



# Introducing...Exciting new products under development from TeamBest<sup>®</sup> Companies!

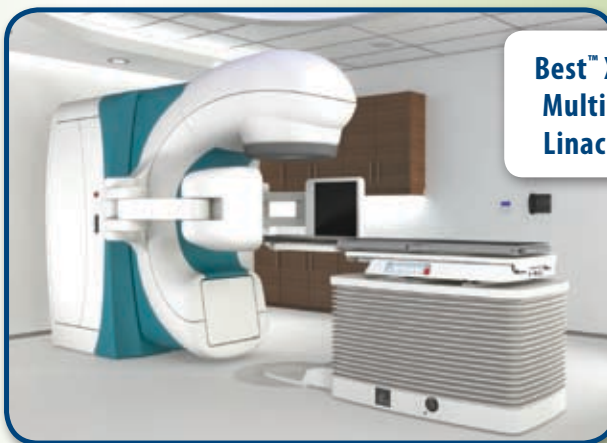
**Best™ E-Beam™ Robotic IORT Linac System**



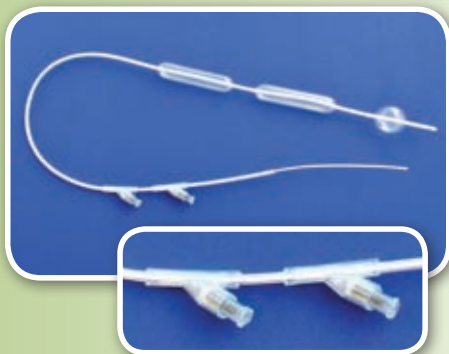
**Best™ X-Beam™ Robotic Radiosurgery System**



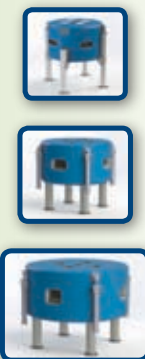
**Best™ X-Beam™ Multi-Energy Linac System**



**Best™ Intra Luminal Balloon Applicator (Esophageal)**



**Best™ Cyclotron Systems**  
15/20/25/30/35/70 MeV Proton & 35/70 MeV Multi-Particle (Alpha, Deuterons & Protons)



**Best™ HDR Afterloader**



\* Certain products shown are not available for sale currently.

TeamBest Companies © 2018

Best Medical International, Inc. 7643 Fullerton Road, Springfield, VA 22153 USA  
tel: 703 451 2378 800 336 4970 [www.besttotalsolutions.com](http://www.besttotalsolutions.com) [www.teambest.com](http://www.teambest.com)

AFRICA | ASIA | EUROPE | LATIN AMERICA | MIDDLE EAST | NORTH AMERICA

# Best<sup>TM</sup> Theratronics

## Best<sup>TM</sup> Serial Tomotherapy System

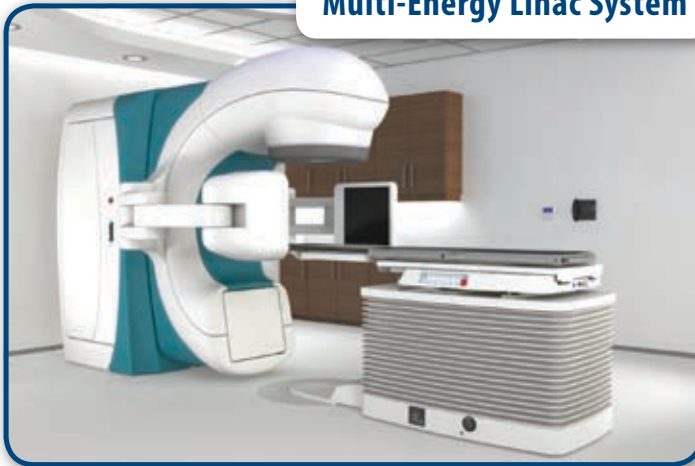
- Rotational IMRT treatment delivery with integrated shielding
- Smooth and continuous treatment enables precise delivery of radiation at high doses, while reducing treatment times
- Image-guided to allow for adaptive treatment



## Best<sup>TM</sup> E-Beam<sup>TM</sup> Robotic IORT Linac System

- Mobile intraoperative radiation therapy for use in operating rooms
- Targets residual cancer cells during surgery, reducing the need for radiotherapy or chemotherapy at a later date in most cases

## Best<sup>TM</sup> X-Beam<sup>TM</sup> Multi-Energy Linac System



## Best<sup>TM</sup> X-Beam<sup>TM</sup> Robotic Radiosurgery System

- Non-invasive treatment option for complex tumors, targeting cancerous cells and sparing healthy tissue and organs
- Flexible treatment angles available without moving the patient
- Targets all tumors, anywhere in the body



\* Products shown are not available for sale currently.

# Best™ Cyclotron Systems

## Best™ Cyclotron Systems 15/20/25/30/35/70 MeV Proton & 35/70 MeV Multi-Particle (Alpha, Deuterons & Protons)

Best Cyclotron Systems and TeamBest provide turnkey systems that not only include a cyclotron specific to your isotope requirements but also targets, automated radiochemistry, infrastructure, operations, and maintenance support.

As consistent supplies of radioisotopes become more uncertain, particularly for reactor-supplied isotopes, the Best family of cyclotrons provides a Total Solution™ for the medical community that is less dependent on unreliable sources.

Cyclotron	Energy (MeV)	Isotopes Produced
Best 15	15	<sup>18</sup> F, <sup>99m</sup> Tc, <sup>11</sup> C, <sup>13</sup> N, <sup>15</sup> O, <sup>64</sup> Cu, <sup>67</sup> Ga, <sup>124</sup> I, <sup>103</sup> Pd
Best 20u/25	20, 25–15	Best 15 + <sup>123</sup> I, <sup>111</sup> In, <sup>68</sup> Ge/ <sup>68</sup> Ga
Best 30u (Upgradeable)	30	Best 15 + <sup>123</sup> I, <sup>111</sup> In, <sup>68</sup> Ge/ <sup>68</sup> Ga
Best 35	35–15	Greater production of Best 15, 20u/25 isotopes plus <sup>201</sup> Tl, <sup>81</sup> Rb/ <sup>81</sup> Kr
Best 70	70–35	<sup>82</sup> Sr/ <sup>82</sup> Rb, <sup>123</sup> I, <sup>67</sup> Cu, <sup>81</sup> Kr + research

### Best 15



**15 MeV**  
**100–1000 µA**

### Best 20u/25



**20, 25–15 MeV**  
**200–1000 µA**

### Best 30u/35



**30, 35–15 MeV**  
**400–1000 µA**

### Best 70



**70–35 MeV**  
**700–1000 µA**

Installation of Best 70 MeV Cyclotron at Italian National Laboratories (INFN), Legnaro, Padua, Italy



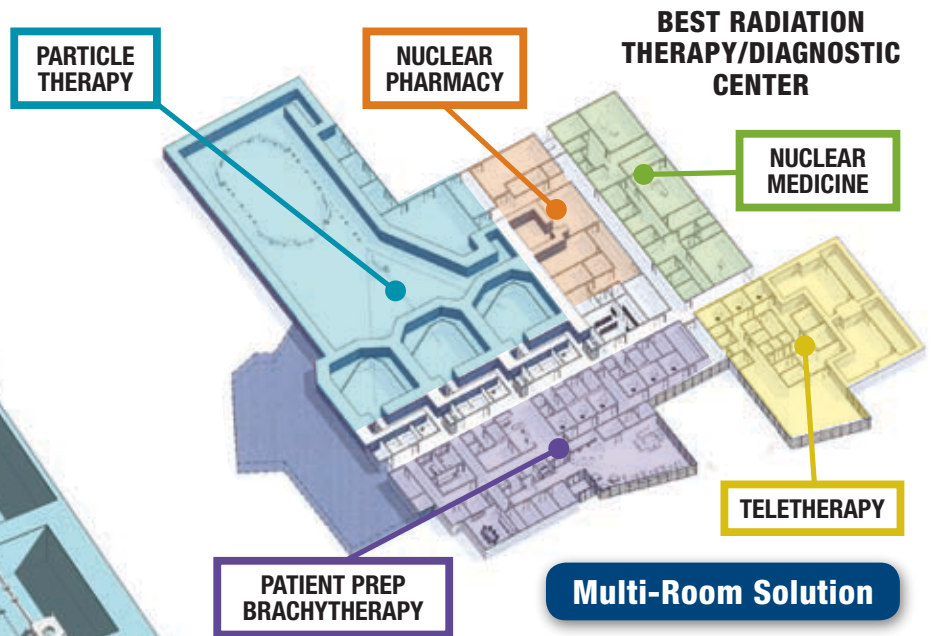




# Best Particle Therapy



**Upgradeable Single Room Solution**



**Best Particle Therapy** is developing a Proton-to-Carbon therapy system to deliver energetic particle beams of protons and carbon ions, achieving a high level of precision to treat deep-seated as well as radiation-resistant tumors.

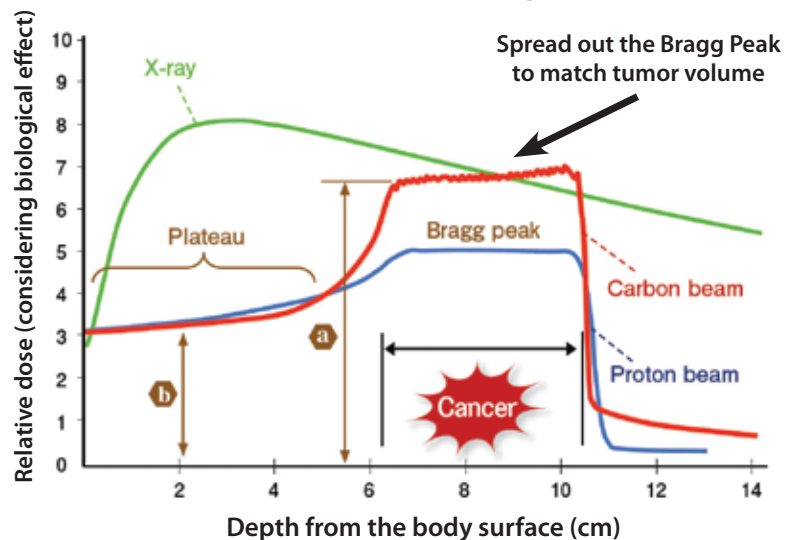
**Best ion Rapid Cycling Medical Synchrotron (iRCMS)** is planned to have:

- A unique combination of advanced spot scanning with rapid energy modulation
- Elimination of neutron contamination associated with patient specific hardware
- Intrinsically small beams facilitating beam delivery with precision
- Small beam sizes – small magnets, light gantries – smaller footprint
- Highly efficient single turn extraction
- Efficient extraction – less shielding
- Flexibility – protons and/or carbon, future beam delivery modalities



**Prototype iRCMS Combined Function Magnet**

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

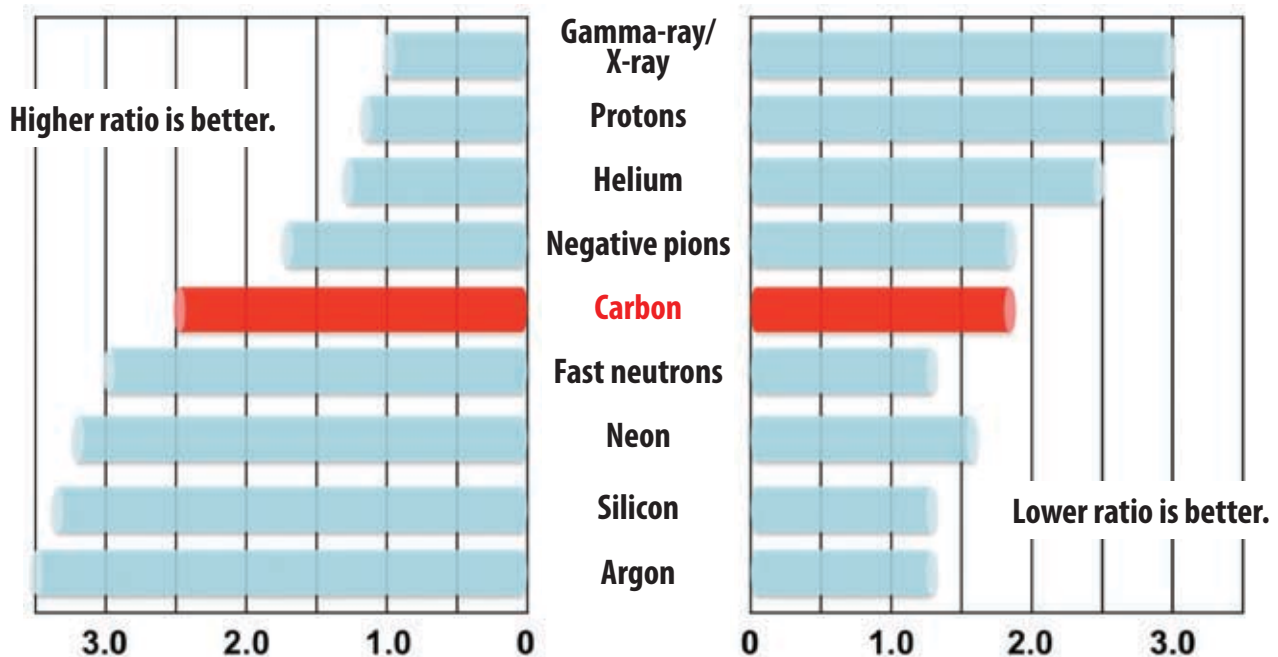


Graph courtesy of Hirohiko Tsujii et al., *Radiological Sciences*, 50(7), 4, 2007

## 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)
<b>Protons (206 MeV)</b>					
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
<b>Best ion Rapid Cycling Medical Synchrotron (iRCMS)</b>	<b>1200</b>	<b>2</b>	<b>0.133</b>	<b>0.067</b>	<b>0.13</b>

### 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.

\* Specifications are subject to change. Product shown not available for sale currently.

## Best™ HDR Afterloader

Best™ HDR Afterloader provides 18 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.

- Provides 18 channels for dose delivery
- Battery back-up in case of power failure and automated wire recovery
- Source wire tracking using sensors and encoders, with automatic and manual wire retract in case of emergency
- Treatment data maintained in case of failure and treatment resumed after fix
- Quick source replacement process thereby reducing down time
- Available with Cobalt-60 or Iridium-192 sources. Also, Ytterbium-169 source available soon!



*\* Product shown is not available for sale currently.*

## Best™ Intra Luminal Balloon Applicator (Esophageal)

- Optimized dose delivery
- Soft, flexible design for patient comfort
- Different sizes available to provide for selection flexibility
- Separate treatment catheter markers available for imaging and treatment planning



*\* Product shown is not available for sale currently.*