



Tips for Scanning

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A good CT resolution is needed for good lumen delineation. In order to increase the voxel resolution one can:

- Decrease the slice thickness. Generally, we recommend a thickness of less than 3mm, 2mm is probably a good compromise between higher resolution and a large dataset, 1mm is even better. However, one needs to keep in mind that if image acquisition time increases and becomes comparable with the breathing period, patient breathing could create a 'smearing' artifact and the small thickness would provide no increased definition/sharpness of the treatment lumens.
- Decrease the Field of View (FOV). Unless the full extent of the patient's body is needed for special reasons (e.g. participation into a specific clinical protocol,) a smaller FOV (15-20cm), centered on the balloon and including all significant structures involved in the planning and evaluation of the Contura treatment, would be beneficial. A decreased FOV would minimize the amount of scatter leading to decreased contrast and at the same time increase the resolution (mm/pixel), since the same number of pixels (typically 512) would represent a smaller physical distance. Of course, reconstruction from incomplete data would take away some of these benefits, but in our experience, a reduced FOV tends to produce a better definition of the Contura lumens.
- If slide-in markers are required, use types that do not create a large image artifact.
- If importing a template plan that contains defined applicators is a possibility for your treatment planning software, we strongly advocate using translation and rotation tools to "fit in" a predefined applicator set over a current CT dataset. The advantages are:
 - rigorous preservation of a well known rigid geometry;
 - faster, better, more accurate definition of the treatment lumens.