INSTRUCTIONS

RPD INFORMATION

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Website www.rpdinc.com
Email sales@rpdinc.com
Phone 763-497-2071 or 800-497-2071
Fax 763-497-2295

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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<tr>
<td>489-601</td>
<td>Off-White Brass Mesh Bolus (50x50 cm)</td>
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DISCLAIMER

THESE PRODUCTS ARE NOT SHIPPED STERILE BUT SHOULD BE CLEANED AND STERILIZED BEFORE EACH USE. THESE PRODUCTS 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. It has a tissue equivalency between 2 and 3 mm.

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, 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".

In August 2020, the production process of the Brass Mesh Bolus was improved to help prevent entanglement of the links when they make contact with each other.

Off-White Brass Mesh Bolus:

This new Brass Mesh Bolus has been coated with off-white high temperature enamel paint. This will allow Vision RT & C-RAD positioning to see the patient with little reflection.

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
Finish (489-600): No Finish; will tarnish over time
Finish (489-601): Off-white High Temperature Enamel Paint (Latex Free)
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

These products are not shipped sterile, but should be sterilized before each use. Steam Autoclave is the recommended process for sterilization of these products.

**Autoclave (Steam)**

Autoclave (Steam) for 4-5 minutes at 270° F (132.3° C) followed by 4 minute exhaust phase and then an approximate 40 minute drying time.

Put Brass Mesh between two pieces of material or place inside a pillow case or similar steam sterilization bag. Hold the ends of the mesh inside the pillow case or bag 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 6MC; 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**

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<thead>
<tr>
<th>Item #</th>
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<tbody>
<tr>
<td>119-750</td>
<td>Wrap, Clear Plastic - 12&quot; x 100'</td>
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<tr>
<td>674-308</td>
<td>MT Spandage Tubular Net, for Size M Chest</td>
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<tr>
<td>674-309</td>
<td>MT Spandage Tubular Net, for Size L Chest</td>
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<tr>
<td>674-310</td>
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<tr>
<td>674-312</td>
<td>MT Spandage Tubular Net, for Size 3XL Chest</td>
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