INSTRUCTIONS

RPD INFORMATION

<table>
<thead>
<tr>
<th>Address</th>
<th>5218 Barthel Industrial Drive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Albertville, MN 55301</td>
</tr>
<tr>
<td>Website</td>
<td><a href="http://www.rpdinc.com">www.rpdinc.com</a></td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:sales@rpdinc.com">sales@rpdinc.com</a></td>
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<tr>
<td>Phone</td>
<td>763-497-2071 or 800-497-2071</td>
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<tr>
<td>Fax</td>
<td>763-497-2295</td>
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</tbody>
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RPD PRODUCT INFORMATION

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>489-600</td>
<td>Brass Mesh Bolus (50x50 cm)</td>
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</table>

DISCLAIMER

THESE PRODUCTS ARE NOT STERILE AND ARE TO BE USED BY AUTHORIZED PERSONNEL ONLY.

RADIATION PRODUCTS DESIGN INC assumes no liability for consequential damages of any kind for this material when used interchangeably with products of other manufacturers/suppliers or for any direct or indirect results and consequences of its use or misuse by the customer. Federal law (USA) restricts the sale of this device for use only by (or at the order of) a physician.
INTRODUCTION

Brass Mesh Bolus can be used for post-mastectomy chest walls using 4 MV and 6 MV photons.

When placing Brass Mesh over breast and a gap is between breast, use a piece of double stick tape on the patient between the breasts to secure the brass mesh down.

When wrapping the Brass Mesh Bolus around the side of a chest wall, use a product such as Spandage (Items 674-308 through 674-312), gauze or clear plastic wrap (Item 119-750) to hold the Brass Mesh Bolus against the skin which will prevent hanging gaps.

If you are using 15Mv or higher energy beam, there might be neutron activation which may increase the skin dose and/or give dose to the hands of the therapist who handles the bolus. Some patients have had skin reactions. See papers "Skin dose effects of post mastectomy chest wall etc." and “Dosimetric assessment of brass mesh bolus for postmastectomy photon radiotherapy”.

The Brass Mesh Bolus can be cut with an Aviation Snips. It can be cleaned with soap and water.

SPECIFICATIONS

Material: Brass
Size: 19.7" x 19.7" (50x50 cm)
Stock Thickness: 0.007" (0.178 mm)
Panel Thickness: 0.060" (1.52mm) with hollow centers
Tissue Equivalent Thickness: 2.0 mm to 3.0 mm
Natural: No Coating
Weight: 1 lb (0.44 kg)

CLEANING

All Brass Mesh Bolus must be thoroughly cleaned before being disinfected or sterilized. The presence of organic matter can protect bacteria from the action of the disinfectant or sterilant, or react with the agent and make it ineffective.

Cleaning can be done either with a 1:1 mixture of soap and water (or detergent) or with water and detergent and disinfectant.
Rinse three times with clean water to remove all soap and disinfectant.

To disinfect use a 1:4 mixture of bleach and water. Rinse three times with clean water to remove all bleach then dry bolus with towel and air.

This information is not a guarantee and does not relieve the user from the responsibility of the proper and safe use of cleaning agents. The use of certain agents can be harmful on the surface appearance. Tarnished brass will not affect the density. Radiation Products Design, Inc. assumes no responsibility resulting from the use of such cleaning agents to the brass.

**STERILIZATION**

**Autoclave (Steam)**

Autoclave (Steam) for 5 minutes at 270° F (132.3° C).

Put Brass Mesh between two pieces of material or place inside a pillow case. Hold the ends of the mesh inside the pillow case so the mesh hangs flat, then lay it down and roll the mesh up to sterilize in the autoclave. This method prevents mesh from touching or sticking to itself, which can wear down the mesh material.

**Sterrad 50, 200, 100S, NX, 100NX**

Sterrad uses Hydrogen Peroxide solution. This type of sterilization will cause discoloration of the brass. This will not affect the density of the Brass Mesh Bolus.

The bolus must be laid flat.

**WARRANTY**

**Limited Warranty Product**

Radiation Products Design's Brass Mesh Bolus should be handled with care due to its delicate structure. RPD carefully inspects and interleaves each sheet with tissue paper to ensure product is fully functional. Tissue paper will prevent links from entanglement. If material does become entangled, use caution to carefully unhook entangled links. Do not tear apart as links will be removed creating a hole in material.
REFERENCES

Dosimetry for Tangential Chest Wall Irradiation
By Peter Fessenden, Ph.D., Bernice B. Palos, B.A., and Clarence J. Karzmark, Ph.D.

The skin-sparing effect of megavoltage photons is lost to a varying extent when tangential beams are used to irradiate the chest wall. The skin dose for this technique, with and without a bolus, was investigated for 4MV and 6MV photons using film, thermoluminescent dosimeters, and an ionization chamber. Metal/tissue interface effects were observed when a flexible brass fabric material was used as a bolus. Four layers of a brass fabric, each having an average areal density of 0.25 g/cm², are used as the bolus for 6MV; three layers are used for 4MV. This bolus conveniently conforms to the body contours, eliminating air spaces between the bolus and the skin surface.

Radiology 128; 485-489, August 1978

Enhanced surface dose via fine brass mesh for a complex skin cancer of the head and neck: Report of a technique.
By Megan E. Daly, MD, Allen M. Chen, MD, Jyoti S. Mayadev, MD, Robin L Stern, PhD.

Purpose
The use of fine brass mesh in conjunction with rotational intensity modulated radiation to enhance surface dose for a complex skin cancer of the head and neck has not previously been described.

Practical Radiation Oncology 18 April 2014

Skin dose effects of postmastectomy chest wall radiation therapy using brass mesh as an alternative to tissue equivalent bolus
By Erin Healy MA, Shawnee Anderson, BA, Jing Cui, DSc, Laurel Beckett, PhD, Allen M Chen, MD, Julian Perks, PhD, Robin Stern, PhD, Jyoti Mayadev, MD

Purpose
The use of brass mesh as a bolus is relatively uncommon in postmastectomy chest wall radiation therapy (PMRT). This study aimed to characterize the skin dose effects of using 2 mm fine brass mesh as an alternative to the traditional tissue-equivalent bolus during chest wall PMRT.

Practical Radiation Oncology: Volume 3, Issue 2, Pages e45 – e53, June 2013

ACCESSORIES

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
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<tbody>
<tr>
<td>119-750</td>
<td>Wrap, Clear Plastic - 12&quot; x 100'</td>
</tr>
<tr>
<td>674-308</td>
<td>MT Spandage Elastic Net, Medium Chest, 10 yd Stretched</td>
</tr>
<tr>
<td>674-309</td>
<td>MT Spandage Elastic Net, Large Chest, 10 yd Stretched</td>
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<td>674-310</td>
<td>MT Spandage Elastic Net, X-Large Chest, 10yd Stretched</td>
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<td>674-311</td>
<td>MT Spandage Elastic Net, XX-Large Chest, 10yd Stretched</td>
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<td>674-312</td>
<td>MT Spandage Elastic Net, 3X-Large Chest, 10yd Stretched</td>
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<tr>
<td>878-738</td>
<td>Snips, Bulldog Aviation, 9” L</td>
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