



Expect Service

Radiation Products Design Inc

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## INSTRUCTIONS

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### RPD INFORMATION

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### RPD PRODUCT INFORMATION

<b>Item Number</b>	<b>Description</b>
489-601	Brass Mesh Bolus - Off White (50cm x 50cm) for Vision RT and C-RAD

## 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

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

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. Use either side toward the patient, we like the smooth side.

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 post mastectomy photon radiotherapy".

The Brass Mesh Bolus can be cut with an Aviation Snips (Item #878-738).

The Brass Mesh Bolus life expectancy with normal handling is over one year.

The Brass Mesh Bolus does not contain any Latex.

## 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

**Paint Color:** Off-White High Temperature Enamel

**Tissue Equivalent Thickness:** 2.0 mm to 3.0 mm

**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 also be done either with a **1:1** mixture of soap and water (or detergent such as Revital-Ox Enzymatic Detergent) or with water and detergent and disinfectant. Rinse three times with clean water to remove all soap and disinfectant.

Revital-Ox Resert High Level Disinfectant and Cidex OPA High Level Disinfectant (Item 466-401) can be used for disinfecting the bolus. Cidex OPA test strips (466-403) are available for testing small areas before using this product.

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.

Isopropyl Alcohol, Clinell, Tristel and CaviCide wipes can be used.

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 Mesh Bolus.

## STERILIZATION

**Autoclave (Steam)** Autoclave (Steam) for 5 minutes at 275° F (132.3° C).

Put Brass Mesh Bolus 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.

Use sterilization tray (Item 970-252) size: 15.5" x 10.3" x 1.85".

**Sterrad 50, 200, 100S, NX, 100NX** Sterrad uses Hydrogen Peroxide solution. This type of sterilization may cause discoloration. This will not affect the density of the Brass Mesh Bolus.

## WARRANTY

Manufacturer has no warranty.

## 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/cm<sup>2</sup>, 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 post mastectomy 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 post mastectomy 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**

<b>Item #</b>	<b>Description</b>
119-750	Wrap, Clear Plastic - 12" x 100'
674-308	MT Spandage Elastic Net, Medium Chest, 10 yd Stretched
674-309	MT Spandage Elastic Net, Large Chest, 10 yd Stretched
674-310	MT Spandage Elastic Net, X-Large Chest, 10 yd Stretched
674-311	MT Spandage Elastic Net,XX-Large Chest, 10 yd Stretched
674-312	MT Spandage Elastic Net,3X-Large Chest, 10 yd Stretched
878-738	Snips, Bulldog Aviation, 9" L
970-252	Sterilization Tray w/ Autoclave Nameplate Size: 15.5" x 10.3" x 1.85"
466-401	Cidex OPA
466-403	Cidex OPA Test Strips
466-330	CaviCide® 8oz. Spray Bottle
466-332	CaviCide® 24oz. Spray Bottle
466-334	CaviCide® Disinfectant & Cleaner Wipes

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