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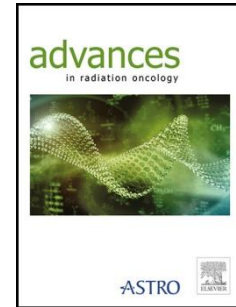
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# Axillary lymph node coverage with 3D tangential field irradiation and correlation with heart and lung dose

## Short title: 3D tangential field irradiation of axillary lymph nodes

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**Purpose:** The ACOSOG Z0011 trial indicated no benefit of axillary lymph node (LN) dissection following positive sentinel LN biopsy in patients receiving breast irradiation, suggesting that level I/II LNs were covered in tangential fields

**Methods and materials:** We evaluated 50 CT-based tangential breast plans and contoured level I-III axillary LNs using RTOG guidelines. Volumes of level I-III LN regions covered by 90% and 95% of the prescription dose (PD) were calculated and correlated with the V20 ipsilateral lung and mean heart dose (MHD). We calculated field length, distance from the humeral head, and separation. The Pearson correlation method and linear models were used in the correlative study.

**Results:** Level I LN mean and median volume (MMV) covered by 90% of the PD was 46.8% and 47.2%; MMV covered by 95% of the PD was 30.8%, 29.62%. Mean and median dose to level I LNs was 29.03 and 30.13 Gy. The MMV of level II LNs covered by 90% of the PD was 2.49% and 0%. The mean and median dose to level II LNs was 6.09 and 2.12 Gy. The MMV of level III LNs was 0%, with a mean and

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