ISOCENTER ALIGNMENT IGRT QA

Test the coincidence of the isocenter prescribed by the lasers, treatment beam, and image guidance systems.

ENSURE IMAGE GUIDANCE ACCURACY

Treatment with radiation on a modern linear accelerator relies on the ability to position the patient with incredible accuracy. This is why it is critically important to verify that the systems used for positioning are all describing the same isocentric point in space as the treatment beam.

FAST, ACCURATE ALIGNMENT CHECKS

The MIMI (Multiple Imaging Modality Iso-centricity) Phantom from Standard Imaging allows you to establish mechanical stability of the image guidance system by verifying the isocenter described by the MV, kV, CBCT, and other guidance systems is within accepted 1mm tolerances. This daily or weekly test can be performed in just a few minutes giving you the confidence that you can deliver the radiation prescription on target. A 6.4 mm sphere at phantom center assists with virtual and physical graticule alignment checks.

EASY ALIGNMENT DUE TO UNIQUE DESIGN

The MIMI Phantom incorporates five bone equivalent rods uniquely set so that four of them intersect at 90 degree angles when viewed in DRRs or a 2D projection image. The rods traverse the entire phantom making them visible in any image or slice allowing for easy 2D/2D and 3D/3D matching for fast verification of isocenter position.
Additional Features

**Varian FramelessArray™ Optical Guidance System QA**

- The MIMI Phantom features pre-drilled holes which precisely fit the Varian FramelessArray Optical Guidance System localizer. By fitting the localizer to the phantom, additional testing can be done to verify the isocenter prescribed by the optical guidance system is coincidental to the lasers and the treatment beam isocenter.

**Test Automatic Table Adjustments**

- The MIMI Phantom features additional cross-hair markers that are offset known distances from the true isocenter. Setting up the phantom aligned to these offsets allows you to verify the shifts prescribed by automatic table positioning systems.

**Test Integrated System Accuracy of:**

- 3D Cone Beam registration (CBCT, OBI, XVI) systems
- MV/kV Isocentricity
- Lasers and Couch Table Adjustments
- Optical Guidance Systems
- Virtual and physical graticules

---

**MIMI PHANTOM (REF 91240) SPECIFICATIONS**

<table>
<thead>
<tr>
<th>DIMENSIONS</th>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height: 5.5 in, 14 cm</td>
<td>Acetal copolymer for main phantom</td>
</tr>
<tr>
<td>Width: 5.5 in, 14 cm</td>
<td>Black PVC Rods (bone equivalent)</td>
</tr>
<tr>
<td>Length: 5.5 in, 14 cm</td>
<td>(30) 1 mm stainless steel spheres</td>
</tr>
<tr>
<td>Weight: 8.25 lbs, 3.75 kg</td>
<td>6.4 mm high contrast, non-artifact sphere in center</td>
</tr>
</tbody>
</table>

---

FramelessArray™ is a trademark of Varian Medical Systems. Specifications subject to change without notice.

---

**PERFORMANCE VALIDATION**

Basavatia, A., Tomé, W. “Multiple Imaging Modality Isocentricity Phantom”, Poster Presentation, 50th Annual Meeting of the American Association of Physicists in Medicine, Houston TX, 2008


---

STANDARD IMAGING
3120 Deming Way Middleton WI 53562-1461 USA
800-261-4446 . ph 608-831-0025 . fax 608-831-2202
www.standardimaging.com

© 2011 Standard Imaging, Inc. 1268-21, 9/11