

Contouring Atlas for PEPN2415

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Pediatric Early Phase-Clinical Trials Network (PEP-CTN)

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RT target and OAR definitions and CTV/PTV expansions are consistent with recent COG pHGG RT guidelines, including ACNS1721/1723 and ACNS1821

Notable differences include

- Protocol specific strata of Supratentorial and Infratentorial pHGG
- GTV2/CTV2 is not defined for Infratentorial pHGG, including brainstem and cerebellar pHGG (54 Gy total dose)
- GTV2/CTV2 for an RT boost to 59.4 Gy is optional for subtotally resected diencephalic tumors (ie, thalamic DMGs) within the Supratentorial pHGG stratum

Supratentorial pHGG

Includes tumors with an epicenter in the cerebral hemispheres, basal ganglia, thalamus, hypothalamus, or pituitary gland

GTV1 = residual tumor (both enhancing and non-enhancing) and all tissues initially involved with disease

CTV1 = 1-1.5 cm anatomically constrained expansion of **GTV1**

- 1 cm expansion is recommended
- A 1.5 cm expansion is appropriate when GTV1 is in close proximity to at risk major white matter tract (may be anisotropic)

Supratentorial pHGG

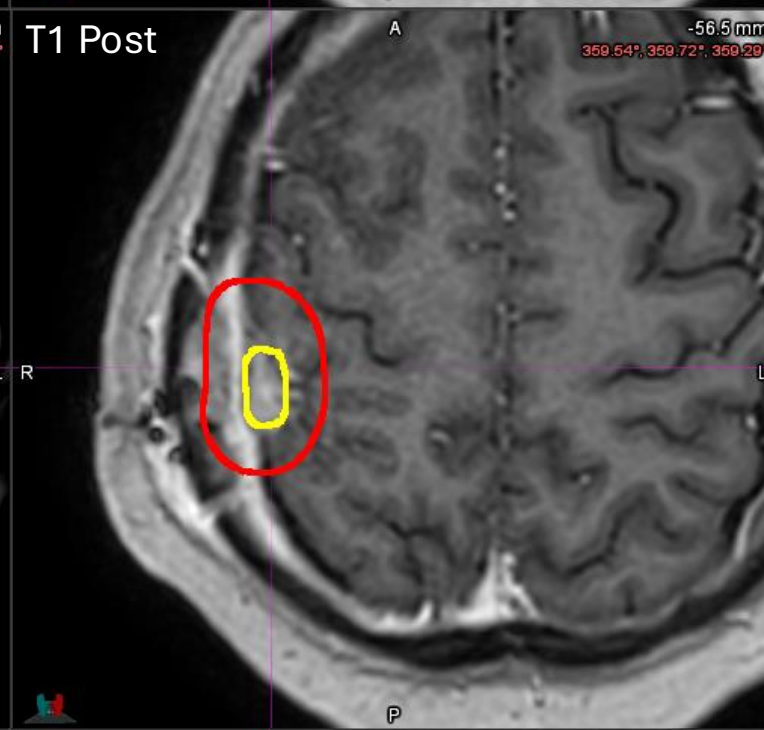
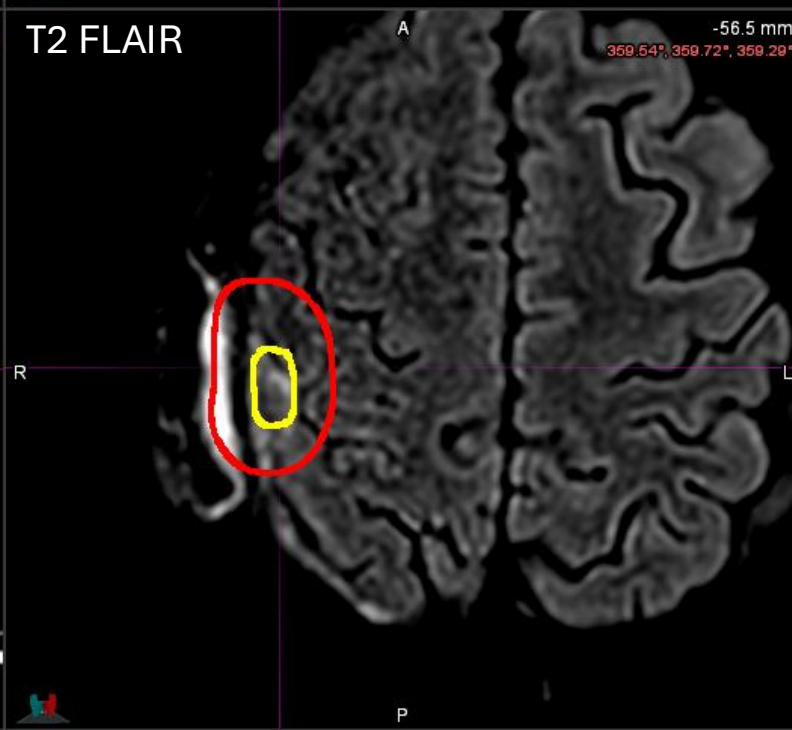
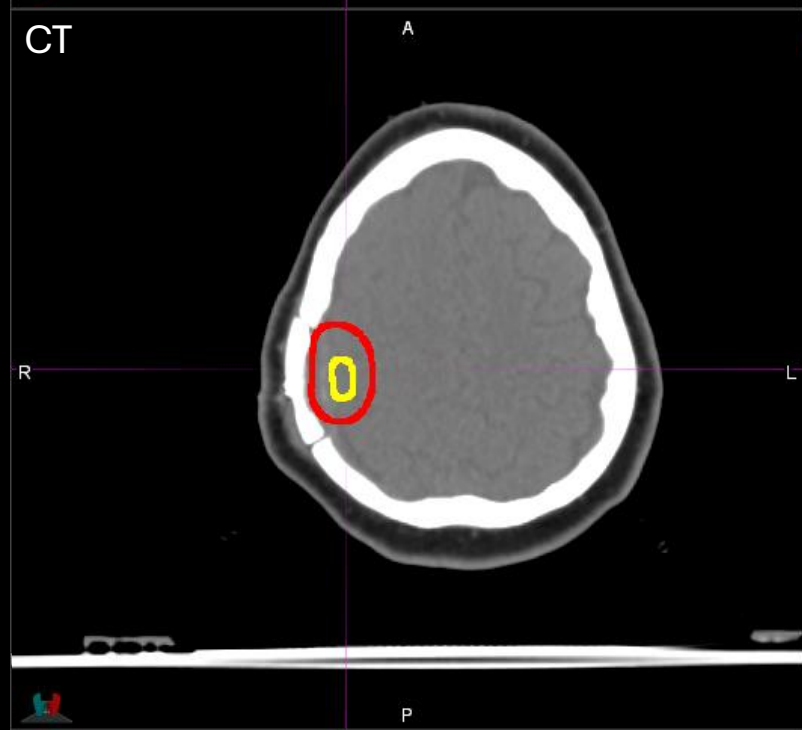
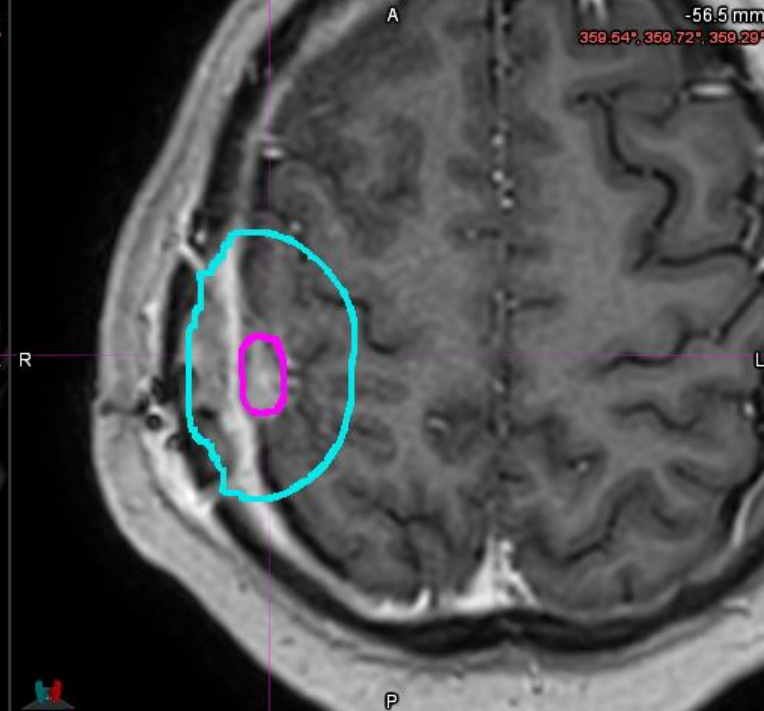
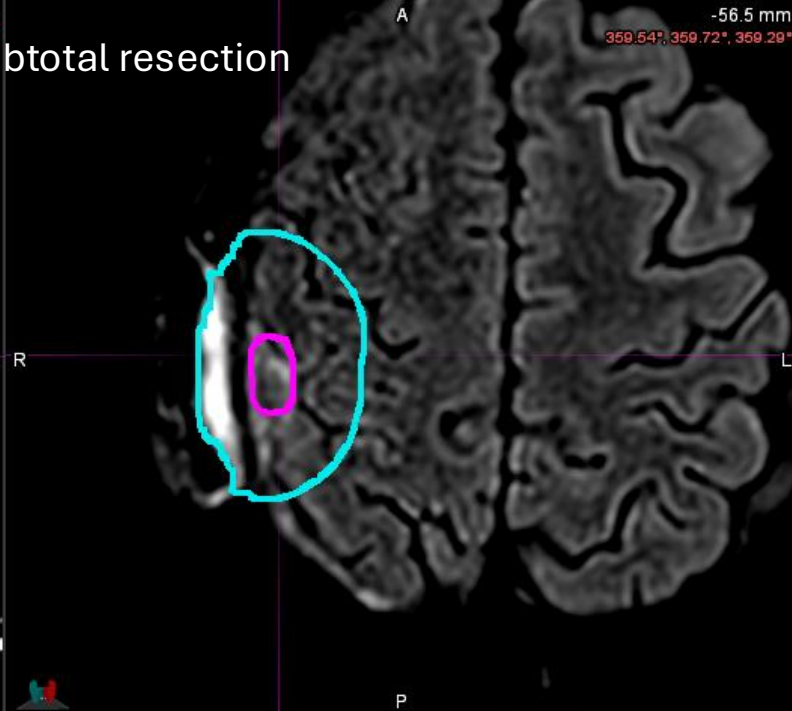
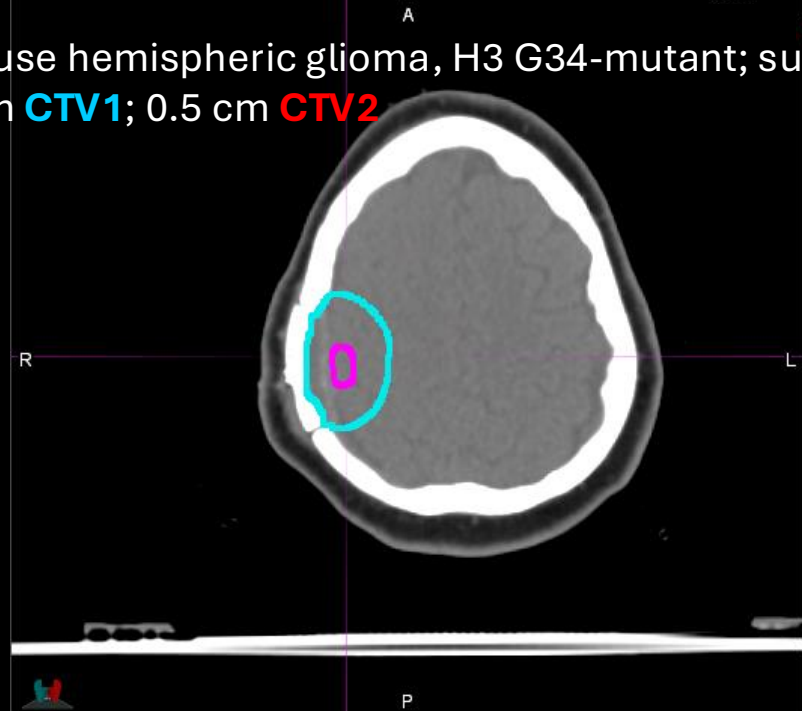
GTV2 = residual tumor only (both enhancing and non-enhancing)

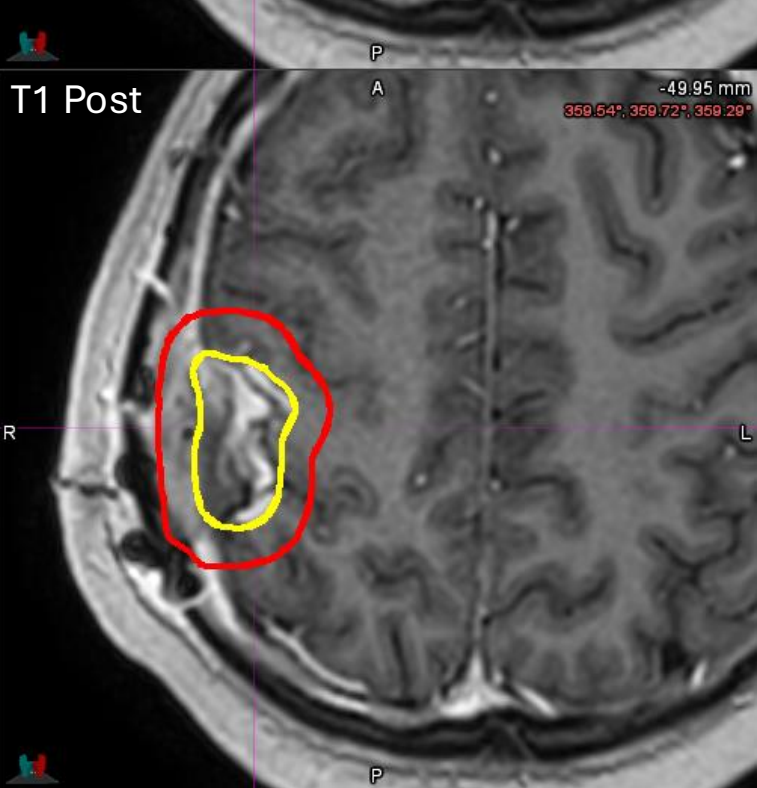
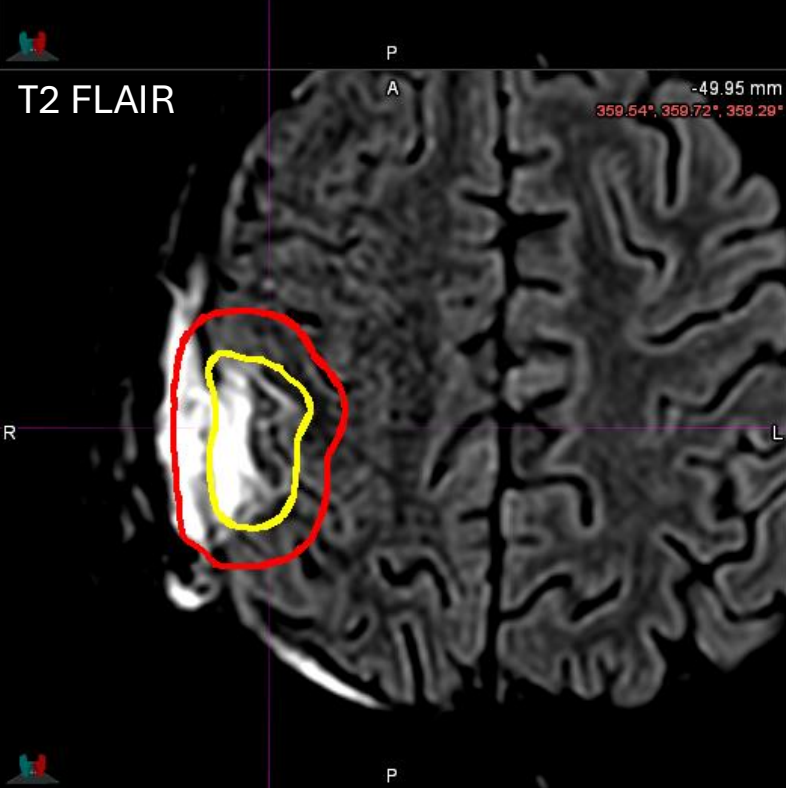
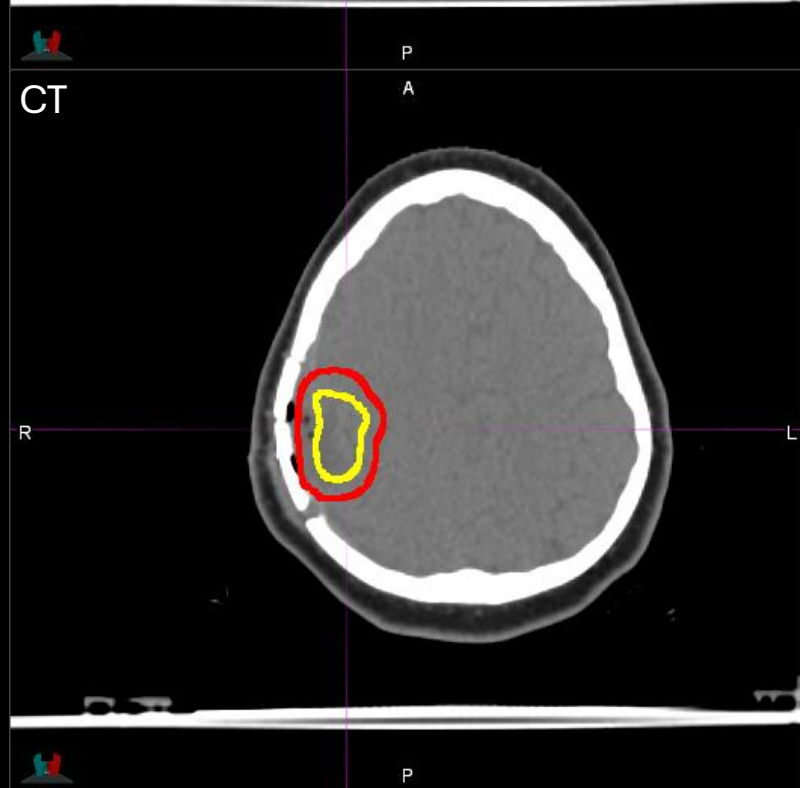
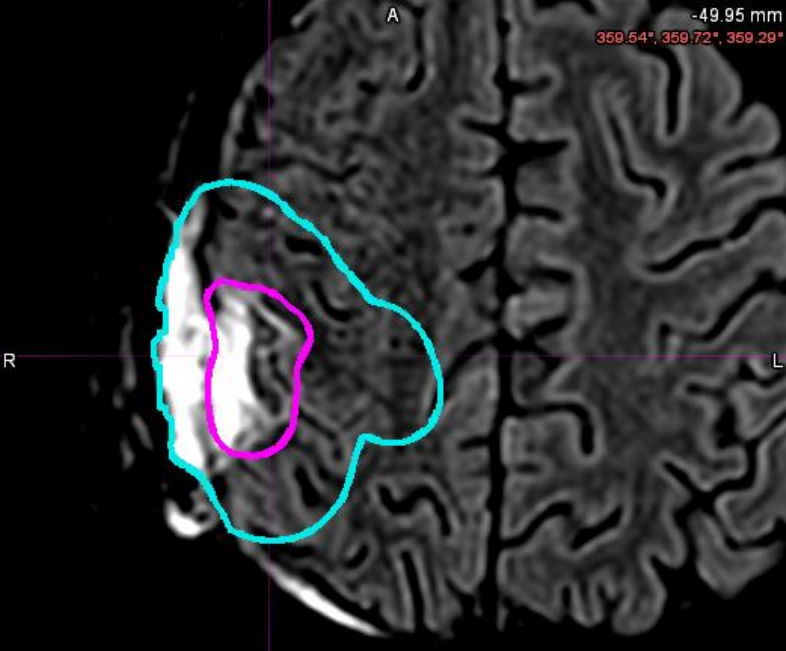
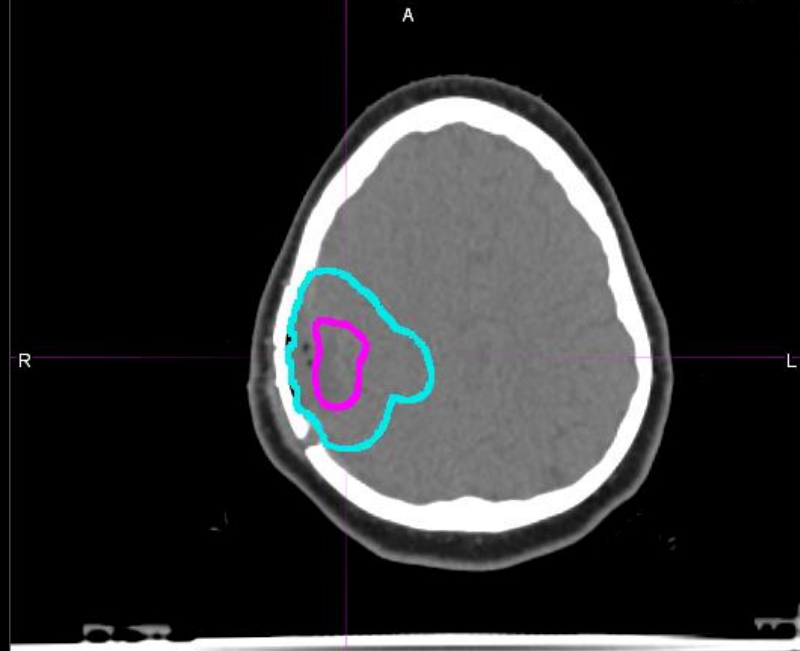
- Not defined for cases that are completely resected
- Should exclude regions of residual tumor within 3 mm of brainstem or optic chiasm/nerves
- *This volume is optional for diencephalic tumors (ie, thalamic DMG)*

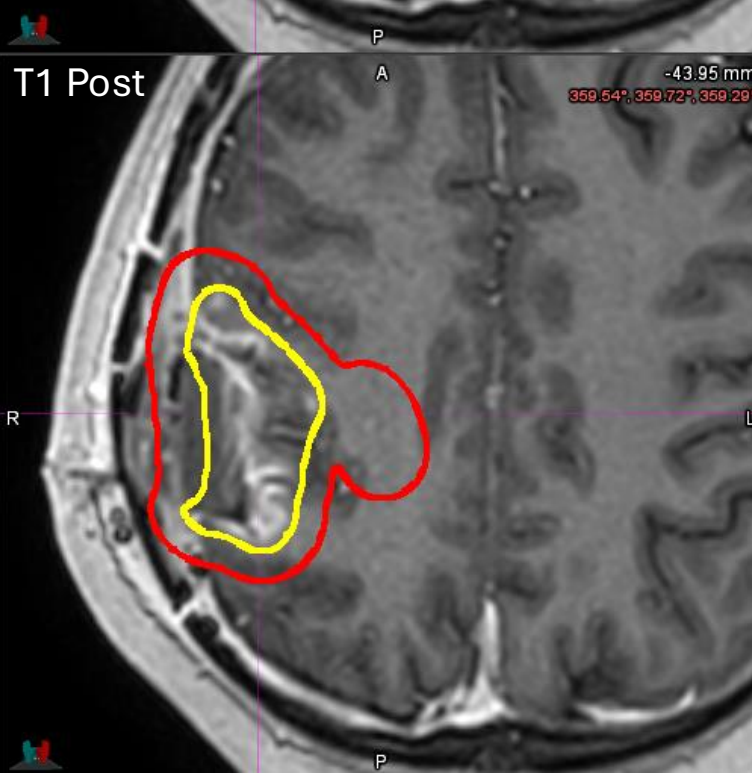
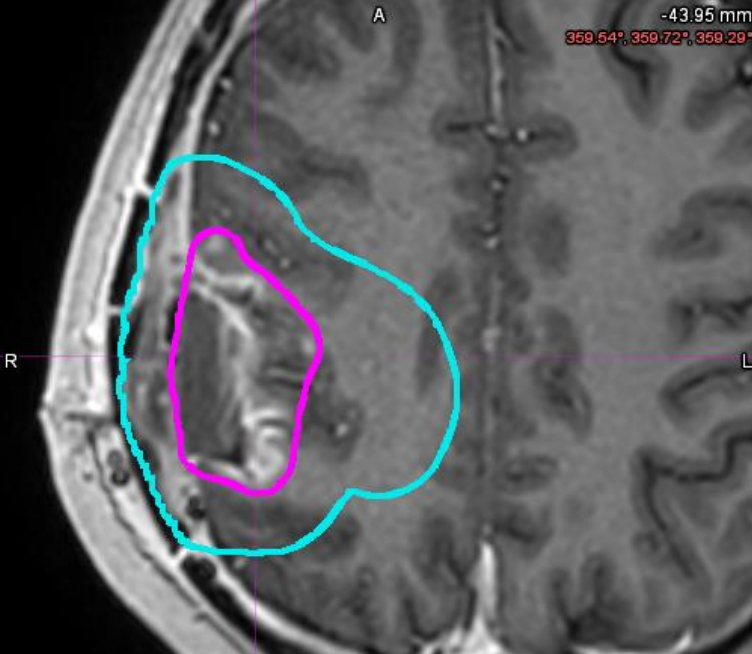
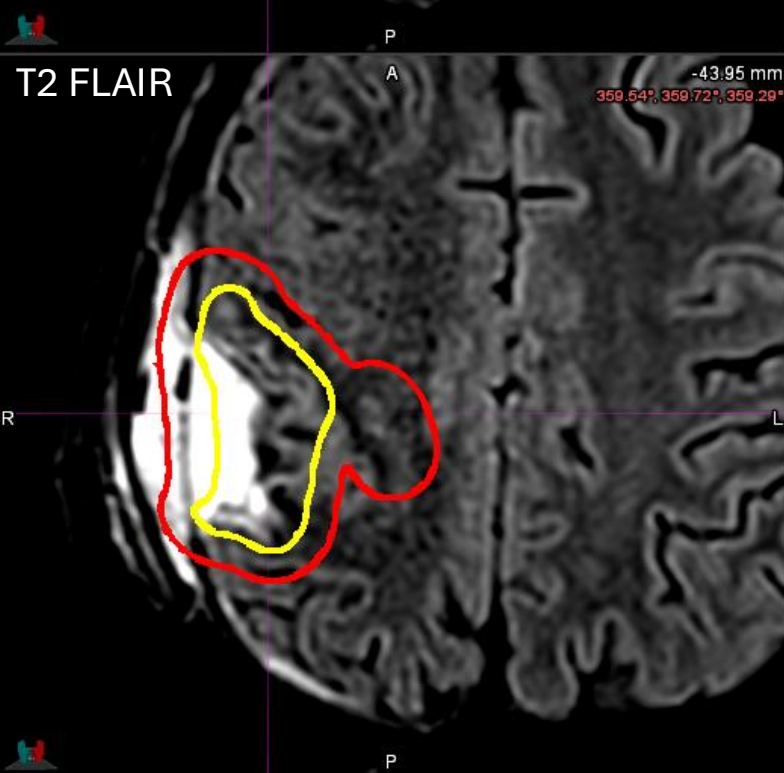
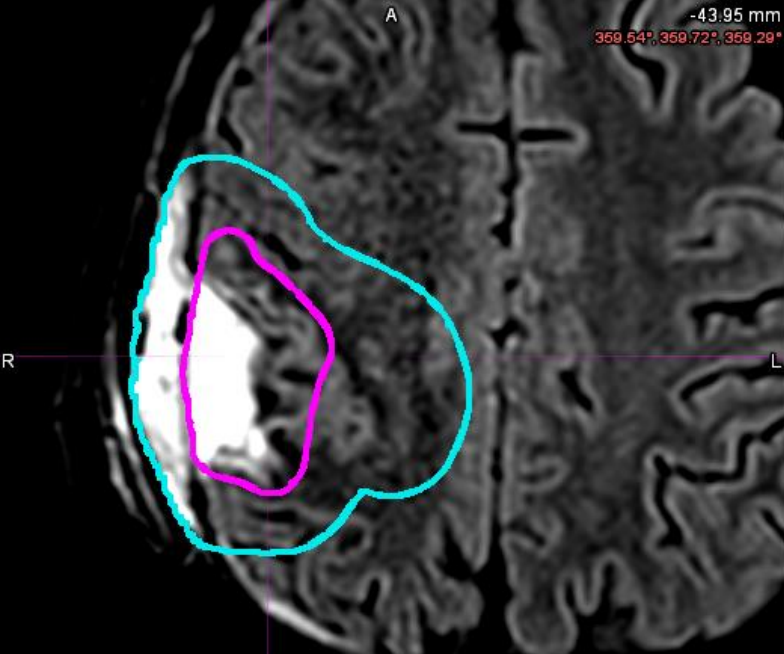
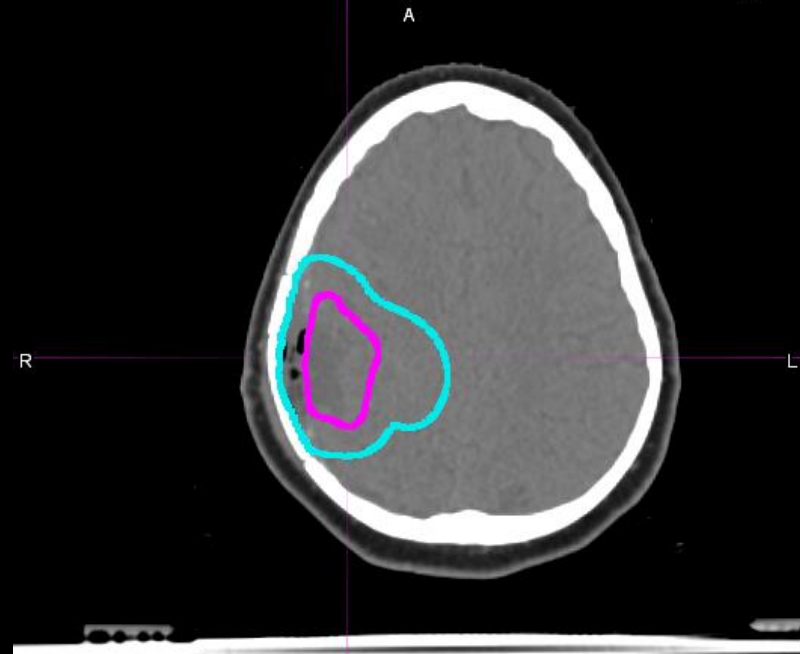
CTV2 = 0.5-1 cm anatomically constrained expansion of **GTV2**

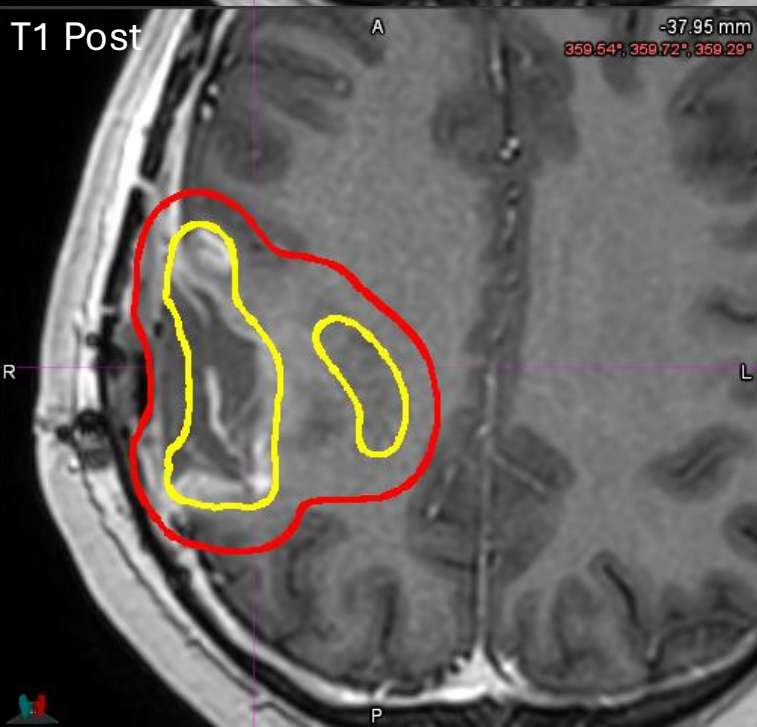
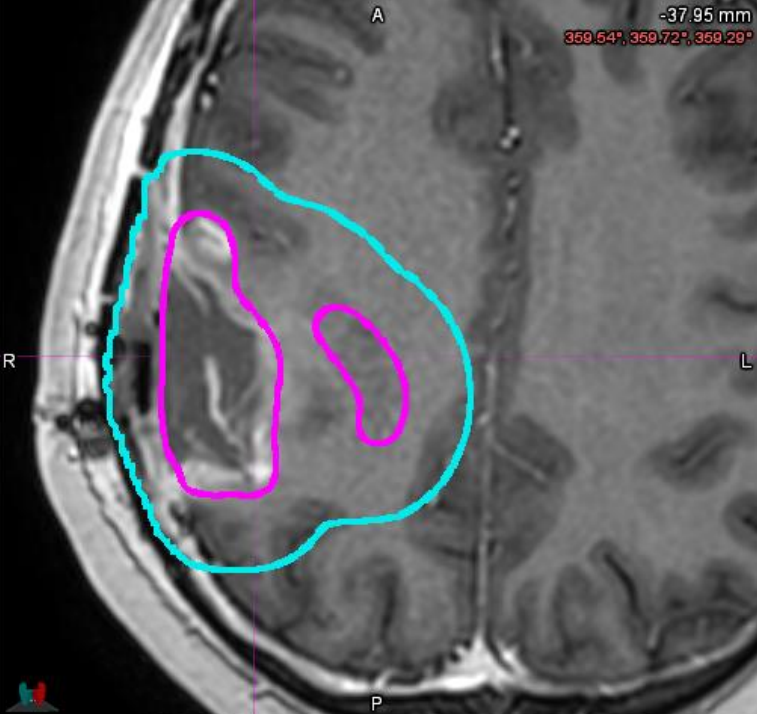
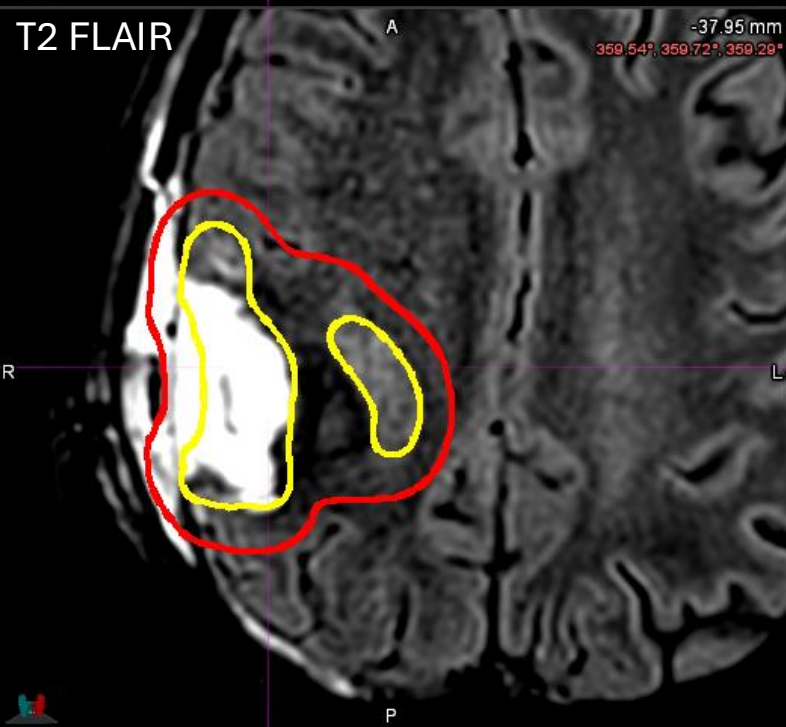
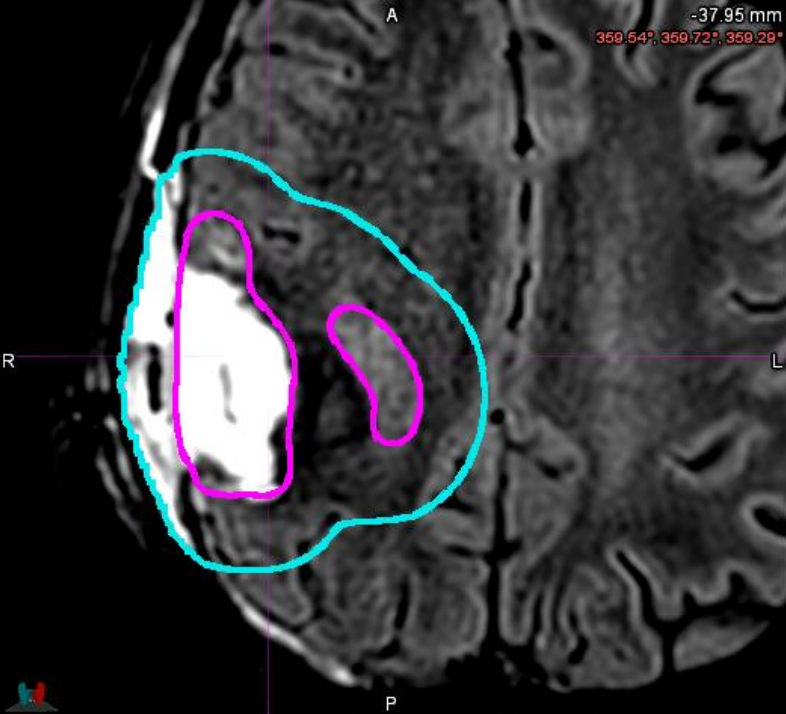
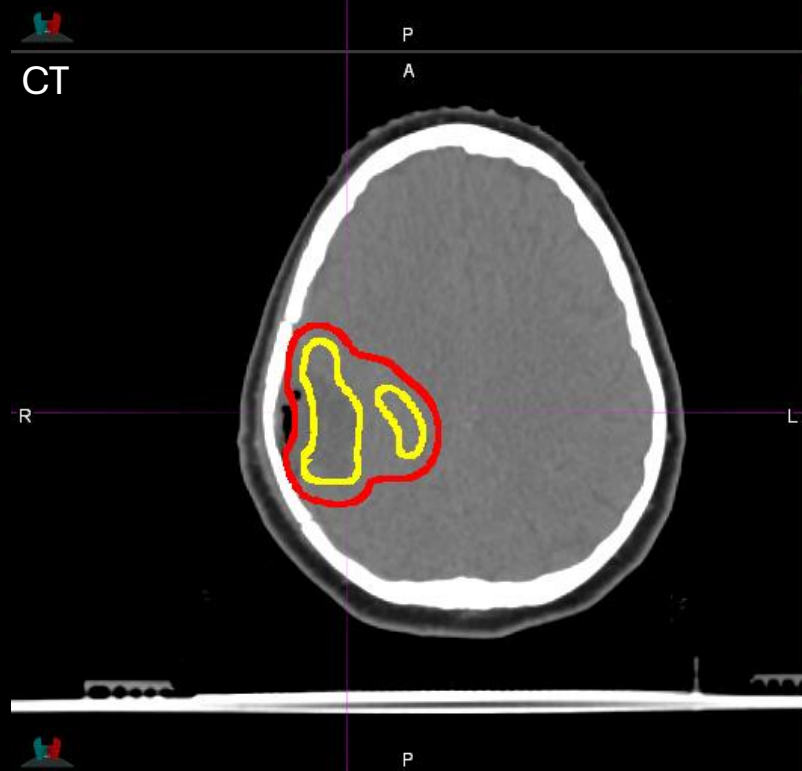
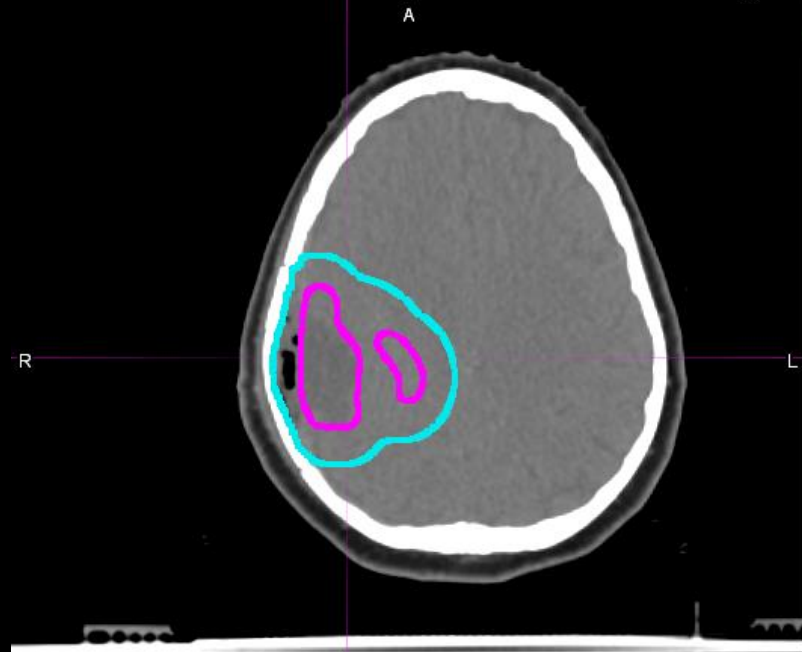
- Not defined for cases that are completely resected
- Should exclude regions of residual tumor within 3 mm of brainstem or optic chiasm/nerves
- When **GTV2** is not adjacent to major white matter tracts, a 0.5 cm expansion is recommended
- For disease abutting major white matter tracts, a 1 cm expansion may be appropriate (i.e. along corpus callosum) (may be anisotropic)
- *This volume is optional for diencephalic tumors (ie, thalamic DMG)*

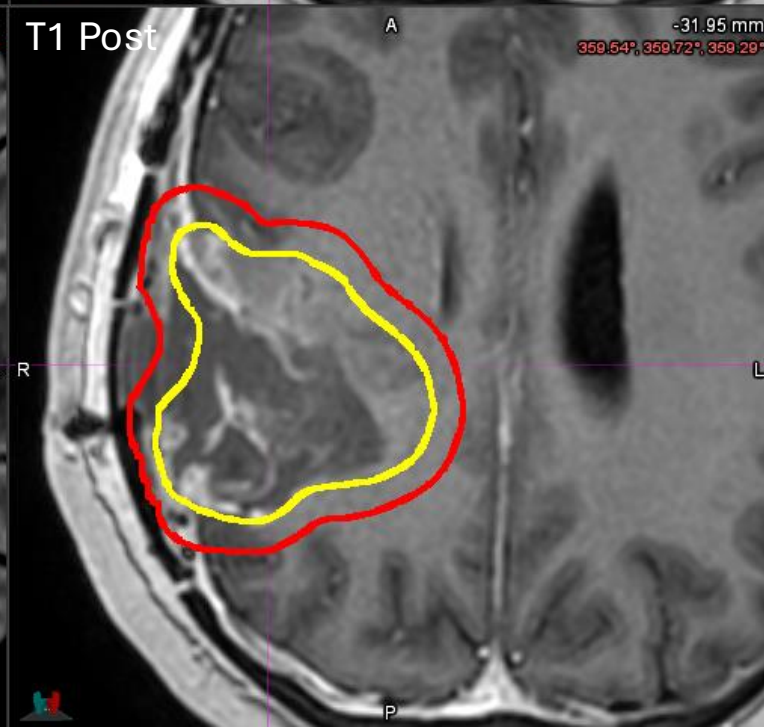
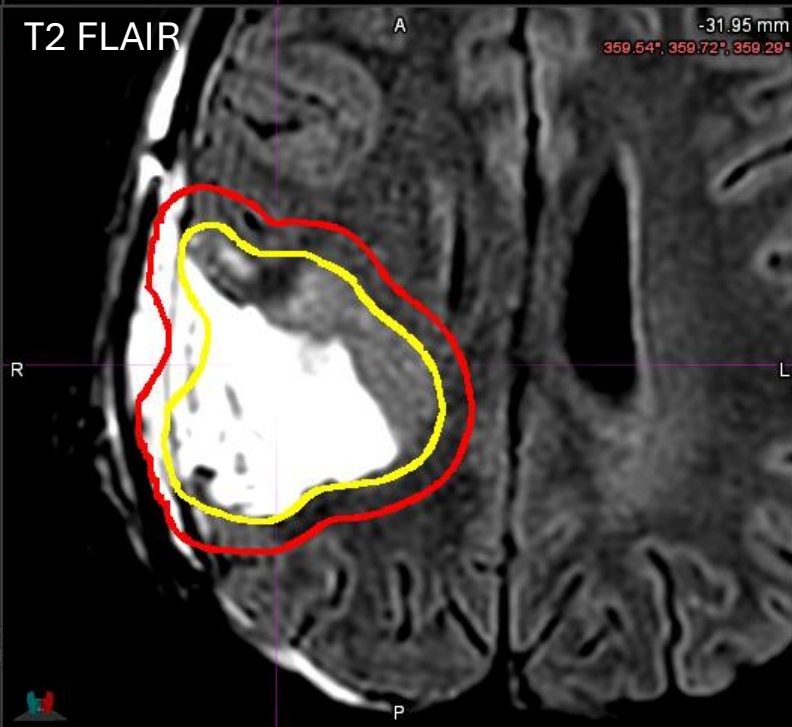
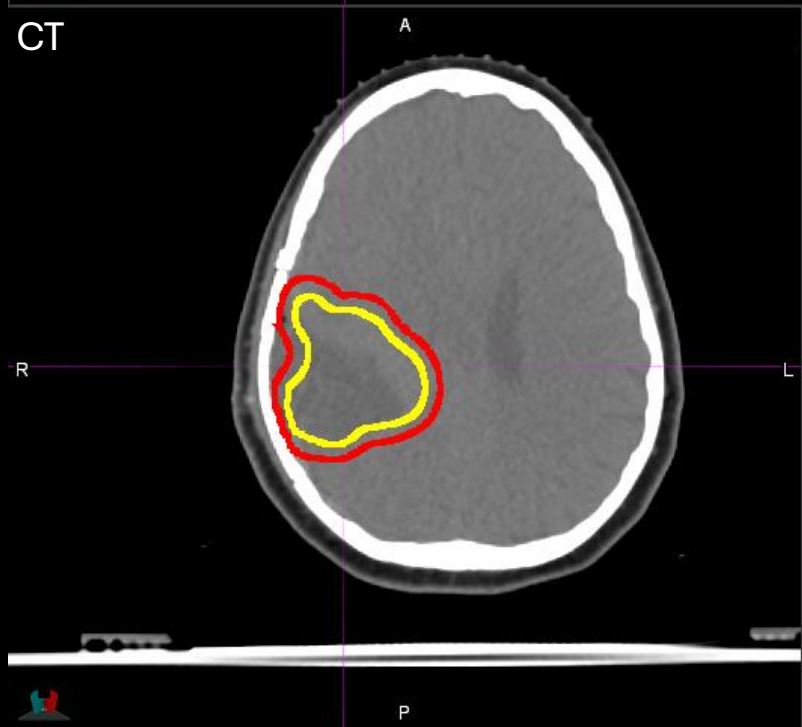
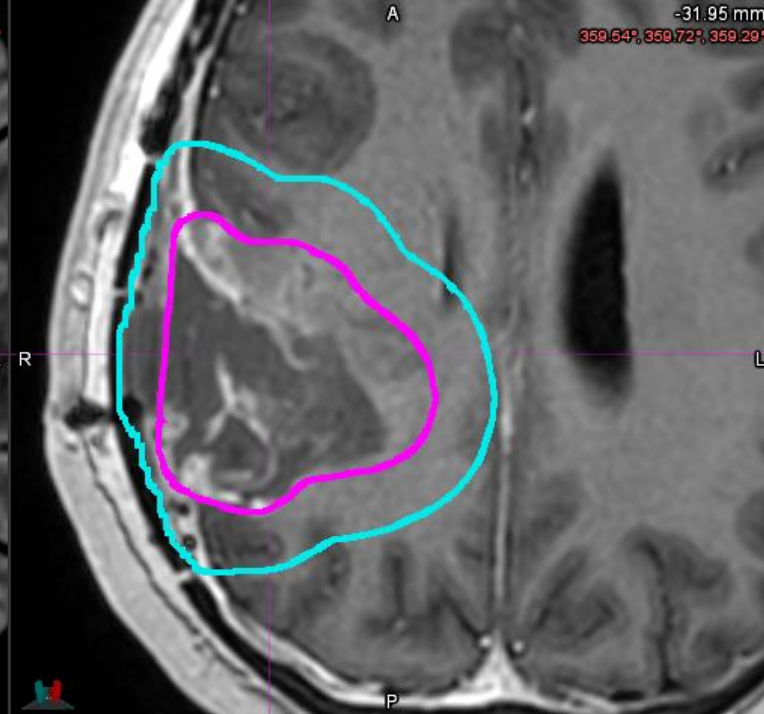
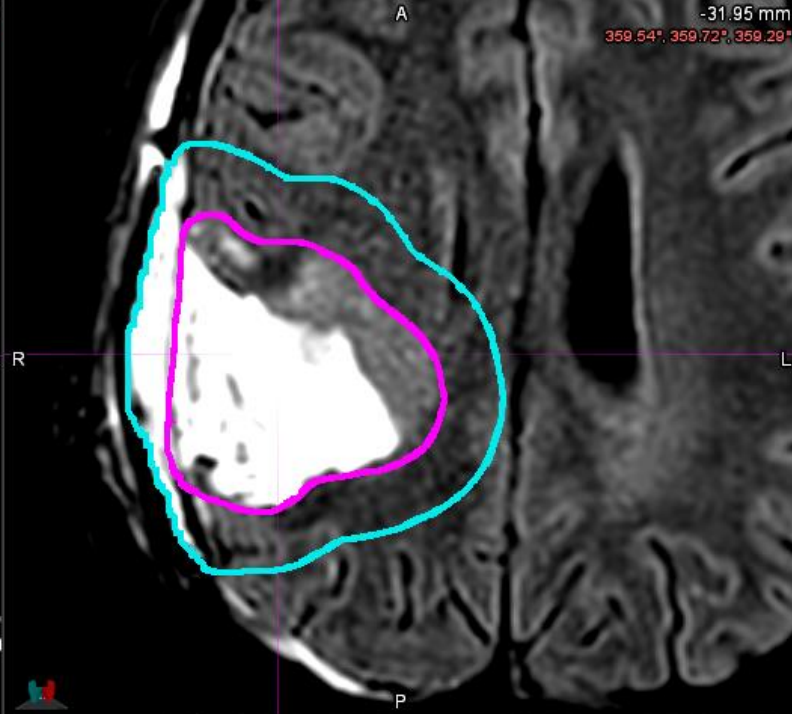
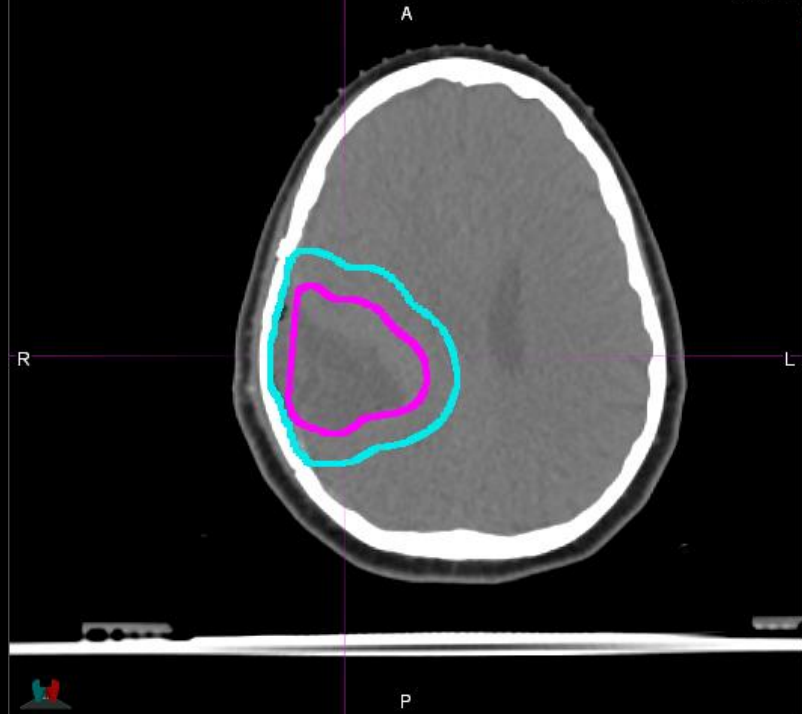
Diffuse hemispheric glioma, H3 G34-mutant; subtotal resection
1 cm **CTV1**; 0.5 cm **CTV2**

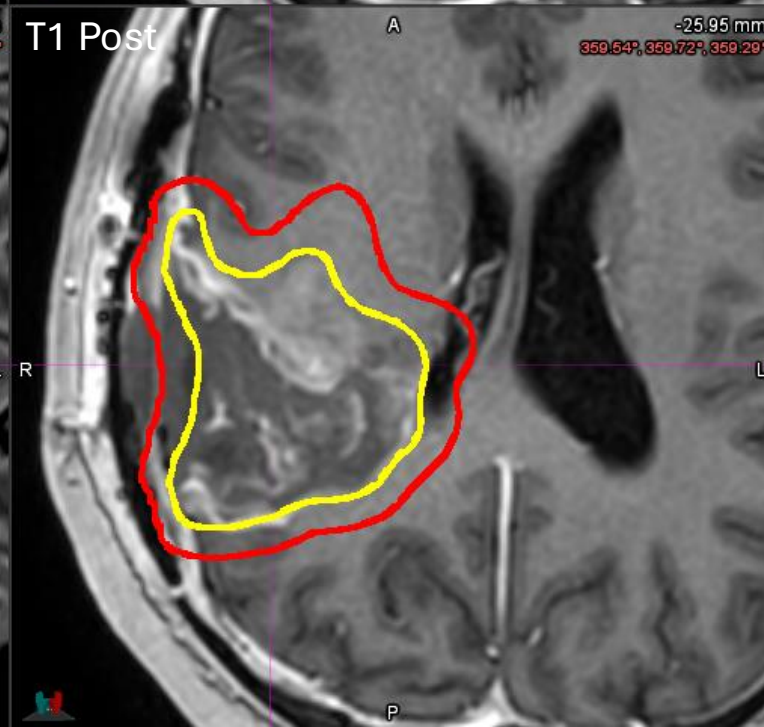
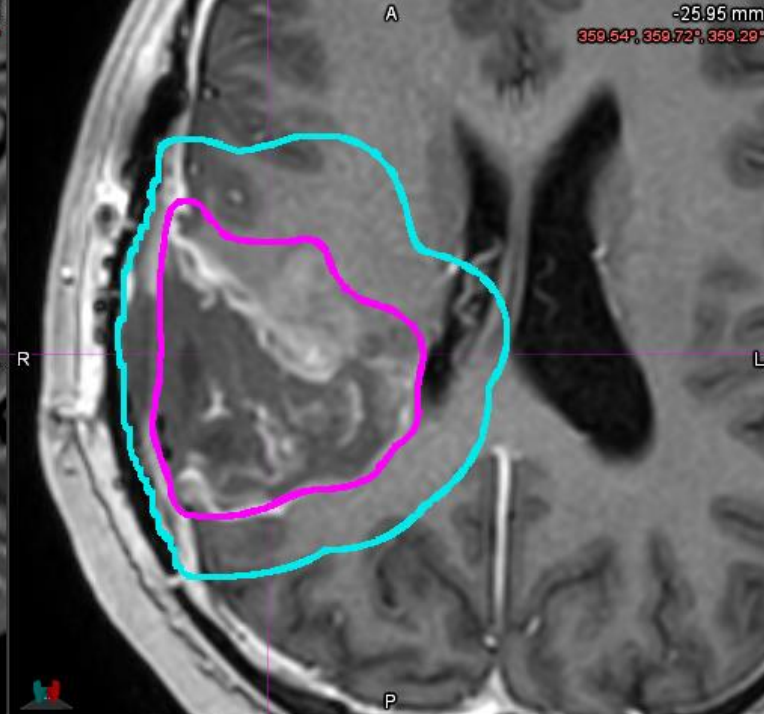
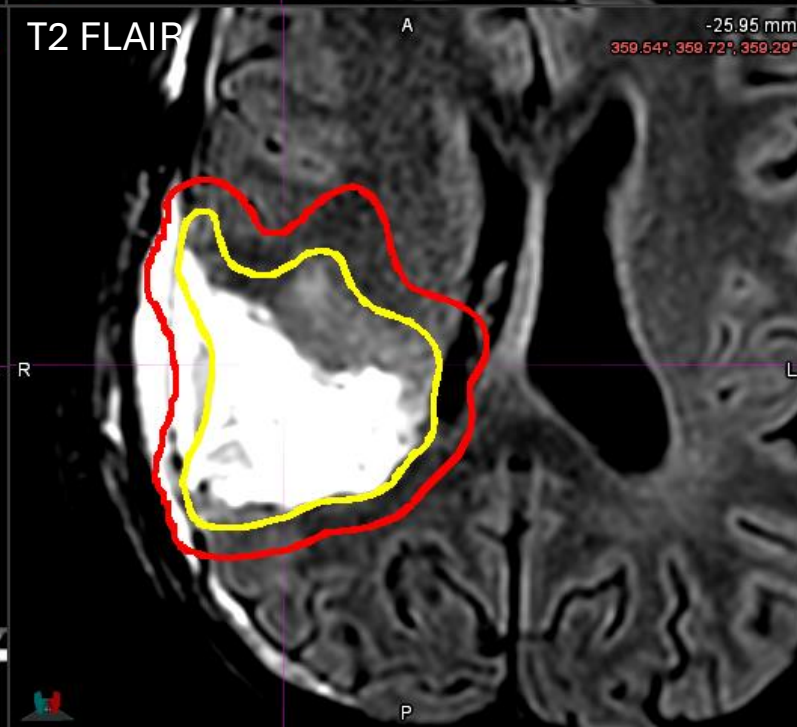
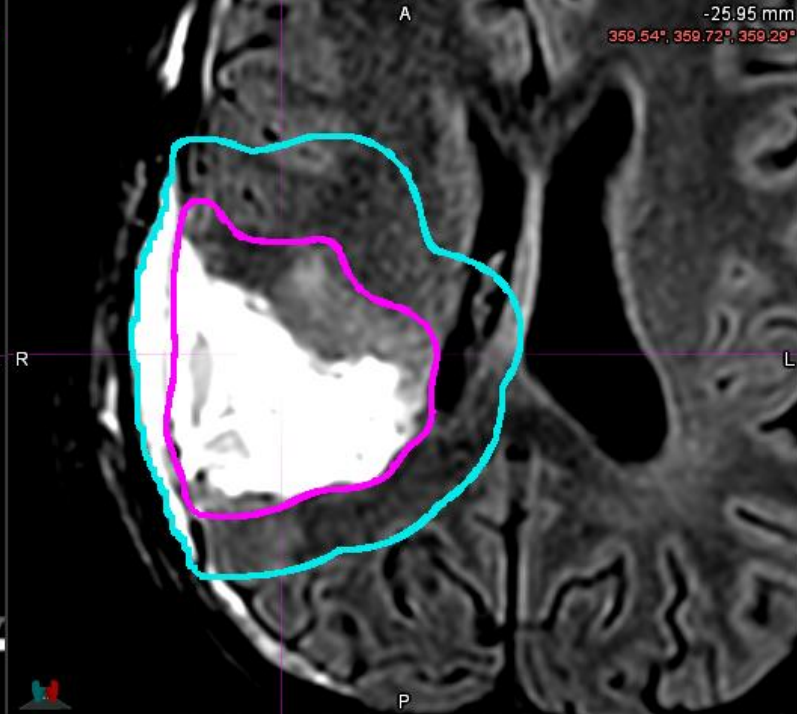
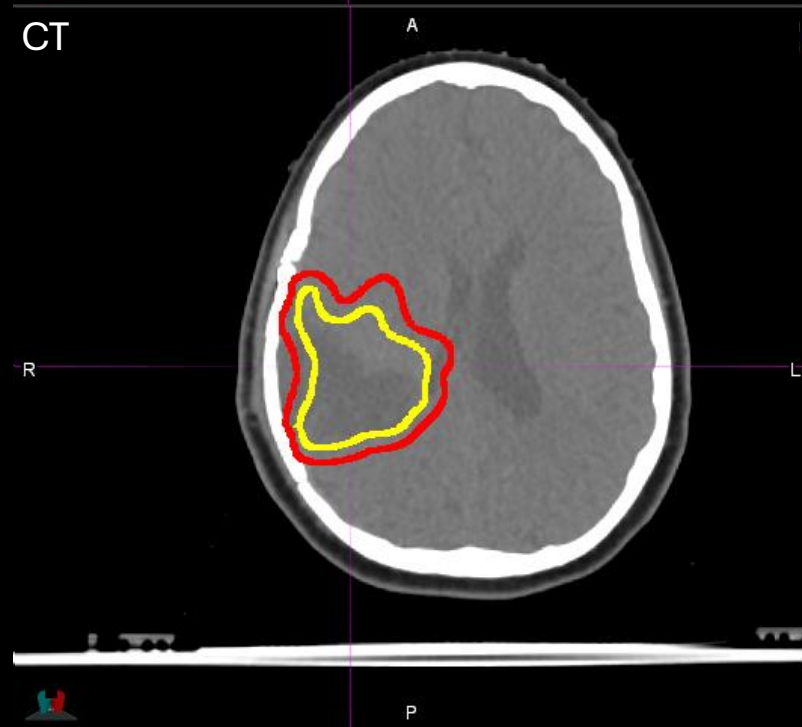
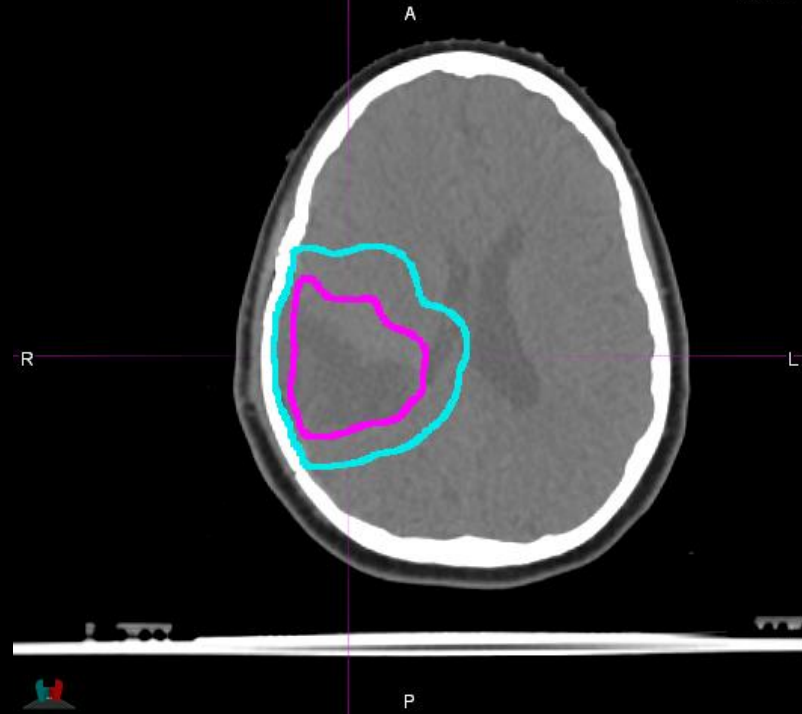


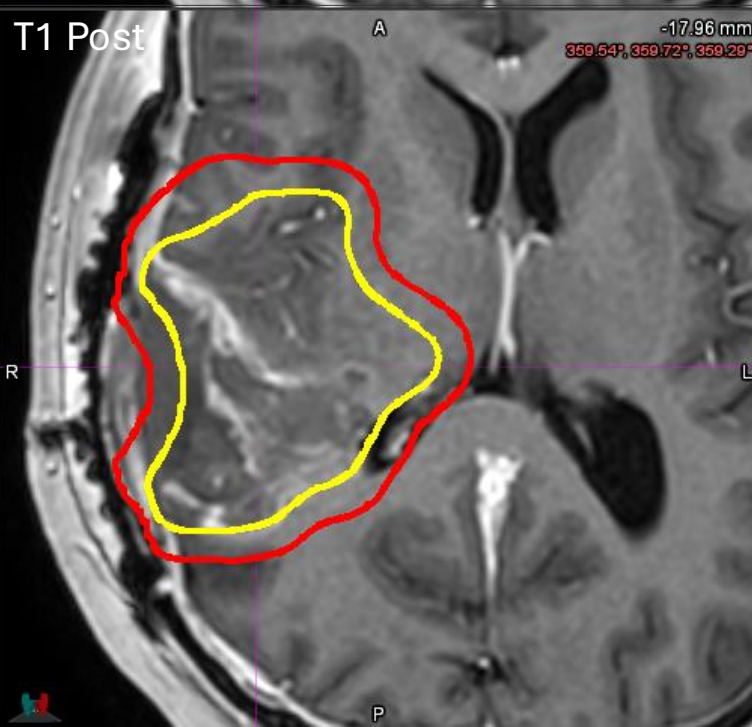
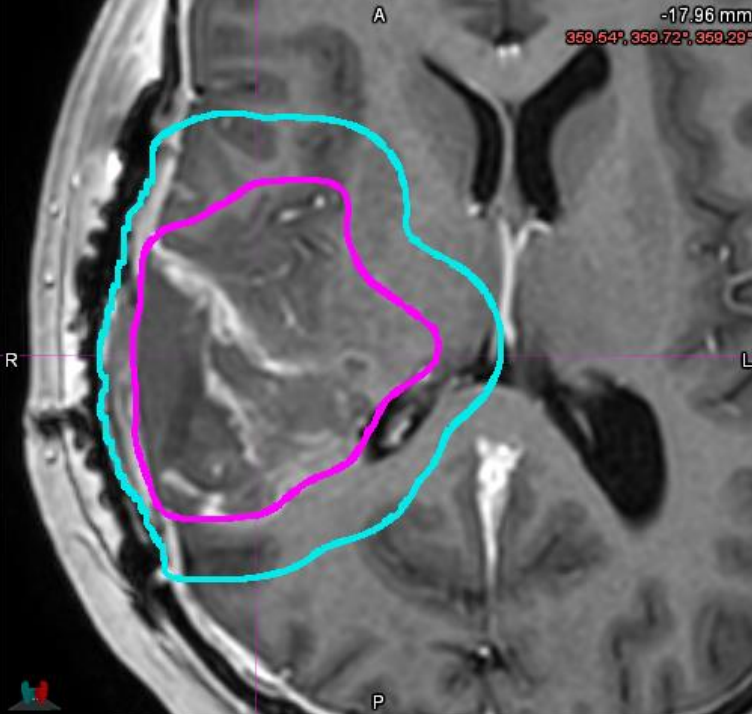
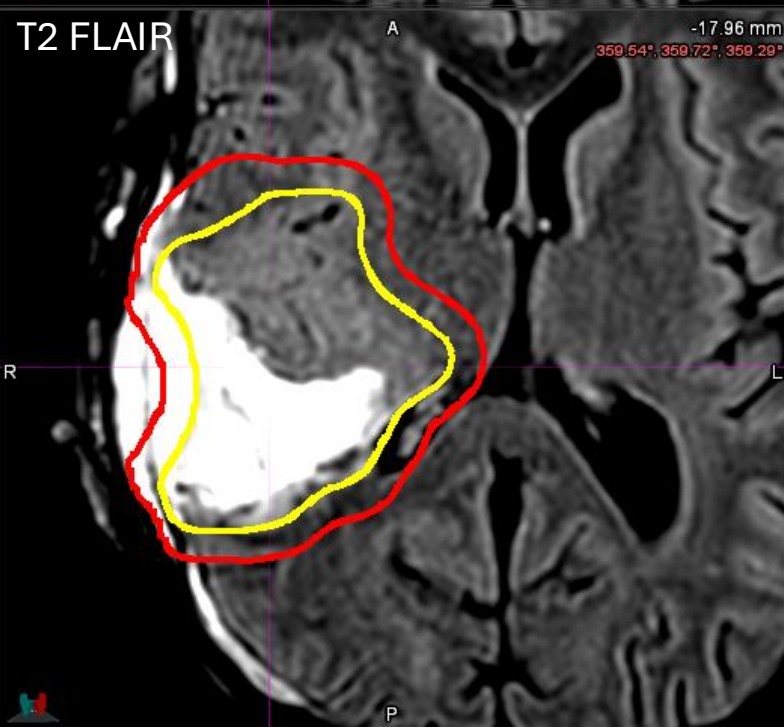
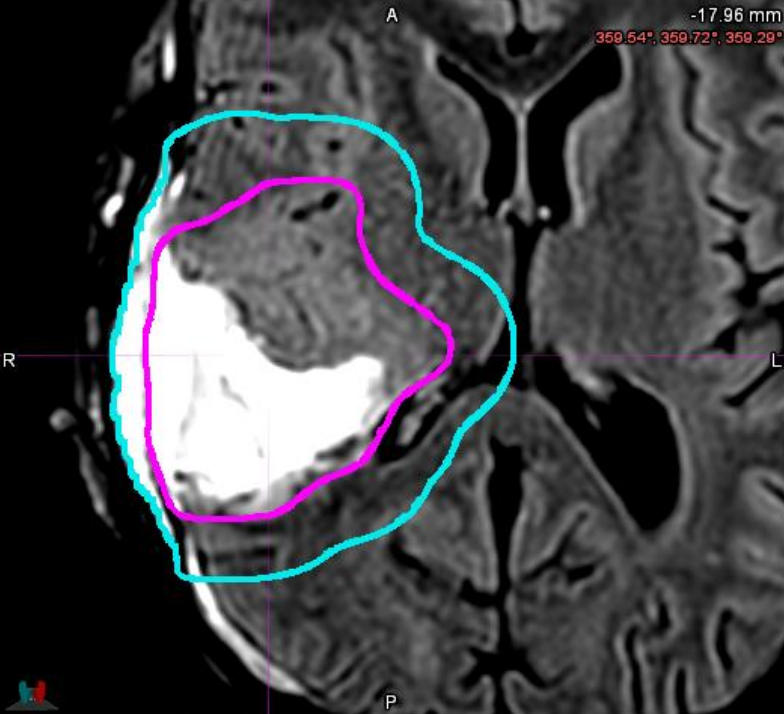
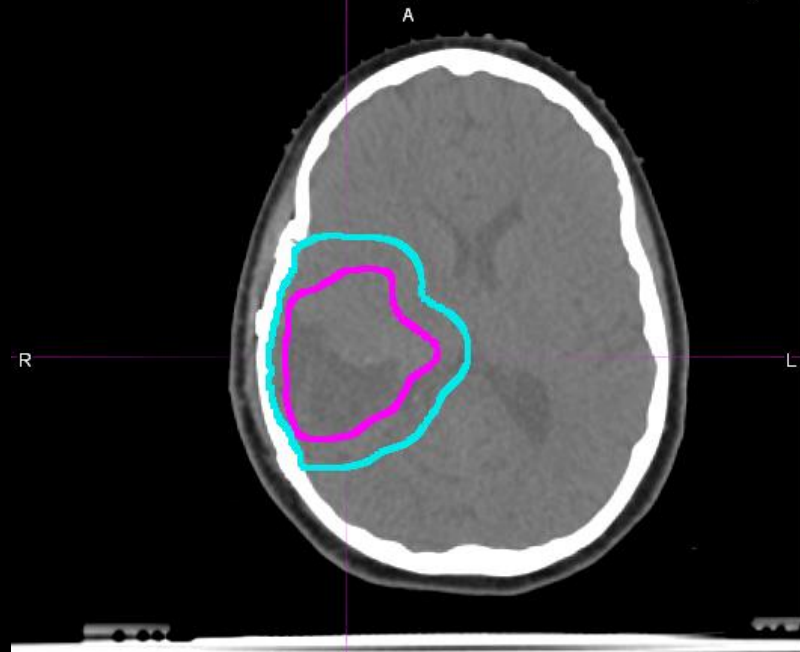


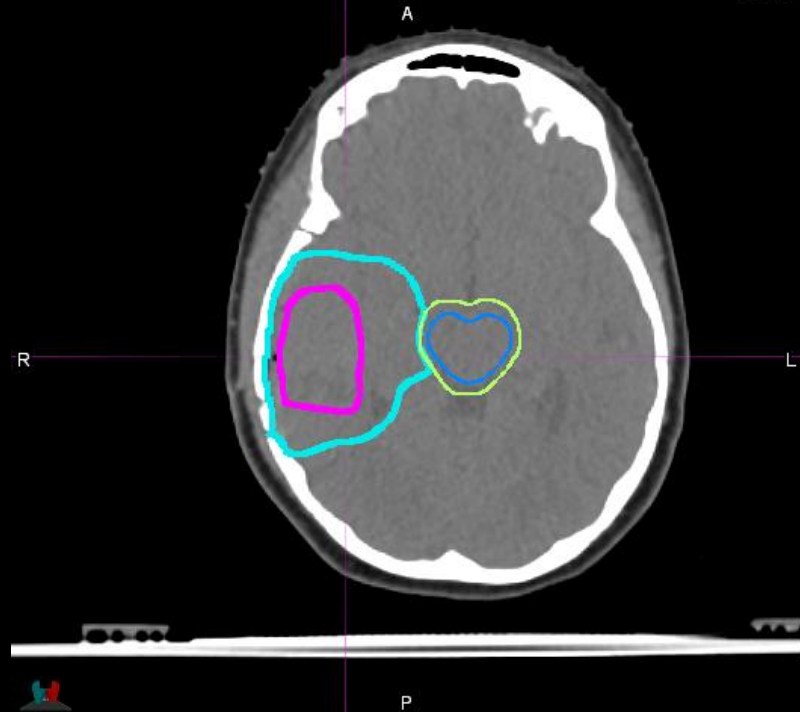




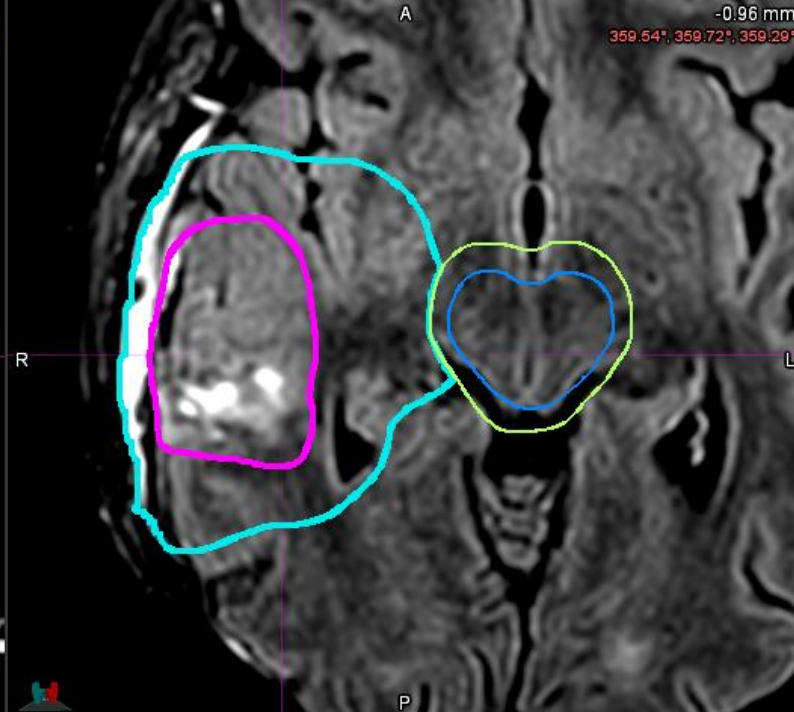
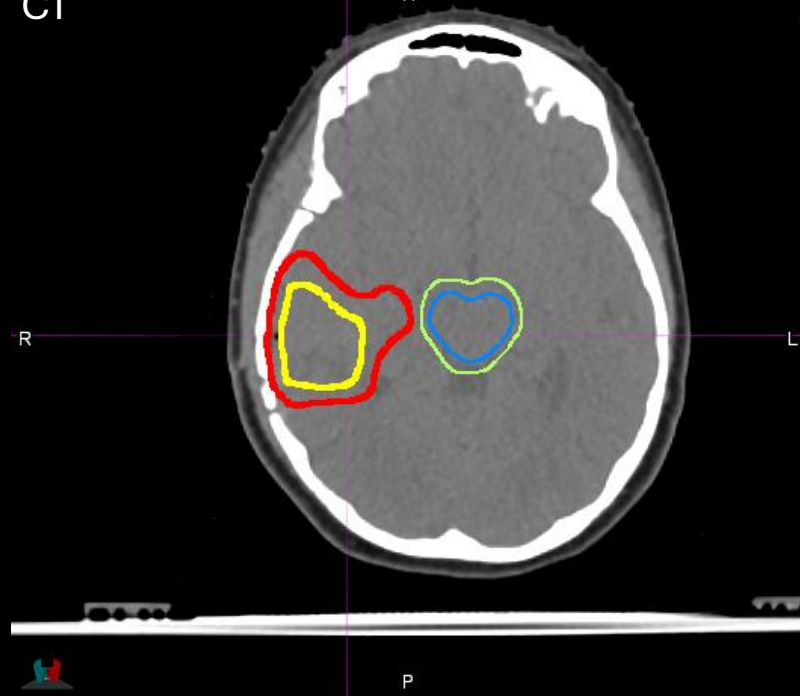




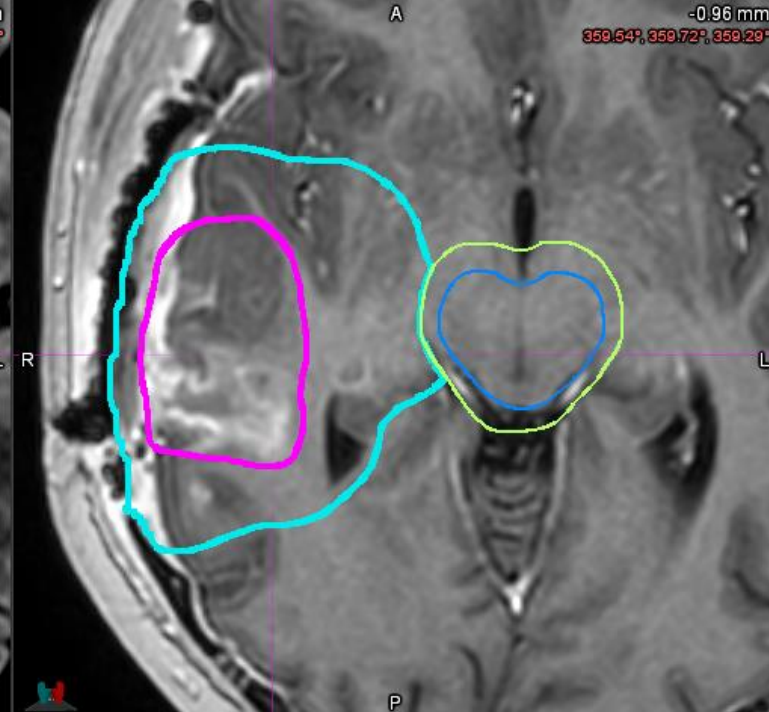
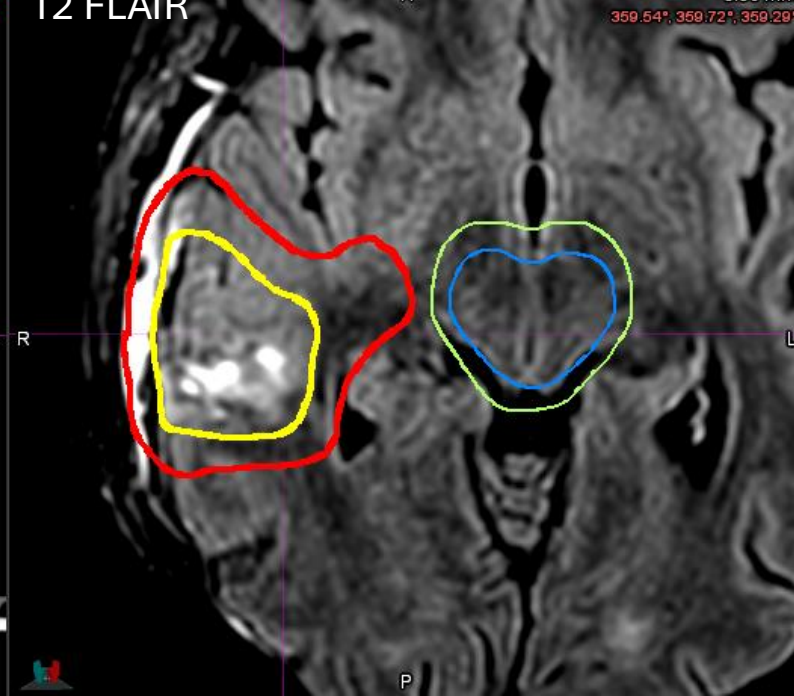




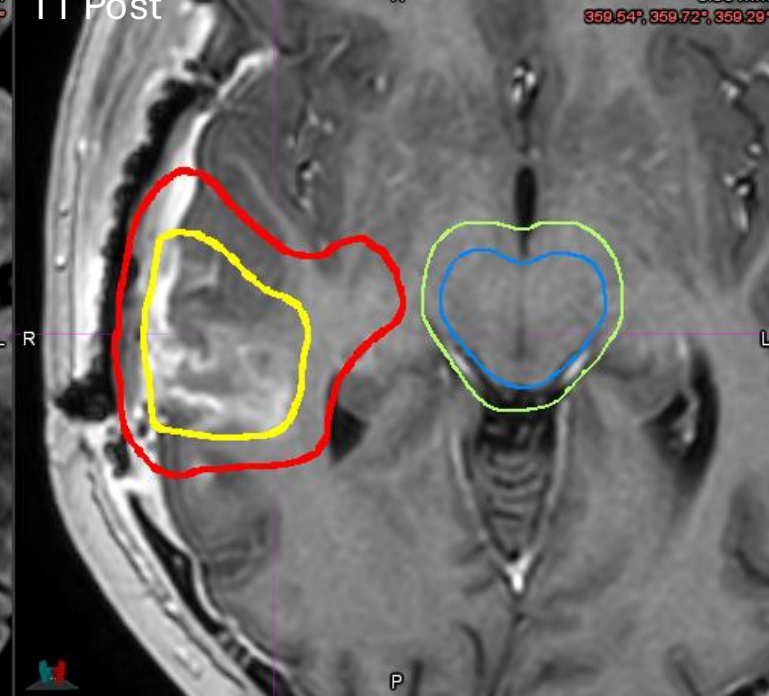
CT



T2 FLAIR

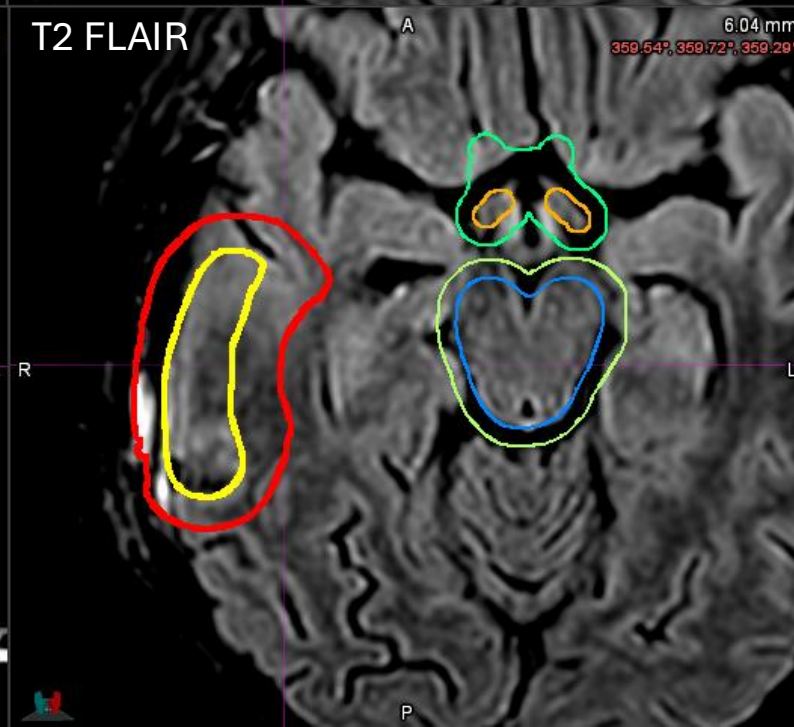
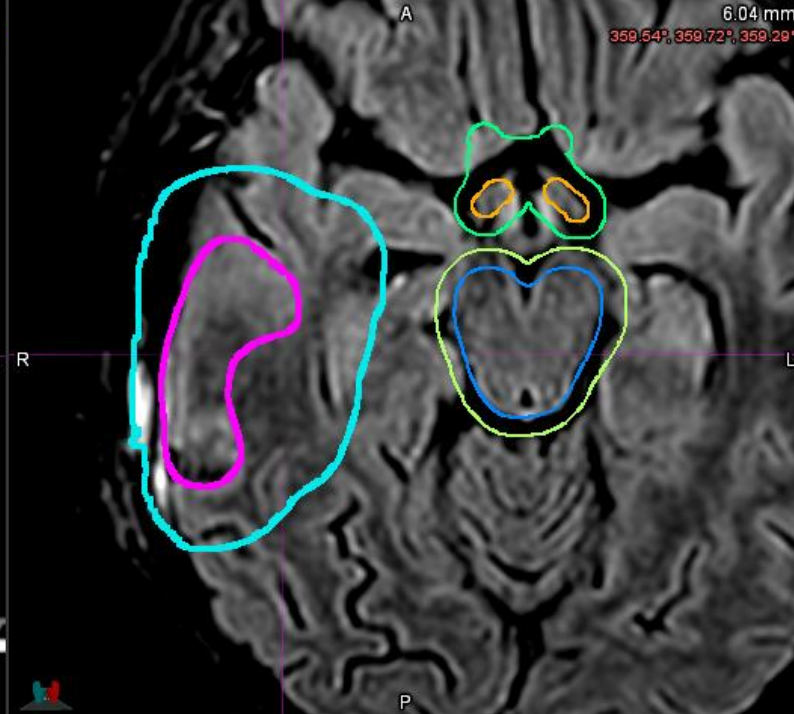


T1 Post

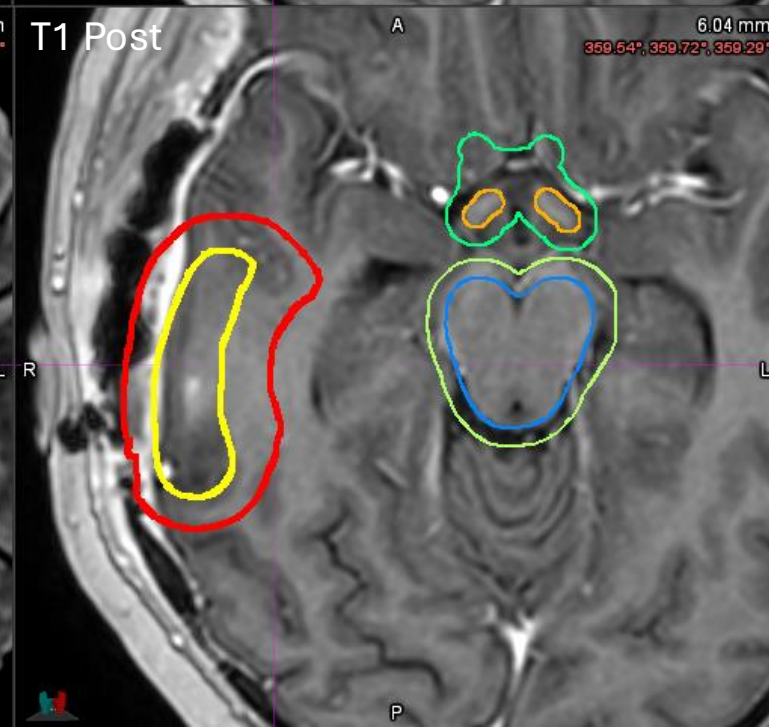
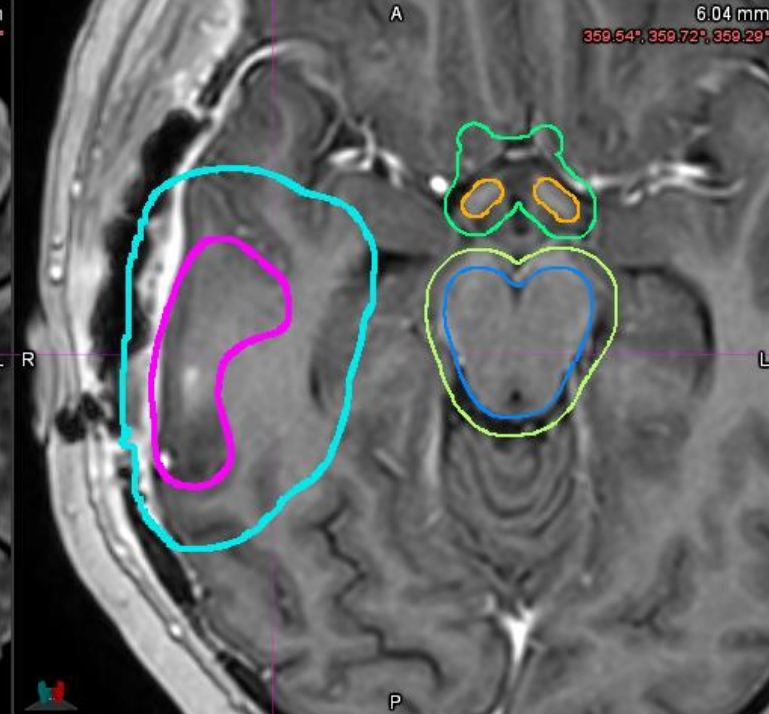




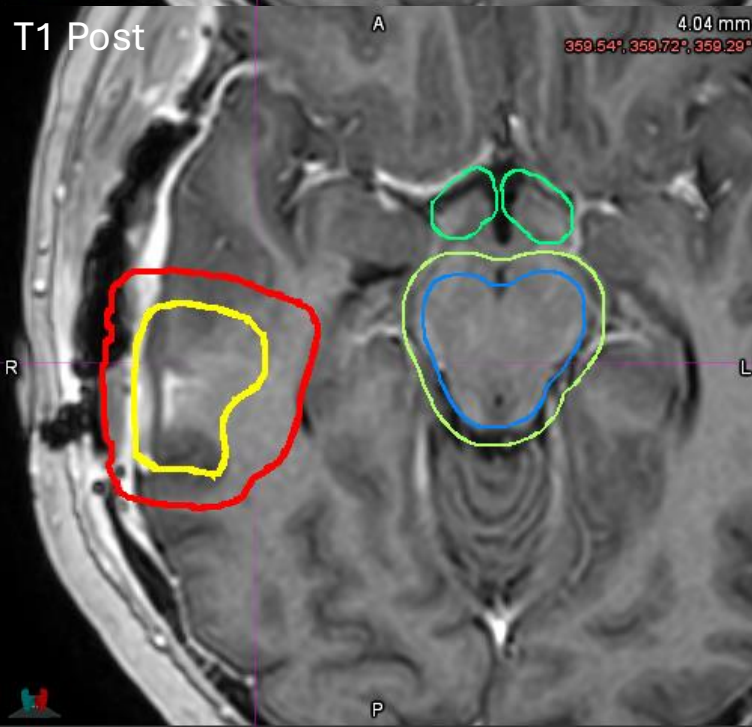
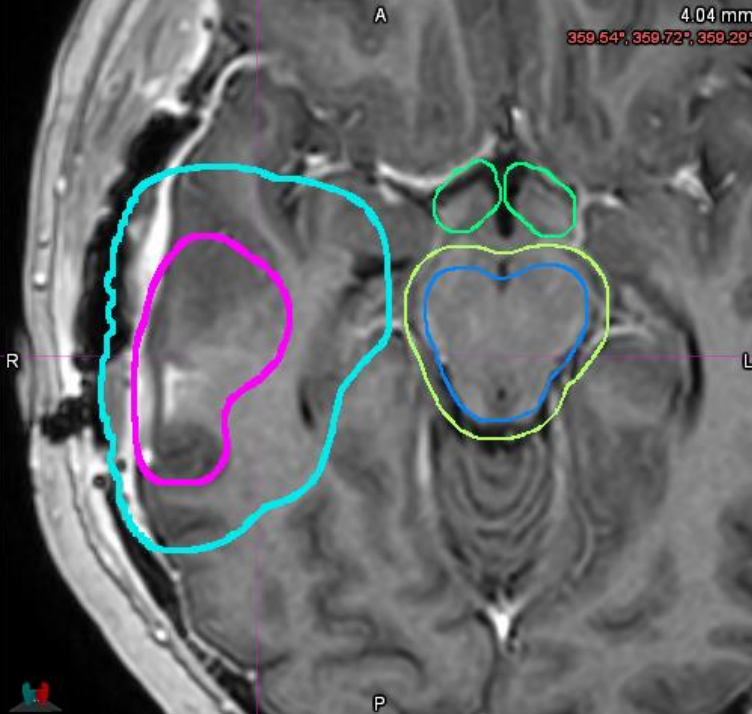
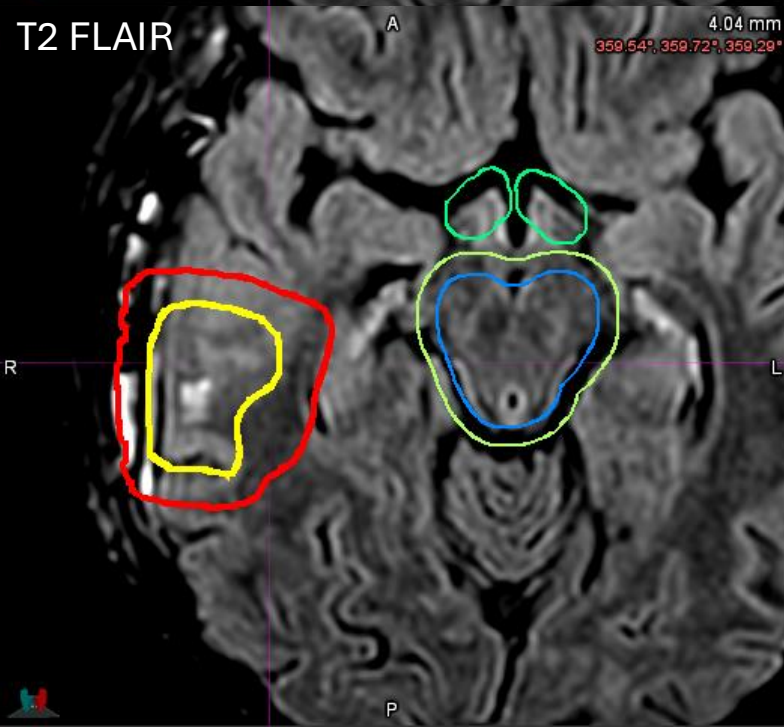
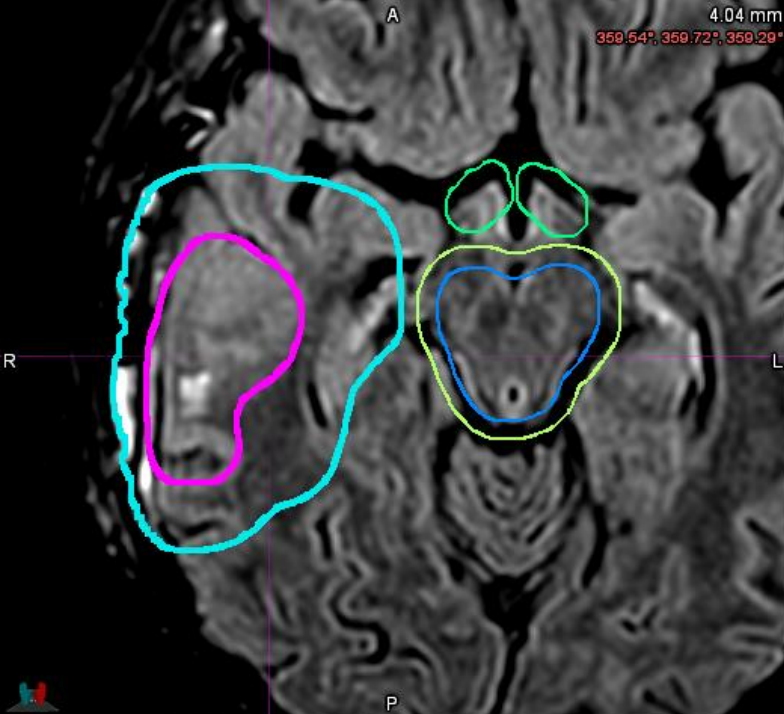
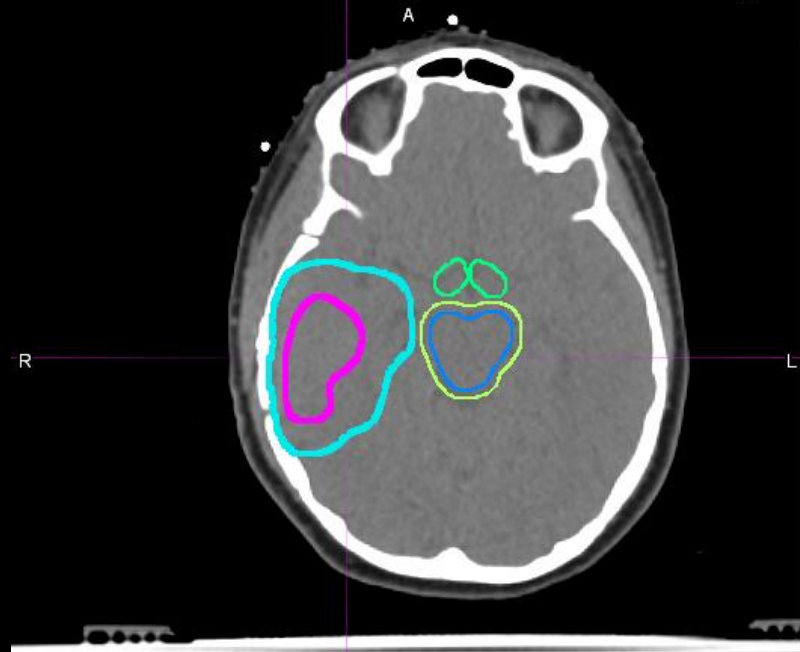
CT

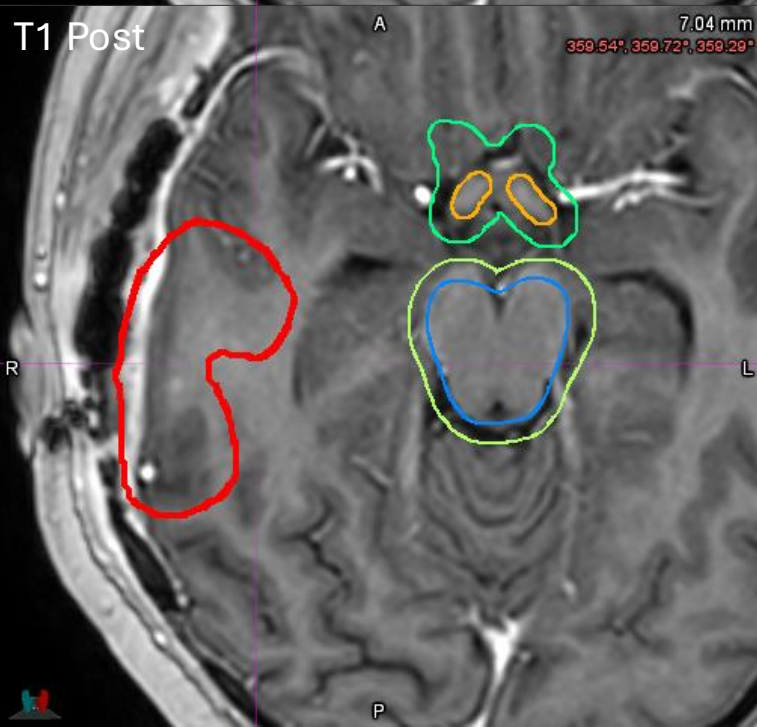
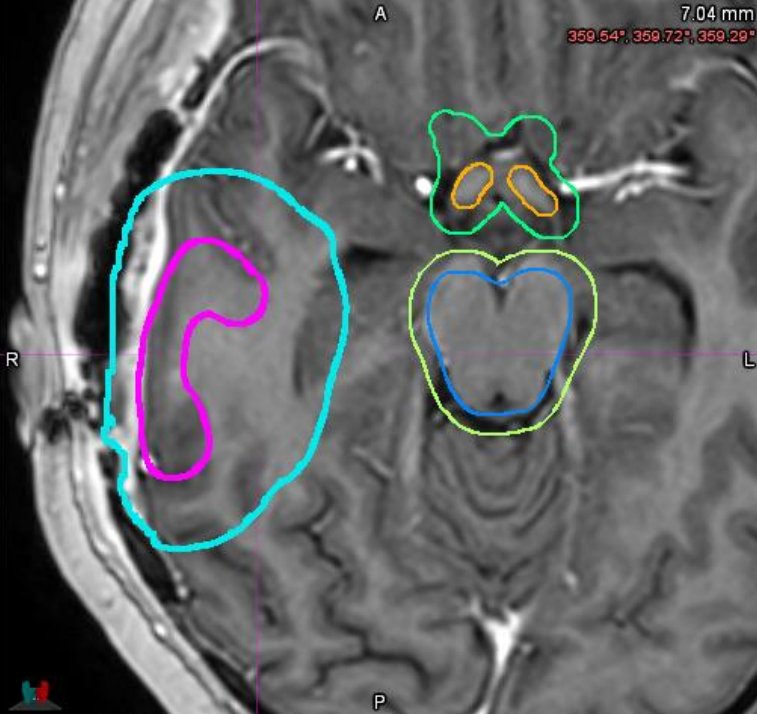
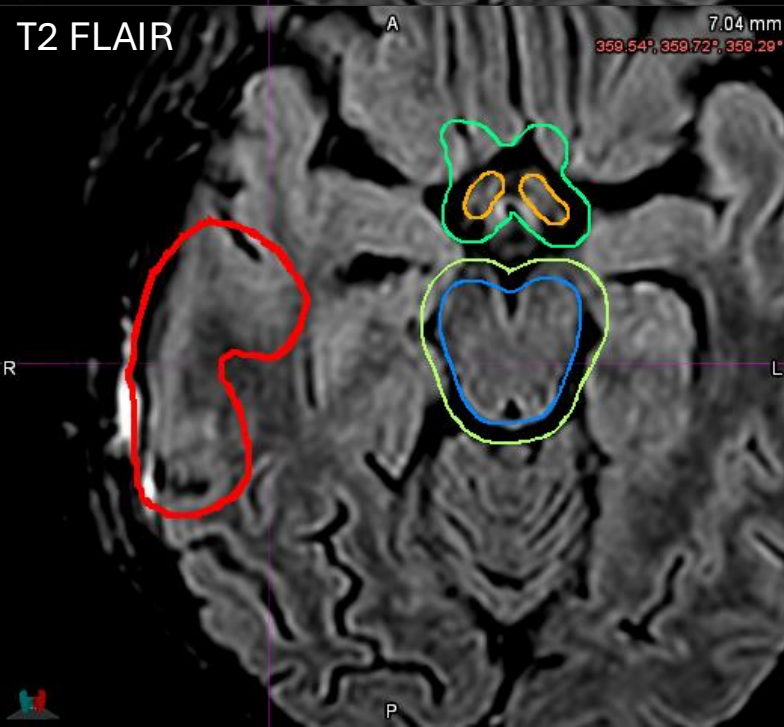
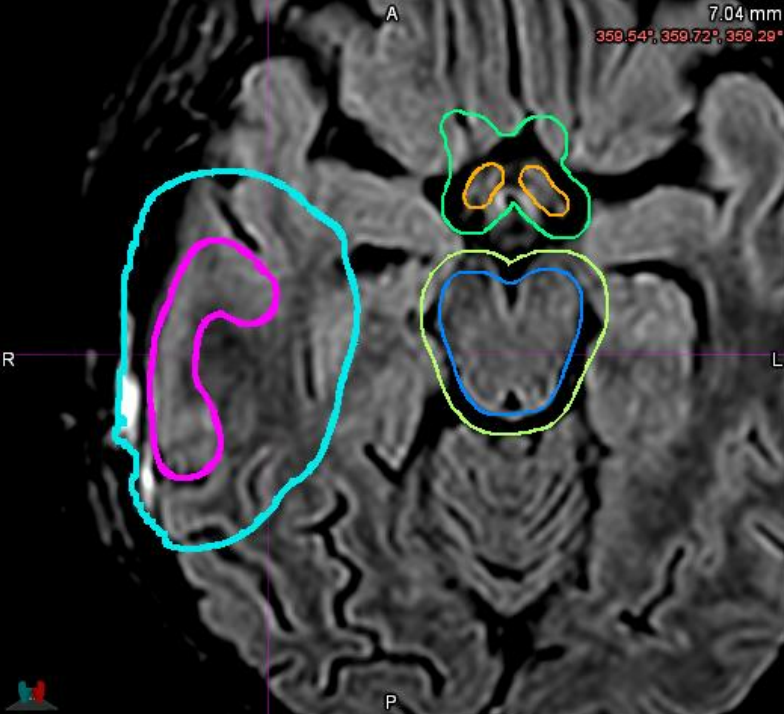
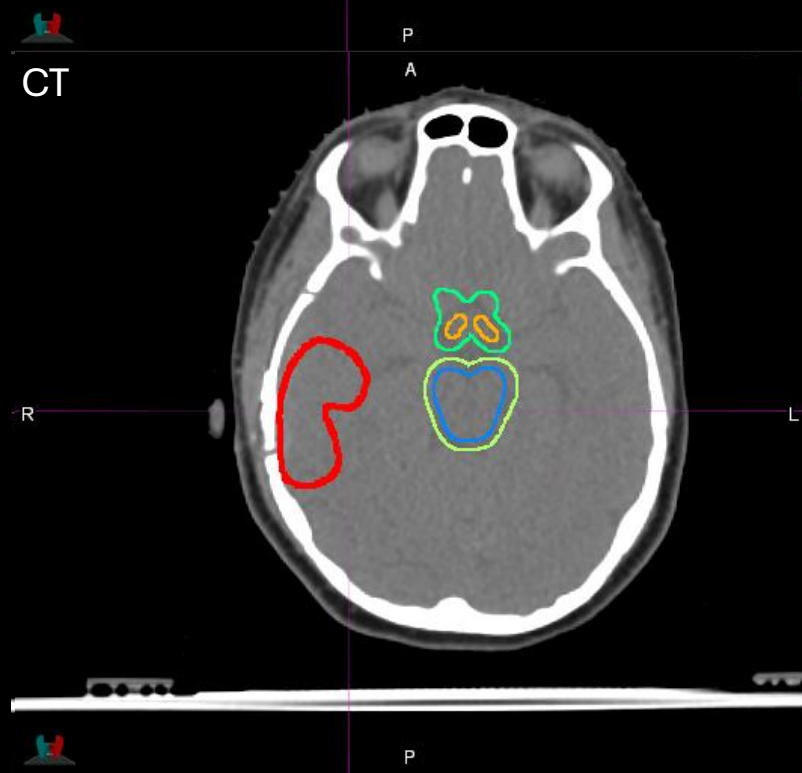


T2 FLAIR



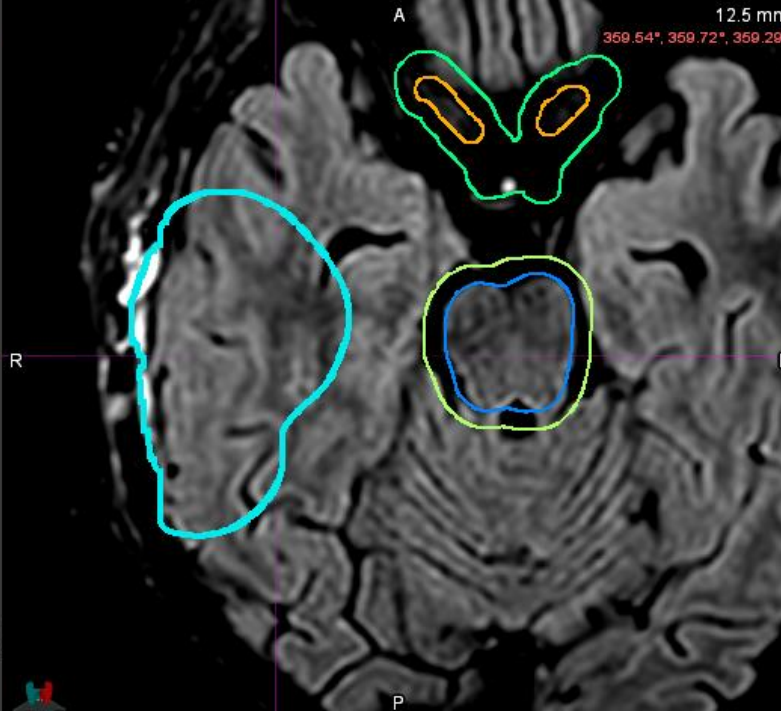
T1 Post



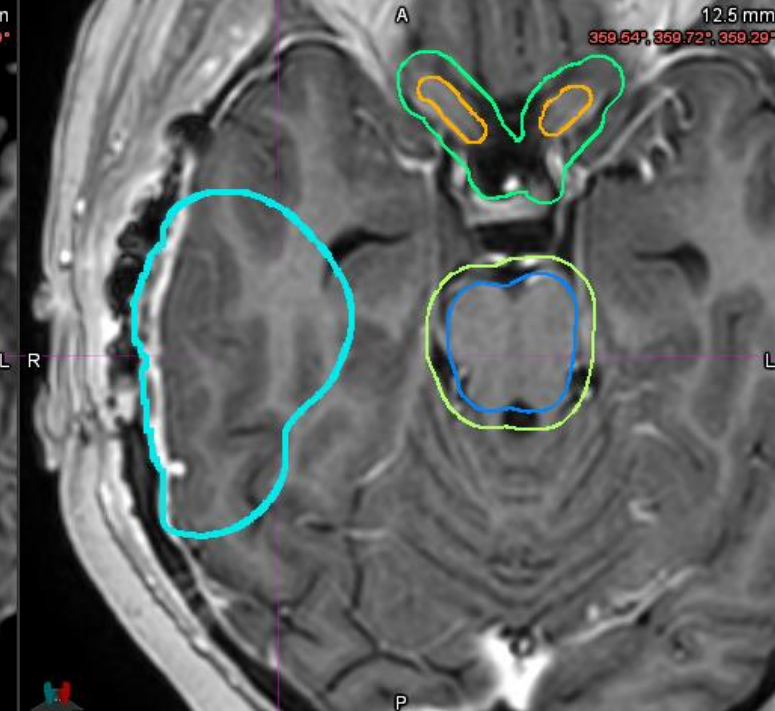
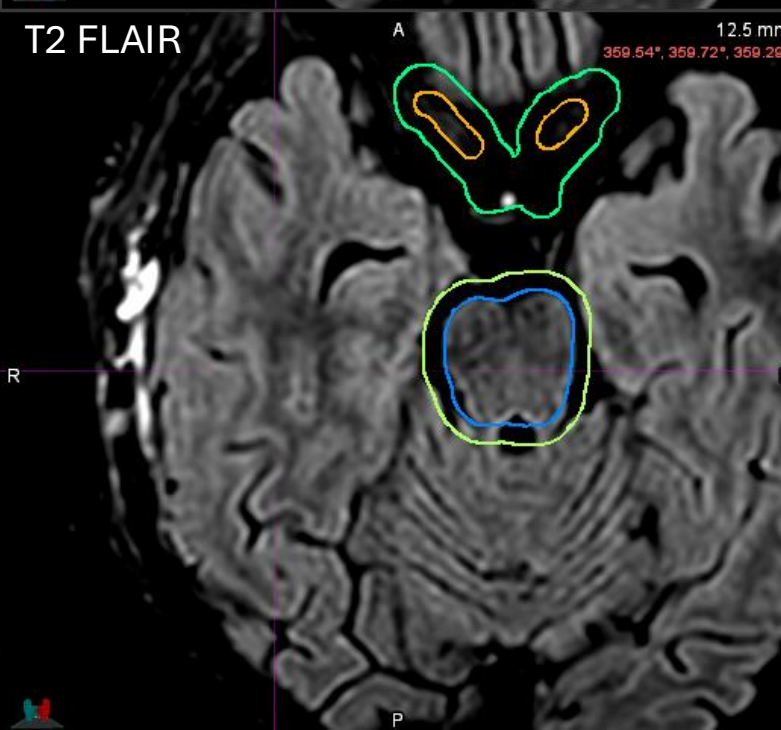




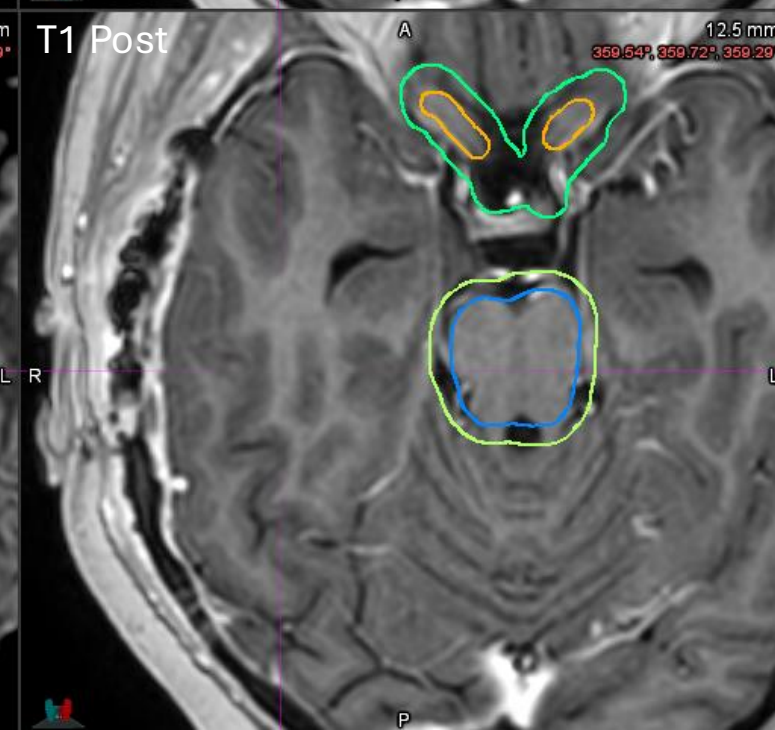
CT



T2 FLAIR



T1 Post



Infratentorial pHGG

Includes tumors with an epicenter in the brainstem or cerebellum

GTV1 = residual tumor (both enhancing and non-enhancing) and all tissues initially involved with disease

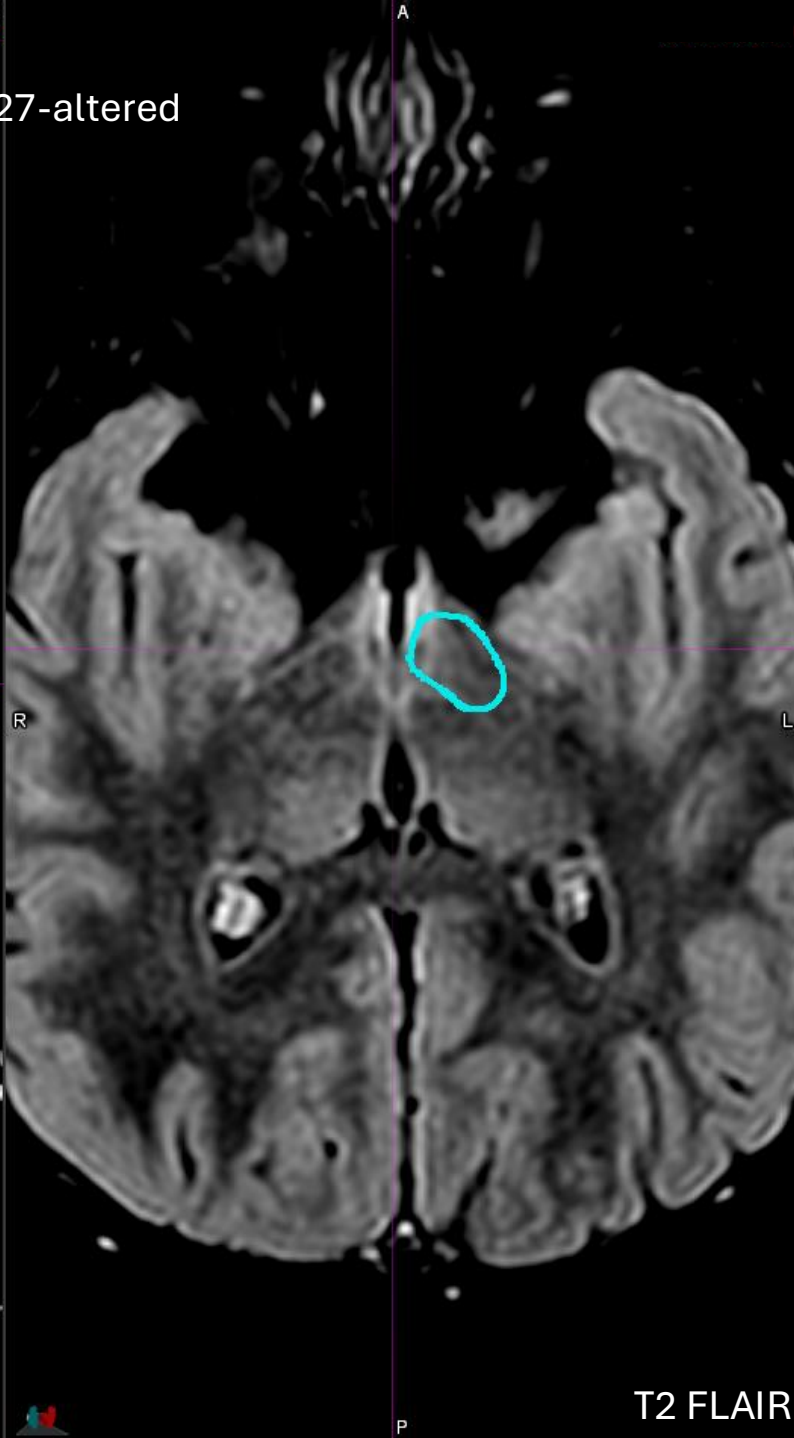
CTV1 = 1.0 cm anatomically constrained isotropic expansion of **GTV1**

GTV2/CTV2 are not defined for Infratentorial pHGG

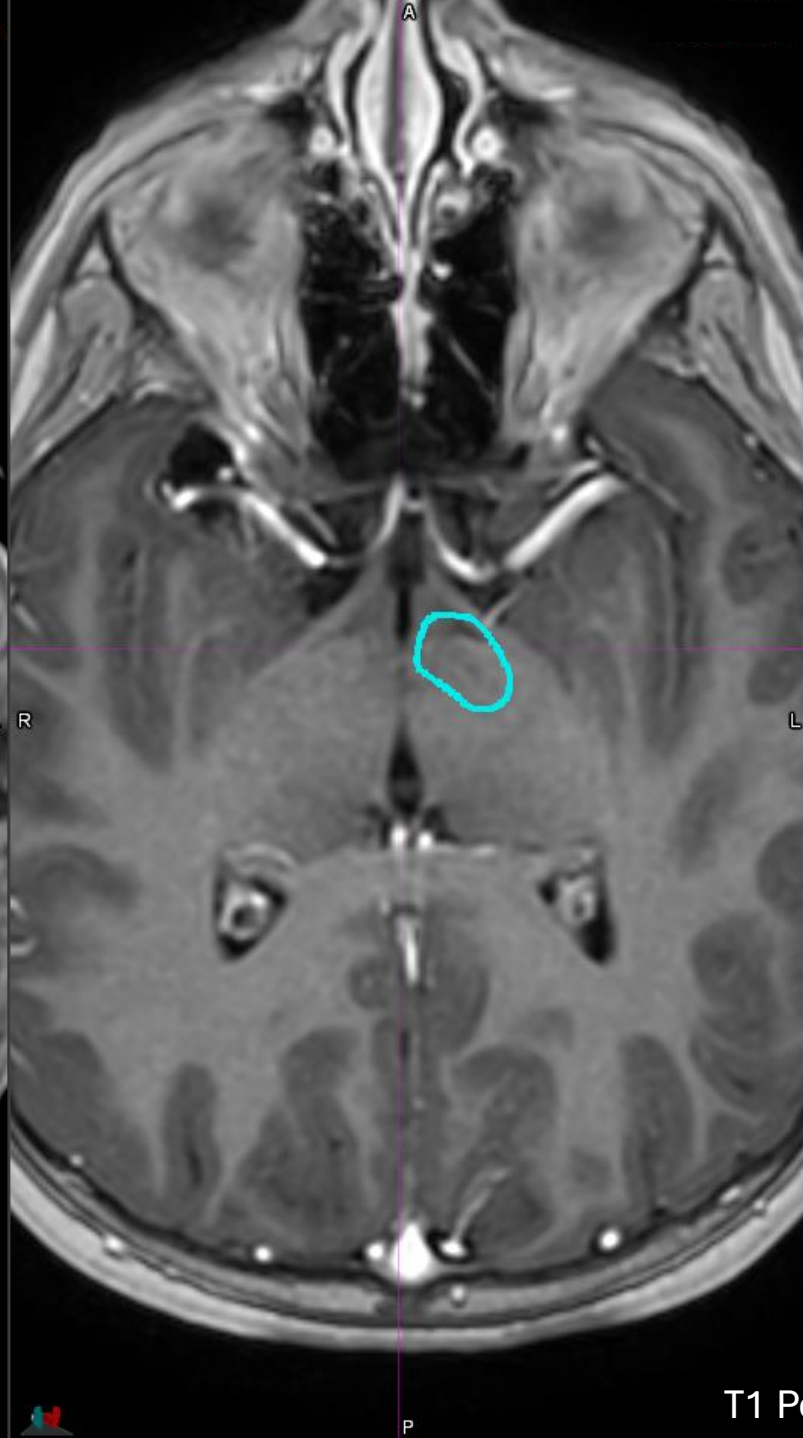
Clinical and Radiographic DIPG;
biopsy-confirmed diffuse midline glioma, H3 K27-altered



CT



T2 FLAIR



T1 Post

