



Dose Volume Histograms

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What should one do when the dose volume histogram looks unusual (i.e. has “shoulders”, is very far from the constraining values, or takes very long to change during optimization, etc.)?

- Check the prescription dose. If you have prescribed 3.4Gy, planning for one fraction but created constraints for the entire 10 fractions (or the other way around), the optimization process does not lead to an actual solution, let alone an optimal one.
- Make sure that the points you are using to calculate the DVH are not on the surface of the structure. For BrachyVision users, make sure you have not checked the “Surface” checkbox, unless you really intend to constrain the dose on the surface.
- Check the constraints. Typical good starting values were presented in the previous guideline “Optimization for Contura” (MM0156A).
- Check the structures. Sometimes, the automatic segmentation without proper post-processing, can lead to “outlier” regions, far from the intended structure.
- Make sure that the dose matrix (calculation area) entirely covers all structures of interest.