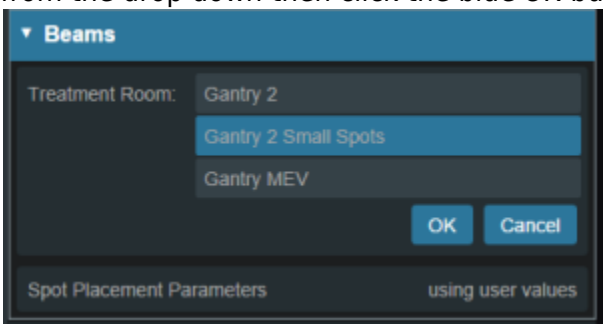
Creating a PBS Beam

Defining treatment beams will be one of the most important tasks within the Astroid planning system. Defining appropriate beams will require users to use their knowledge and experience to properly select many of the parameters that define a treatment beam. These parameters include the target, geometry (isocenter, gantry and couch angles), beamline devices, air gap, and spot placement options. The *Beam* task utilizes a series of blocks to organize the beam creation process into a common step-by-step sequence. Several blocks are optional as not all beams will use all features. Additionally, it is important to point out that the treatment room & default spot placement parameters are set outside of the individual beam creation tasks as these apply to all beams (however, spot placement parameters can be overridden within each beam if desired). An example of constructing a lateral beam, with the isocenter at the centroid of the PTV and including an aperture and range shifter, is given below to illustrate the features available when defining a beam.

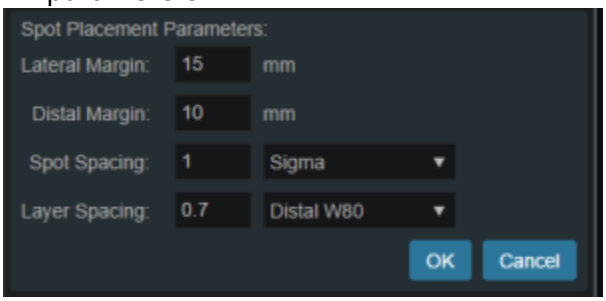
Fix Me! : below here needs updating to match the description given above.

1. From within the *Plan Overview* select the *Beams* block

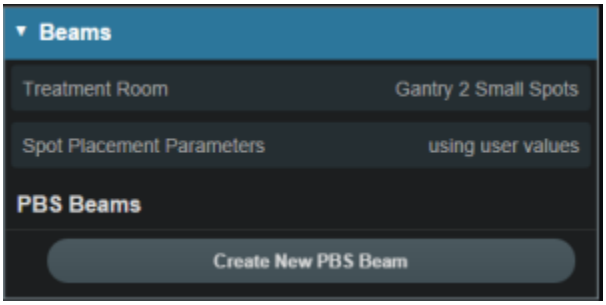
2. Select the treatment room from the drop down then click the blue *OK* button



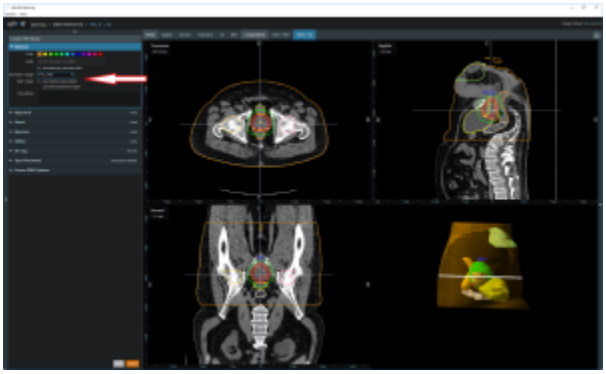
3. Next select the *Spot Placement Parameters*. You may either choose to go with the default parameters or enter your own parameters



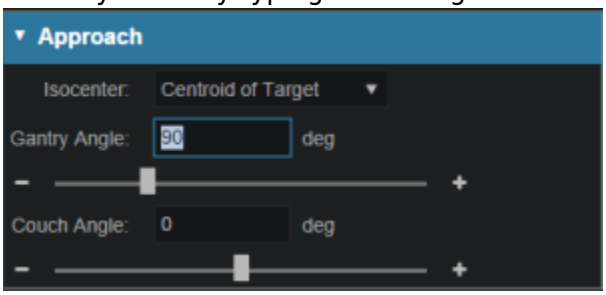
4. Once your *Spot Placement Parameters* are set the *Create New PBS Beam* button will become active



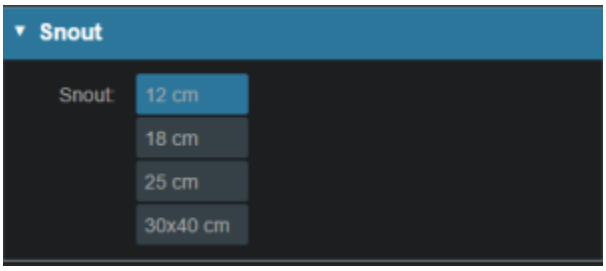
5. After you select the *Create New PBS Beam* you will be able to set the beam geometry parameters:
    1. In the *General* block select the intended target from the dropdown. You may choose an exisiting target or create a new structure.



    2. In the *Approach* block select the Isocenter from the dropdown. You will also enter the gantry angle and couch angle. You may do so by typing in the angle or use the sliders



    3. The next block is the *Snout* block. A list of snouts associated with your chosen treatment machine will be available to choose from



    4. If desired, add an aperture in the *Aperture* block
    5. Refer to Creating a New Aperture for detailed instruction
    6. If desired, select the range shifter to use based on the ones available for the selected snout
    7. Set the air gap distance