SQL Database Design

- Records a sample of the distribution of PTV-OAR Distances

- Using SciPy, distances between all PTV-OAR point pairs are calculated in 3D.

- The min, mean, median, and max of these numbers are recorded in the database.

PTV Distance

DVHs	Plans	Prescriptions	Beams
MRN	MRN	MRN	MRN
Study Instance UID	Study Instance UID	Study Instance UID	Study Instance UID
Import Timestamp	Import Timestamp	Import Timestamp	Import Timestamp
DVH	Age at Study Date	Fractions (Fxs)	Beam Name
PTV Distance	Baseline	Fx Dose	Beam Number
PTV Overlap	Birthdate	Fx Group Name	Beam Dose
ROI Name	Dose Grid Resolution	Fx Group Number	Beam MU
ROI Type	Dose Timestamp	Fx Group Count	Beam MU per Degree
ROI Coordinates	Fractions	Norm. Method	Beam MU per Control Point
ROI Dose	Heterogeneity Correction	Norm. Object	Beam Control Point Count
ROI Institutional Category	MU (plan total)	Prescription Dose	Beam Energy (Min/Max)
ROI Physician Category	Patient Sex	Prescription Percent	Beam Radiation Type
ROI Volume	Patient Orientation		Beam Type
	Physician		Collimator Angle Information
	Plan Timestamp		Couch Angle Information
	Prescription Dose		Fx Count
	Sim Study Date		Fx Group Beam Count
	Structure Timestamp		Fx Group Number
	TPS Manufacturer		Gantry Angle Information
	TPS Software Name		Isocenter
	TPS Software Version		Scan Spot Count
	Treatment Modality		Scan Mode
	Treatment Site		SSD (Avg SSD for arcs)
	Treatment Time		Treatment Machine

1cGy Binned DVHs + >80 other DICOM variables tracked

PTV Distance

- Records a sample of the distribution of PTV-OAR Distances

- Using SciPy, distances between all PTV-OAR point pairs are calculated in 3D.

- The min, mean, median, and max of these numbers are recorded in the database.