



Expect Service

Radiation Products Design Inc

INSTRUCTIONS

RPD INFORMATION

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RPD PRODUCT INFORMATION

| Item Number | Description |
|--------------------|---|
| 674-100 | Basic Brassiere Library w/o Caddy, 40 Different Cups |
| 674-100-TBC | Basic Brassiere Library w/Caddy, 40 Different Cups |
| 674-100LL-1000 | Brassiere Assembly, Large - Left, Volume 1000 ml |
| 674-100LL-1250 | Brassiere Assembly, Large - Left, Volume 1250 ml |
| 674-100LL-1500 | Brassiere Assembly, Large - Left, Volume 1500 ml |
| 674-100LL-500 | Brassiere Assembly, Large - Left, Volume 500 ml |
| 674-100LL-750 | Brassiere Assembly, Large - Left, Volume 750 ml |
| 674-100LR-1000 | Brassiere Assembly, Large - Right, Volume 1000 ml |
| 674-100LR-1250 | Brassiere Assembly, Large - Right, Volume 1250 ml |
| 674-100LR-1500 | Brassiere Assembly, Large - Right, Volume 1500 ml |

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| 674-100LR-500 | Brassiere Assembly, Large - Right, Volume 500 ml |
| 674-100LR-750 | Brassiere Assembly, Large - Right, Volume 750 ml |
| 674-100ML-1000 | Brassiere Assembly, Med. - Left, Volume 1000 ml |
| 674-100ML-1250 | Brassiere Assembly, Med. - Left, Volume 1250 ml |
| 674-100ML-250 | Brassiere Assembly, Med. - Left, Volume 250 ml |
| 674-100ML-500 | Brassiere Assembly, Med. - Left, Volume 500 ml |
| 674-100ML-750 | Brassiere Assembly, Med. - Left, Volume 750 ml |
| 674-100MR-1000 | Brassiere Assembly, Med. - Right, Volume 1000 ml |
| 674-100MR-1250 | Brassiere Assembly, Med. - Right, Volume 1250 ml |
| 674-100MR-250 | Brassiere Assembly, Med. - Right, Volume 250 ml |
| 674-100MR-500 | Brassiere Assembly, Med. - Right, Volume 500 ml |
| 674-100MR-750 | Brassiere Assembly, Med. - Right, Volume 750 ml |
| 674-100SL-200 | Brassiere Assembly, Small - Left, Volume 200 ml |
| 674-100SL-300 | Brassiere Assembly, Small - Left, Volume 300 ml |
| 674-100SL-400 | Brassiere Assembly, Small - Left, Volume 400 ml |
| 674-100SL-500 | Brassiere Assembly, Small - Left, Volume 500 ml |
| 674-100SL-600 | Brassiere Assembly, Small - Left, Volume 600 ml |
| 674-100SR-200 | Brassiere Assembly, Small - Right, Volume 200 ml |

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| 674-100SR-300 | Brassiere Assembly, Small - Right, Volume 300 ml |
| 674-100SR-400 | Brassiere Assembly, Small - Right, Volume 400 ml |
| 674-100SR-500 | Brassiere Assembly, Small - Right, Volume 500 ml |
| 674-100SR-600 | Brassiere Assembly, Small - Right, Volume 600 ml |
| 674-100XLL-1000 | Brassiere Assembly, X-Large - Left, Volume 1000 ml |
| 674-100XLL-1500 | Brassiere Assembly, X-Large - Left, Volume 1500 ml |
| 674-100XLL-2000 | Brassiere Assembly, X-Large - Left, Volume 2000 ml |
| 674-100XLL-2500 | Brassiere Assembly, X-Large - Left, Volume 2500 ml |
| 674-100XLL-3000 | Brassiere Assembly, X-Large - Left, Volume 3000 ml |
| 674-100XLR-1000 | Brassiere Assembly, X-Large - Right, Volume 1000 ml |
| 674-100XLR-1500 | Brassiere Assembly, X-Large - Right, Volume 1500 ml |
| 674-100XLR-2000 | Brassiere Assembly, X-Large - Right, Volume 2000 ml |
| 674-100XLR-2500 | Brassiere Assembly, X-Large - Right, Volume 2500 ml |
| 674-100XLR-3000 | Brassiere Assembly, X-Large - Right, Volume 3000 ml |

CONSIDERATIONS IN MATCHING BRASSIERES TO TREATED BREASTS

The RSD Treatment Brassiere serves many functions in radiation breast treatments. Full attainment of the benefits of the brassiere depends upon a very close fit between the ipsilateral breast and the transparent breast cup. Such a fit assures that all breast tissue is contained within the cup without air spaces. This separates out the tissue to be irradiated from the adjacent healthy tissues, for which minimum dose is desirable.

This fit provides repeatability of shape and position of the ipsilateral breast, so that dose distributions will be the same for all treatment fractions, rather than becoming diffuse and deviating from the planned dose distribution. Breast tissues are highly mobile and can fit readily into the right brassiere cups.

When these conditions are met, dose to lungs, ribs and heart is minimized, promoting thereby the homogeneity of dose which is an important factor in reducing the probability of recurrence and, though less critical, may produce a better cosmetic outcome.

To meet the requirement of close fitting with the breast, many cups are required. These constitute the RSD "Basic Brassiere Library". RDS currently has a total of 40 cups, divided between left and right, and subdivided into four chest breadths and five sizes for each, left and right. These groups are based on breast-tissue volume; they do not correlate closely with commercial sizing of clothing brassieres.

To meet these fitting requirements, a full library should be available for trial fittings.

EXPANDING THE RANGE OF THE LIBRARY

It is not likely that satisfactory fit will be obtained generally unless all cups are available. A poor fit or an uncomfortable fit is an indication that the breast and cup are not matched properly.

RDS does not ever expect to have a library to fit 100% of patients, but will expand the library so that the largest practicable percentage can be accommodated. The Basic Library is subdivided into increments of 100 ml for the Small Group, 250 ml for the Medium and Large Groups, and 500 ml for the Extra Large Group. However, the ranges used for the four groups may not accommodate all breasts, and the intervals between volumes may be too large in some cases.

RSD technology has the capability of quickly expanding the size ranges for any group, or decreasing the intervals between sizes in a group. This is done when a user reports a good fit cannot be made from the brassieres in the library. We need an estimate of the interval needed in cases where the spacing between sizes is too great, and of the increase in range that is needed.

Since the tops of the cups have been cut off, a considerable variation in volume can be accommodated by protrusion of the anterior part of the breast above the cut line, while maintaining a stable base for shape stability. Therefore, reasonable estimates of changes needed to fit a patient will usually be adequate for a new cup to be provided.

BRASSIERE ASSEMBLY

The attached drawing of the Treatment Brassiere components is applicable to right or left ipsilateral cups. Not three places where there are Velcro hoops and loops, adjacent to each other. In each case the end of the strap is inserted into the neighboring slot, pulled through, and the hoop and loop sections are pressed together. The assembly of the quick-disconnect plastic buckle to the posterior strap is self-evident. This assembly is made loosely before the brassiere is donned by the patient.

Before the brassiere is donned by the patient, the separation between the plastic cup and cotton fabric blank is pre-adjusted to fit the spacing between the patient's breasts, using a Velcro strap attached to the medial side of the cup. It may also be necessary to adjust the Velcro strap on the lateral side of the cotton fabric blank so the buckle is at the side of the patient.

DONNING THE BRASSIERE

To don the brassiere, the patient leans forward while sitting at the edge of the treatment or simulator table, and the cup is brought up around the treated breast. The patient is instructed to lie down slowly, while holding the cup firmly with her hand. It is important to remember that the patient holds the cup until the brassiere is put into its final position. The technologist then pushes the contralateral breast away from the treated breast, and the posterior strap is adjusted at the buckle until the edge of the cup contacts all the skin surrounding the breast, being careful that all breast tissue is within the cup (except that which protrudes anteriorly beyond the truncation cut). The cup is then adjusted for comfort.

If additional adjustment is necessary, the ipsilateral breast is repositioned, (the separation between the plastic cup and cotton fabric blank remains unchanged), and the posterior strap is tightened at the buckle while carefully pushing the contralateral breast away from the treated breast

When the patient is supine, the skin of the breast should make contact all around the truncation line. If not, either adjust the straps more tightly or try the next smaller size. A similar type of adjustment is advisable if the anterior portion beyond the

truncation cut assumes a mushroom shape.

After carefully checking that the brassiere fits well, marks are made on the patient's skin through the holes at each end on the cup and on its upper surface. This procedure is basic to repeatability of positioning, which is enhanced by marking the posterior strap at the buckle, so it will be attached with the same tension for each treatment fraction.

The function of the cotton fabric blank for the contralateral breast is to compress this breast and move it as far as possible from the beams. No specific shape is recommended for the contralateral breast; its location should be determined in connection with the treatment plan, so that there will be minimum irradiation of the contralateral breast.

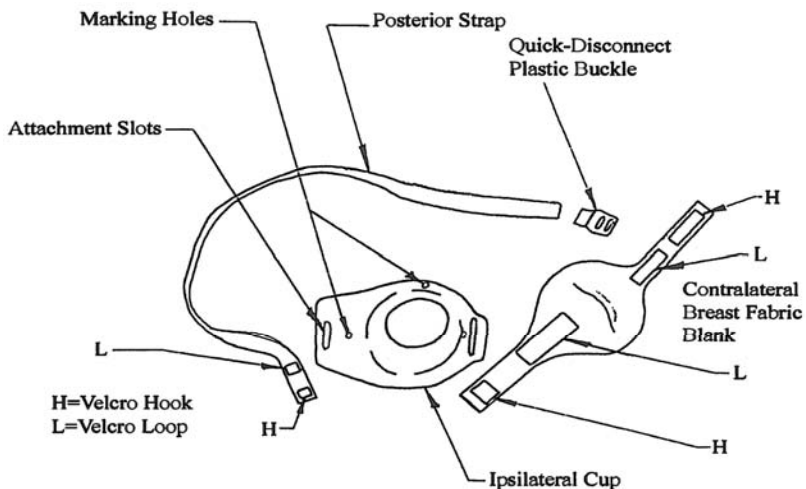
CUP CROSS-CONTAMINATION

Cups are intended to be disposable to avoid any possibility of cross-contamination. However, several cups may have to be tried before the correct cup can be selected from the library to fit a particular patient.

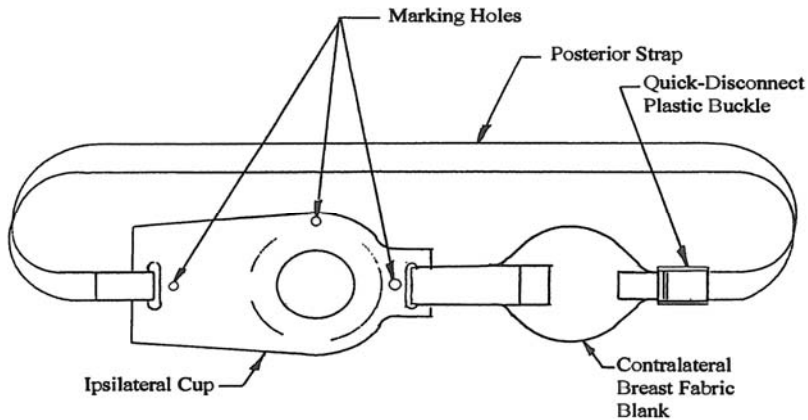
A material such as Saran Wrap can be used between the cup and breast for the trial fittings. This can be discarded after the proper cup is determined. The brassiere is used thereafter more safely, comfortably and conveniently without the Saran Wrap or other interim protective films.

Alternately, cups that have been tried and found not to fit can be swabbed with alcohol without using Saran Wrap.

ASSEMBLY INSTRUCTIONS FOR TREATMENT BRASSIERE



ASSEMBLY OF TREATMENT BRASSIERE



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