**VMAT Optimization Tips**

# **Description**

Miscellaneous tips for optimizing volumetric modulated arc therapy (VMAT) radiation therapy treatment plans.

# **Notes**

* Objectives/constraints:
  + PTV:
    - D100%
    - V100% Rx
    - D95%
    - V95% Rx
  + CTV:
    - D100%
    - V100% Rx
  + Normals:
    - Dose falloff
      * To zero at 1 cm
      * Very low weight (e.g., 0.01 in RayStation)
* Use highest weights for target objectives/constraints.
* Sort the objectives/constraints to see where the optimizer is pushing the hardest.
* If clinical goals are failing or optimizer is pushing too hard on a dose falloff goal, consider adding a max dose or max DVH objective/constraint to that normal.
* Sum targets, add a cm or two, and add dose falloff goal.
* Make sure there is not much dose near the skin (e.g., “wavy” IDL around rectum).