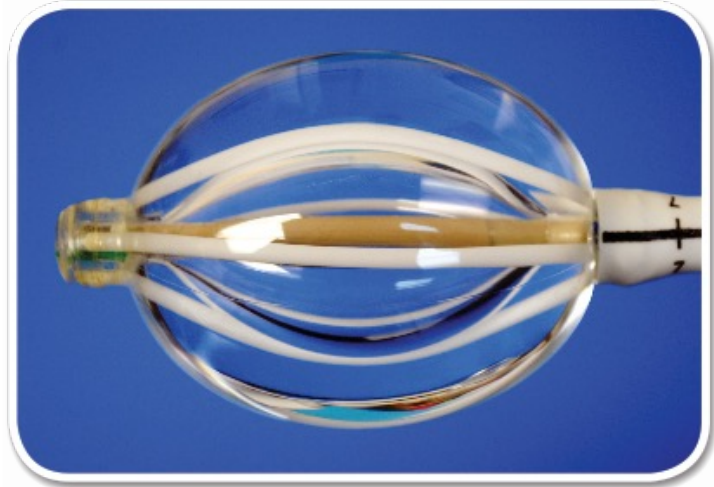


Best[®] Iridium-192 Seeds in Nylon Ribbon



- Seeds are 3.0 mm in length and 0.5 mm in diameter
- 0.37 MeV (average) Gamma Emission Energy
- Half-life of 74.3 days
- HVL (50% attenuation) about 3 mm Lead
- Specific Gamma ray constant 4.6 R cm²/mCi/hr
- Custom spacing available

Best[®] Double Balloon Breast Brachytherapy Applicator



- Improved dose distribution and conformality
- Less dose to critical organs such as skin, lung, heart, chest wall, etc.
- Convenient to use
- US FDA 510(k) registered



BEST[®] Universal Chair/Table



- Electronic
 - Variable Height Control
 - Variable Back Support
 - Variable Foot Support
 - Horizontal Tilt 12 Degrees
Head or Foot
- 4-Function Hand-Held Pendant (Control)
- Removable Stainless Steel IV Pole
- Removable Foot Rest

Intravascular Brachytherapy

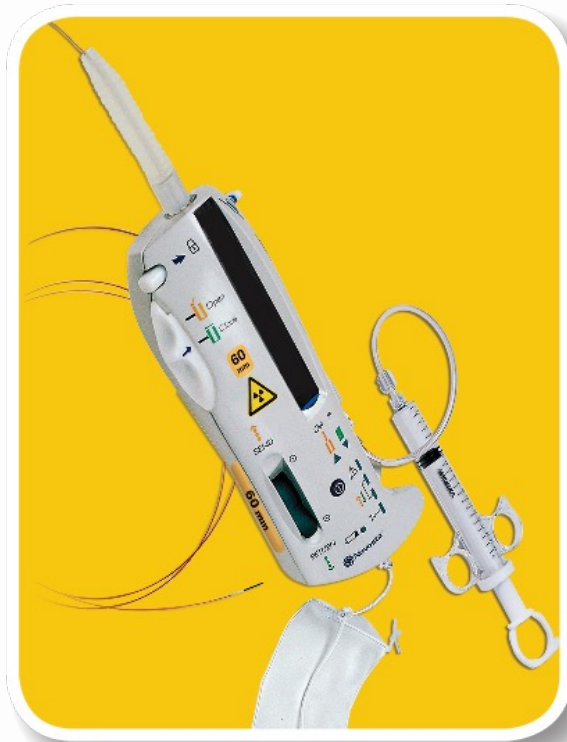


Best[®] vascular

A TEAMBEST GLOBAL COMPANY

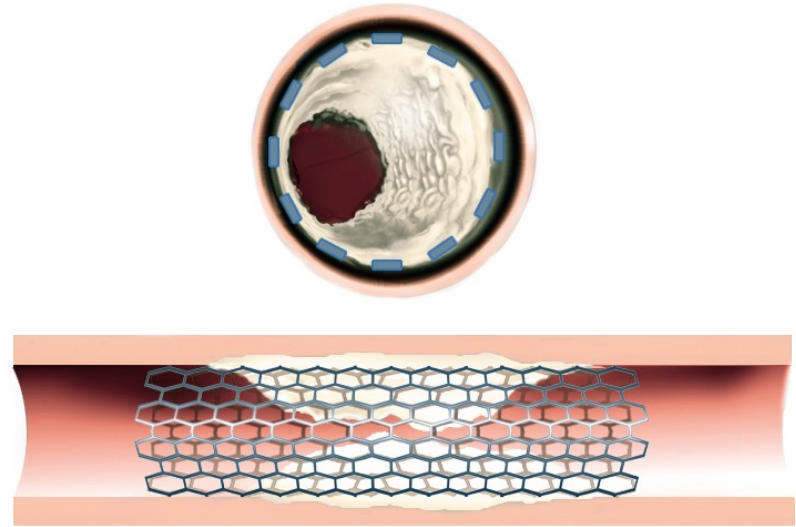


Intravascular Brachytherapy

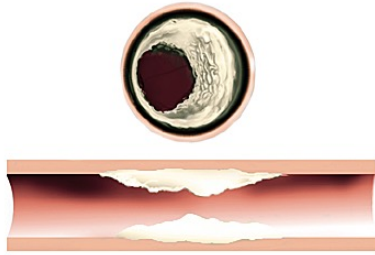


**Novoste™
Beta-Cath™
3.5F System**

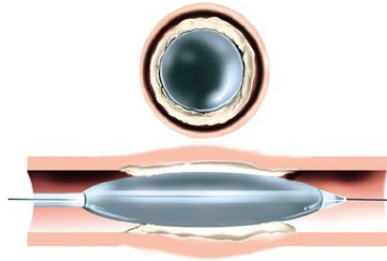
- Approximately 600,000 percutaneous coronary interventions are performed in the United States each year, at a cost that exceeds \$12 billion. Most (>95%) will involve a new stent
- Long term follow-up suggests ~8 to 20% of those stents will restenosis (re-close)



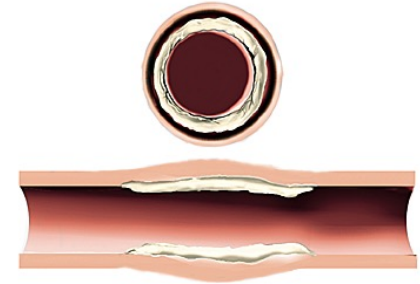
In-Stent Restenosis



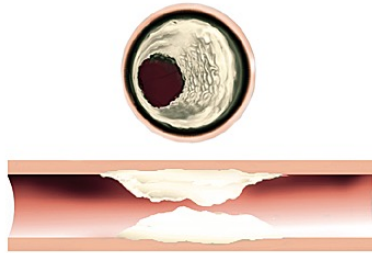
Diseased Artery



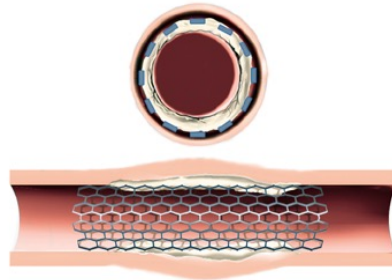
Balloon Angioplasty (PTCA)



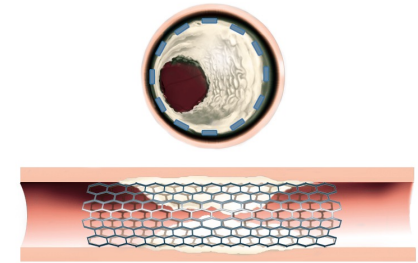
Initial PTCA Result



Restenosis



Stent

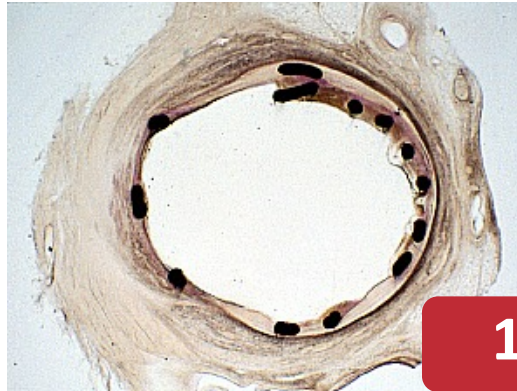
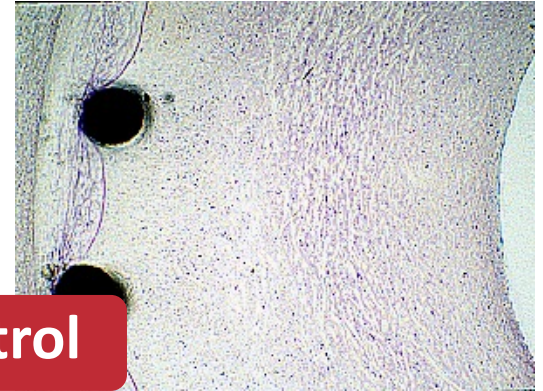


In-Stent Restenosis

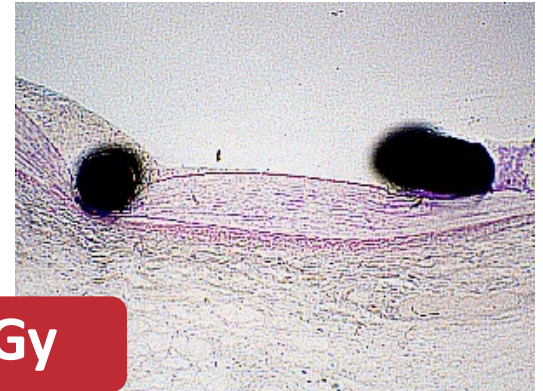
- Radiation reduces re-growth of tissue within a bare metal coronary stent



Control

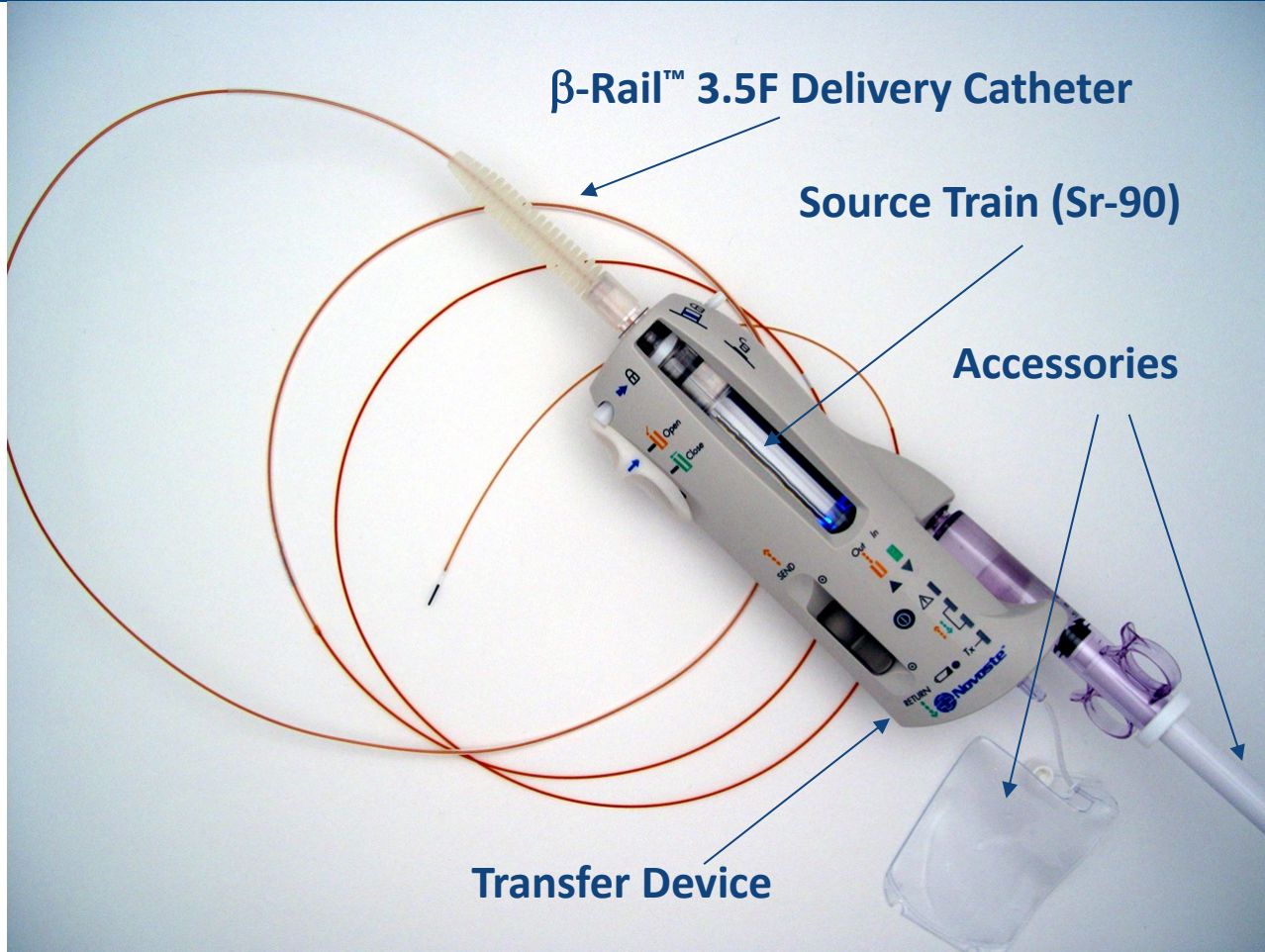


14 Gy



Clinical Need

Novoste Beta-Cath System from Best Vascular



β -Rail™ 3.5F Delivery Catheter

Source Train (Sr-90)

Accessories

Transfer Device

Intravascular Brachytherapy (IVB) History

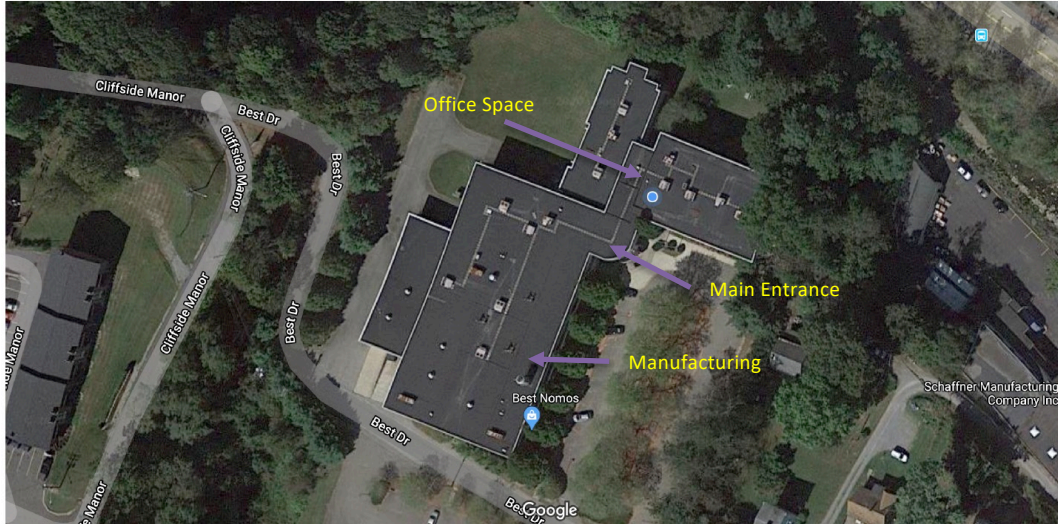
- Historically, 30–40% of bare metal coronary stents re-stenosed within 4–6 months
- First IVB study subject was treated January 1996
- CE mark applied August 1998
- FDA Pre-Market Approval November 3, 2000
- Real-life IVB restenosis rates 4–19%
- Drug Eluting Stents launched 2002-03
- Repeat Percutaneous Coronary Interventions ~8%
- Beta-Cath System acquired by Best Vascular 3/2006

Trial Name	Isotope	# Patients	Schema
BERT	Beta; Sr-90	85	Randomized
START	Beta; Sr-90	476	Randomized
START 40	Beta; Sr-90	207	Randomized
Beta-Cath	Beta; Sr-90	1,455	Randomized
BRIE	Beta; Sr-90	220	Registry
RENO	Beta; Sr-90	1,100	Registry
Beta-WRIST	Beta; Y-90	50	Registry
PREVENT	Beta; P-32	105	Randomized
INHIBIT	Beta; P-32	332	Randomized

Best[®] nomos[®]

A TEAMBEST GLOBAL COMPANY





The Office

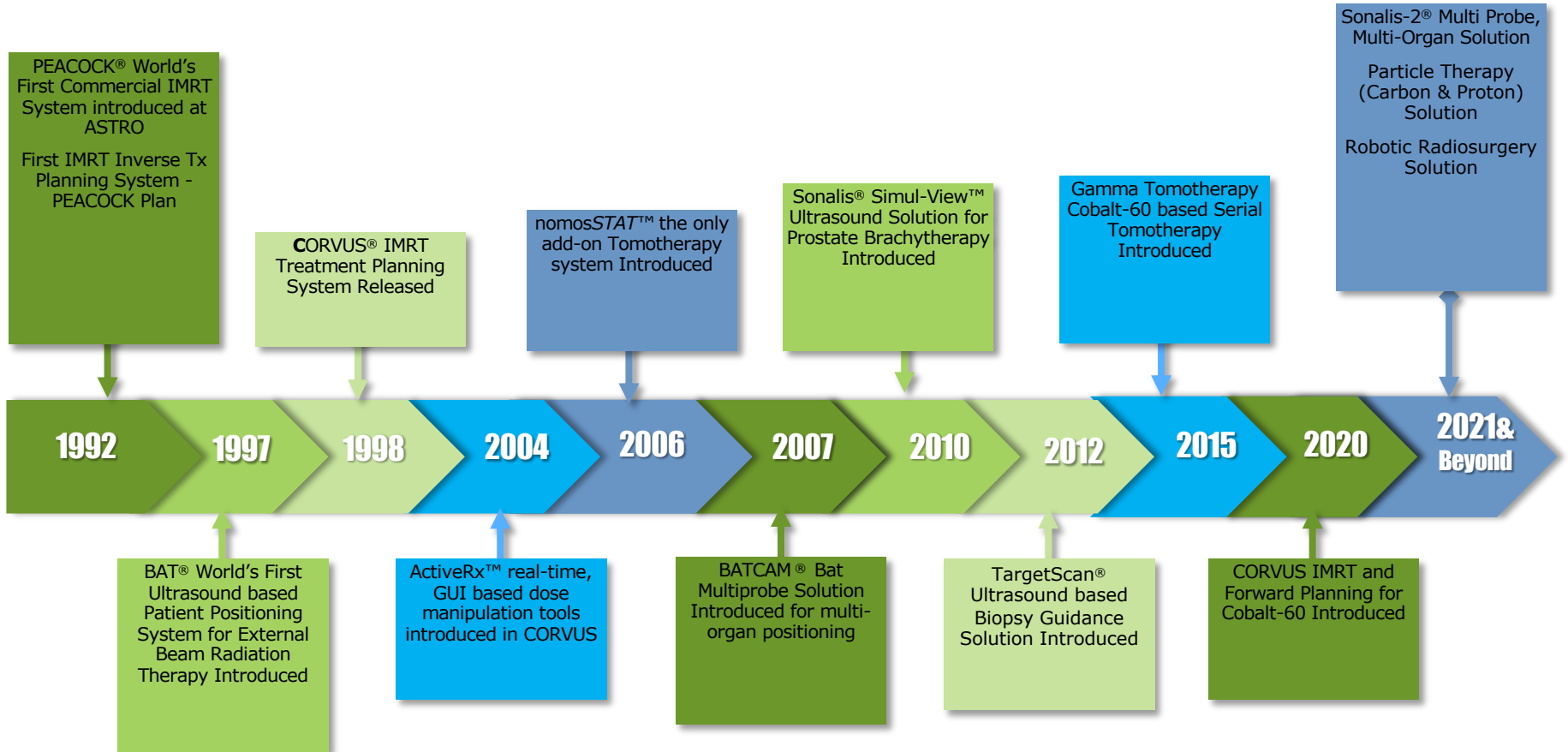
Best NOMOS
One Best Drive
Pittsburgh, PA 15202 USA

Phone: 412-312-6700
Toll-Free: 800-70-NOMOS
Fax: 412-312-6701

Number of Employees: 12

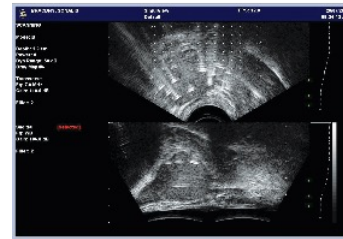


The Market Revolution Timeline (1992 to ...)



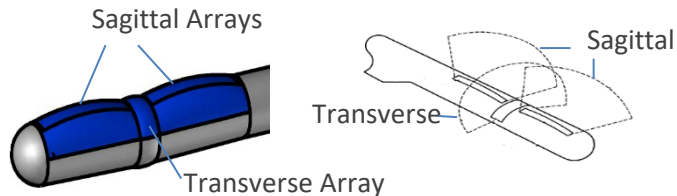
Best[®] Sonalis[™] Imaging System

- Totally sealed, self-healing antimicrobial keyboard with SensoFoil[™] Technology
- Longitudinal provides for 140 mm length of view, encompassing the bladder, prostate and perineum
- Simultaneous imaging of transverse and sagittal planes
- PC Based System provides a platform for future upgrades and application-specific modules



Best[®] Sonalis[™] Imaging System

The Patented Probe Design



Enabling real-time simultaneous visualization of prostate in transverse and sagittal plane.

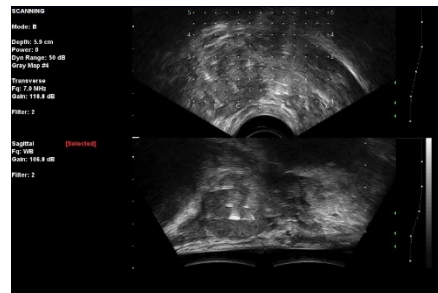
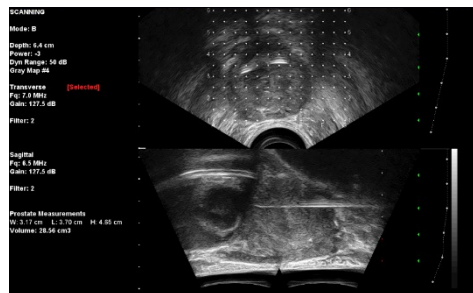
Transverse View: 117° / Sagittal: 80 mm at 20 cm

Mid gland of prostate visible in transverse view with full gland visibility in sagittal view.

Excellent Image Quality

Seeds clearly visible in both planes

Needle path visibility

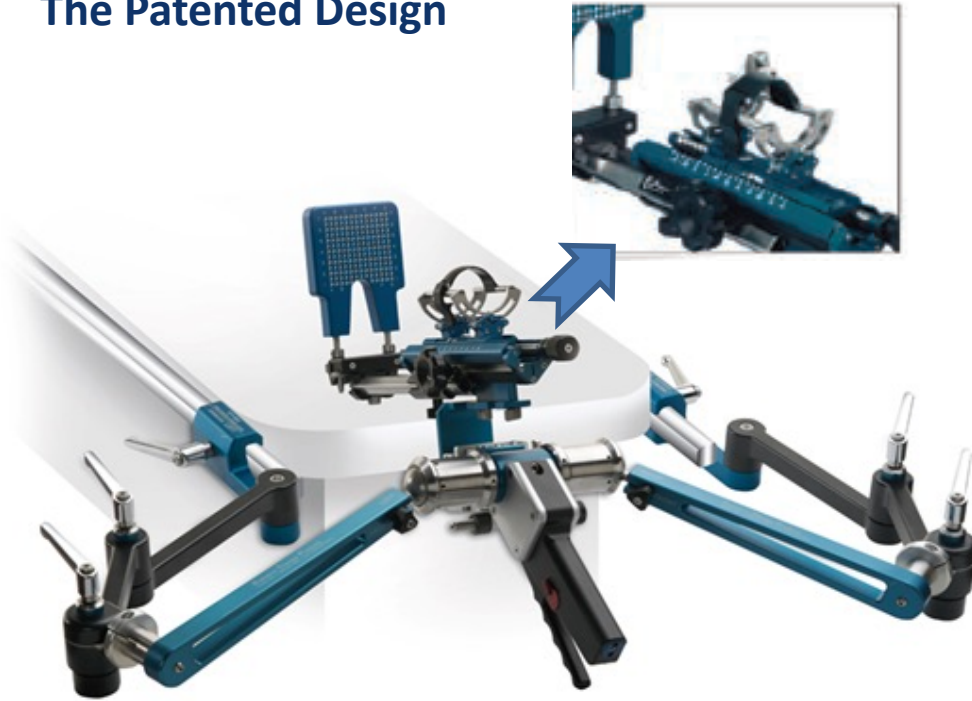


BEST[®] Sonalis[™]



Best[®] Precision Stepper-Stabilizer

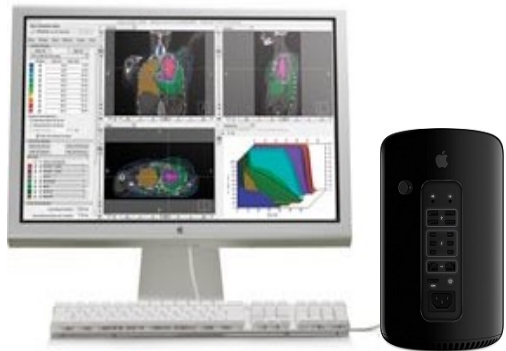
The Patented Design



- Patented fine tuning of ultrasound transducer depth for greater accuracy
- Probe mount rotates 110 degrees for convenient use of sagittal view
- Fast and easy positioning in six axes saves treatment time
- Convenient fine adjustments accommodate prostate movements
- One person assembly and operation
- Lightweight and folds for easy transport
- 100% autoclavable

CORVUS[®] Treatment Planning System

The Integrated External Beam Treatment Planning System for LINAC and COBALT-60

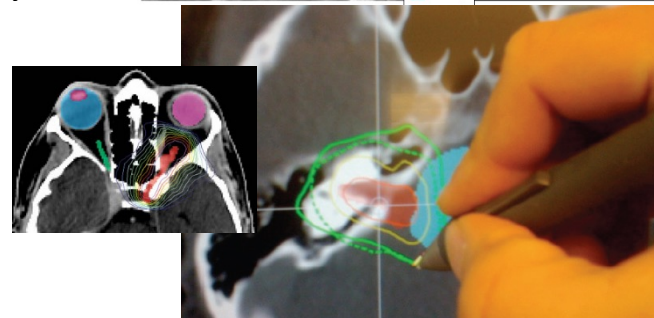
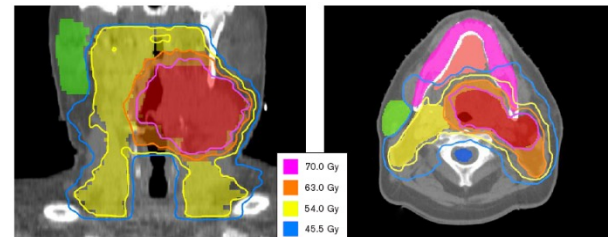


- Supports 3D Conformal, IGRT, Stereotactic Radiosurgery & Stereotactic Body Radiation Therapy
- Supports non-Coplanar Treatment Delivery
- Supports Multiple MLCs

The Patented ActiveRx[®]

The only tool that allows real-time adjustment of:

Isodose Contours, CDVHs, Min/Max Statistics, and Delivery Efficiency

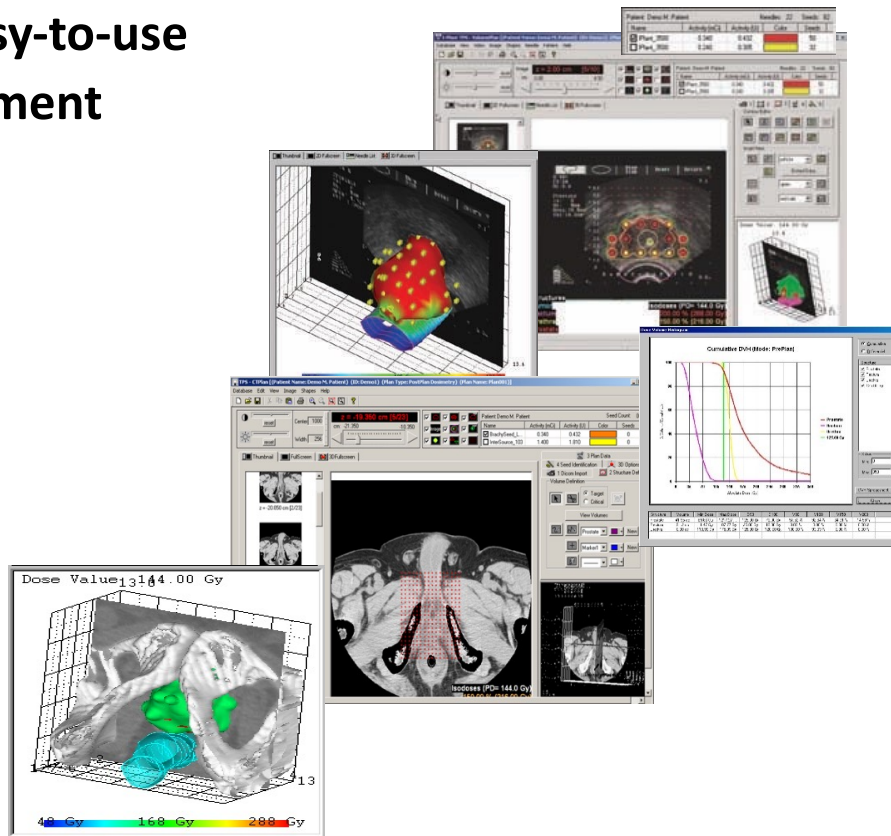


Best[®] TPS (Treatment Planning System)



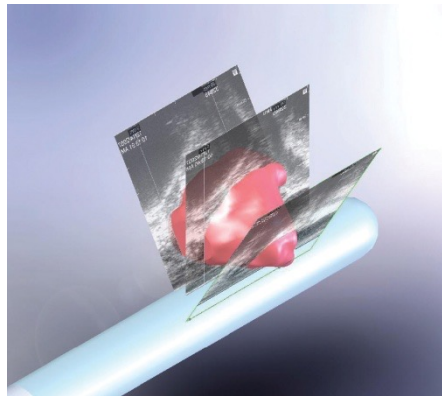
Workflow-driven, easy-to-use
integrated LDR Treatment
Planning System

- **Planning:** Ultrasound based
- **Post-Planning QA:** DICOM based
- Dual Activity Seed Module
- Visualize 2D and 3D data simultaneously
- Real-time update as seeds are edited
- Dose Volume Histogram
- Automated Seed Detection in Post-Planning



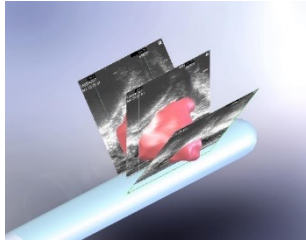
Best[®] TargetScan Touch[™]

The Best[®] TargetScan Touch[™] provides active surveillance of slow growing tumors, as well as predictive modeling for the treatment planning of more aggressive cancers.

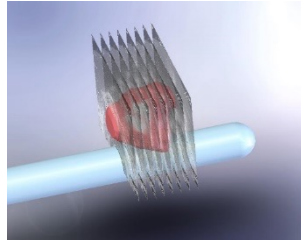


Best[®] TargetScan Touch[™]

The Patented Probe Design



Capture Sagittal
images over 180°
Transverse Arc



Capture Transverse
images over 70mm of
Sagittal Image Length

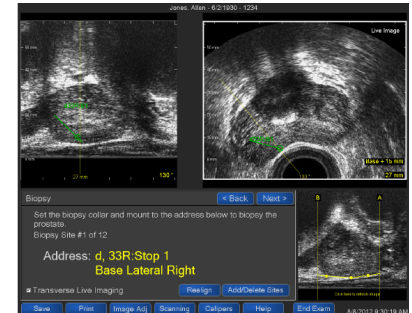
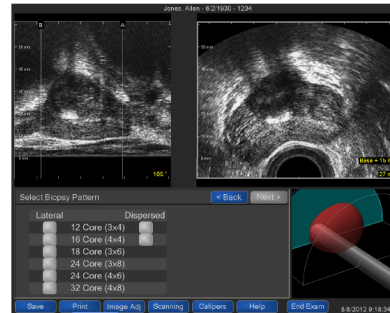
Stationary /
motionless
mechanical
ultrasound
probe

Side Fire Biopsy System



Biopsy kit with
bendable needle
allowing for accurate
positioning for
transrectal biopsy.

Select predefined biopsy patterns,
add/edit biopsy locations, review biopsy
plan and perform biopsies as per plan
with a step-by-step guided workflow.



nomosSTAT™ Serial Tomotherapy



The Patented Technology

A Binary MLC capable of delivering thousands of Intensity Modulated Pencil Beams at an arc of 340°



Works in 3 modes:

- 1cm mode: Treat 1 cm or 2 cm of tissue per slice
- 2cm mode: Treat 2 cm or 4 cm of tissue per slice
- 4mm mode: Treat 4 mm or 8 mm of tissue (using a Beak attachment) per slice

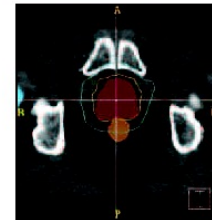
MIMiC has the resolution to deliver treatment from large-field delivery, like an MLC, to small-field delivery, like an mMLC.

LARGE FIELD



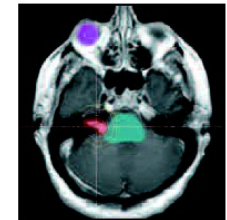
Head and Neck

MEDIUM FIELD



Prostate

SMALL FIELD (IMRS)



Acoustic Neuroma

Attaches to LINACs and Equinox
Cobalt Teletherapy Systems

Feature	Serial Tomotherapy (nomosSTAT™)	Helical Tomotherapy (Tomotherapy®)	Remarks
Delivery	Serial (slice) tomotherapy delivers a cylinder of radiation by rotating a binary collimator around the patient; then the table is moved a fixed amount and another cylinder is delivered, repeatedly in a serial fashion until the entire region is treated. Beam is off when table is moving.	Helical (spiral) tomotherapy delivers radiation by rotating a binary collimator around the patient with simultaneous movement of the table while the beam is on, delivering a helical, screw-thread type pattern.	Serial tomotherapy allows control of beam intensities for each slice being treated.
Treatments	Coplanar and non-Coplanar treatments (treat difficult tumors by “kicking” the couch)	Coplanar treatments only (as the linear accelerator is in a ring gantry which leads to fixed couch/gantry relationship)	With nomosSTAT you can treat isocentrally and non-isocentrally, an advantage for treatment of tumors in critical locations
Energy	Can be installed on various LINACs with different energies	6 MV photons only	nomosSTAT works with almost any accelerator and Equinox Cobalt-60 Teletherapy system. It is an add on package to upgrade the accelerators.
Service	Can be removed for servicing	Entire system is down	Treatment Systems can be used for conventional therapy with nomosSTAT in service
Cost	\$\$	\$\$\$\$\$	nomosSTAT provides better options at lower cost

BATCAM[®] Ultrasound

The Patented Technology

An Ultrasound Image Guidance Solution for localizing soft tissue targets prior to treatment.



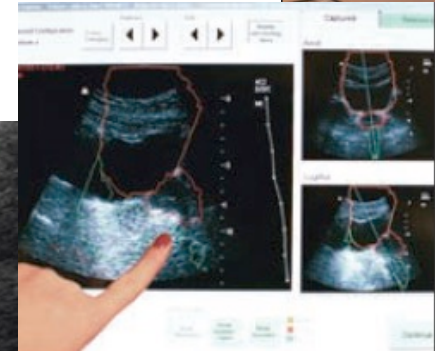
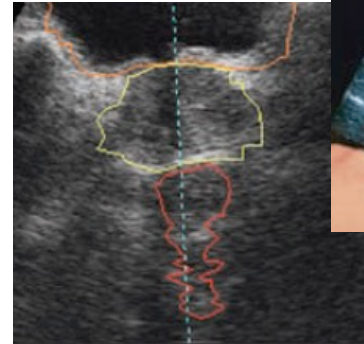
Real-Time Tracking from any Angle

Track ultrasound probe location from any angle, any rotation or translation plane, in real-time.



ImageSync

Scan and align structure set in one step with touch of a finger.



Radiation Protection & QA Instruments





A TEAMBEST GLOBAL COMPANY

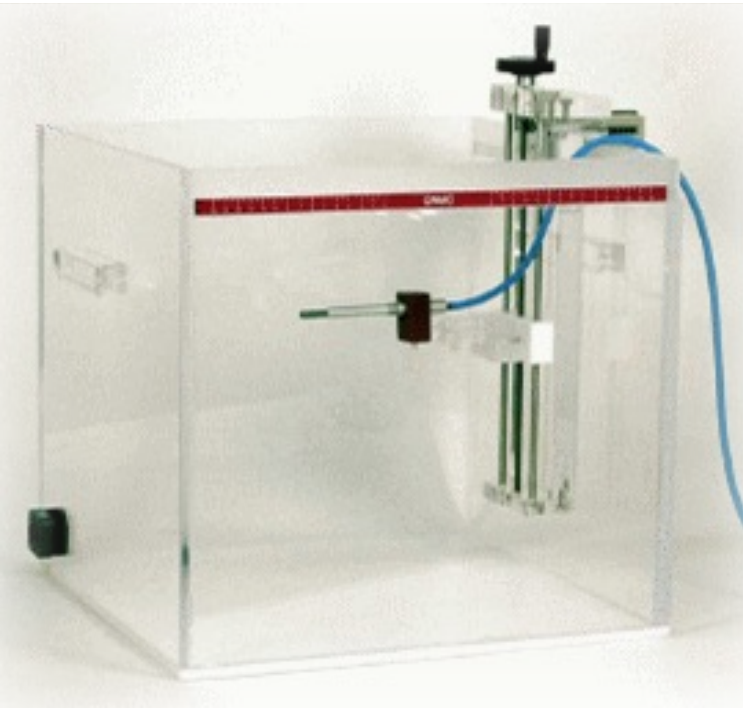


Radiation Dosimetry and QA



CNMC Company supplies medical physicist with quality products for radiation dosimetry and QA.

Water Phantoms and Ion Chambers



Best[®] Dosimetry Services

Personnel Radiation Monitoring

This new service for monitoring doses to occupationally exposed radiation workers is complemented by a wide range of radiation safety related products and services available from the TeamBest family of companies.



MOSFET Real Time Patient Dosimetry



MOSFET Systems for Patient Dosimetry



mobileMOSFET Systems

- Modular architecture allows scaling from 5 up to 40 dose points on 8 readers
- Wireless data transfer in real time
- Advanced user-friendly workflow-oriented database software

HUESTIS MEDICAL

making it affordable™



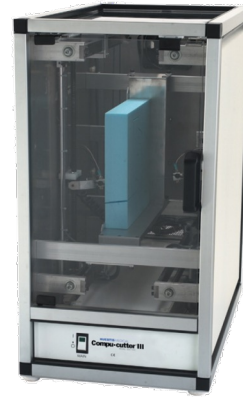
Affordable solutions for your radiotherapy and industrial needs



**Huestis•Cascade
Radiotherapy X-ray Simulator**



Flexi-holder



Compu-cutter III



X-ray Collimators



**Custom Machines & Equipment
from Huestis Industrial**

Huestis•Cascade Radiotherapy X-ray Simulator



The Huestis•Cascade™ Simulator is world renowned for accurate, reliable and very affordable simulation. Easily installed, its freestanding design eliminates the need for an expensive floor pit and major room modification.

Our easy-to-use operator control station, coupled with the hand pendant, puts flexibility at the user's fingertips. An easily read 17" flat panel monitor displays position feedback and operational status.

Asymmetrical or symmetrical field wires offer selectable, precise positioning, while calibration software facilitates set-up and maintenance.

Styro-former®

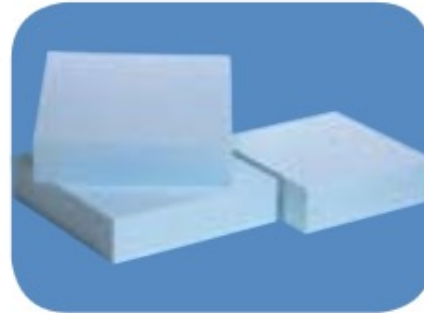
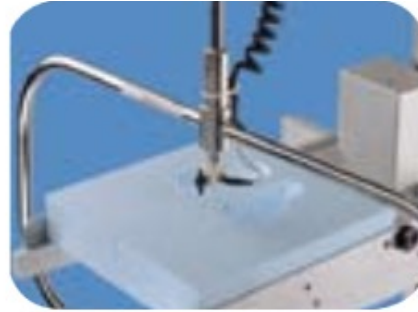
The Original Radiotherapy Shielding Block Mold Cutter



- **Accurate Cutting** with manual tracing produces smooth, accurate cuts with minimal training.
- **Rigid Box Frame** ensuring that cutting wire is precisely aligned between the source point and block tray.
- **Quick, Smooth Operation** with spring-loaded, Teflon tracing stylus moving freely in X and Y axes.

Styro•former®

- **Standard Foam Block Holders** in 8", 10" or 12" (20.3, 25.4, 30.5 cm) foam blocks (maximum use: 16", 40.6 cm)
- **Power Lift LT** where drive controls are panel mounted for quick, push button height adjustments.
- **Auto Boost Options** to automatically boost wire temperature to adjust for wire deflection.



Mobile Digital X-Ray Systems



MX 50

Mobile Digital X-Ray System

- Advanced Technology with Superior Design
- Higher Power Exposure
- Compact Body and better usability

External Beam Therapy & Accessories



Best[®] Theratronics

A TEAMBEST GLOBAL COMPANY





healthcare for everyone

TeamBest[®]

Your True Partner

GammaBeam[™]

saving lives

Evolution of Radiation Therapy – Cobalt-60

Cobalt 60 widely used for conventional RT in most of the world.

But...

Has lacked the required technical R&D to facilitate IMRT/IGRT...

UNTIL NOW



GammaBeam™ 100-80

External Beam Therapy System



The **GammaBeam™ 100-80** is a highly practical model of the GammaBeam family of External Beam Therapy System (EBTS). Convenience and safety, combined with simplicity of design, make it easy to use and easy to maintain.

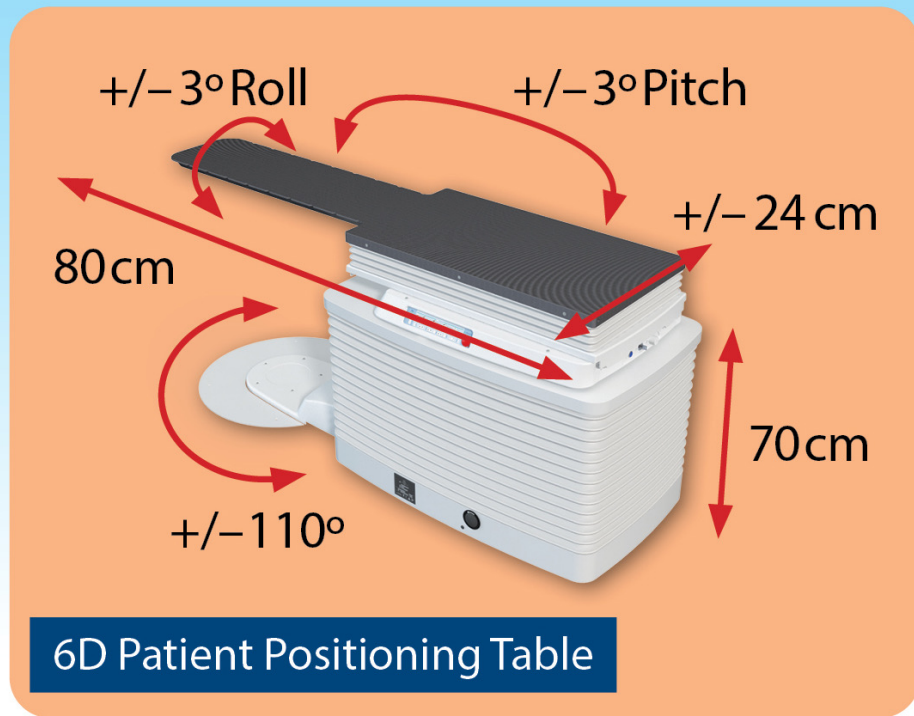
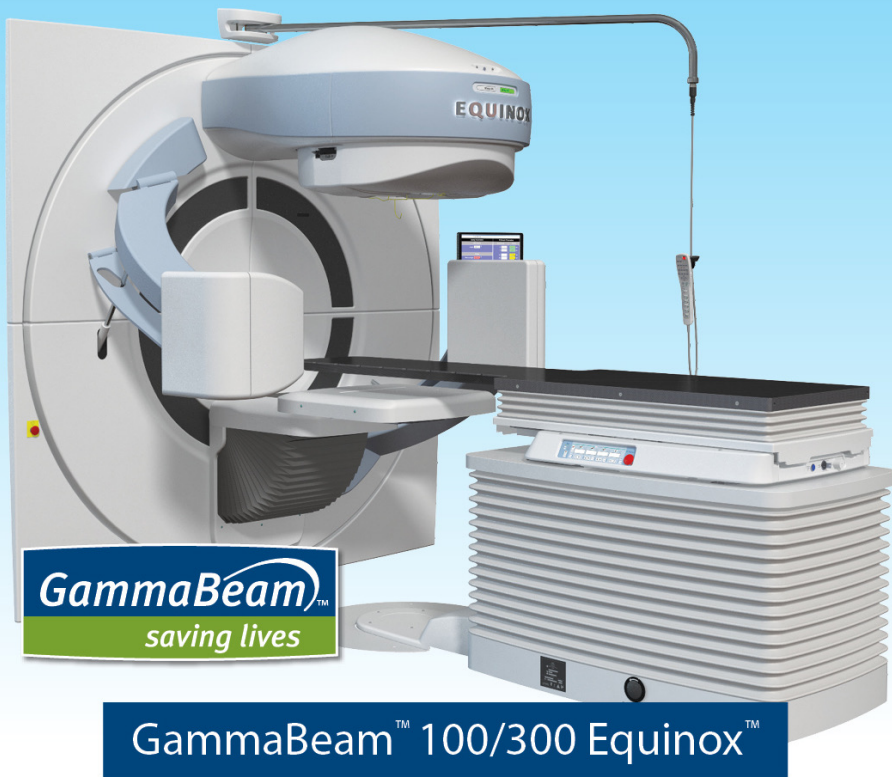
GammaBeam™ 300 Equinox™

External Beam Therapy System



The **GammaBeam 300 Equinox**'s advanced design provides freedom in treatment planning and can interface to all of the major record and verify systems to allow for rapid treatment parameter loading, treatment set up verification, and the recording of the delivery.

Best GammaBeam™ 100/300 Equinox™ Teletherapy System with Avanza™ 6D Patient Positioning Table

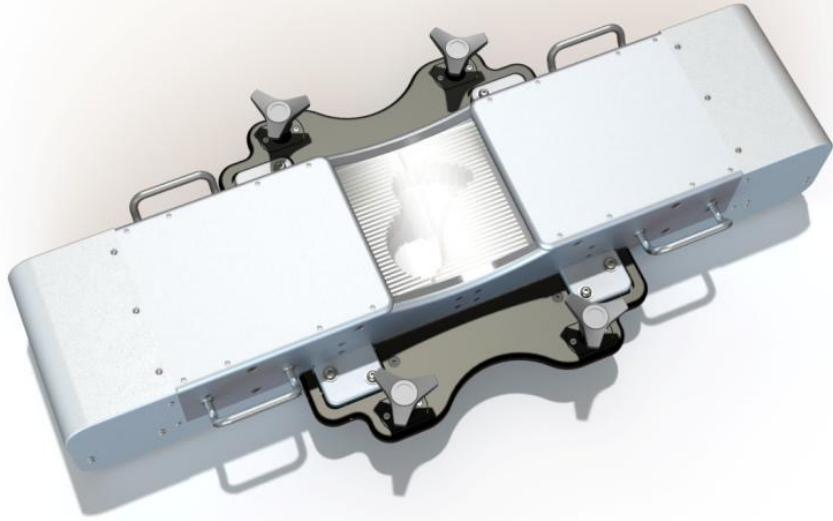


GammaBeam™ 500 Total Body Irradiator



The **GammaBeam 500 Total Body Irradiator** is a teletherapy unit designed to produce a large fixed rectangular radiation field at an extended source-to-skin distance in order to deliver total body irradiation. Used in preparation of bone marrow transplantation.

Motorized and Manual Multi-Leaf Collimators



Multi-Leaf Collimators now available as an optional accessory for the Equinox and GammaBeam 100-80 product line, providing 3D Conformal Radiation Therapy (3D CRT) and Intensity Modulated Radiation Therapy (IMRT) capability.

Thermoplastics & Patient Immobilization



Best Thermoplastics uses a dry heat warming technique that reduces sticking to ensure maximum patient comfort. The revolutionary oven system softens the material without contamination as seen with water baths.

Huestis Warming Oven



Dry air convection heating speeds up workflow, reduces risk of cross-contamination and eliminates problems associated with water baths such as weight, spillage, and humidity.

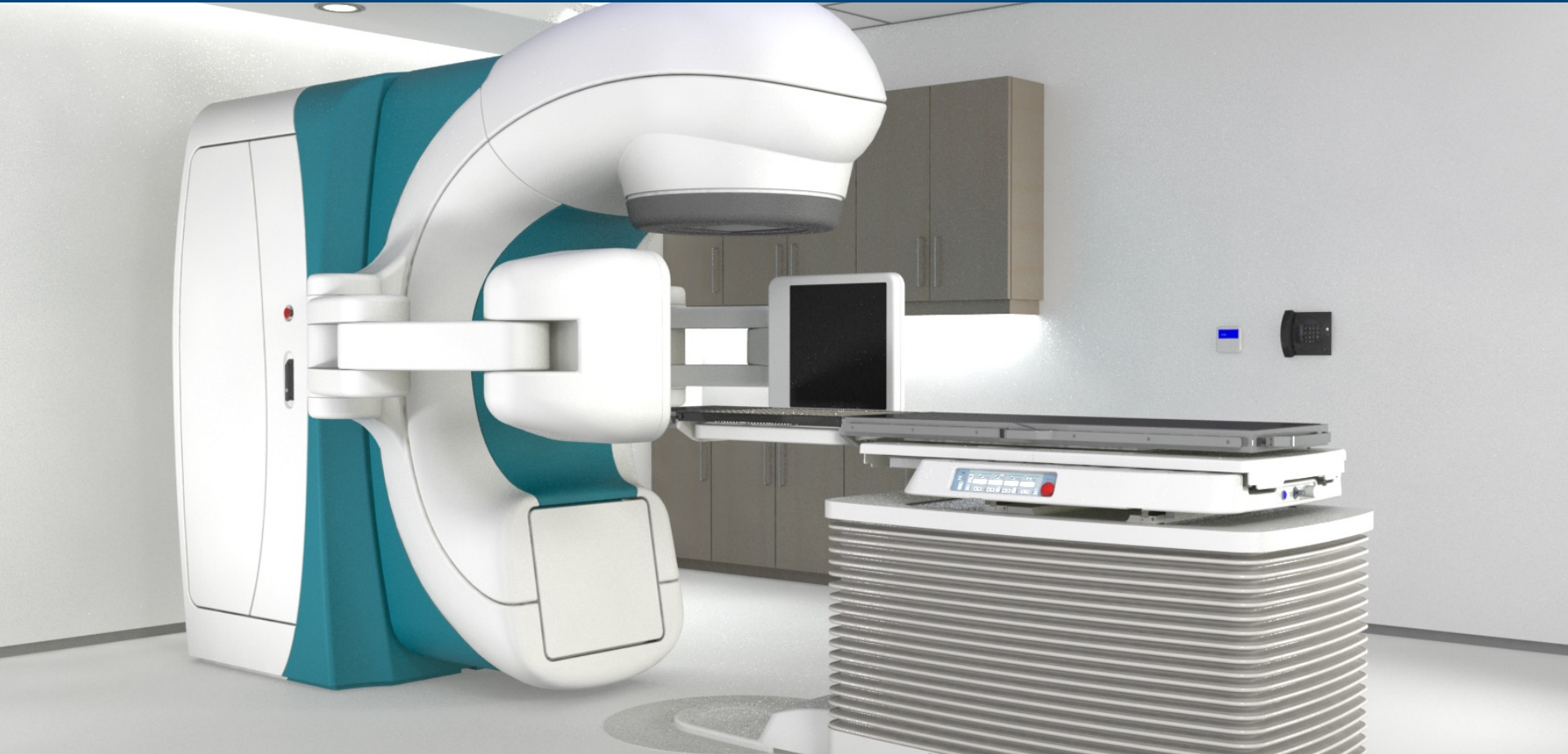
Exciting New Products Under Development



TomoTherapy System



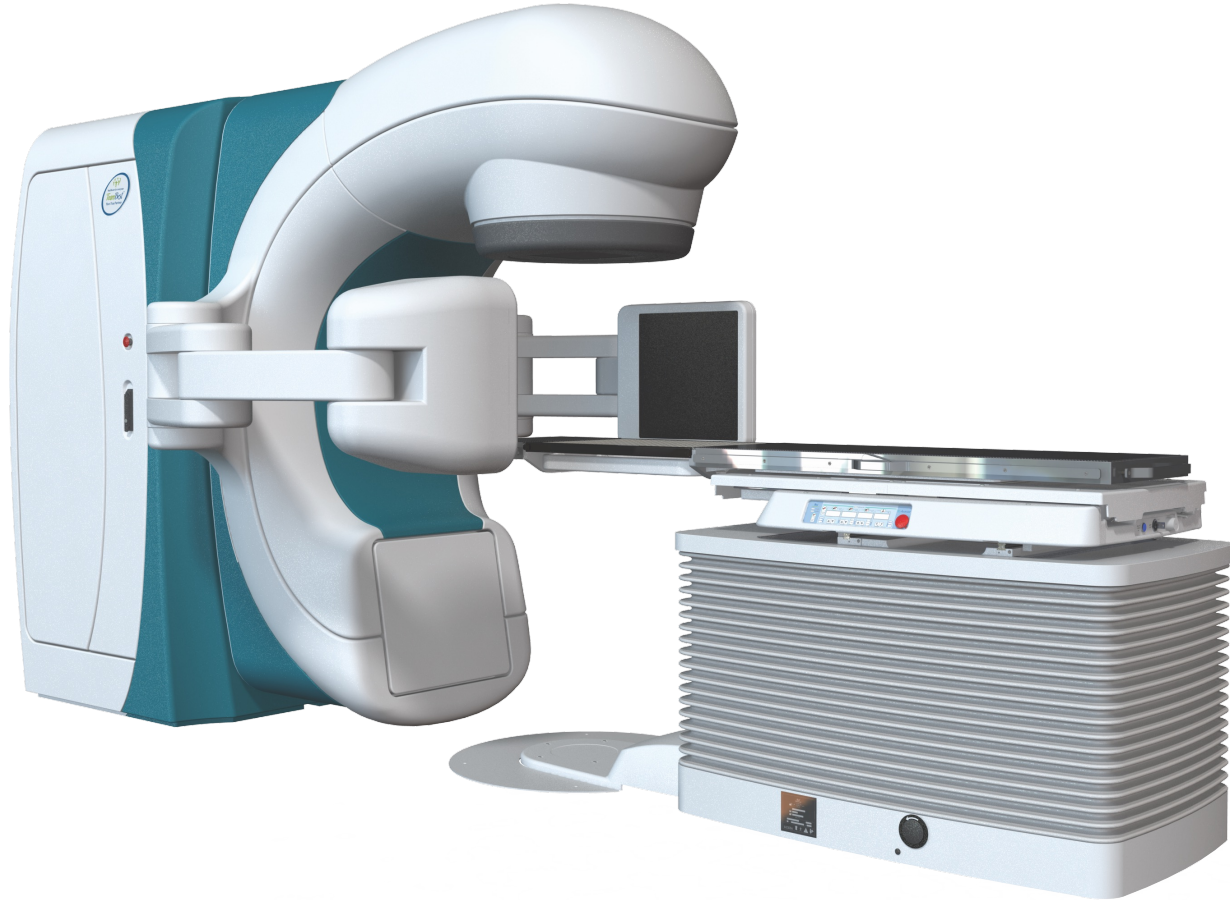
BEST X-Beam Multi-Energy Linac System



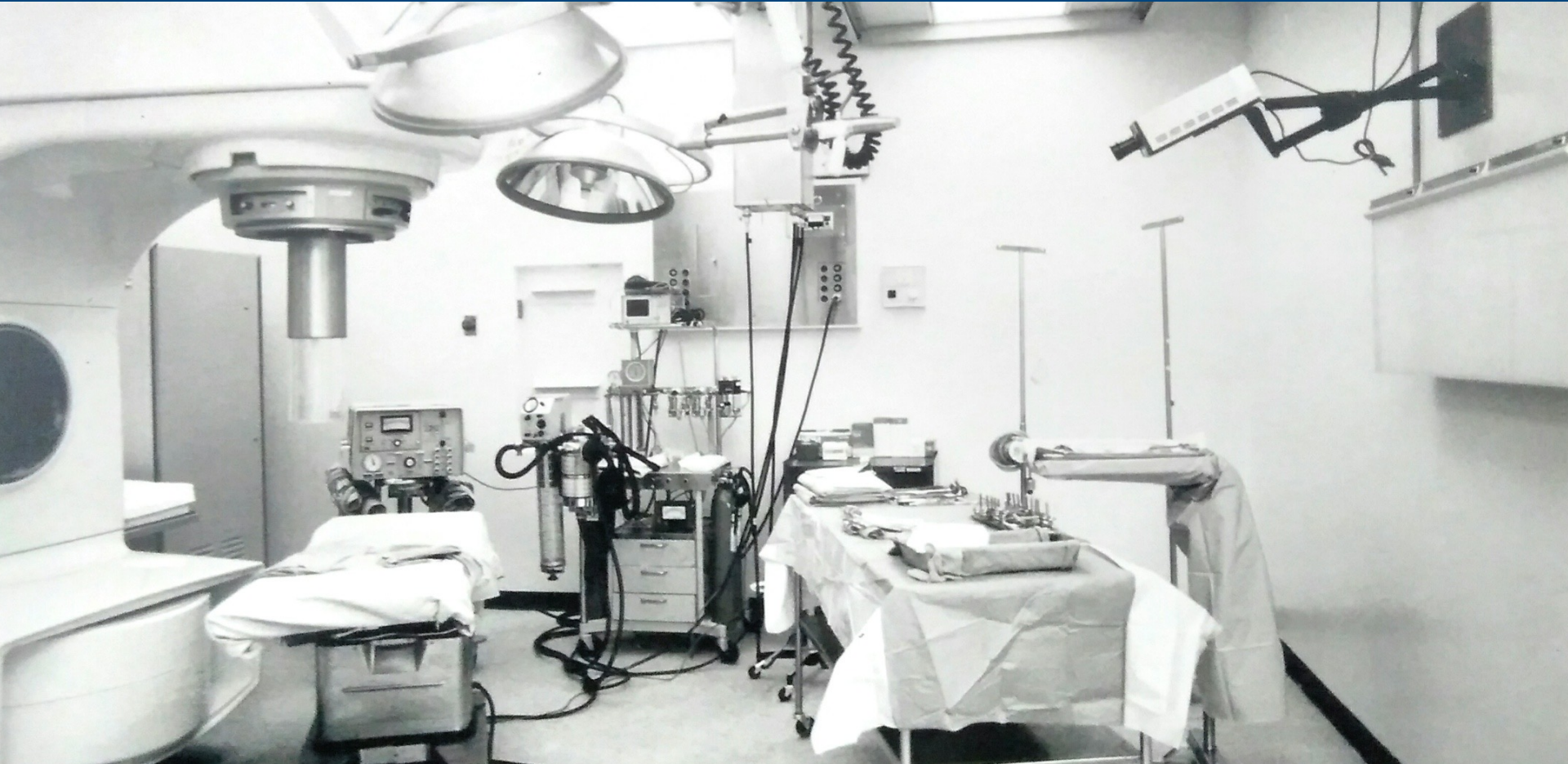
X-Beam™ Robotic Radiosurgery System



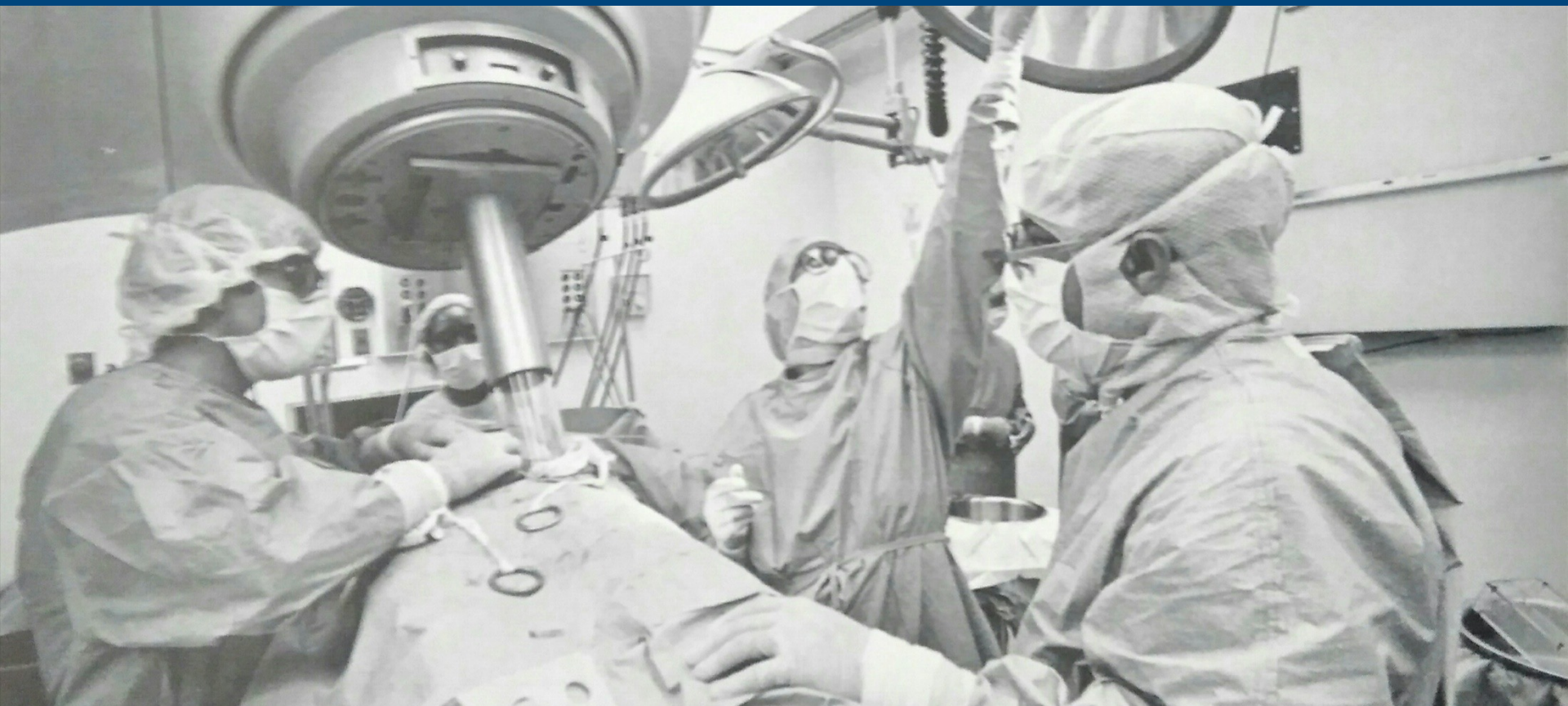
X-Beam™ Image-Guided Multi-Energy Linac System



Intraoperative Radiotherapy



Intraoperative Radiotherapy at Howard University Hospital, Washington, DC USA 1975



E-Beam™ Robotic IORT Linac System



Robotic Radiosurgery System Gamma Beam



nomosSTAT™ Serial Tomotherapy



nomosSTAT™ serial tomotherapy delivery technology fires pencil beams from a continuous 340 degree arc around the patient, creating a highly conformal dose distribution.

GammaBeam™ 200 Research Irradiator



The **GammaBeam 200 (GB200)** is among the most versatile research irradiators available today. Suited to a broad spectrum of applications including secondary standards dosimetry, sterile insect programs, and medical or veterinary research, the unit provides your lab with a powerful tool.

Blood Irradiation - Raycell[®] Mk2



Treatment of Graft-Versus-Host Disease (TA-GVHD) is almost always ineffective, and therefore management must focus on prevention by minimizing the risk of developing the condition. Blood irradiation using the **Raycell[®] Mk2** uses two opposing x-ray tubes to deliver superior uniform dose.

Raycell[®] Mk1 X-ray Blood Irradiator



Effective, convenient and user friendly, the **Raycell[®] Mk1 X-ray Blood Irradiator** provides a safe and cost-effective choice for blood irradiation—back by Best Theratronics' trusted expertise and commitment to quality.

Raycell[®] X40 Research Irradiator



- X-ray version of the Gammacell[®] 40 Exactor
- Delivers a central dose of ~1.5 Gy/min
- 8.0 L sample container
- Excellent dose uniformity
- Self-contained cooling system—no external water required

Best ABT Molecular Imaging Dose On Demand™ BG-75 Biomarker Generator



*Best*TM **ABT**

Molecular Imaging

A T E A M B E S T G L O B A L C O M P A N Y



Best ABT Press Release • November 12, 2018

TeamBest Companies enters agreement to acquire ABT Molecular Imaging, Inc. and announces creation of Best ABT, Inc.

Best Medical International, Inc. (BMI) and Best Cyclotron Systems (BCS) both part of the TeamBest group of companies, are pleased to announce the creation of Best ABT, Inc. Best ABT, Inc. has entered into an agreement to acquire ABT Molecular Imaging, Inc. (ABT), a Knoxville, TN based cyclotron manufacturing company.

The TeamBest group of companies, founded by Krishnan Suthanthiran, is headquartered in Springfield, Virginia, USA, and manufactures a variety of quality products for the radiation therapy and diagnostic community.

BCS currently offers a wide array of cyclotrons ranging from 15 MeV to 70 MeV. A fully-functioning Best 70 MeV cyclotron has been successfully installed in Legnaro, Italy. BCS is currently installing several other cyclotrons in various countries worldwide.

Best ABT Press Release *(Continued)*

Best ABT, Inc. will be a valuable addition to the TeamBest cyclotron portfolio that will allow TeamBest to deliver quality oncology diagnosis and care to a large group of currently underserved patients worldwide. The acquisition of ABT will bring a wealth of experience in smaller cyclotron technology, as well as in automated chemistry to TeamBest.

The cyclotron manufactured by ABT, the BG-75 Biomarker Generator (BG-75 System) is smaller and easier to install and operate than most conventional systems. The BG-75 integrates a compact cyclotron with micro-chemistry and automated quality control system, to provide on-demand F-18 FDG production in one seamless solution (“Dose-On-Demand”) to support the diagnostic community. With more than 25 BG-75 Systems sold worldwide, Best ABT, Inc. will allow the TeamBest group of companies to expand its global reach into more diverse markets than ever before.

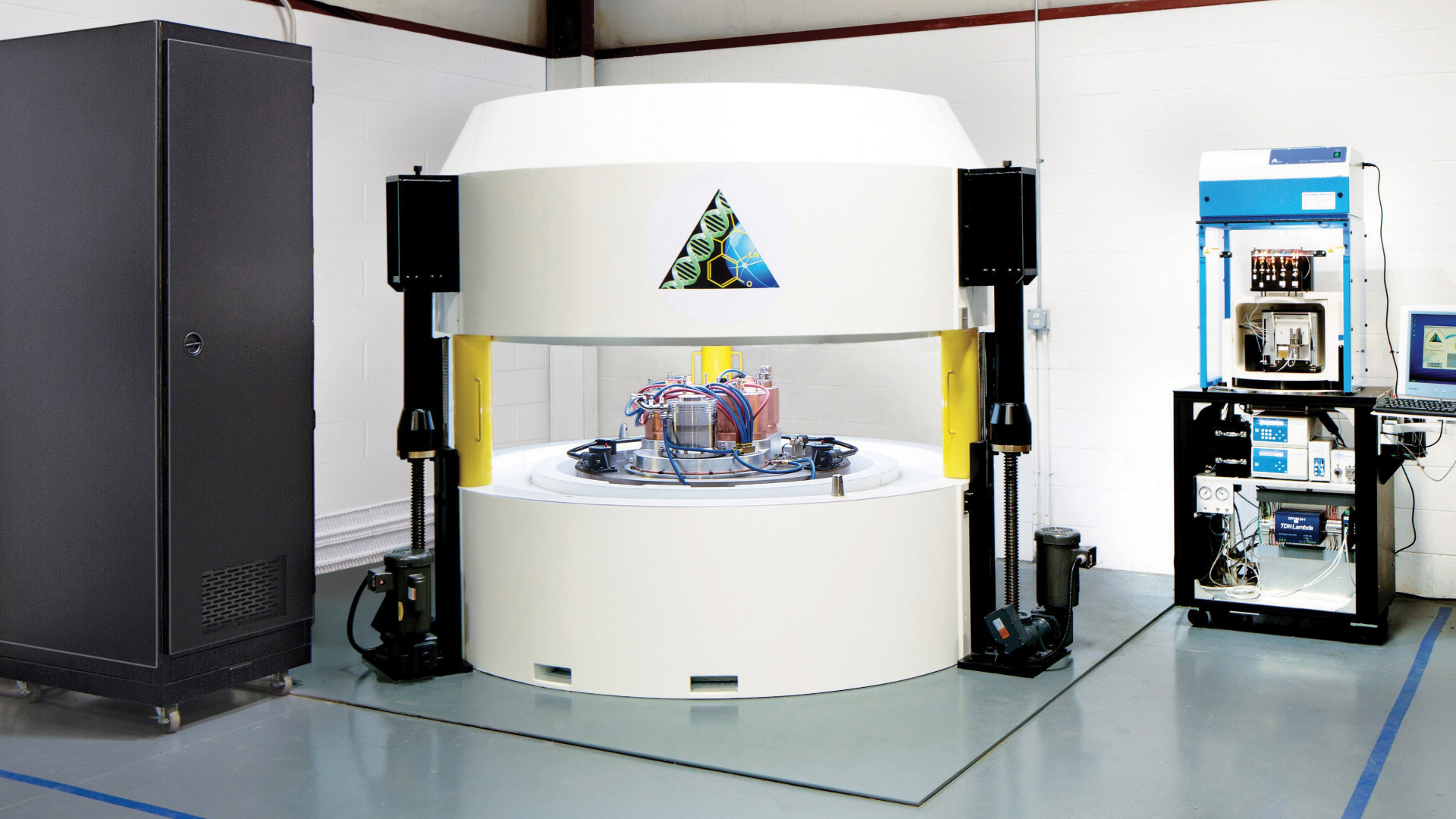
Best ABT Press Release *(Continued)*

With this acquisition, TeamBest is taking another step in delivering on its promise to deliver “healthcare for everyone”. Together with Best Cure Foundation (BCF), the TeamBest group of companies will set up a hub-and-spoke model healthcare delivery system, linked to General, as well as Super-Specialty Medical Centers, availing themselves of all of TeamBest’s new and advanced technologies worldwide.

Best ABT Molecular Imaging

The BG-75 Biomarker Generator is a revolutionary development in radio-pharmaceutical production that delivers a single or batch dose of ^{18}F -FDG, and additional advanced ^{18}F biomarkers, “on demand”. The system provides integration of all components needed to produce and qualify PET biomarkers into a single, self-contained system that occupies a fraction of the space required by conventional solutions, simplifying the implementation of PET.



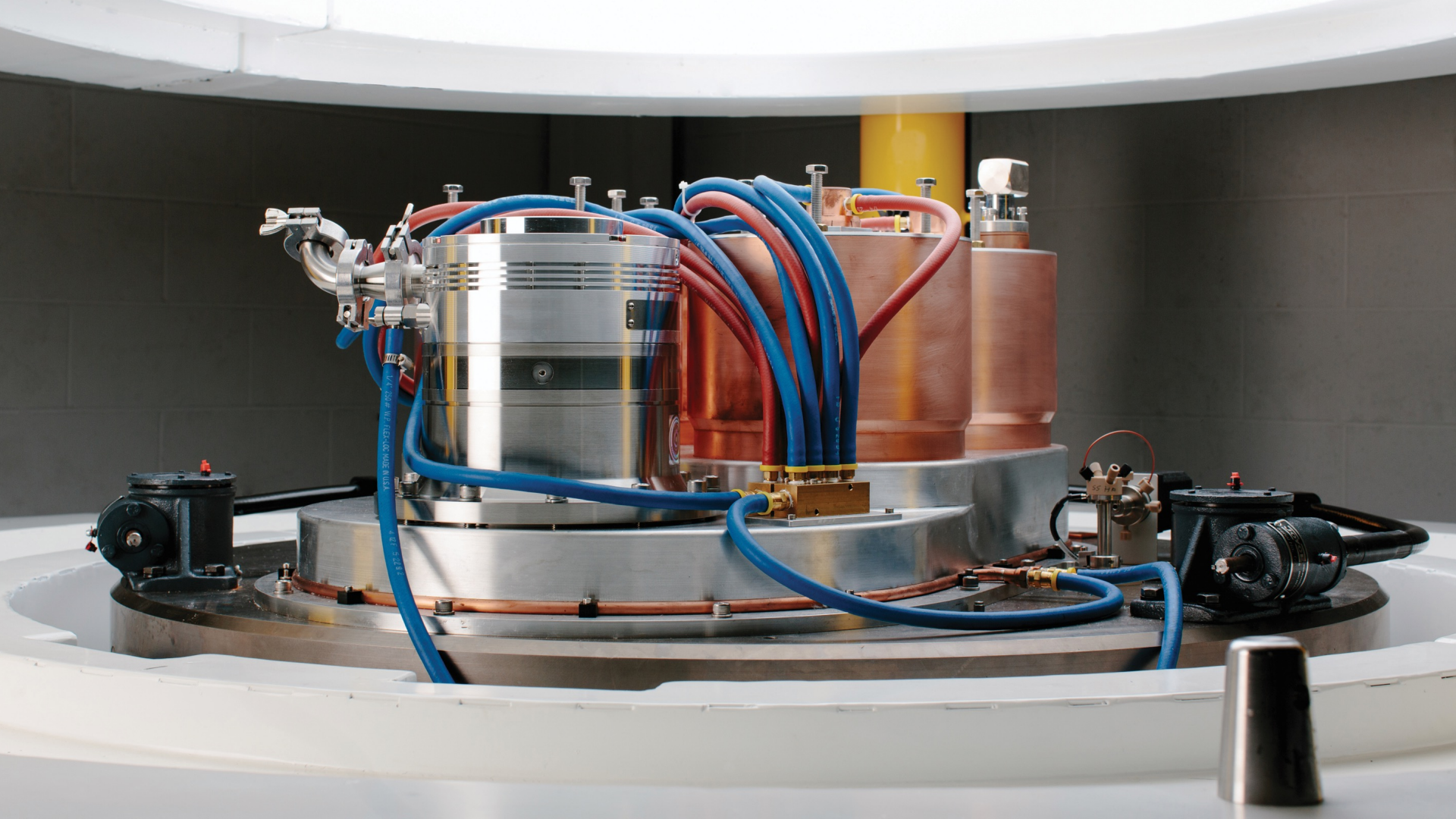


Best ABT Molecular Imaging

The BG-75 Biomarker Generator integrates a compact mini-cyclotron, kit based micro-chemistry, and automated quality control, simplifying in-house production of ^{18}F -FDG and advanced biomarkers.

- Push button graphic interface
- Kit based chemistry
- Single or batch dose production
- Final dose delivery to syringe or vial (option)
- Automated quality control testing
- Integrated cyclotron & chemistry self-shielding
- Complete production lab in a 30²m area





Best Cyclotron Systems

For Research & Radioisotope Production

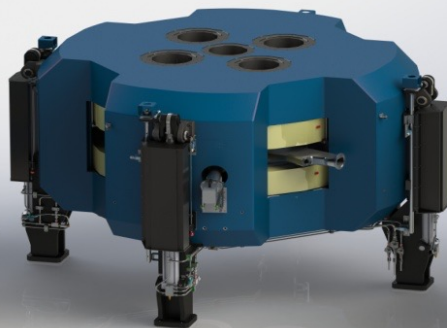
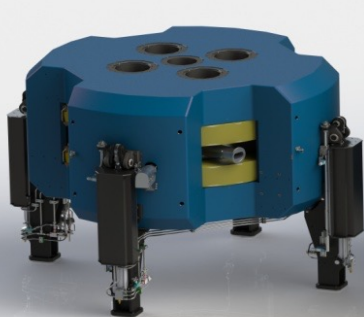
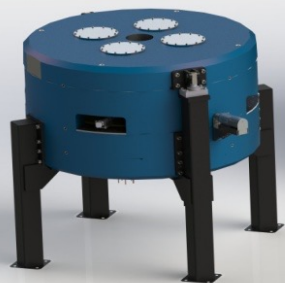


Best[®] Cyclotron Systems

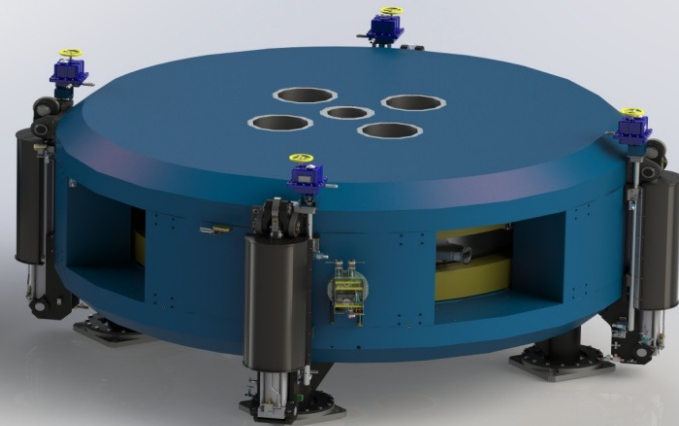
A T E A M B E S T G L O B A L C O M P A N Y



PET and TC^{99m}



SPECT Radioisotopes



Radiotherapeutics and Generators

B15p PET

15 MeV

400 μ A +

Targets Radiochemistry

B20u/25p

20/15-25 MeV

400 μ A +

Targets Radiochemistry

B30u/35p

30/15-35 MeV

400/1000 μ A

Targets Radiochemistry

B70p

35-70 MeV

1000 μ A

Targets Radiochemistry

Each cyclotron allows production access to special radioisotopes

Installation of 70MeV Cyclotron

May 2015 - Legnaro, Padova, Italy



Installation of 70MeV Cyclotron

May 2015 - Legnaro, Padova, Italy



Inauguration of 70 MeV Cyclotron at INFN

December 2016 - Legnaro, Padova, Italy



Front Page News in Padova, Italy

IL GAZZETTINO Padova 3 dicembre 2016

IL PROFESOR La polizia più e una più la polizia

IL SANTO DEL GIORNO

IL BOLE

IL TEMPO OGGI

IL TEMPO DOMANI

TRATTORIA Ora zi cucina tipica veneta

DUE PALAZZI Dopo il caso del boss che gestiva un traffico di droga, inchiesta su altri 10 reclusi

Indagine sui permessi agli ergastolani

Mafiosi e assassini detenuti in carcere. In provincia di Padova, 10 ergastolani comuni

LA PROCURA È stata aperta un'inchiesta. Procura via dieci detenuti. Due Palazzi che dal reato di alta sicurezza sono "abbandonati" a reclusi e al, quindi con possibilità avere un lavoro attuale del penitenziario e di giorni di permesso possono i carcerati siano indagando "capire" che ha violato "un bullen" la loro permanenza: dietro alle sbarre e periti

I PRECEDENTI Il Due Palazzi era già il nel sistema della Procura: doveva nel luglio del 2014. L'altro giorno, invece, è se "reclusi" al Due Palazzi: un traffico di droga e a Padova un traffico di droga internazionale.

MASSIMO A LEONARDO IL CICLOTRONE DA 170 TONNELLATE

Fisica nucleare, il futuro è a Padova

ACCUSATORE È stato imputato un affarista romano di fisica nucleare "spesi" agenzie di intelligence da 170 tonnellate di uranio grezzo: ancora prima: capirono nella medicina e nella nuova complementare dei materiali

Consiglio di Stato Popolari riforma sono stop a Bankitalia

ARABO, PIAZZA SACRO CUORE Avversa cancella Tarazona sull'asfalto

CARCE DUE PALAZZI Detenuti deceduti aperta un'inchiesta

Donna straniera ottiene l'assegno di maternità

San Lazzaro, Zaia attacca: «Se qualcuno ci rallenta»

Prende la pensione, rapina in negozio

PALESTRO! banditi agguati in via

LA BICICLA

LA BICICLA

il mattino di Padova

NATALE 20 Nuove articolazioni in via Santa Lucia, trasformata in "The Christmas street"

IN TUTTO IL NEGOZIO

-50%

SABATO 3 DICEMBRE 2016

I padovani al voto

Carraro: Paese fermo

Rolle: false promesse

L'URNA E IL DESTINO DEL CREDITO

IL BRINDO MANTELOTTI

CSS, il Comune fa dietrofront

Ecco il super-ciclotrone che aiuta a curare i tumori

MASSIMO A LEONARDO IL CICLOTRONE DA 170 TONNELLATE

Consiglio di Stato Popolari riforma sono stop a Bankitalia

ARABO, PIAZZA SACRO CUORE Avversa cancella Tarazona sull'asfalto

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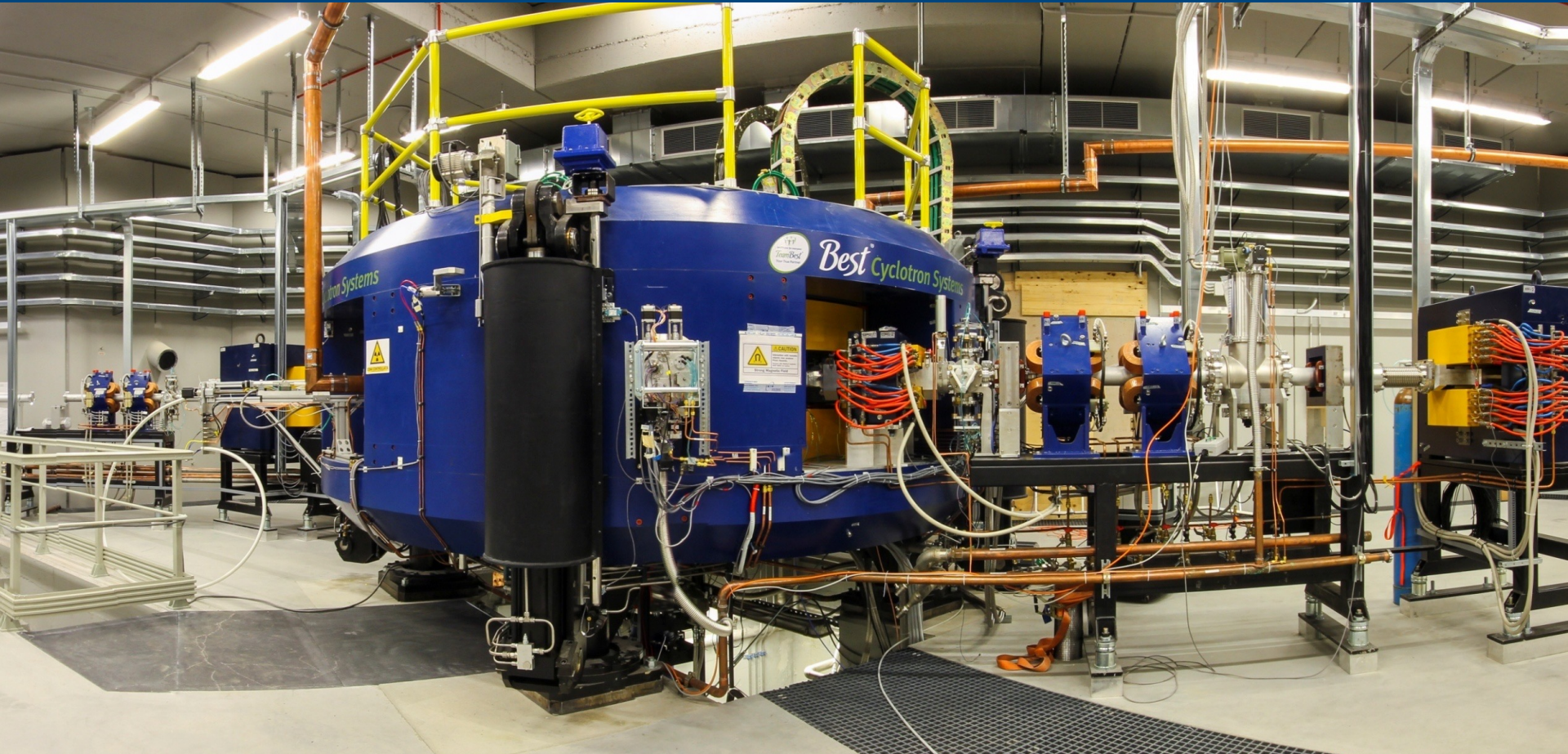
Donna straniera ottiene l'assegno di maternità

PALESTRO! banditi agguati in via

LA BICICLA

LA BICICLA

70 MeV Cyclotron at INFN



Best Particle Therapy

Ion Rapid Cycling Medical Synchrotrons



Best[®] Particle Therapy

A T E A M B E S T G L O B A L C O M P A N Y



Collaboration with the Best in the World

In 2009, **Best Medical International (BMI)** and **Brookhaven National Laboratory (BNL)** signed an agreement called **CRADA** (**C**ooperative **R**esearch **A**nd **D**evelopment **A**greement)

The mandate was to develop an ion **R**apid **C**ycling **M**edical **S**ynchrotron (**iRCMS**)

BNL (USA) Particle Accelerators 0.75 MeV to 250 GeV



PHENIX

RHIC

STAR

LINAC

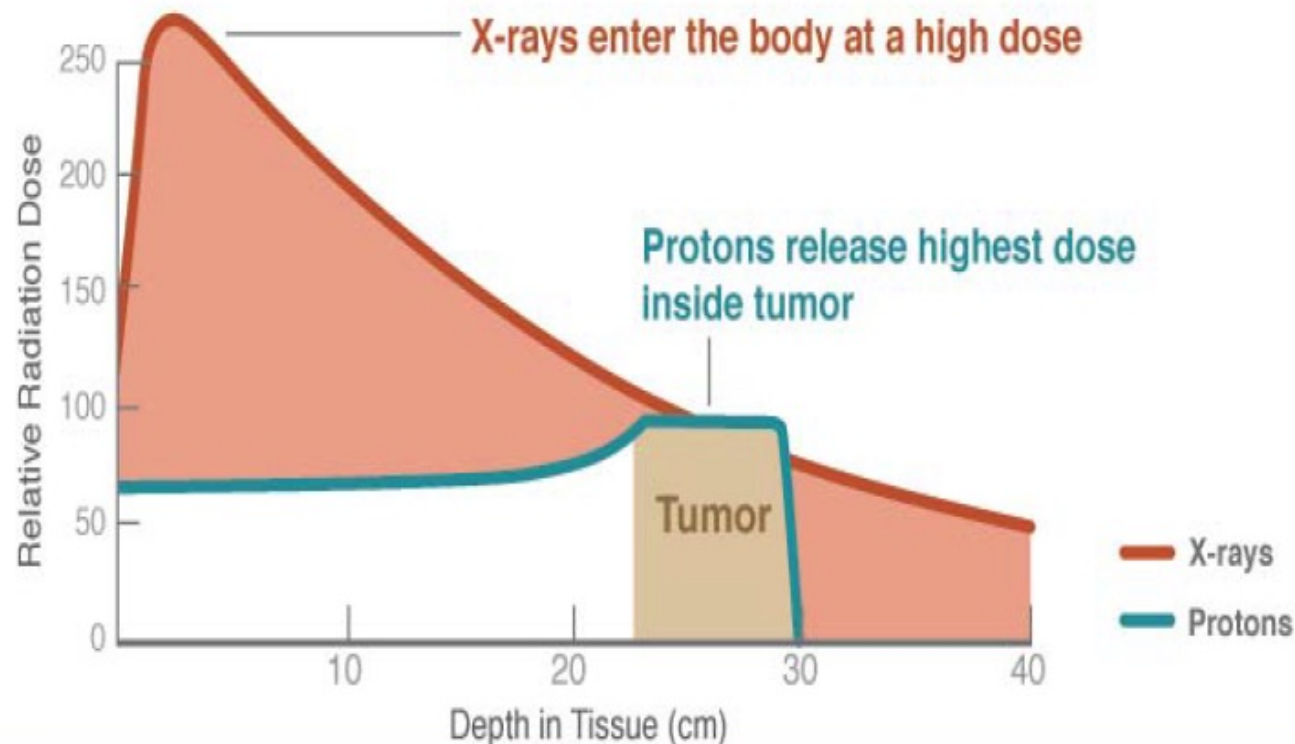
EBIS

NSRL

BOOSTER

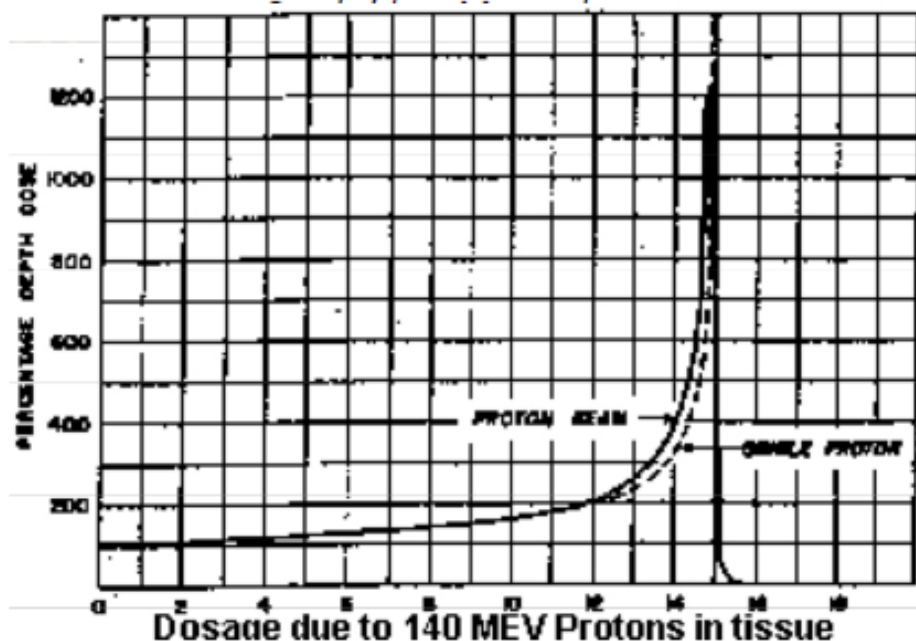
AGS

Proton therapy precisely targets tumors, reducing the radiation dose to healthy tissue compared with X-rays¹



1946 "Radiological Use of Fast Protons" and discovery of the Bragg Peak

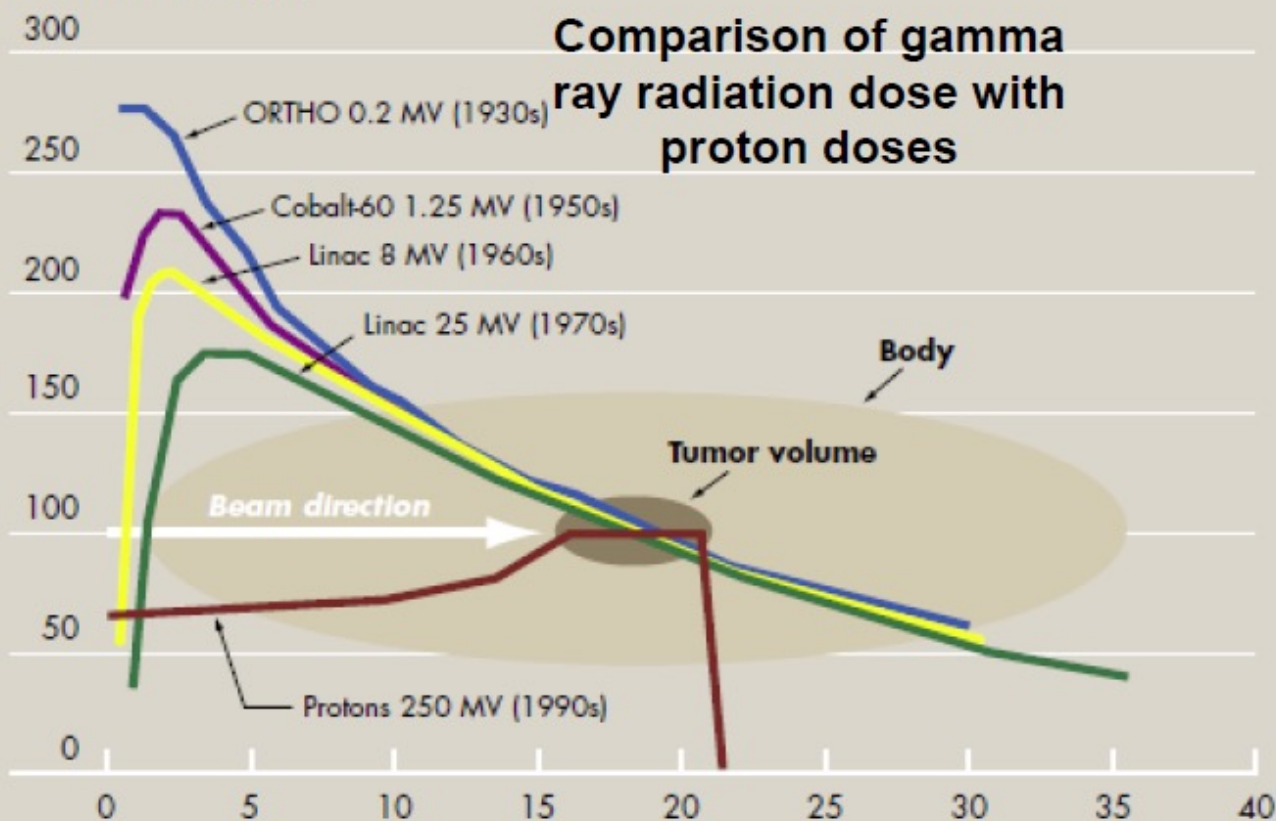
ROBERT R. WILSON Research Laboratory of Physics, Harvard University



High energy
dose at the end
of path (**Bragg
peak**)

Absorbed dose (%)

Comparison of gamma ray radiation dose with proton doses



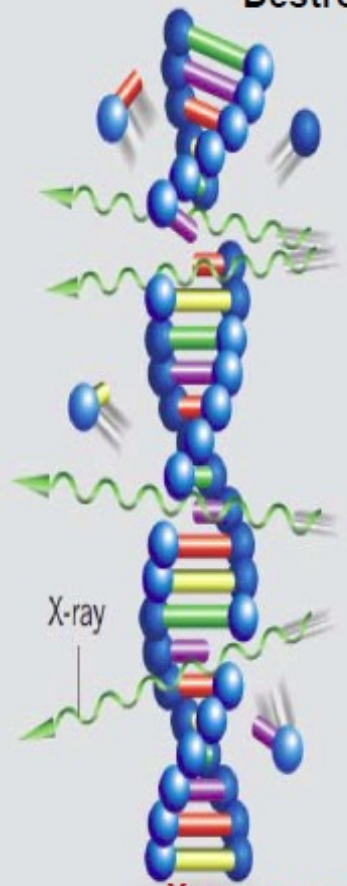
Protons and carbon ions deliver more directed radiation to the tumor – Bragg Peak

FIGURE 1 Dose distribution of protons versus x-rays.

Destroying Cancer DNA



DNA

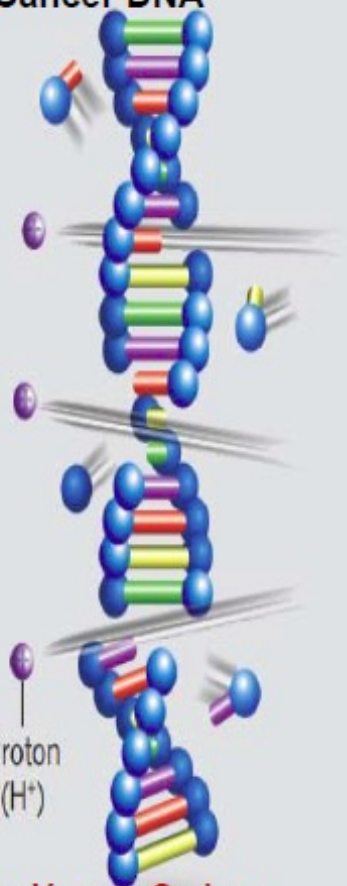


X-ray

X-ray versus Proton versus Carbon

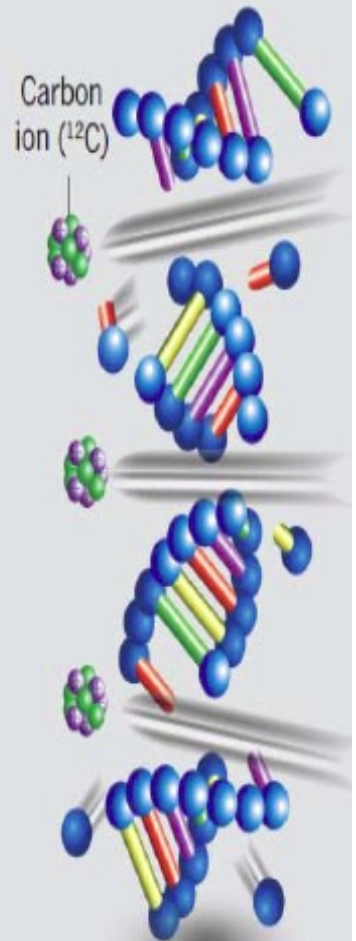
Minor Damage done by Protons are reversible

Carbon chops up the DNA and does irreparable damage



Proton (H⁺)

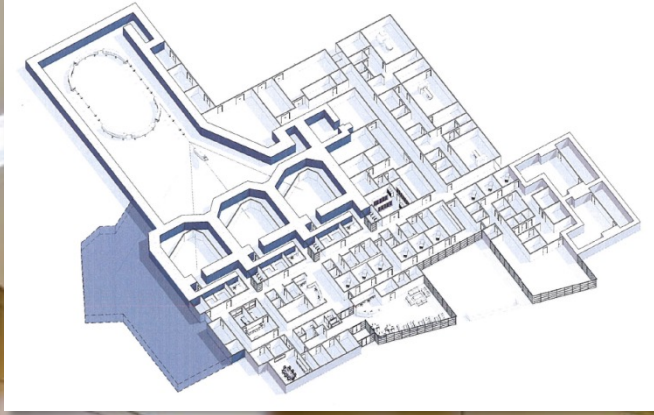
Proton beam



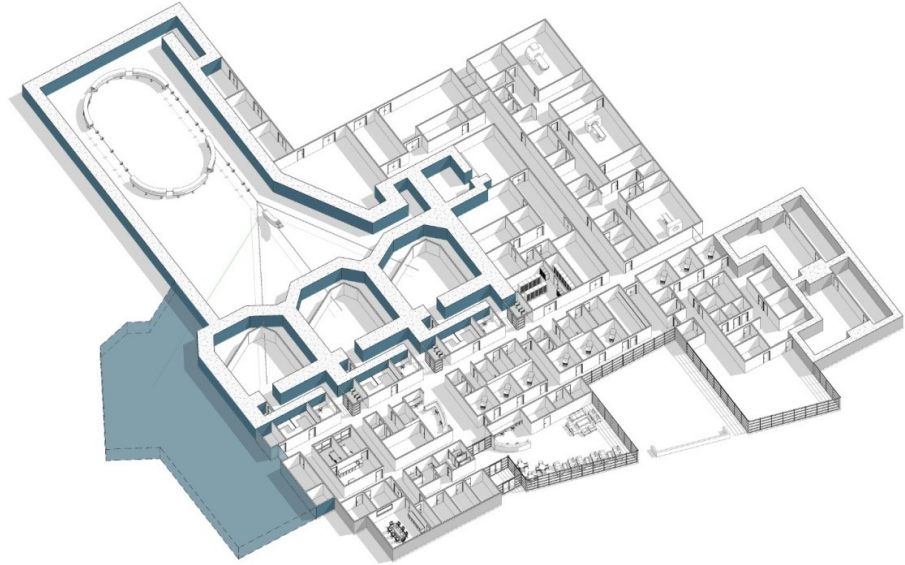
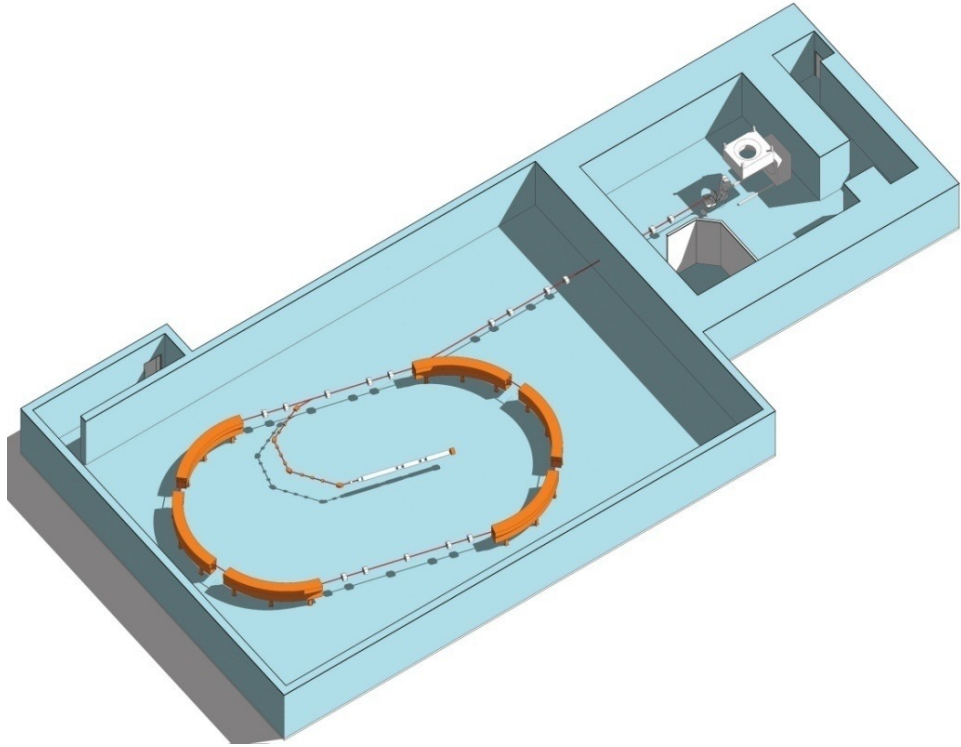
Carbon ion (¹²C)

Carbon-ion beam

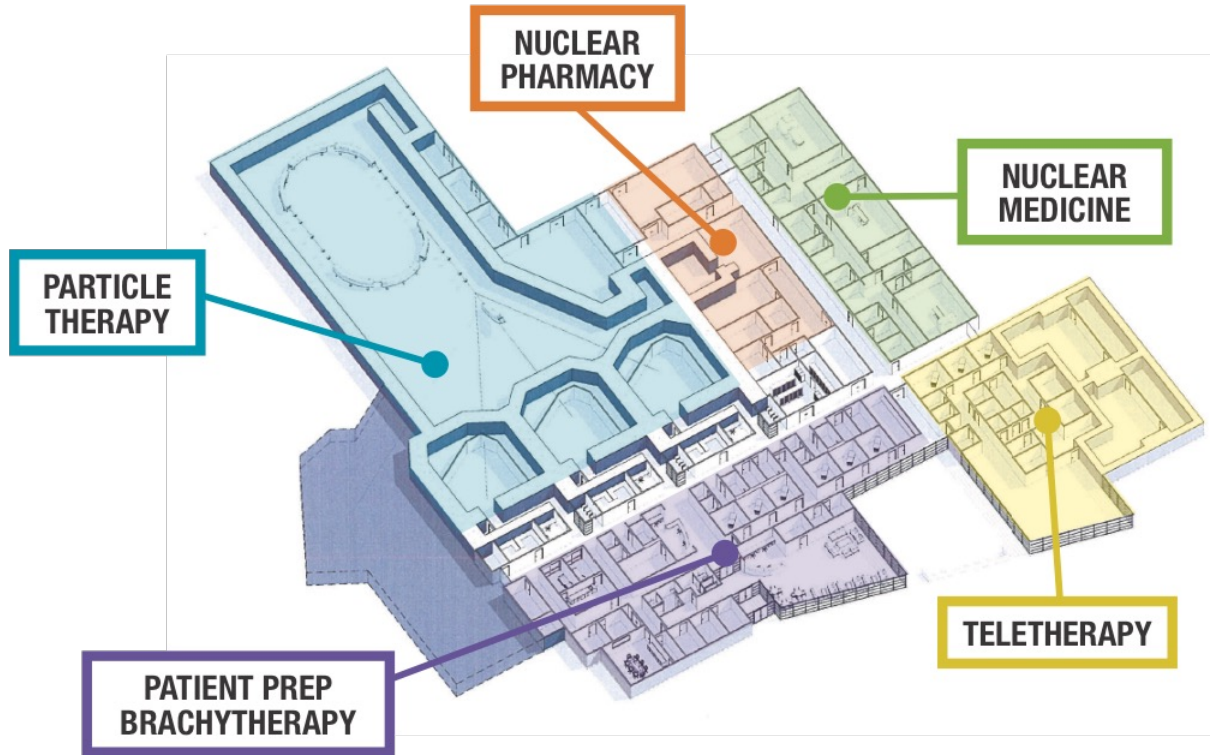
Typical Treatment Room



Expandable from Single-Room to Multi-Room



Multi-Room Solution

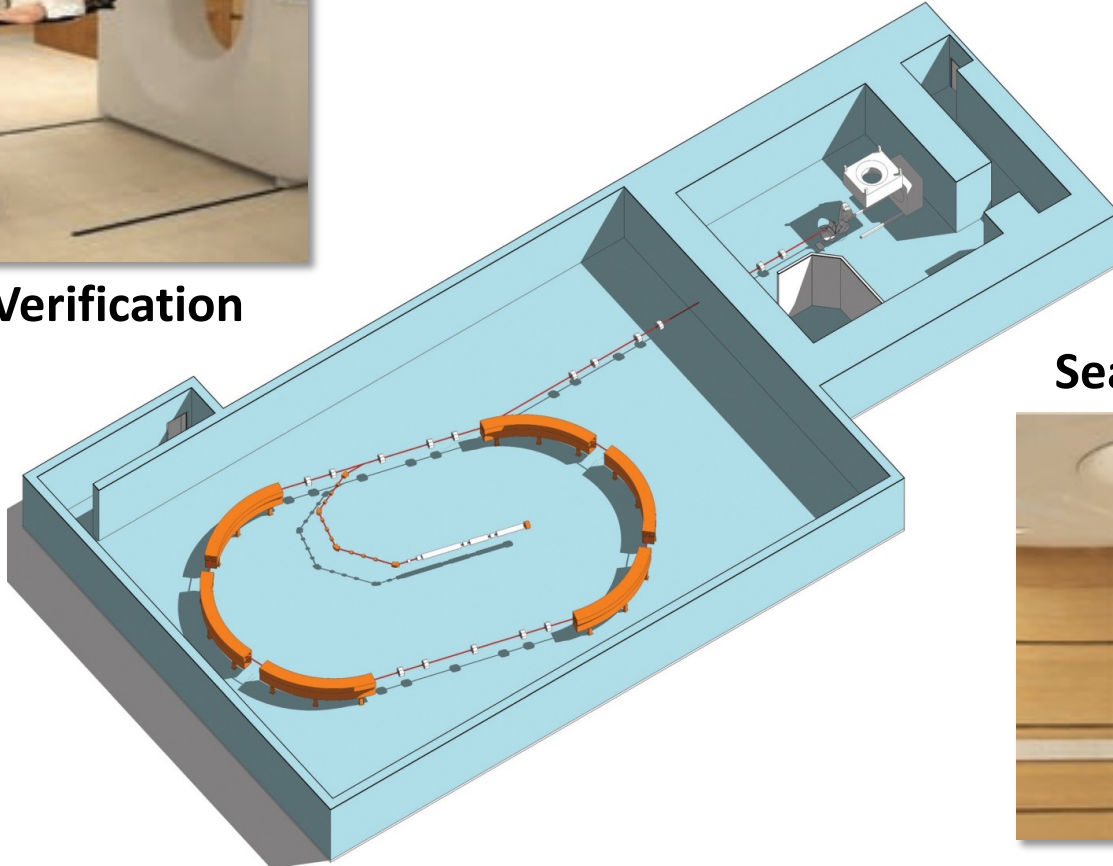


**Multiple Nuclear
Healthcare Modalities
in a Single Facility**

Single-Room Solution



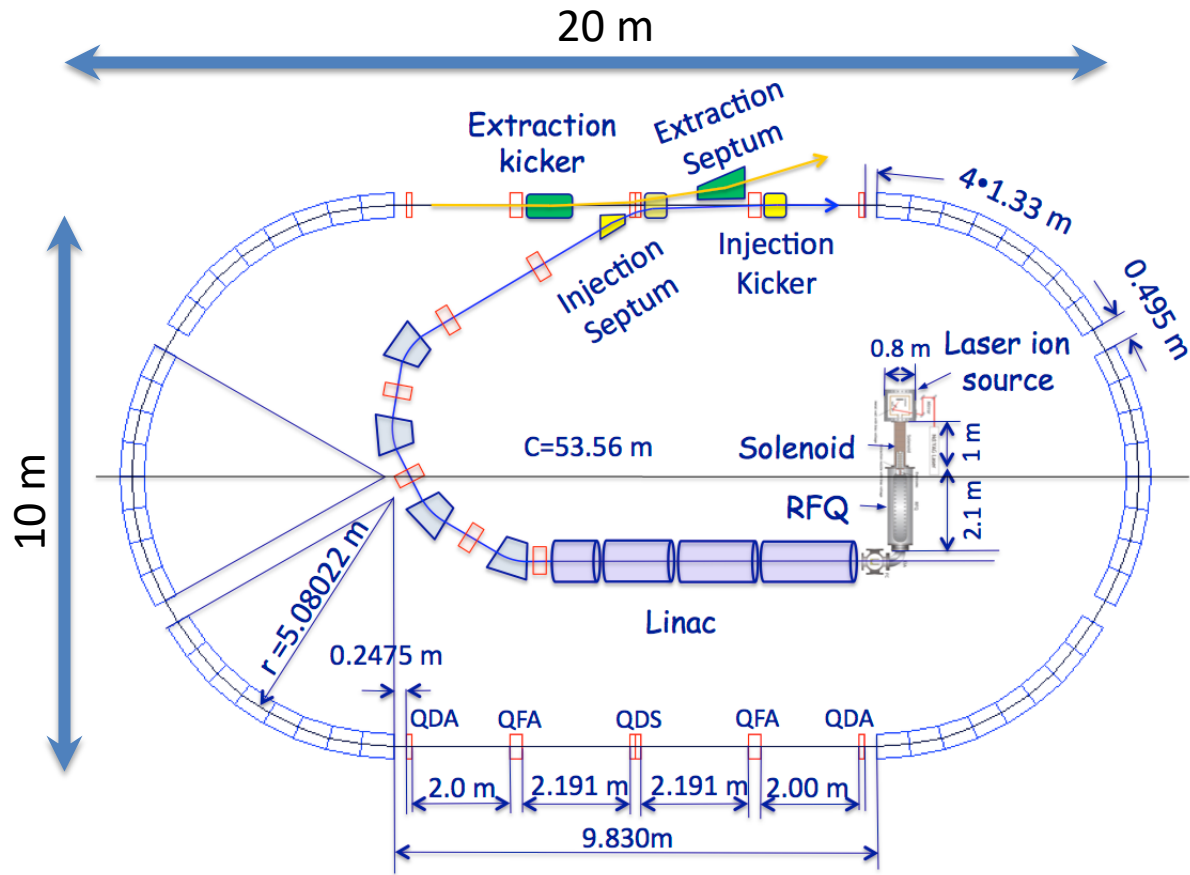
Supine CT Verification



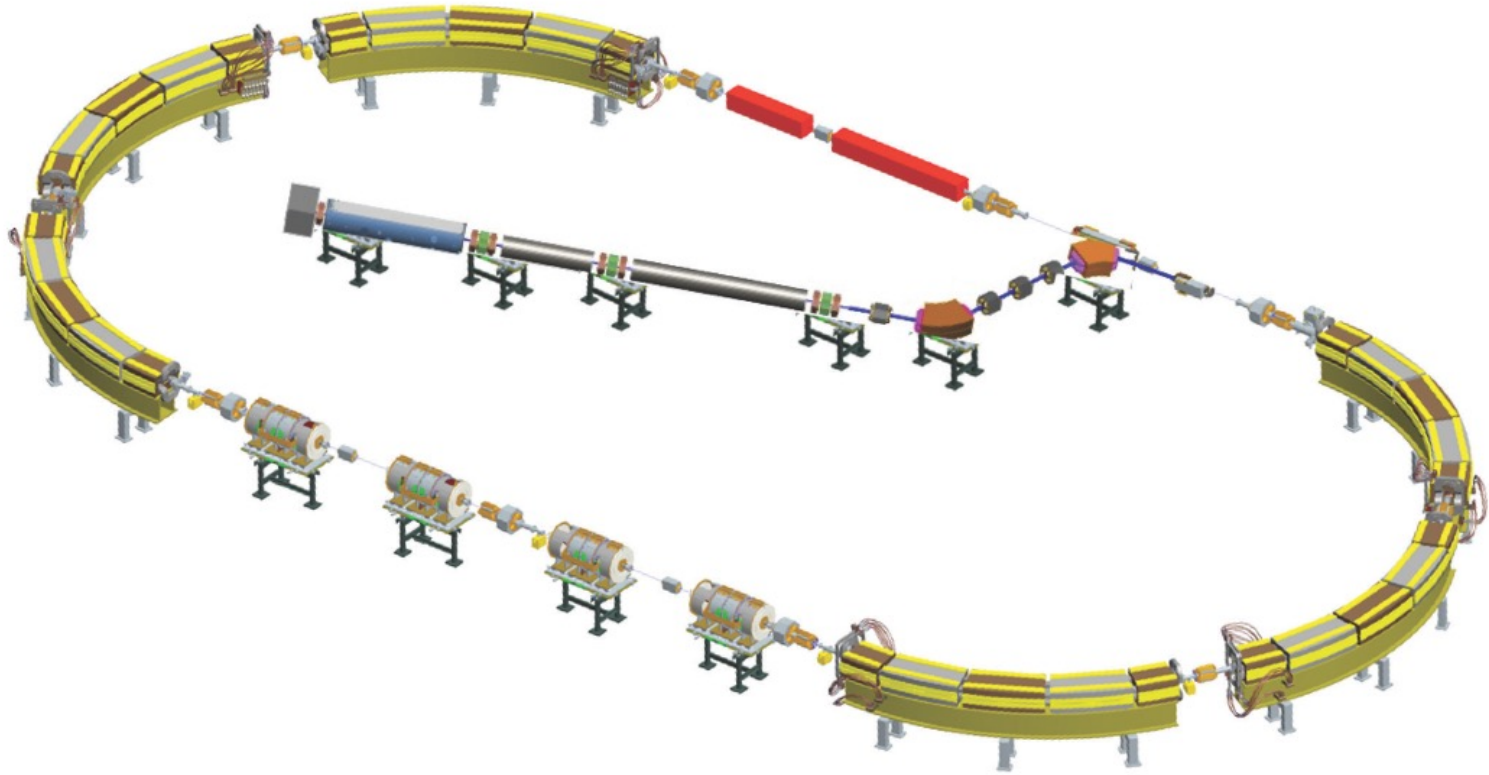
Seated CT Verification



BEST / BNL iRCMS – Much Smaller Footprint



Racetrack Synchrotron



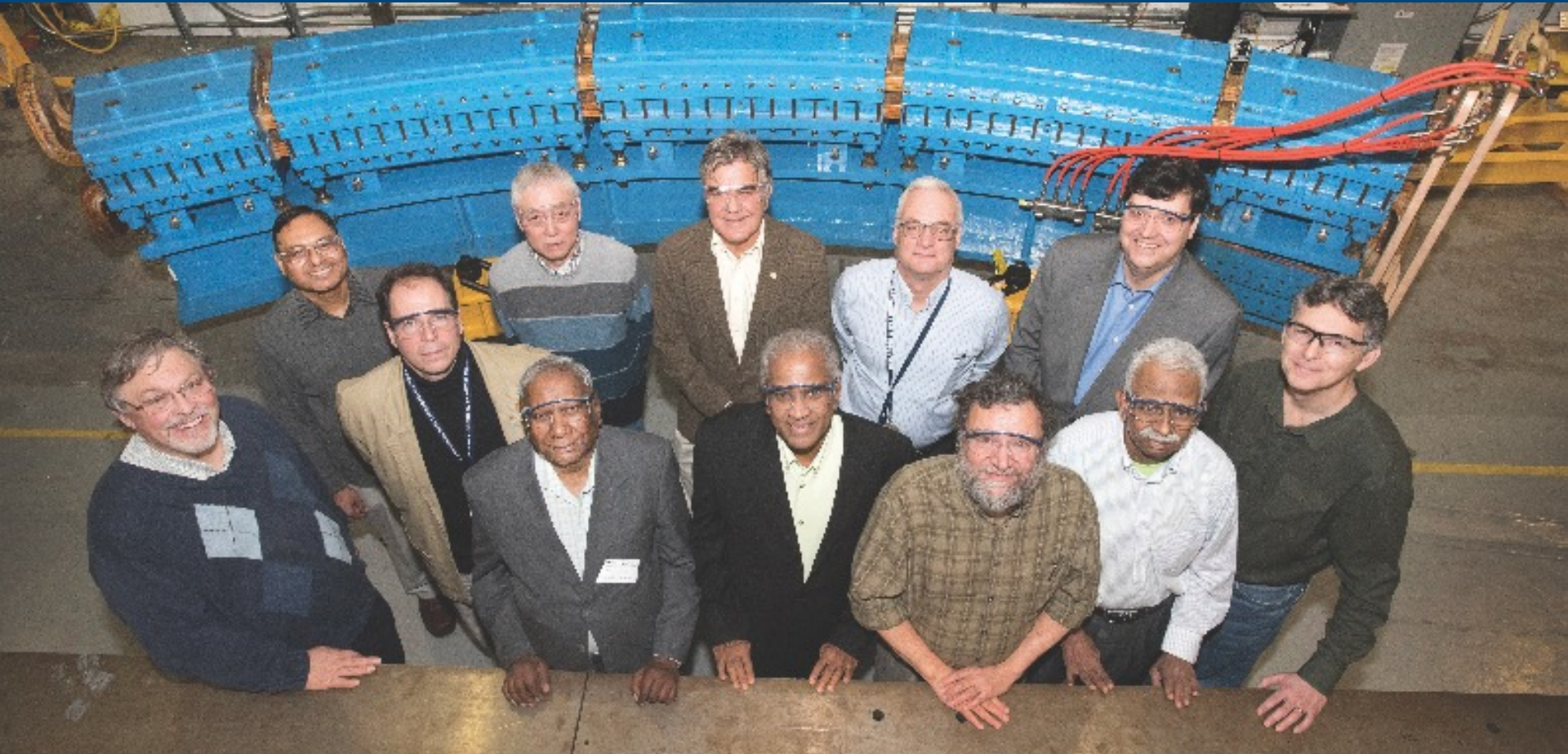
Shielding Estimate Comparisons

Accelerator Comparison Table					
				Maximum Credible Incidence (MCI)	
	Energy Maximum (MeV)	Avg. Current Delivered (nA)	Charge Accelerated (nC/s)	Risk Ratio MCI/ Delivered	Shielding (50 mSv/yr) Concrete @10.00 m (m)
Protons (206 MeV)					
Isochronous Cyclotron (NC)	230	2	1250	625	2.89
Isochronous Cyclotron (SC)	250	2	313	156	2.44
Synchro Cyclotron (SC)	250	2	1	0.50	0.54
Slow Cycling Synchrotron	250	2	20	10	1.53
Best Ion Rapid Cycling Medical Synchrotron (iRCMS)	1200	2	0.133	0.067	0.13

Estimates above were calculated using the Moyer Model
 Neutron source terms for 177 MeV protons
 Neutron transmission factors
 Neutron attenuation length in concrete (SLAC PUB 130339)

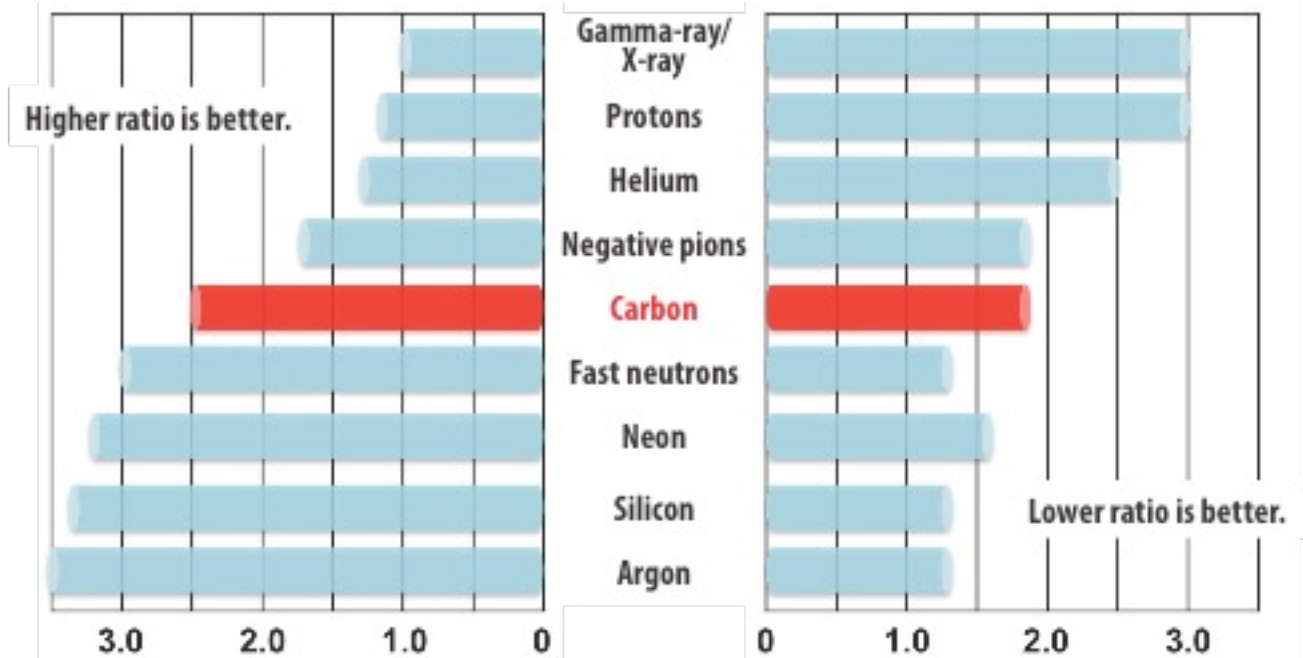
Final shielding calculations use a full
 scale Monte Carlo method
 (MCNPX, GEANT, FLUKA)

Racetrack Synchrotron



RBE: Relative Biological Effectiveness

OER: Oxygen Enhancement Ratio

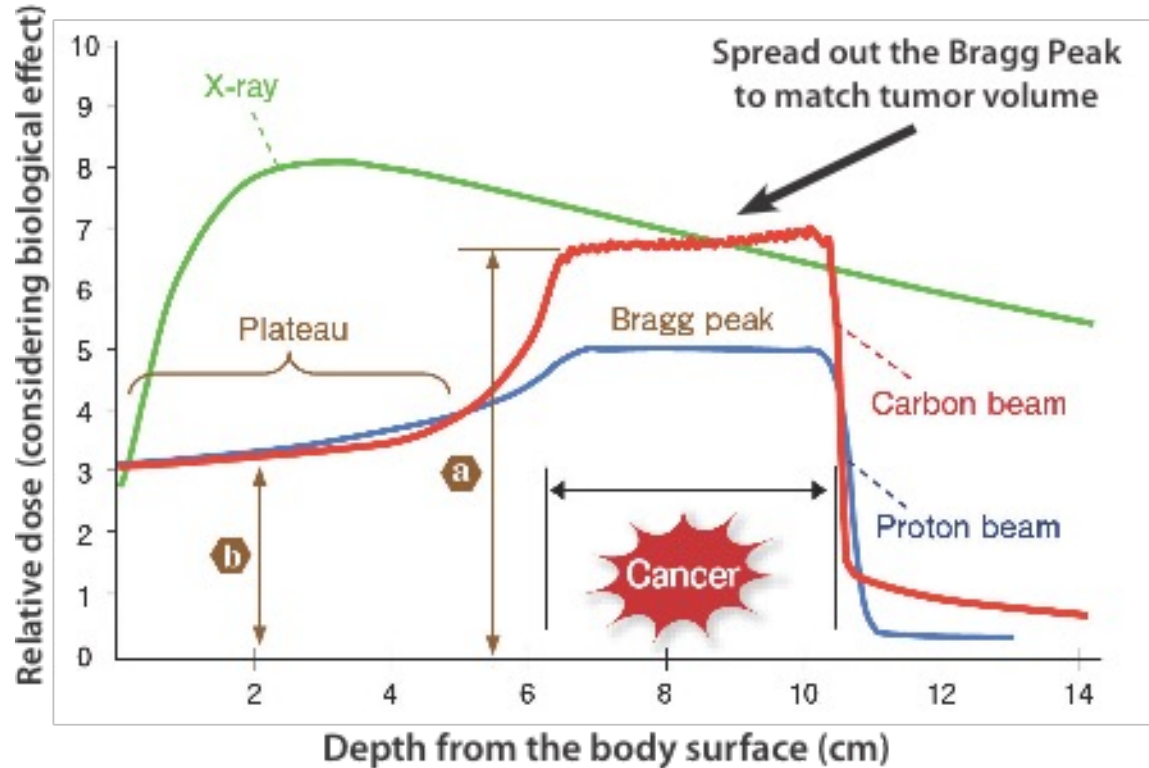


RBE represents the biological effectiveness of radiation in the living body. The larger the RBE, the greater the therapeutic effect on the cancer lesion.

OER represents the degree of sensitivity of hypoxic cancer cells to radiation. The smaller the OER, the more effective the therapy for intractable cancer cells with low oxygen concentration.

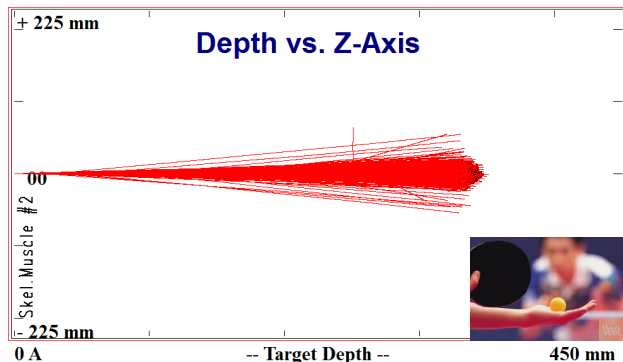
Clinical Comparison: X-rays vs. Protons vs. Carbon Ions

**Peak-to-Plateau ratio of the RBE (a/b) is larger
in carbon ion beams than for proton beams.**

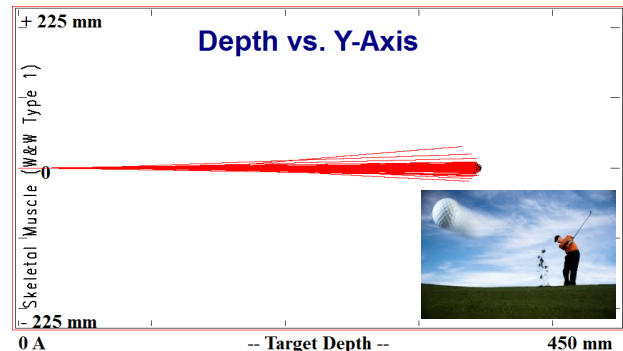


Graph courtesy of
Hirohiko Tsujii et al.,
Radiological Sciences,
50(7), 4, 2007

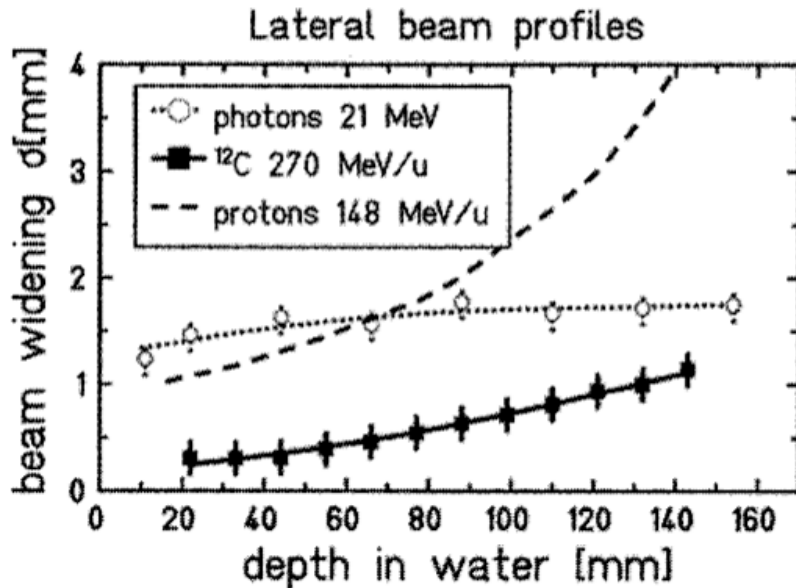
Carbon Ions are more precise than Protons



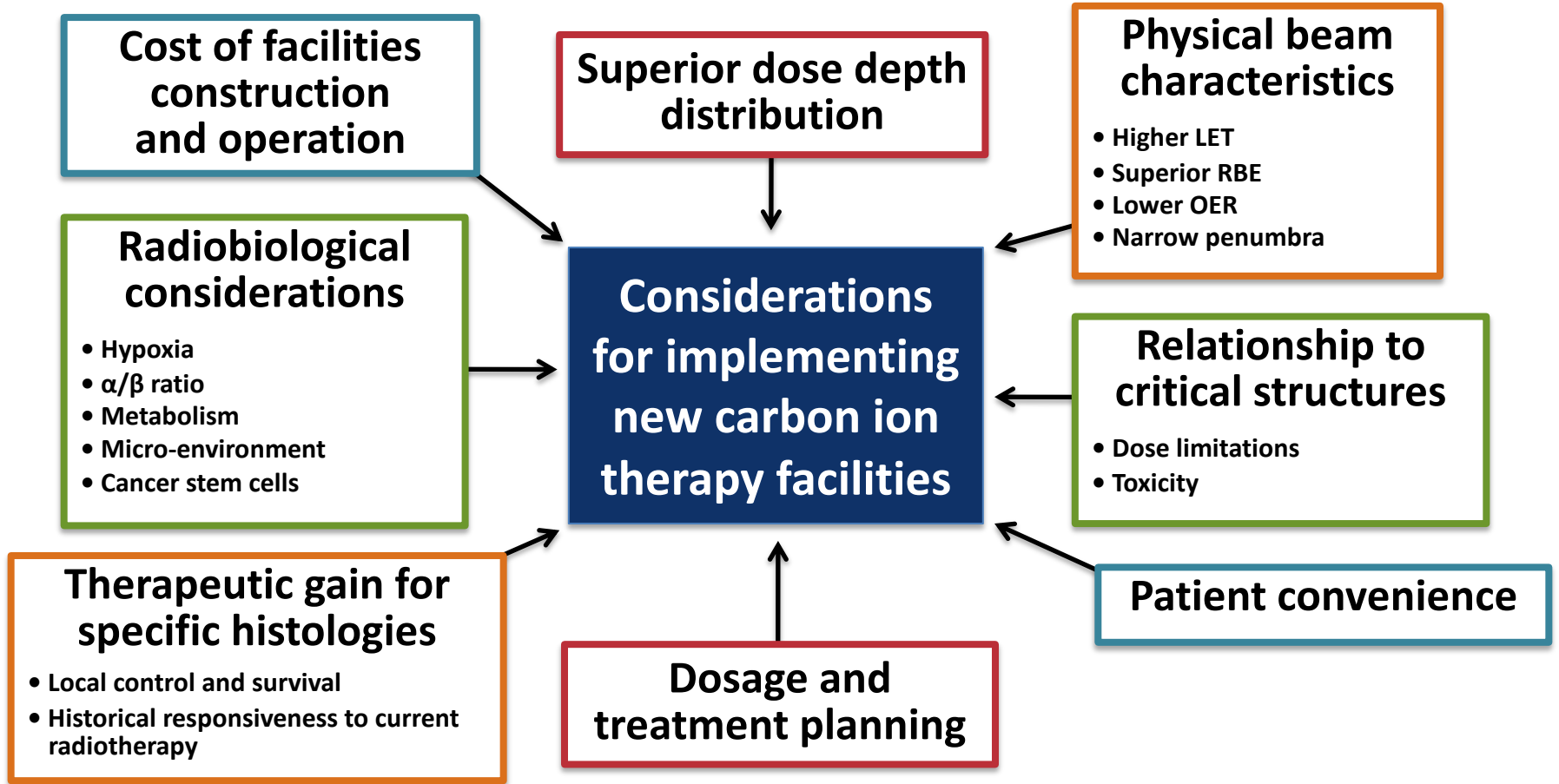
The intrinsic spot width for ~ 206 MeV/u protons is $2\sigma = 11.4$ mm



The intrinsic spot width for ~ 400 MeV/u carbon ions is $2\sigma = 2.93$ mm



“Lines to guide the eye”
U. Weber GSI (1996)



Medical Advantage

- Deliver 20 times the cancer killing power of protons
- Cure the patient 4 to 10 times faster

Benefit to Patient

- Shorter treatment times – potentially 4 to 10 times less
- Less stress for the patient physically, emotionally & financially
- Less unnecessary radiation exposure

Benefit to Society

- A Heavy Ion Center will provide maximum advantage to the general public by having the capability to treat many more patients than a Proton Center with the same number of treatment rooms

Best Supplies Proton Systems Upgradeable to Carbon!

Summary

BMI & BNL have jointly developed a rapid cycling proton/carbon synchrotron that enables advanced features including:

- A unique combination of advanced spot scanning with rapid energy modulation
- Elimination of neutron contamination associated with patient specific hardware

Rapid cycling technology has several natural advantages:

- Intrinsically small beam emittances facilitating beam delivery with unprecedented precision
- Small beam sizes – small magnets, light gantries – smaller footprint
- Highly efficient single turn extraction
- Efficient extraction, less charge per bunch – less shielding
- Flexibility – protons and or carbon, future beam delivery modalities

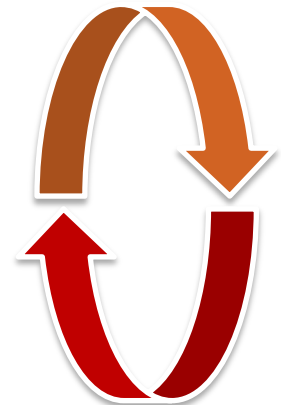
State of the Art Manufacturing Facilities



**Best NOMOS (Pittsburgh, PA) &
Best Theratronics (Ottawa, ON)**



Assembly



Heavy Manufacturing

Best Theratronics Ltd Machine Shop, Ottawa, Canada



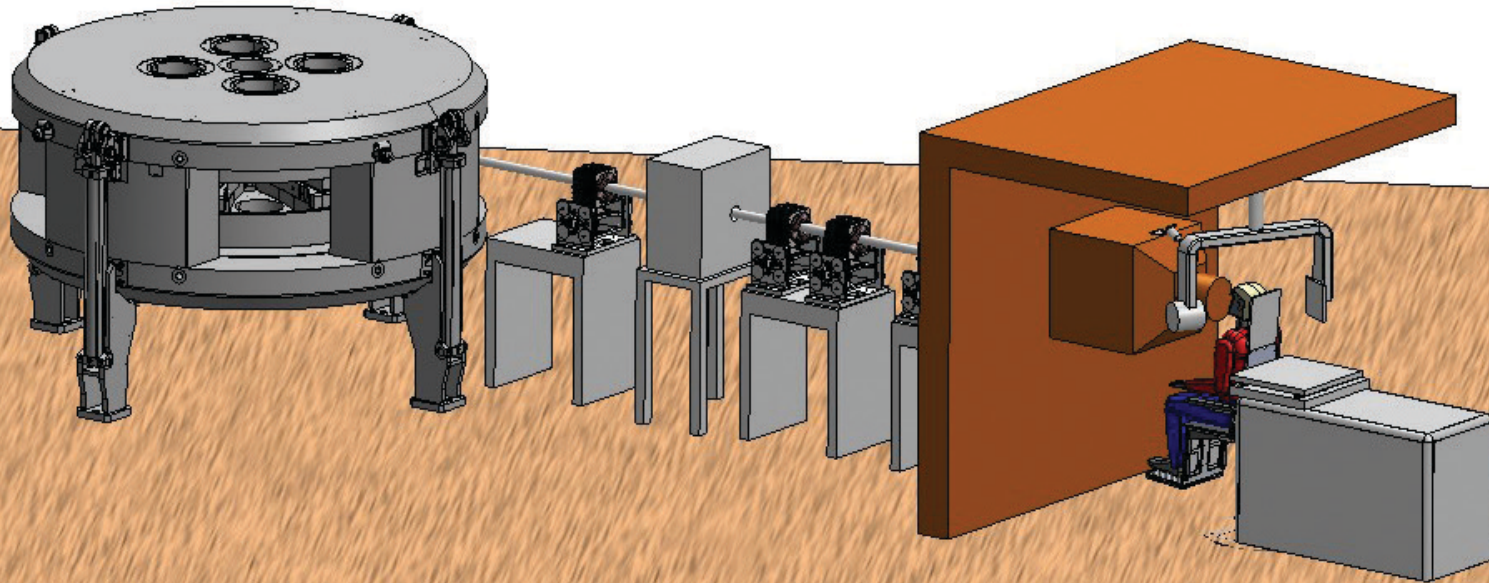
Best Theratronics Ltd Assembly Hall, Ottawa, Canada



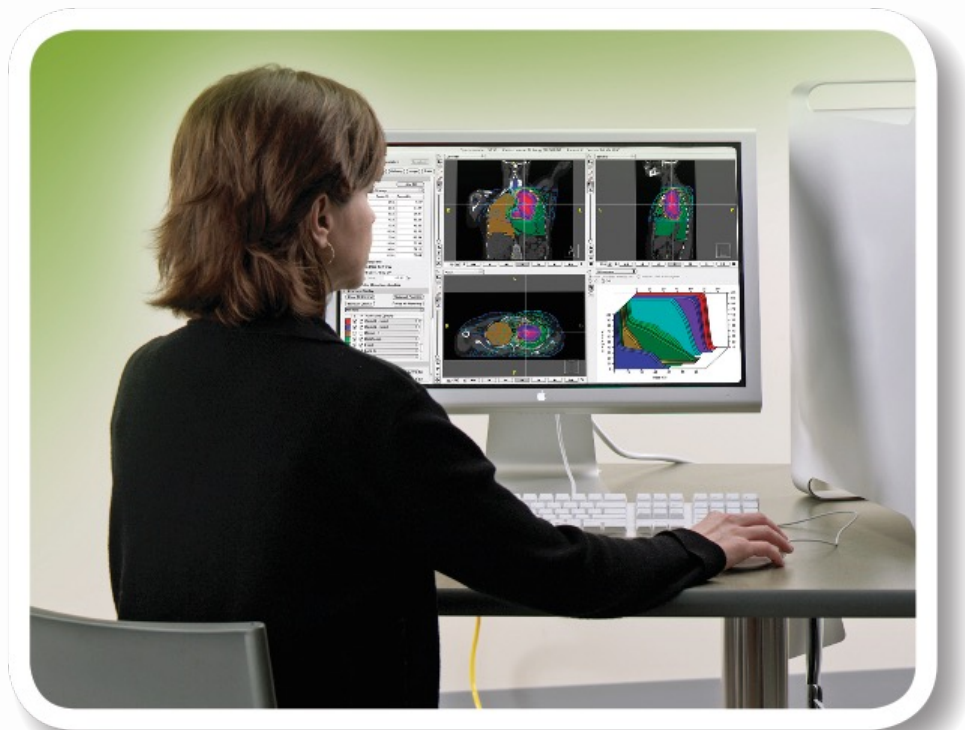
Best Model 150p Cyclotron

Variable Energy Proton Beam for Radiation Therapy

(Patent Pending)

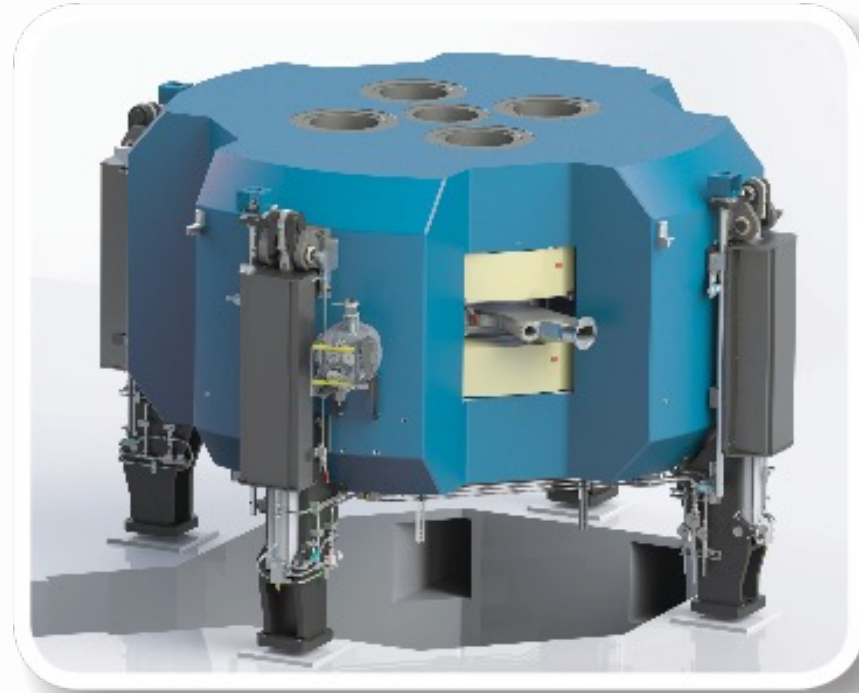


Best NOMOS CORVUS™ Treatment Planning System



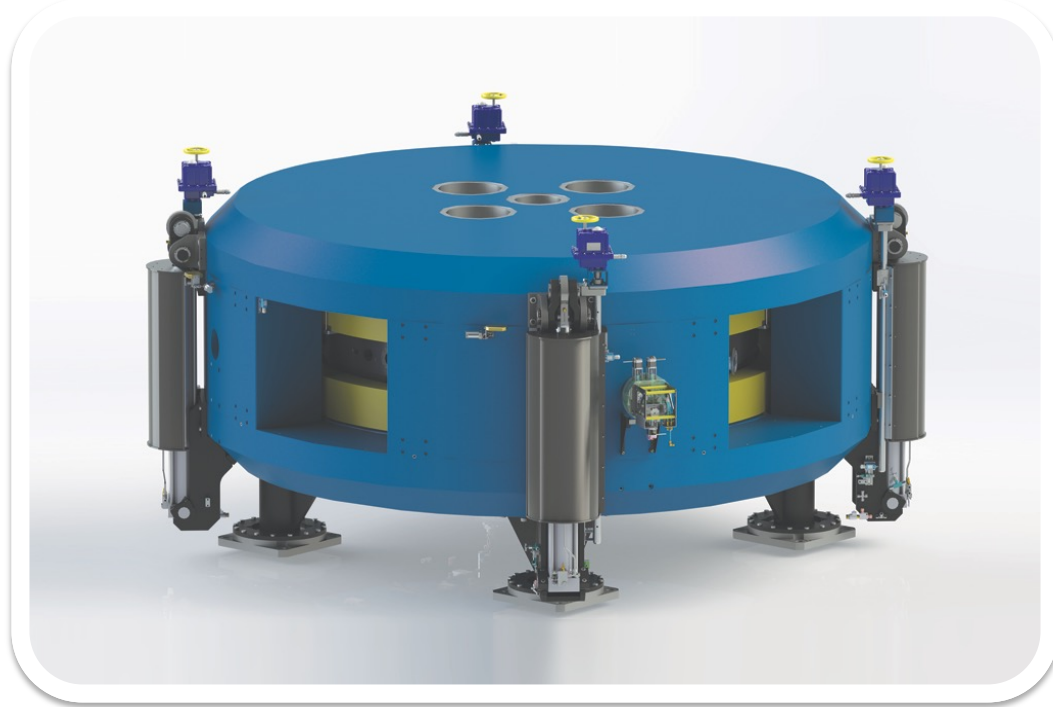
Best Cyclotron Systems

Model B35ADP Alpha/Deuteron/Proton



Best Cyclotron Systems

70p Cyclotron for Radioisotopes Production and Research

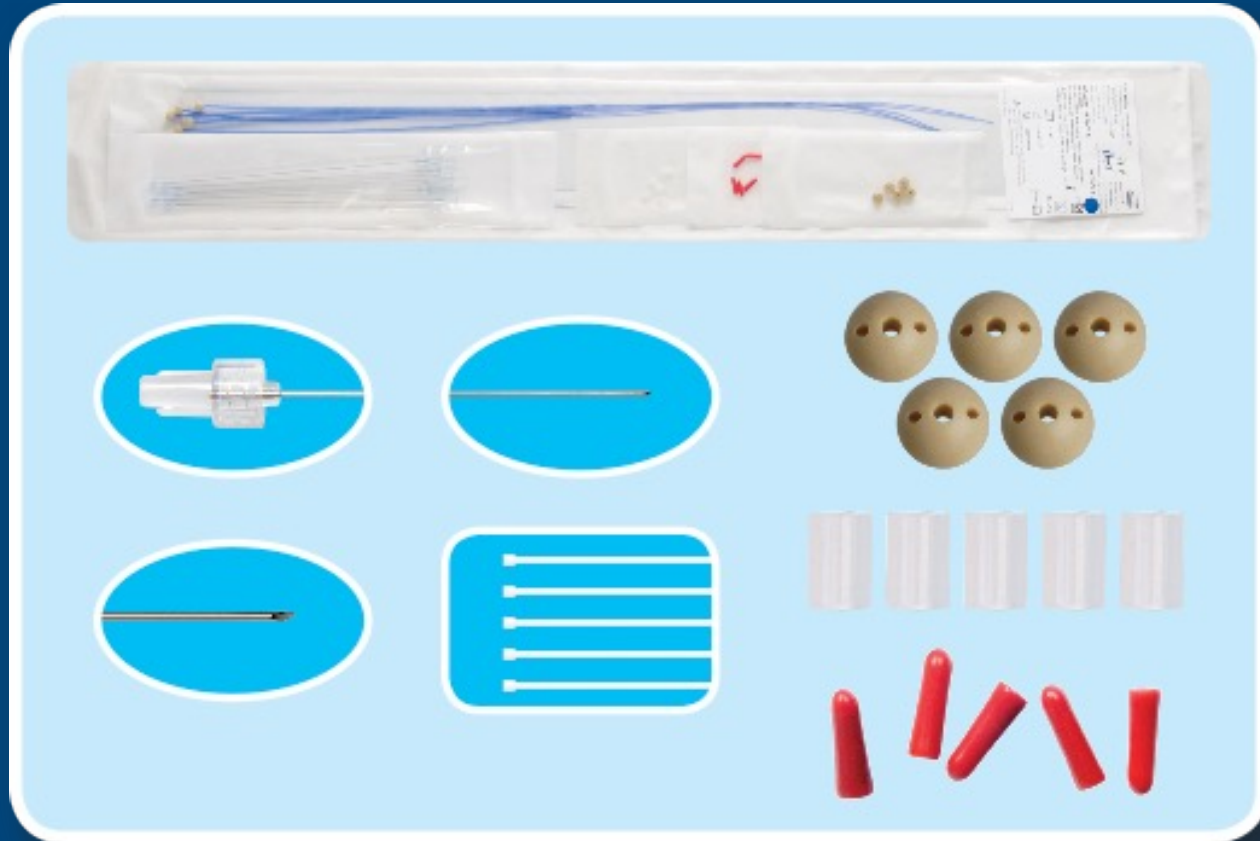


Best Cyclotron Systems

Model 6-15 MeV Compact High Current/ Variable Energy Proton Cyclotron



Best Medical Brachytherapy Kit



Best Medical Flexi Needles



15G



16G



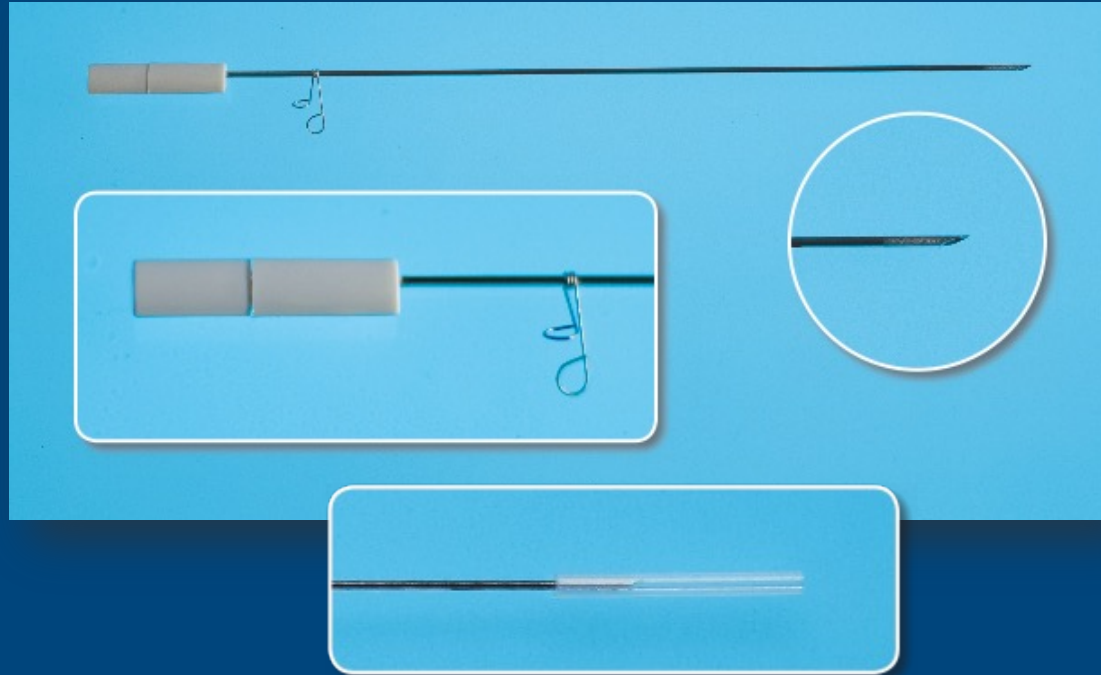
17G



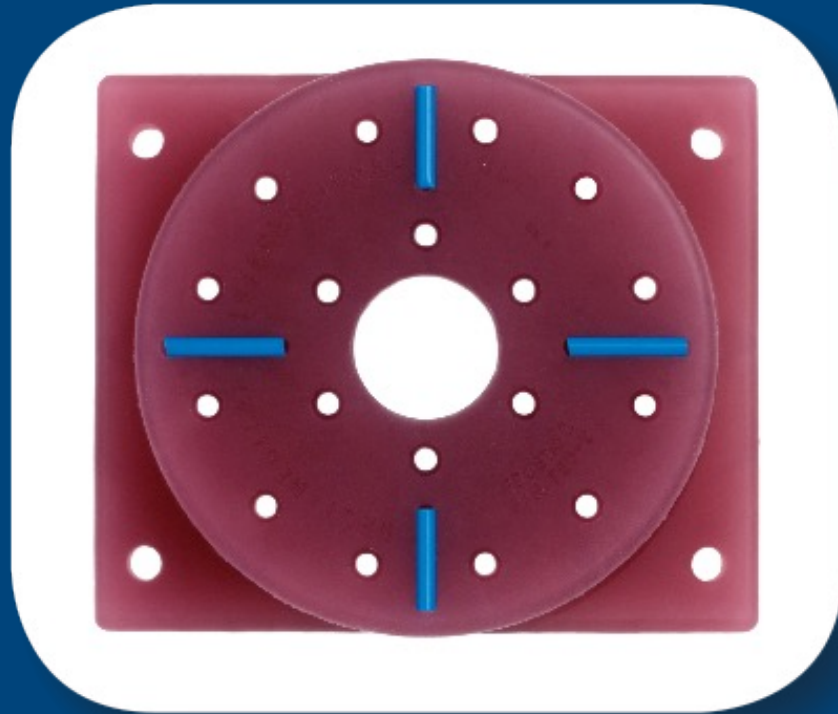
Best Medical Gold Fiducial Markers Loose, Strands & Loaded in Needles



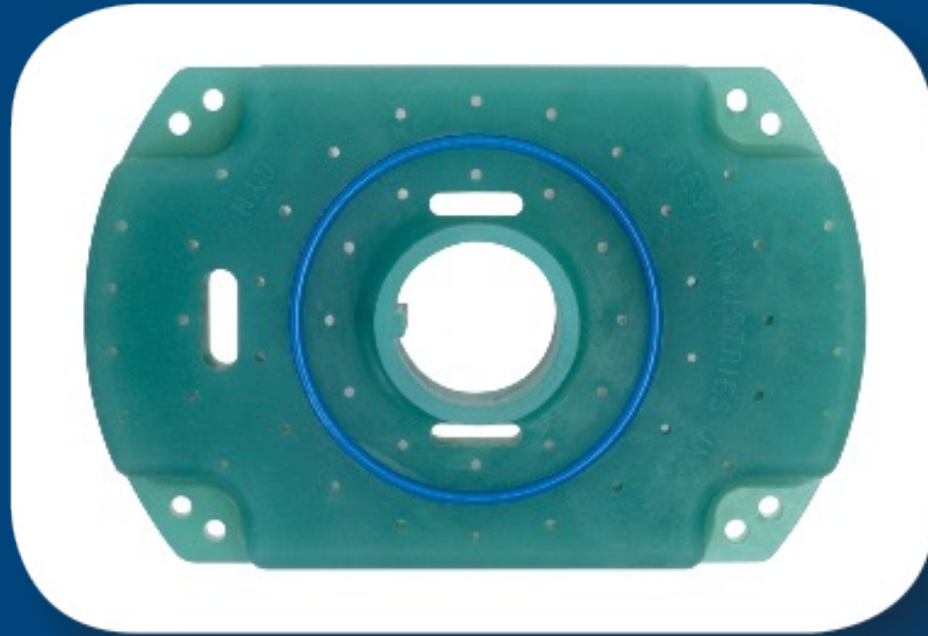
Best Medical Prostate Stabilizing Needle



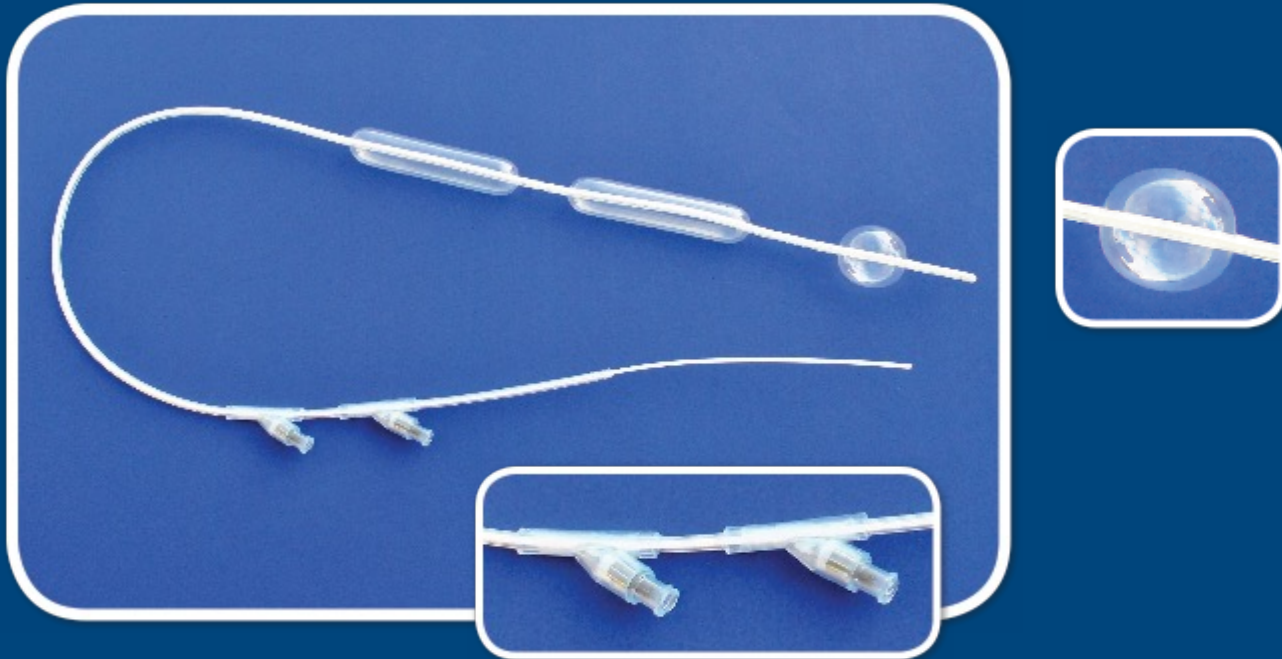
Best Medical HDR Prostate Template (Disposable)



Best Medical HDR/LDR GYN Template (Disposable)



Best Medical Intra Luminal Balloon Applicator (Esophageal)



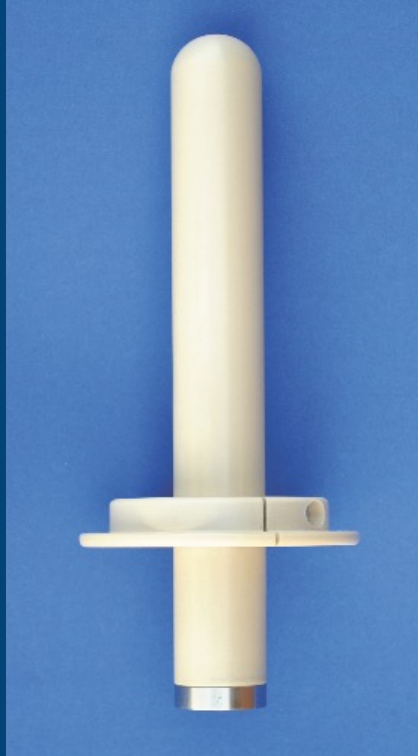
Best Medical Central Rod



Best Medical Central Rod (Modified)



Best Medical Vaginal Applicator



Huestis Medical Fixed Red or Green Diode Lasers



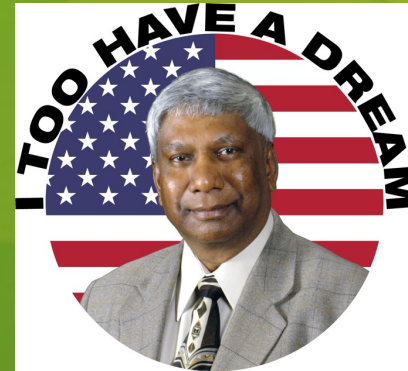
CNMC Company Radiation Dosimetry and QA



Best Dosimetry Services

Personnel Radiation Monitoring





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*Founder and President
of Best Cure Foundation,
Kitsault Energy and
TeamBest Global
Companies*





www.proudindian.org

THANK YOU

