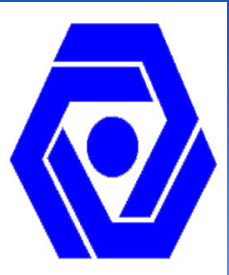


# A Contura Multi-Lumen Catheter Offers Important Dosimetric Advantages Over a MammoSite Single-Lumen Catheter that Increase the Applicability of Accelerated Partial Breast Irradiation



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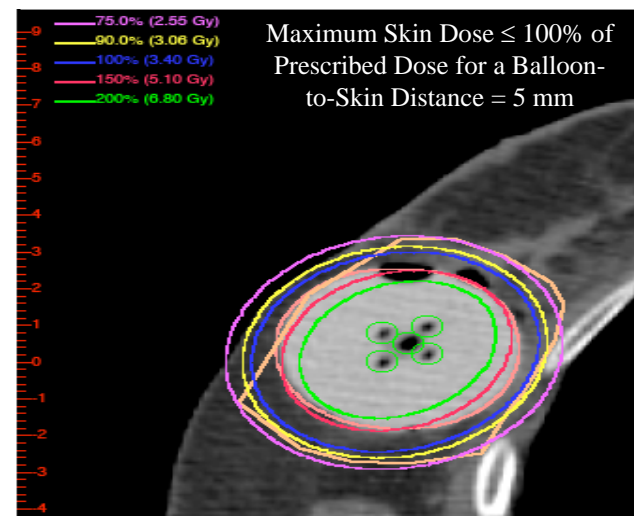
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## Hypothesis

The hypothesis of this study is that a Contura catheter offers dosimetric advantages over a MammoSite catheter that increase the applicability of accelerated partial breast irradiation.

Two Main Advantages of a Contura Multi-Lumen Catheter for Accelerated Partial Breast Irradiation:

- 1) Avoidance of a Radiation Hot Spot in the Skin

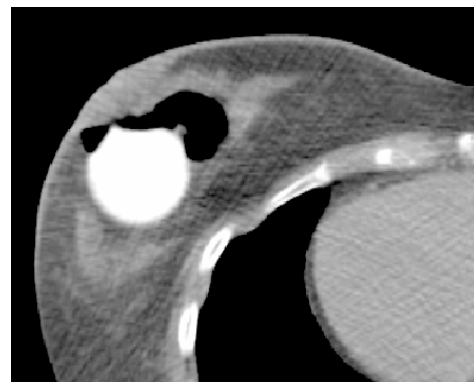


## Methods

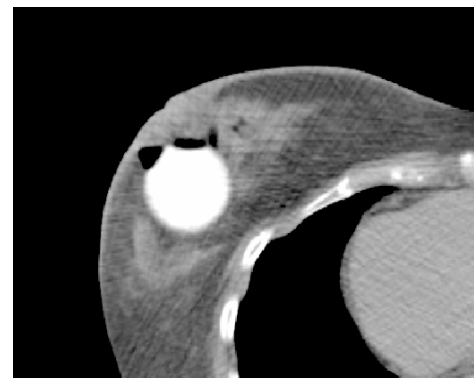
Forty-four women with unifocal pathological T0, T1, or T2 (maximum, 3.0 cm), N0 breast carcinomas were treated post-lumpectomy with high-dose-rate brachytherapy using a Contura multi-lumen balloon catheter (SenoRx Inc., Aliso Viejo, CA) between October 2007 and February 2009. Contura multi-lumen and MammoSite single-lumen balloon catheter

- 2) Suctioning Air/Fluid Adjacent to Balloon Brings Breast Tissue at Greatest Risk of Harboring Residual Tumor Cells Closer to Radiation Source Inside of Balloon

Before Suctioning Air

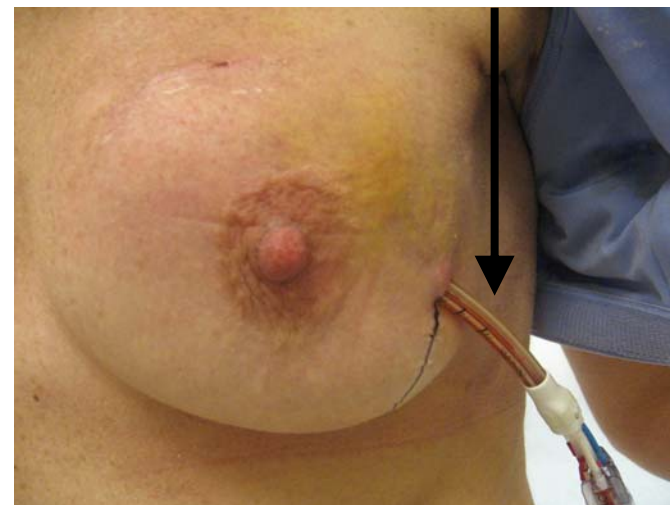


After Suctioning Air



(Cytyc Corp, Marlborough, MA) treatment plans were created. The treatment planning goals were to: 1) avoid a radiation hot spot in the skin, and 2) keep the volume of air/fluid next to the balloon less than or equal to 3.0% of the planning target volume for plan evaluation (PTV\_EVAL).

Contura Multi-Lumen Balloon Catheter



## Results

Ninety-one percent of Contura plans satisfied both treatment planning goals vs only 36% of MammoSite plans (2-sided McNemar test,  $p < 0.0001$ ). A Contura catheter obviated the need for explantation in 16% of patients where the balloon-to-skin spacing was only 3-6 mm and in 11% of patients where the volume of air/fluid next to the balloon was  $> 10.0\%$  of PTV\_EVAL prior to suctioning.

## Summary Points

- 1) A Contura multi-lumen catheter provides important dosimetric advantages over a MammoSite single-lumen catheter.
- 2) A Contura catheter obviates the need for explantation in cases where the balloon-to-skin spacing is only 3-6 mm or there is a large air/fluid pocket next to the balloon.