

Contouring Steps for Combined IMRT lung and Flank Radiation

- 1). PLEASE FOLLOW INSTRUCTIONS FOR LUNG VOLUME CONTOURING FROM ADULT PATIENT EXAMPLE.
- 2). Contour Preoperative kidney GTV based on co-registered at-diagnosis CT or MRI scan.
Modify GTV to account for anatomic changes in the location of the diaphragm and abdomen wall after surgery.
- 3). Contour the Para-aortic vessels from T10 to L5 to obtain the CTV_PA Nodes. Expand by 0.5 cm to obtain PTV_PA Nodes.
- 4). Expand GTV_kidney by 0.5cm to obtain CTV_kidney.
- 5). Merge CTV_kidney and CTV_nodes to obtain CTV_Flank.
- 6). Expand CTV_Flank by 0.5 cm to obtain PTV_Flank. Modify PTV in these areas:
 - a). Trim volume crossing over the lateral vertebral body avoid or minimize overlapping the remaining normal kidney,
 - b). Include all corresponding vertebral bodies.
- 7). Review both PTV_Flank and PTV_Lung IMRT volumes.
- 8). When the superior border of the PTV_Flank is inferior to the lower border of the Lung_PTV with a gap, then a separate Half-beam blocked AP-PA photon field would suffice to cover the flank. There is no need to create a Field Matching Volume (FMV).

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9). When the PTV_Flank extends up to, or superior to, the lower border of the PTV_Lung, then a FMV(flank) is required, in order to spare the heart and breast buds.

10). The FMV (flank) is a rectangular contour extending from the anterior to posterior abdominal wall and medio-laterally from the lateral margin of vertebra to the ipsilateral abdominal wall. This volume should begin from 0.8-1cm below the last cardiac contour for a total length of approximately 1cm inferiorly. Do not include the entire thickness of the abdominal wall.

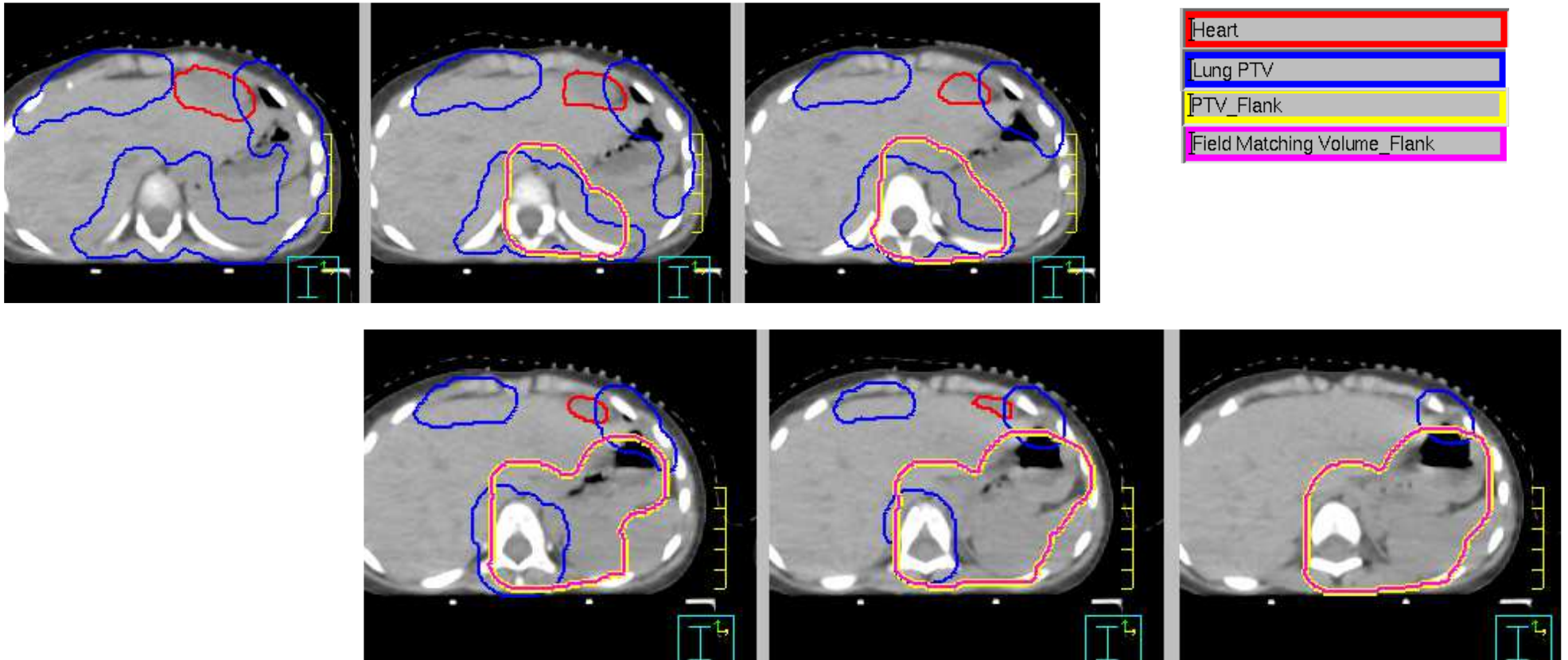
11). If this FMV adequately covers the superior edge of PTV_Flank, merge this with PTV_Lung to create the final planning PTV_Lung + Flank.

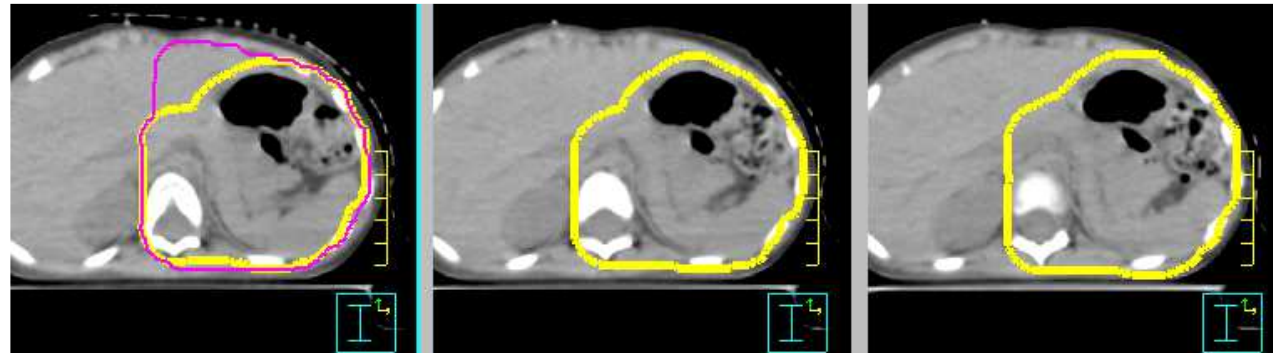
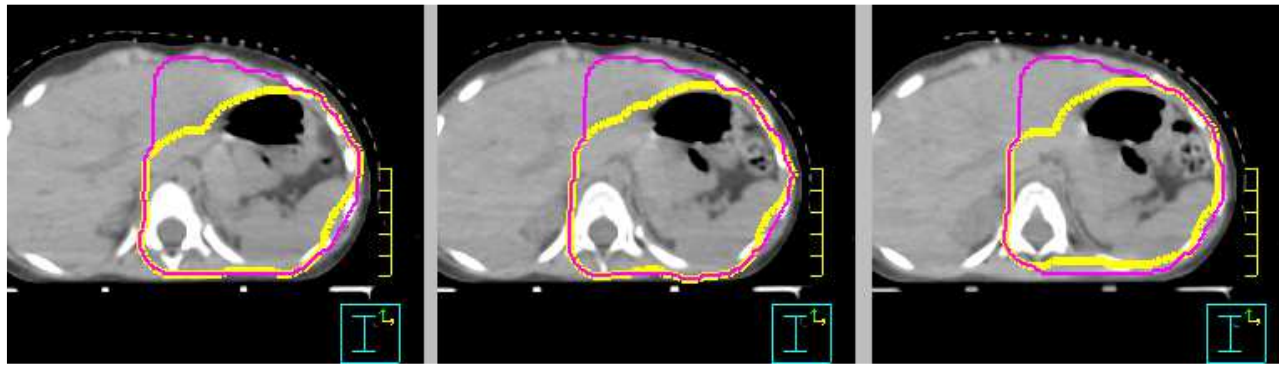
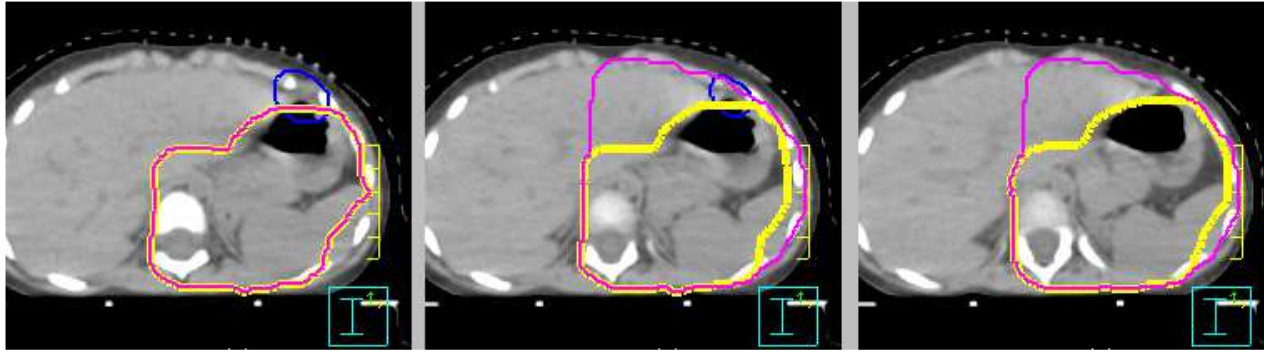
12). However, if the PTV_Flank extends superior to this FMV, then this portion of PTV_Flank is added to the field matching volume to create the final PTV_Lung+Flank.

13). The AP-PA photon for flank can be placed at the bottom of this PTV_Lung+Flank with a half-beam block to provide a good dosimetric match (10.5Gy in 7fr).

14). The final 1.5Gy fraction will only be delivered to the PTV_Lung for a total of 12Gy in 8 fractions.

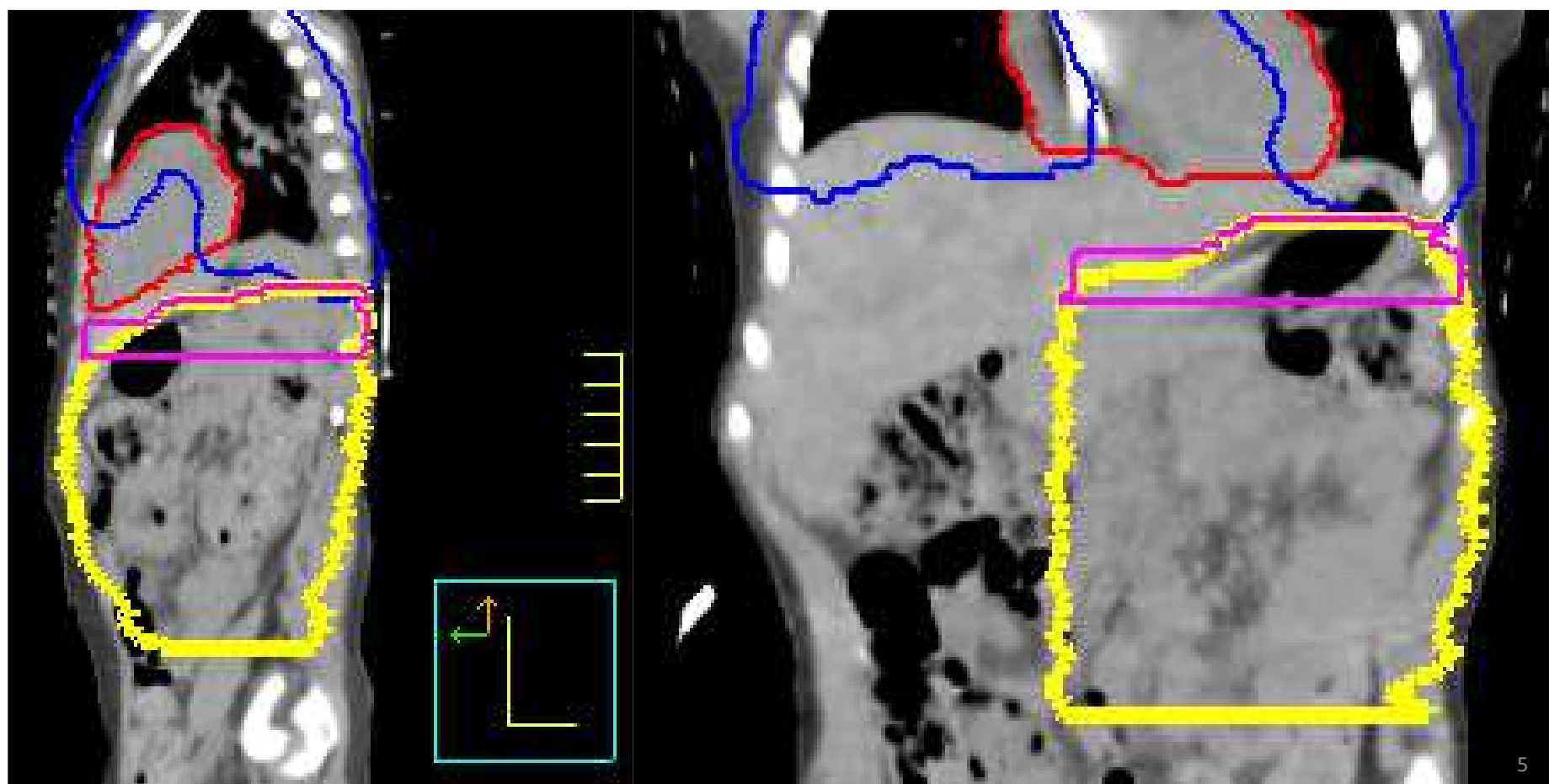
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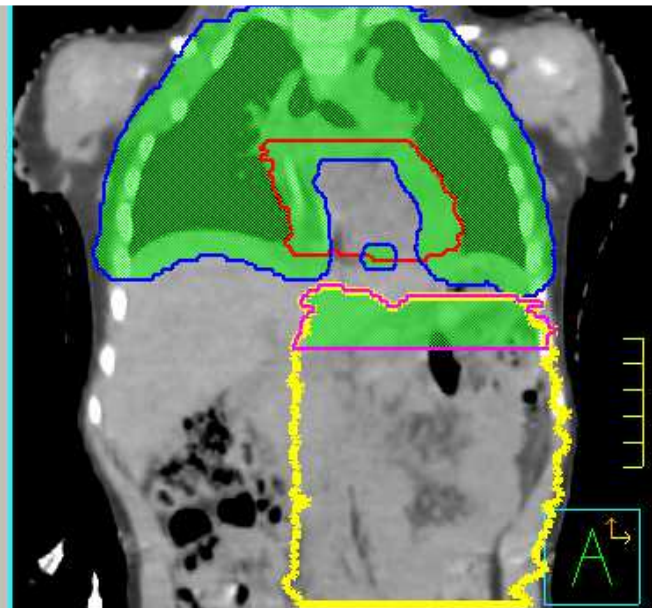
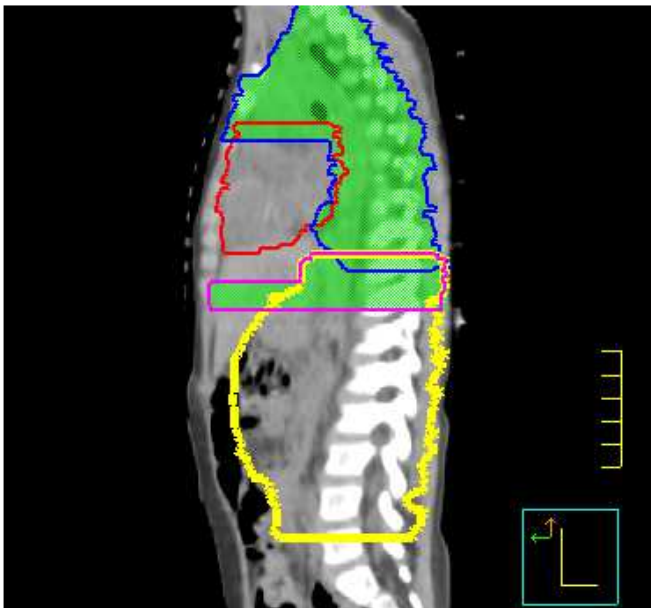
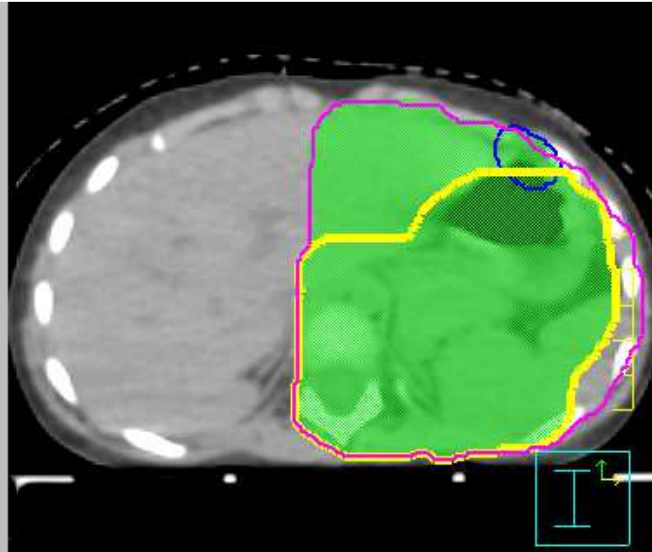
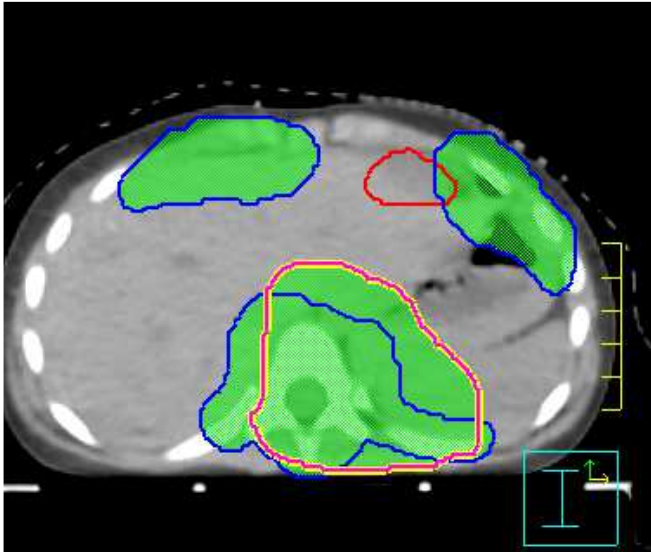




- Heart
- Lung PTV
- PTV_Flank
- Field Matching Volume_Flank

- Heart
- Lung PTV
- PTV_Flank
- Field Matching Volume_Flank





- Heart
- Lung PTV
- PTV_Flank
- Field Matching Volume_Flank
- Final Lung+Flank PTV

