

# 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

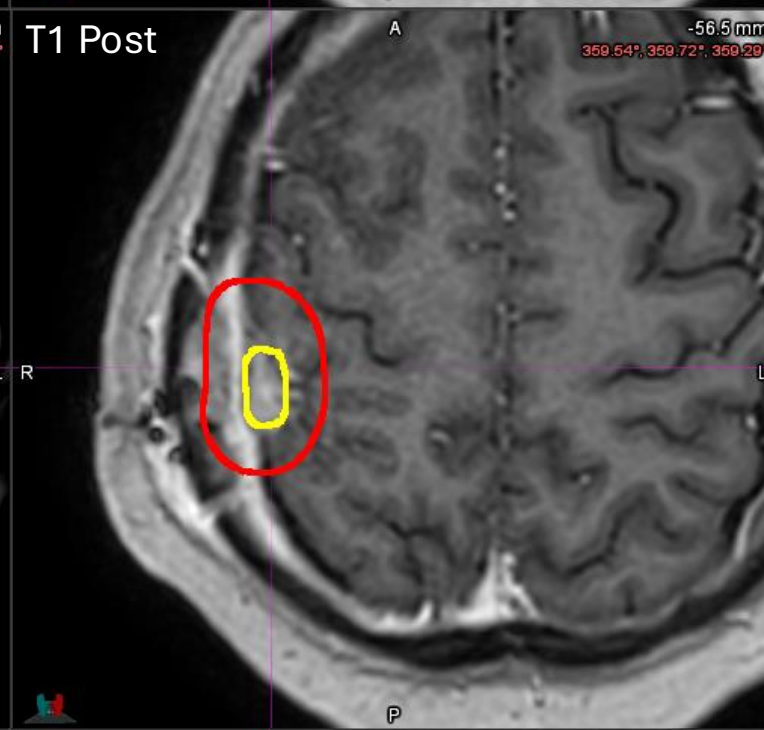
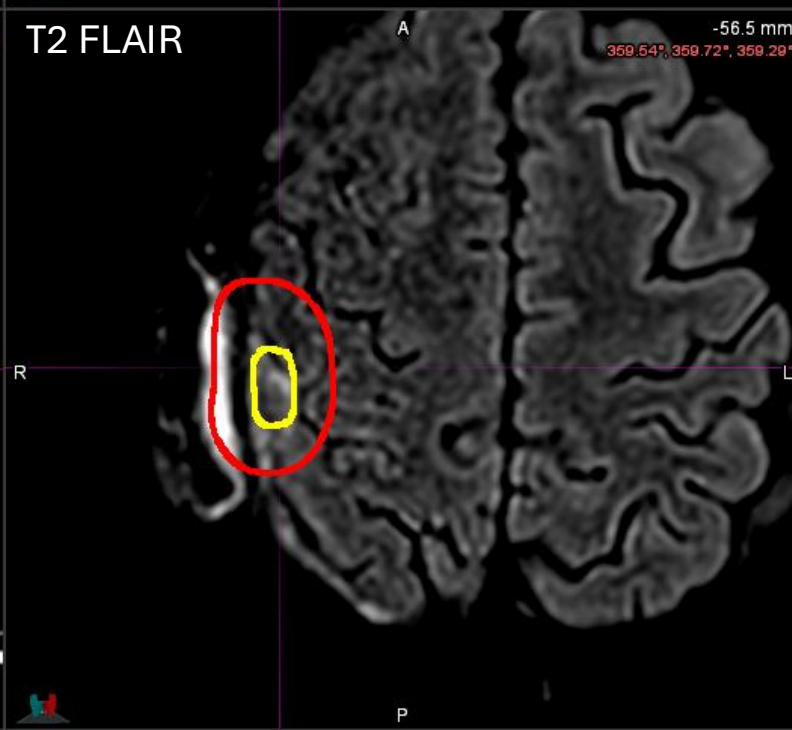
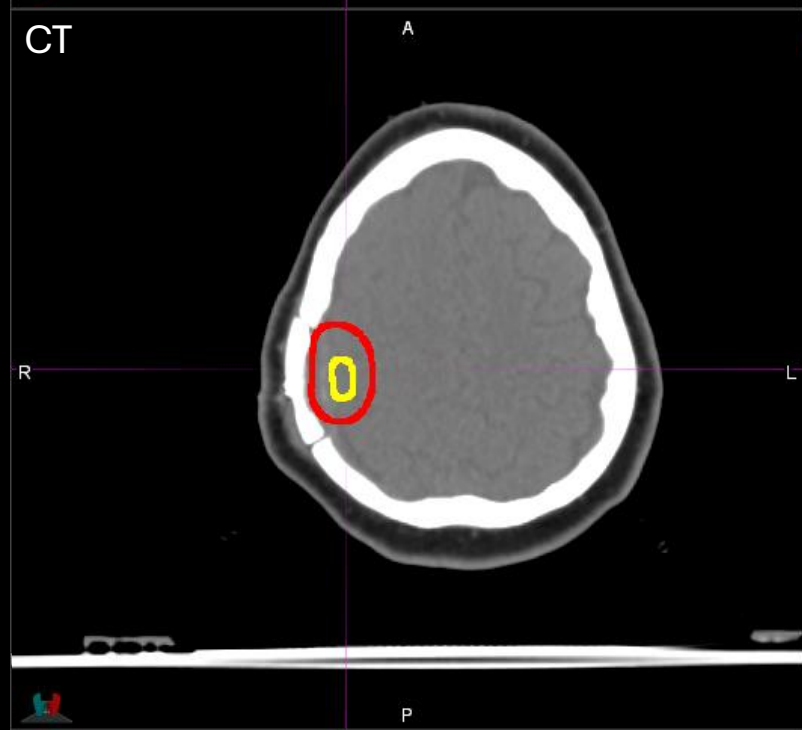
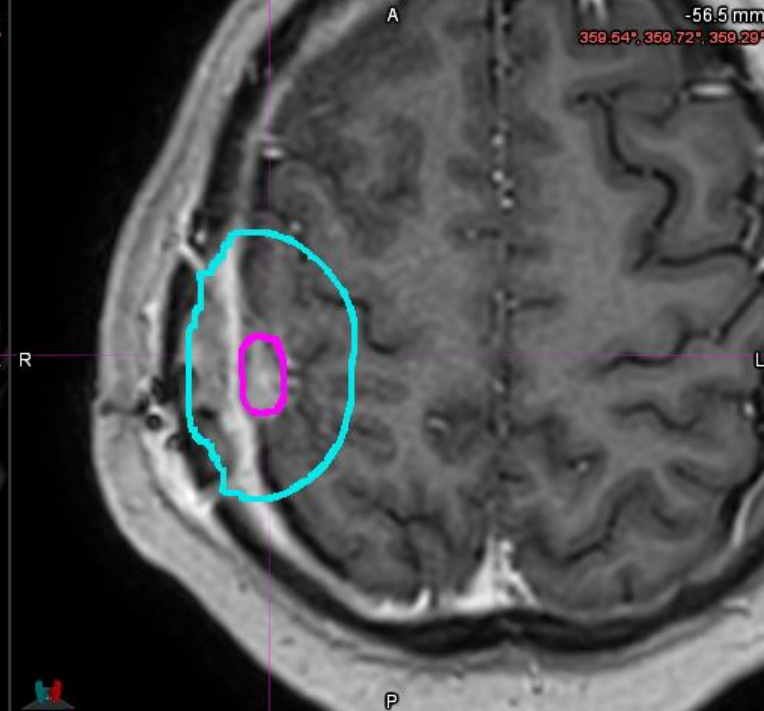
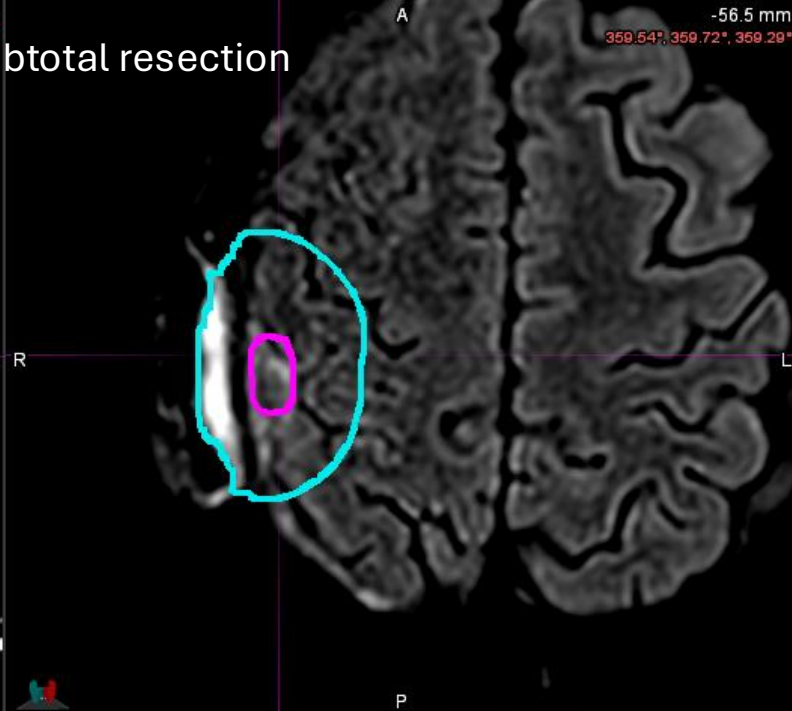
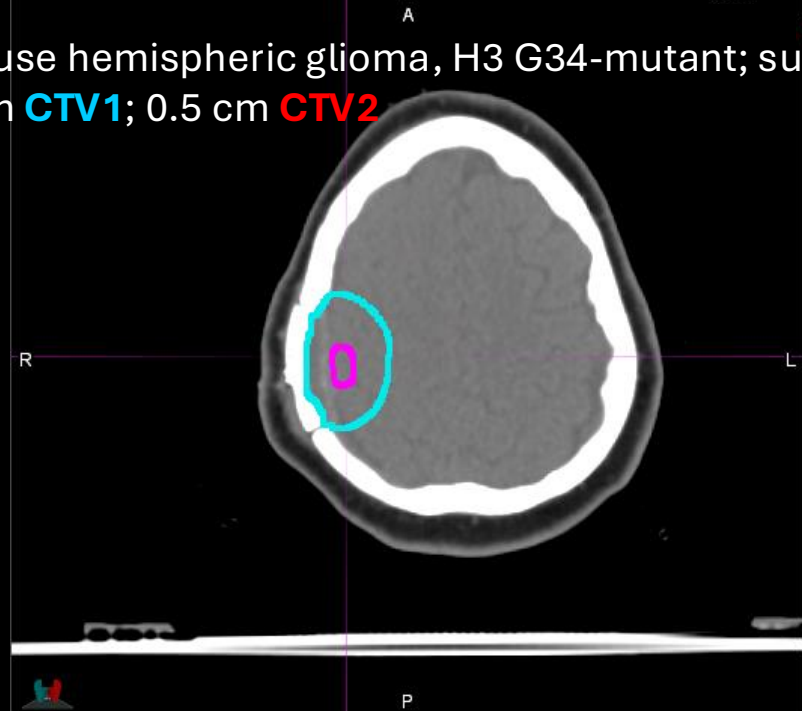
**GTV2** = residual tumor only (both enhancing and non-enhancing)

- 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)*

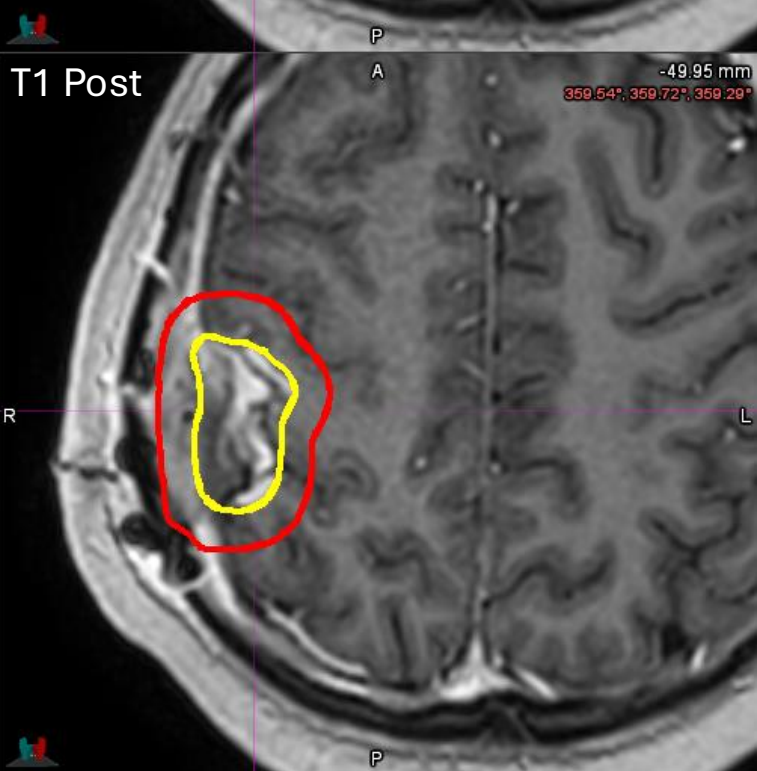
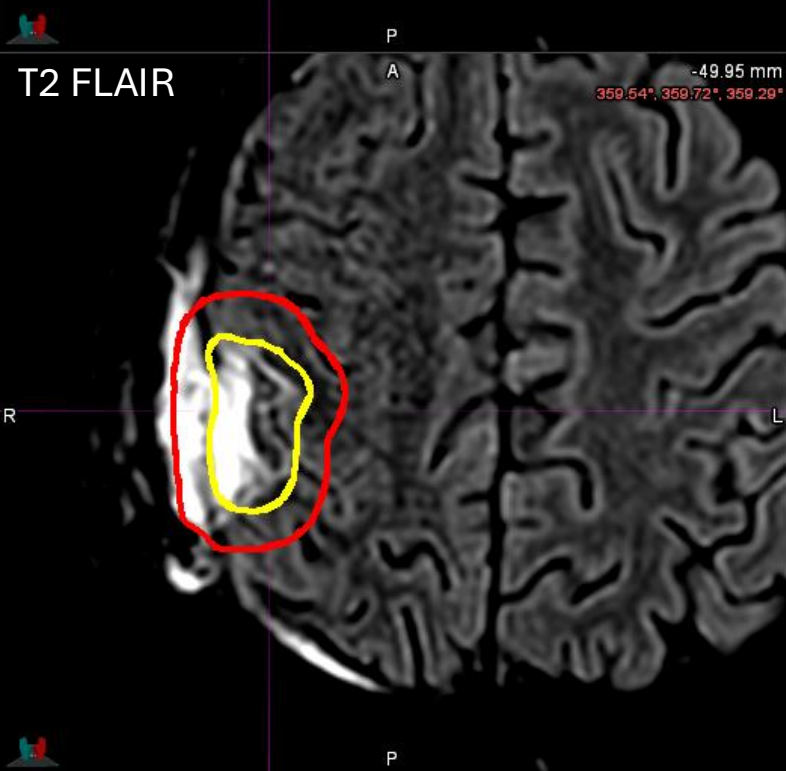
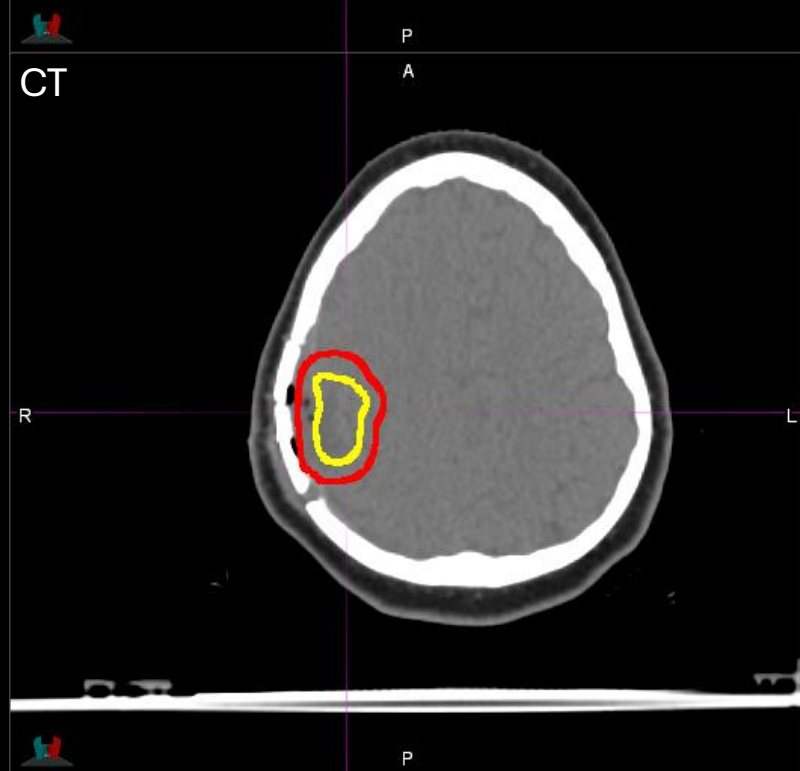
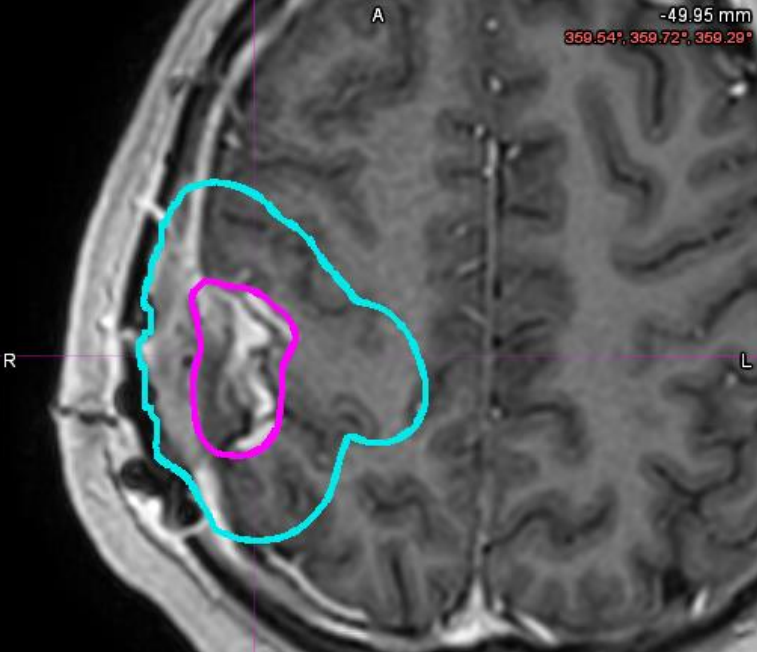
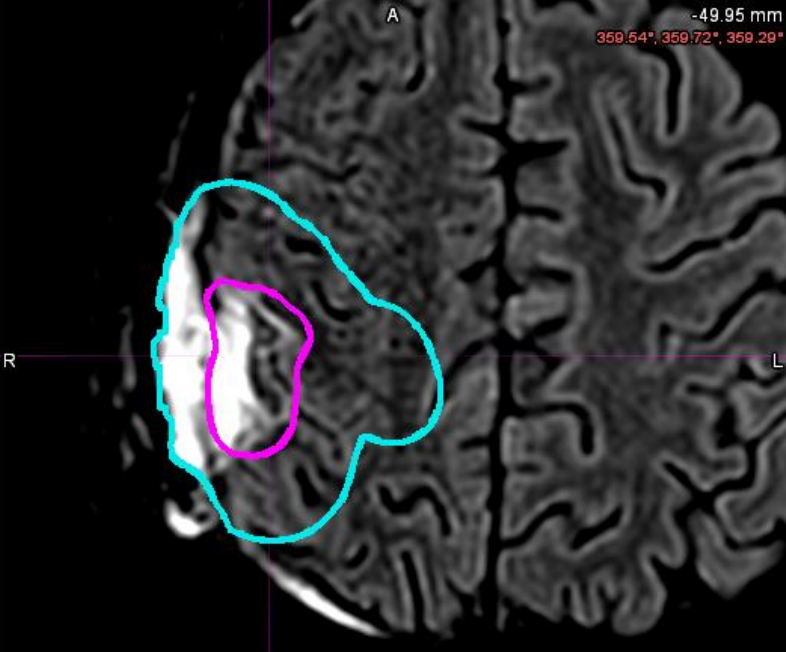
**CTV2** = 0.5-1 cm anatomically constrained expansion of **GTV2**

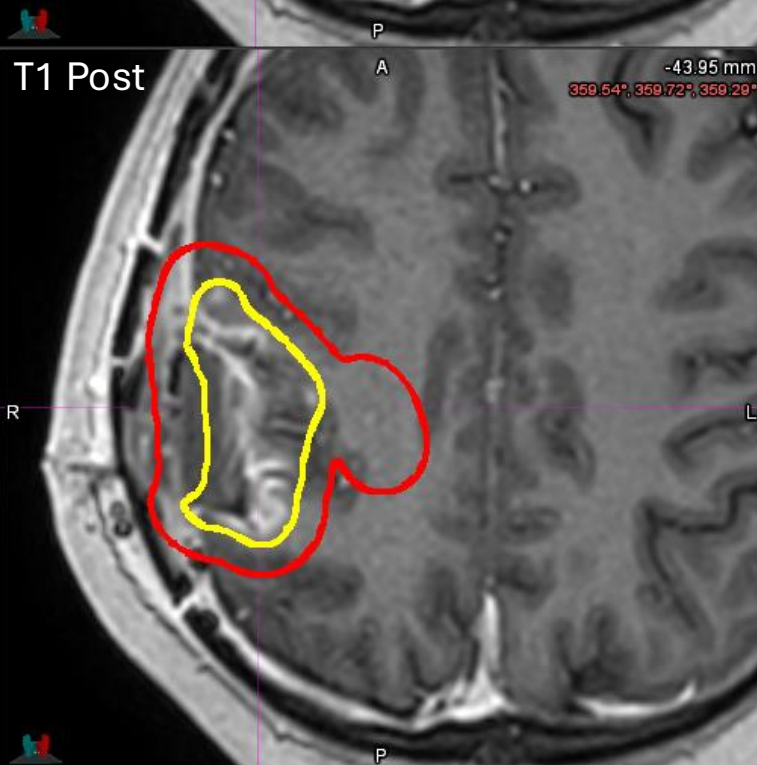
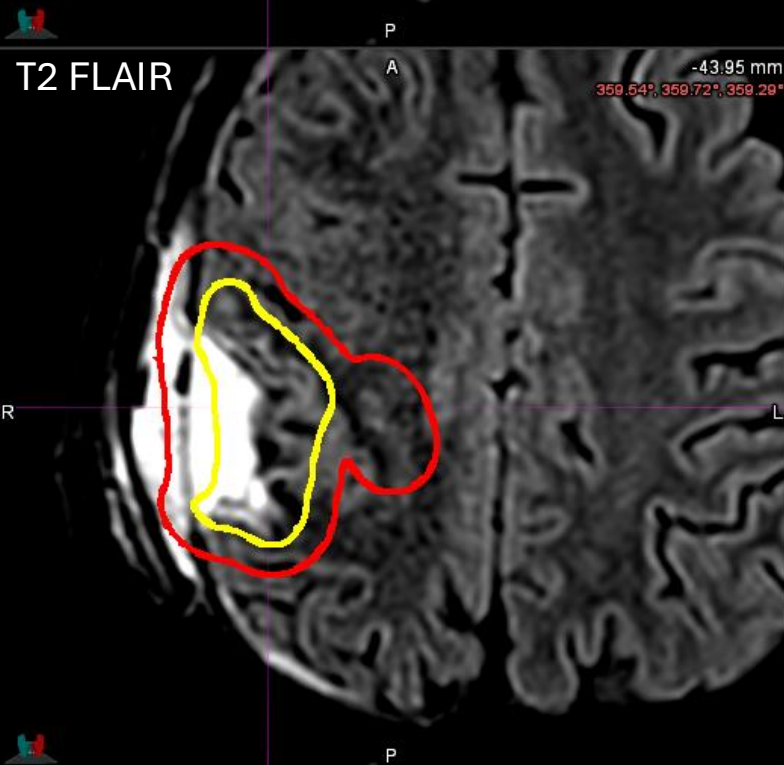
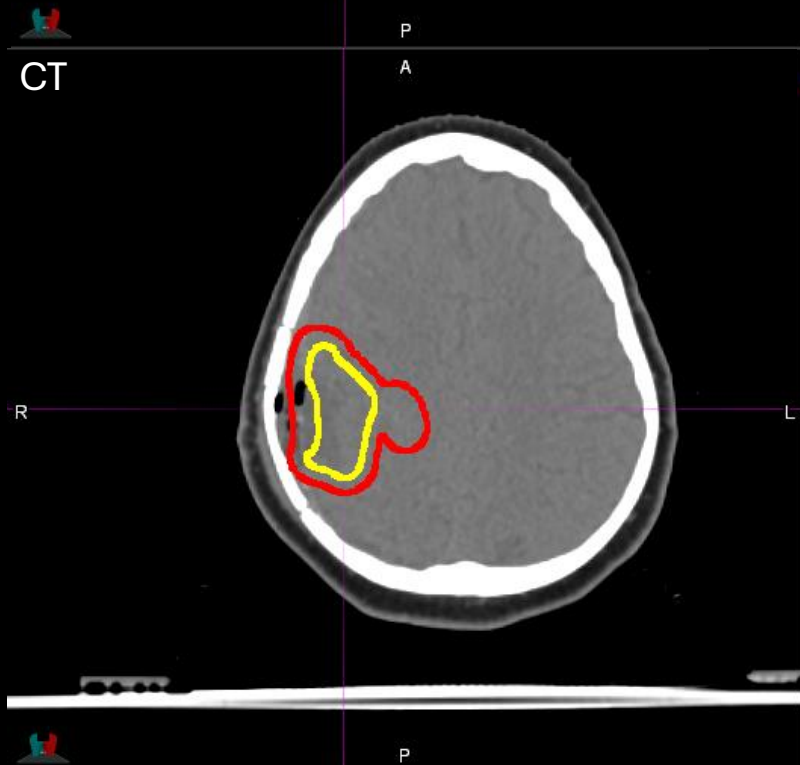
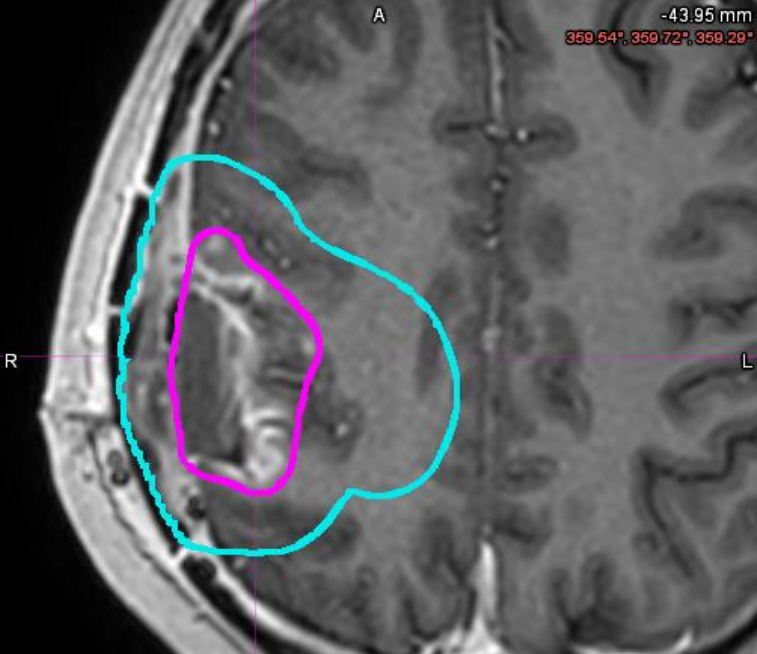
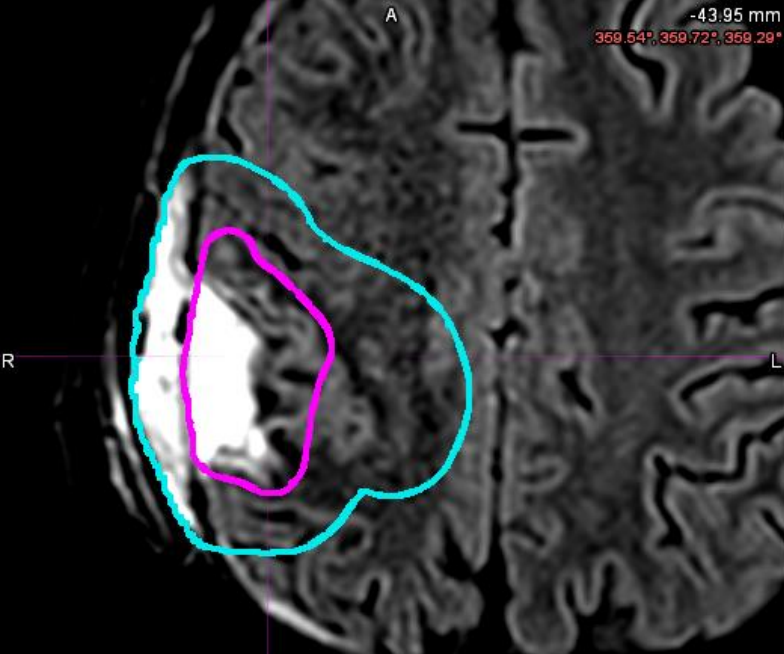
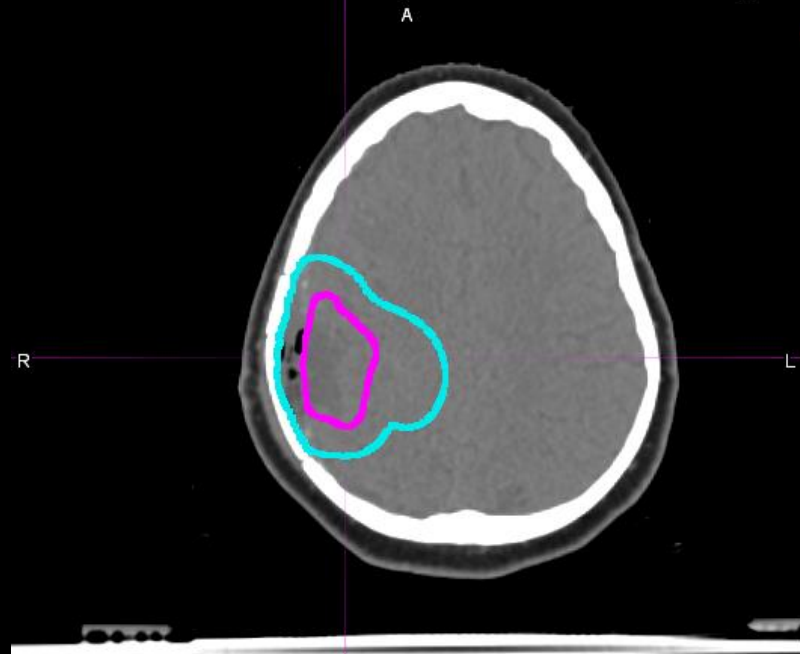
- Not defined for cases that are completely resected
- Should exclude regions of residual tumor within 3 mm of brainstem or optic chiasm/nerves
- When **GTV2** is not adjacent to major white matter tracts, a 0.5 cm expansion is recommended
- For disease abutting major white matter tracts, a 1 cm expansion 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**

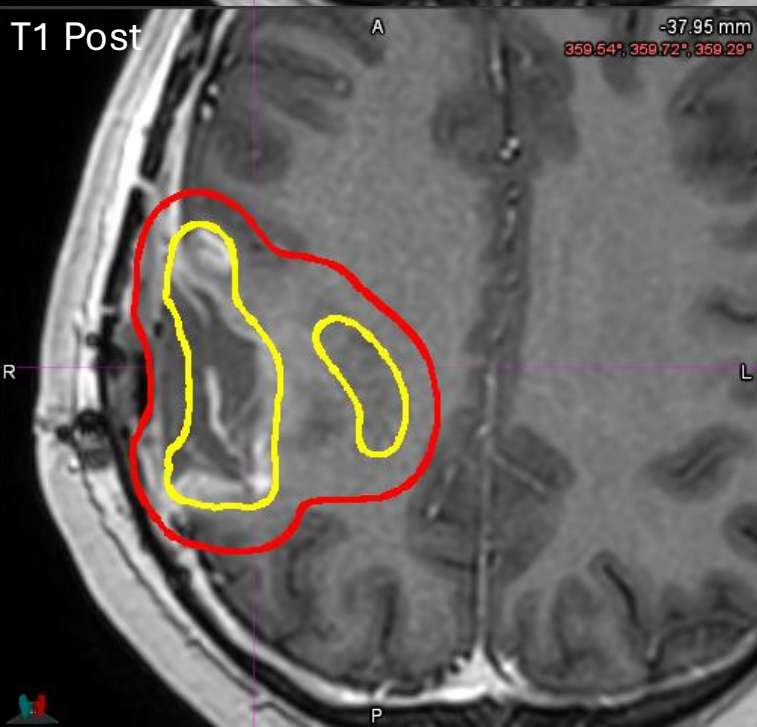
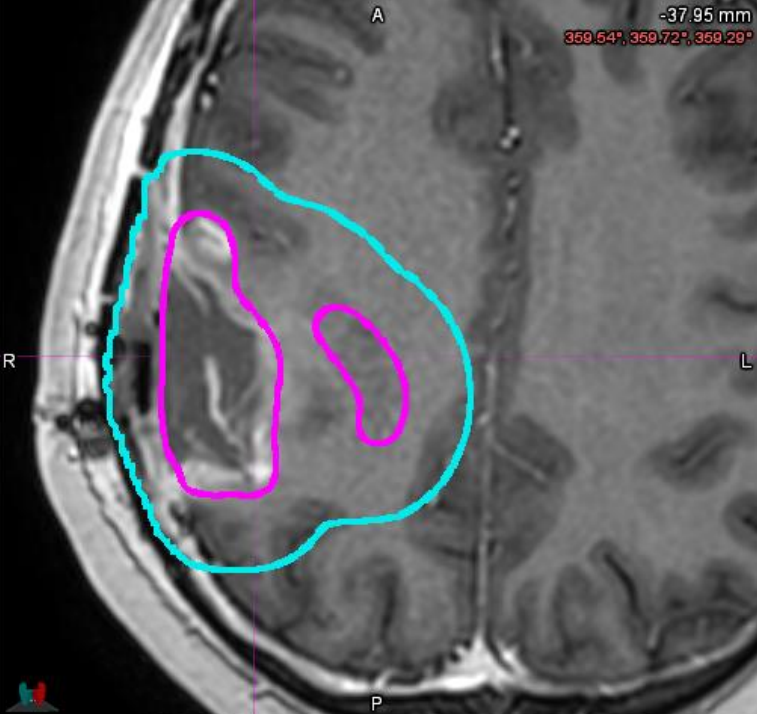
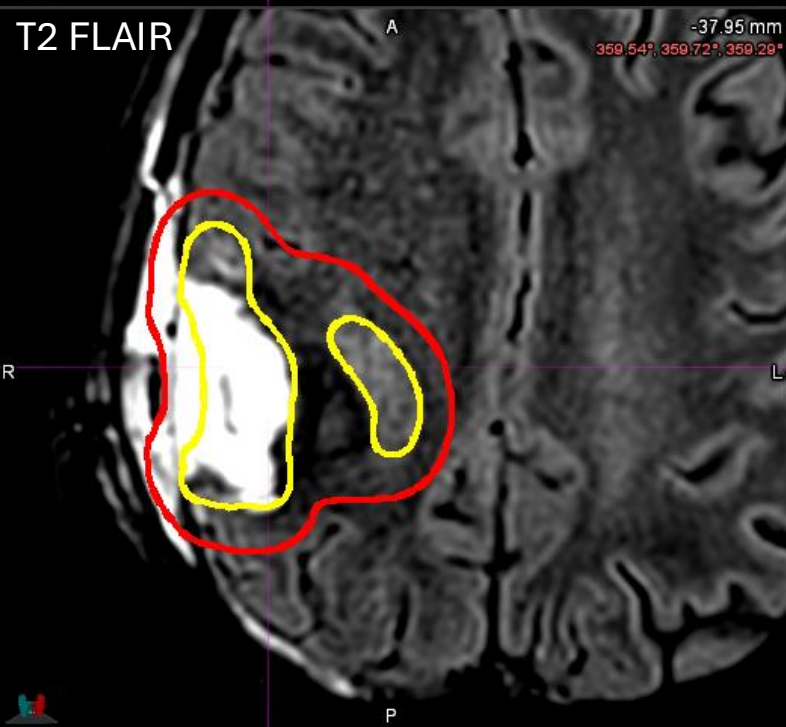
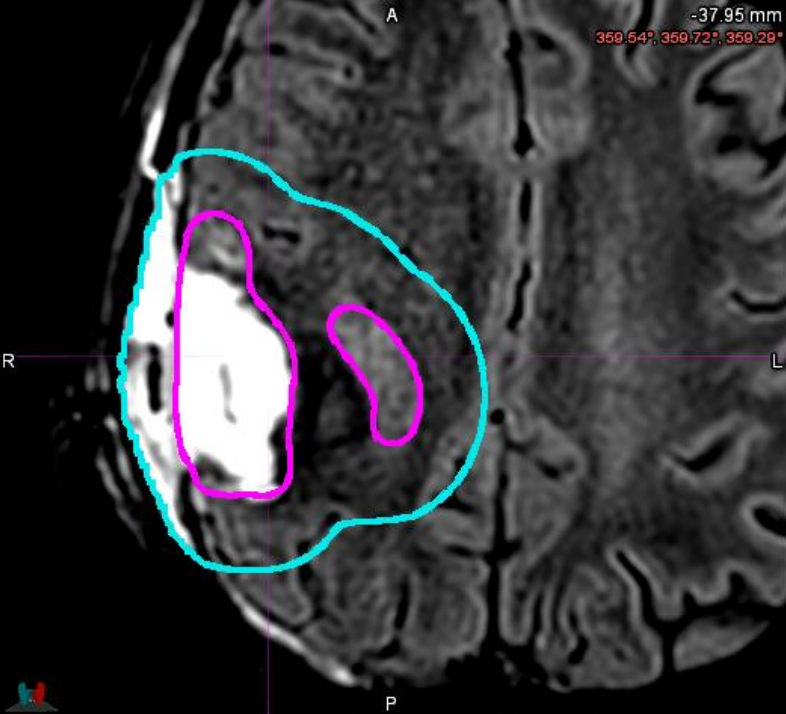
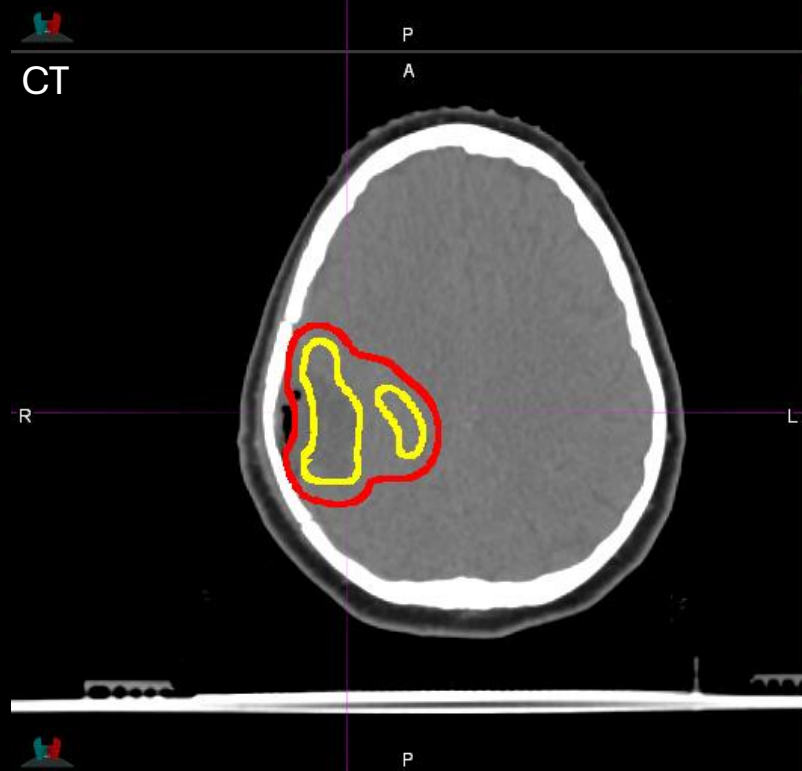
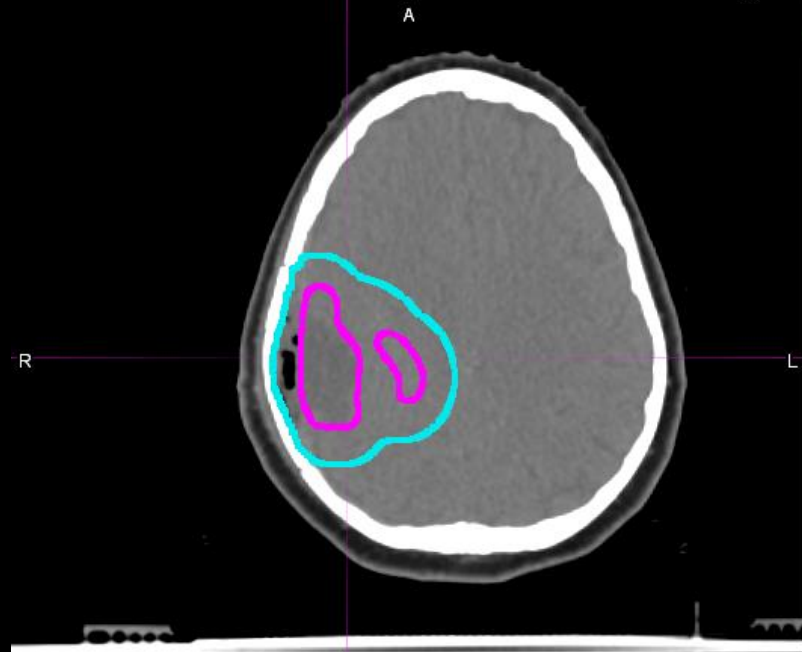




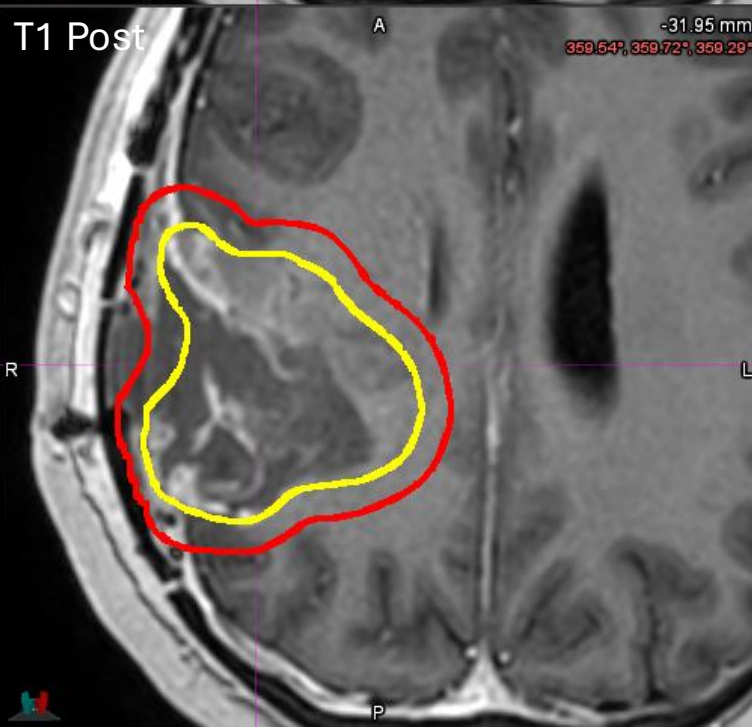
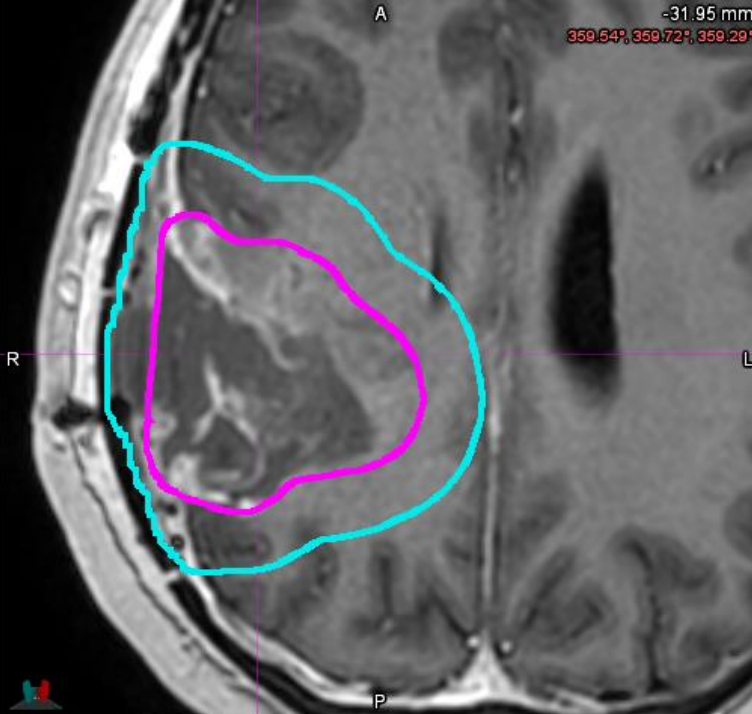
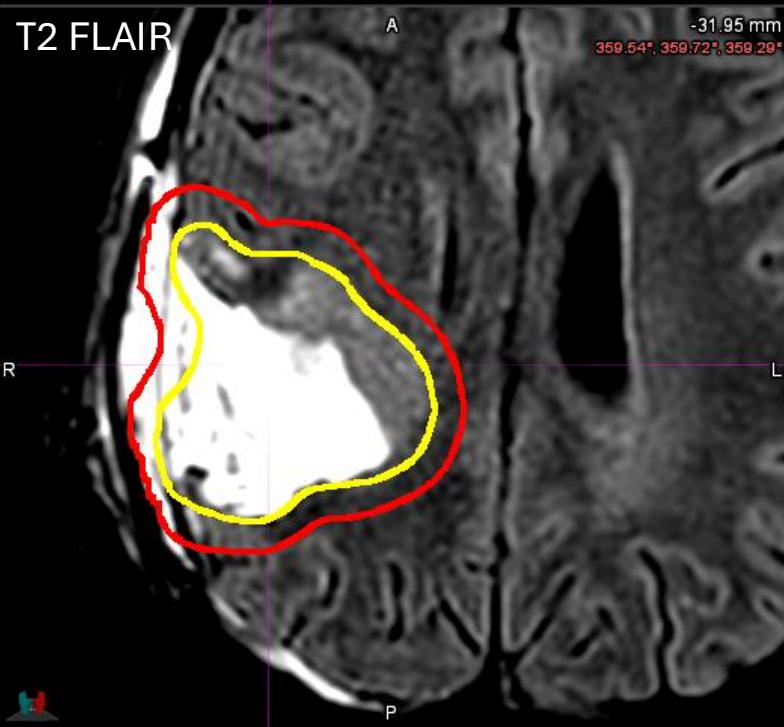
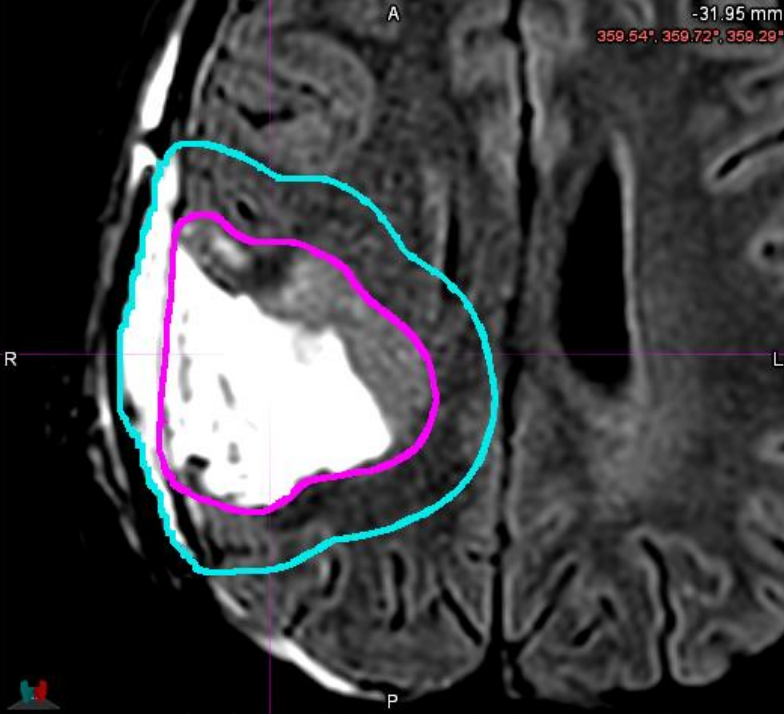
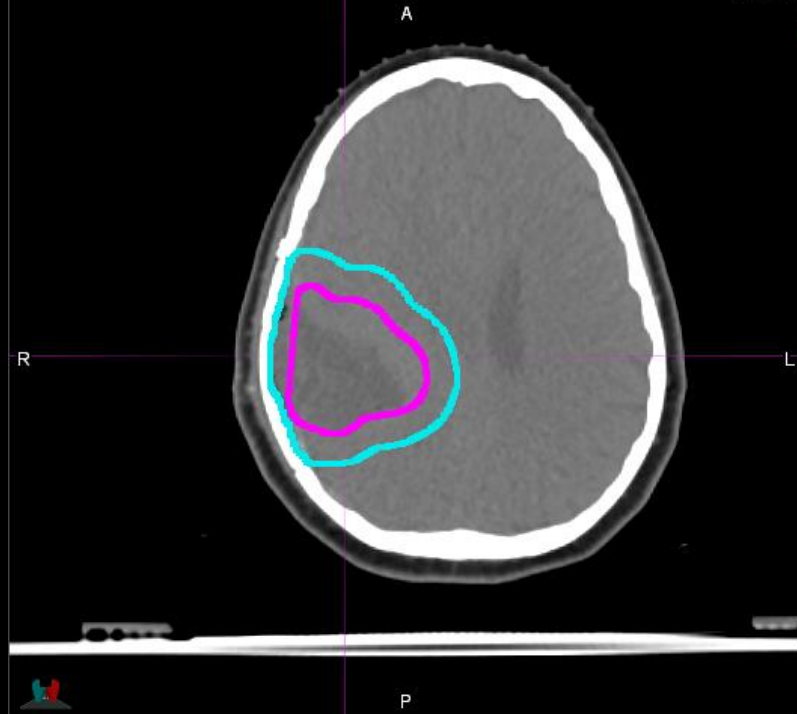


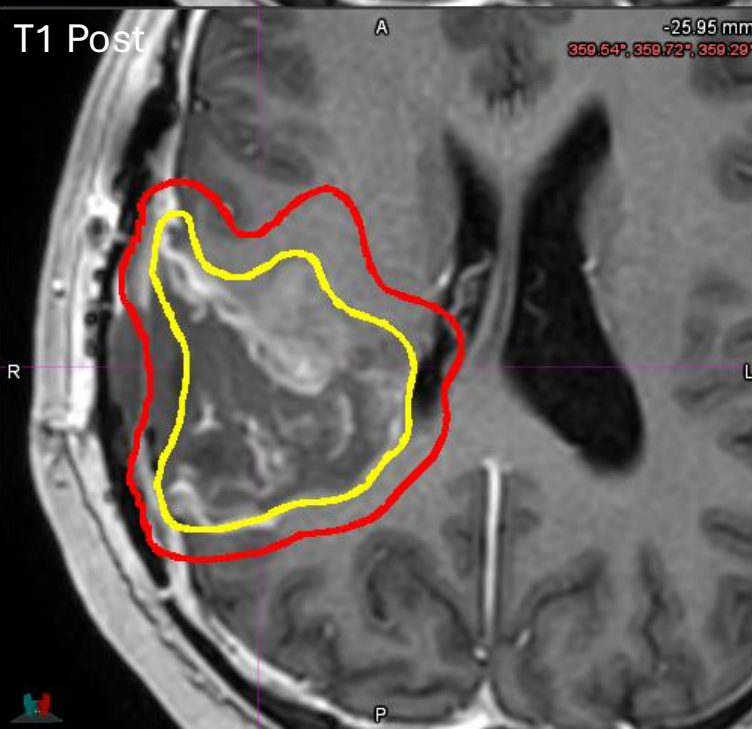
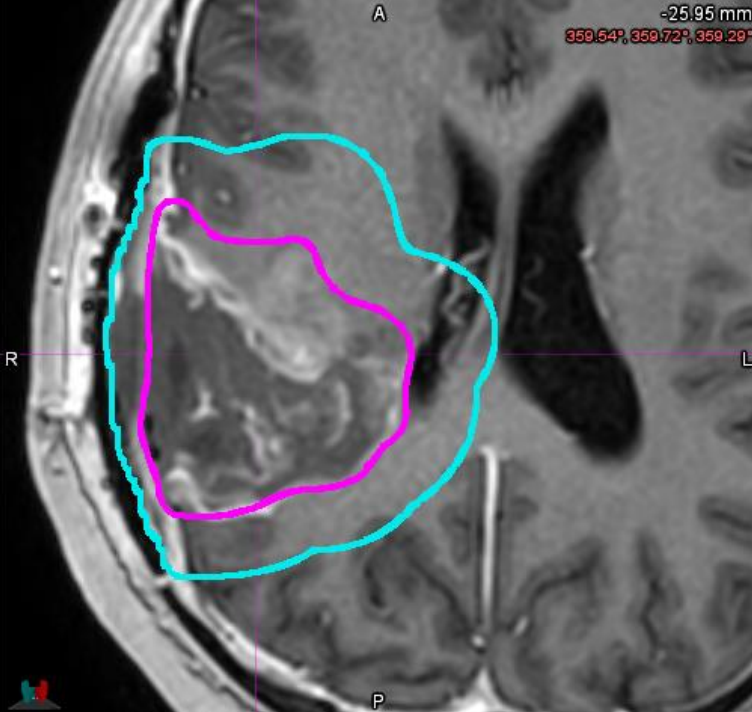
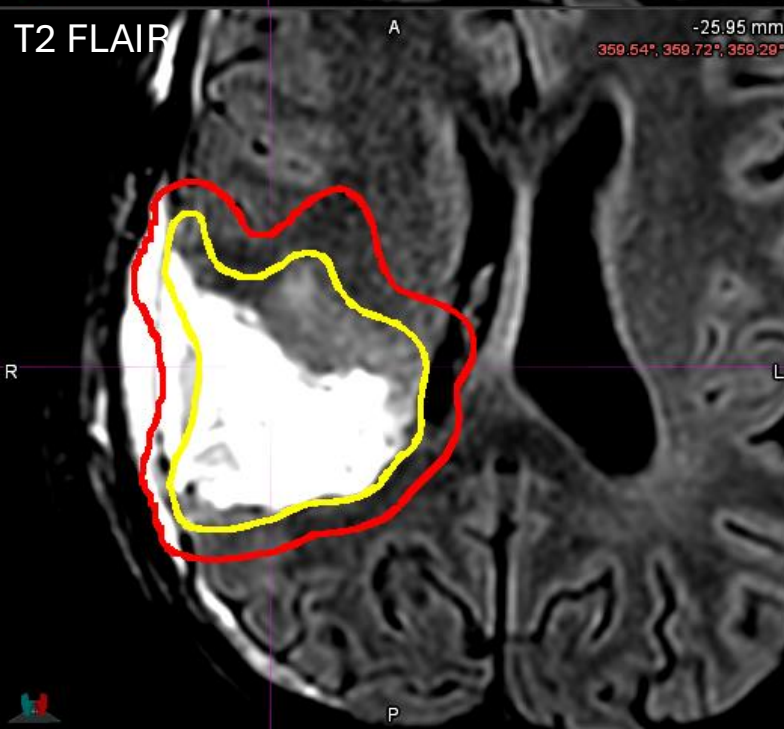
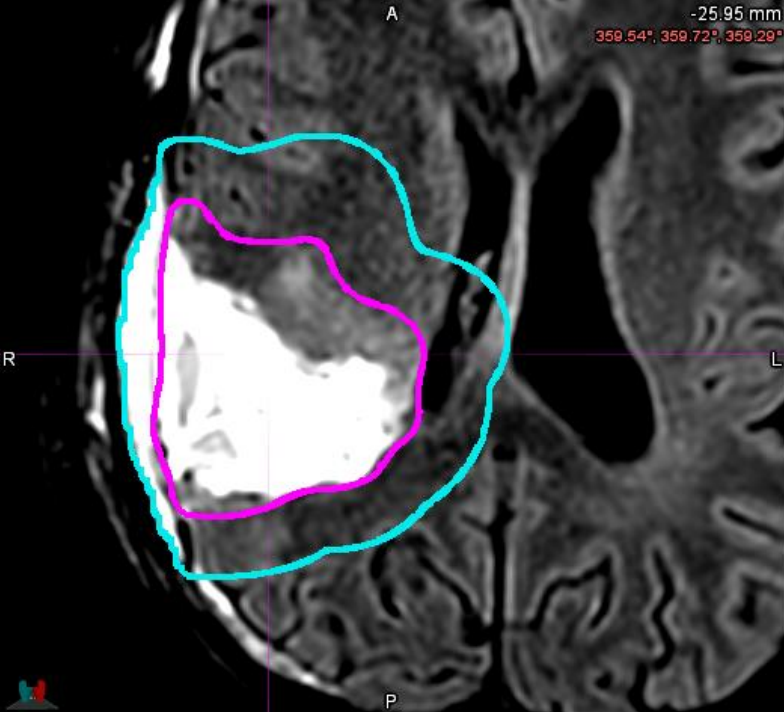
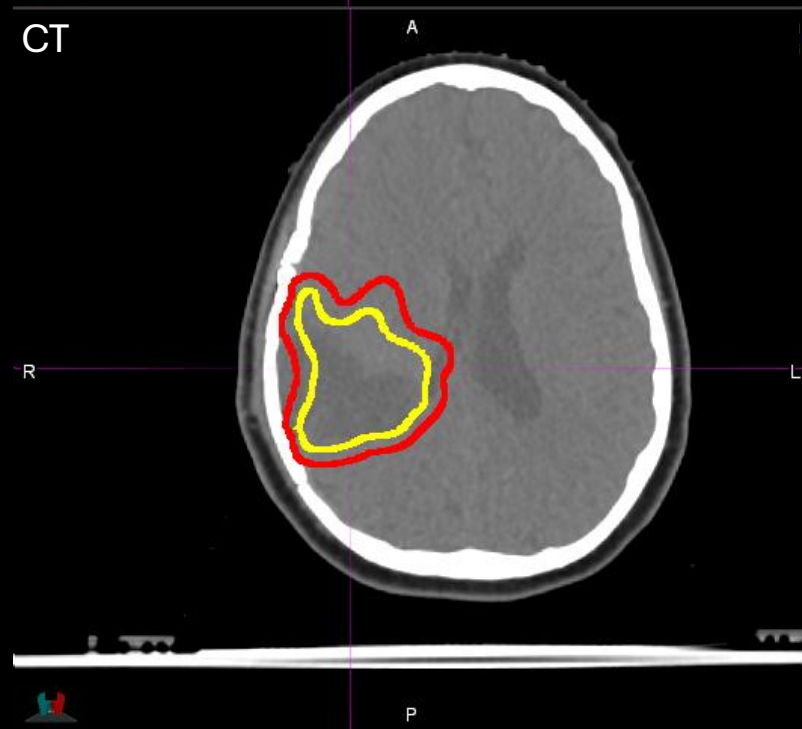
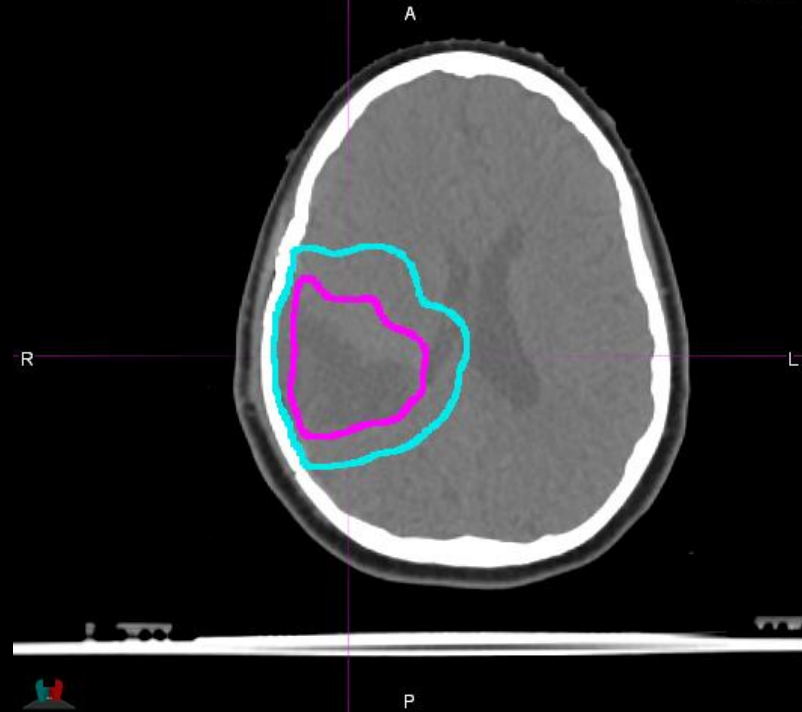




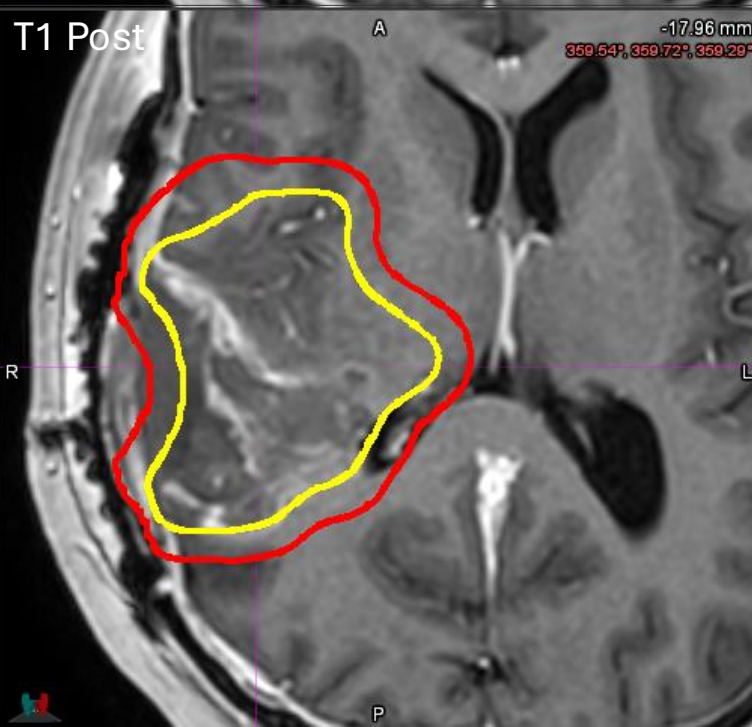
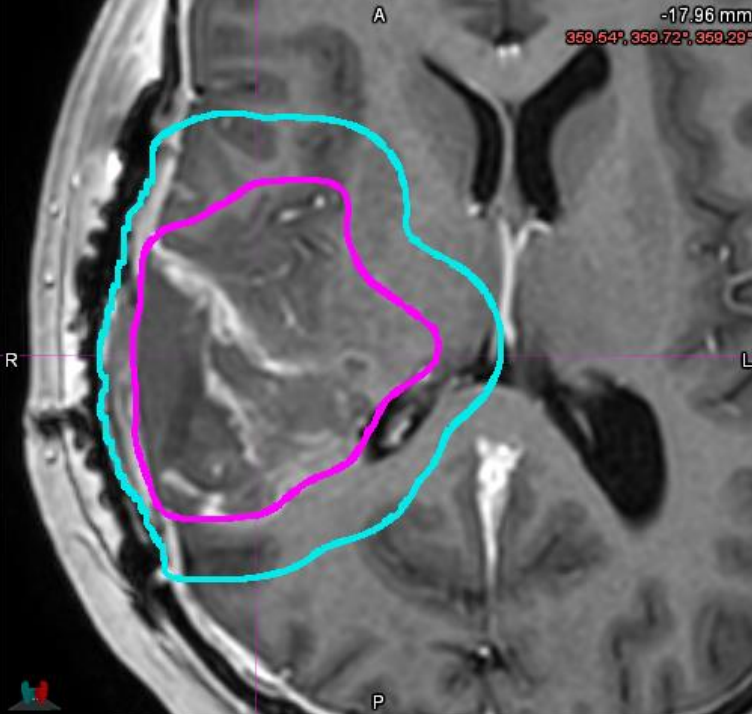
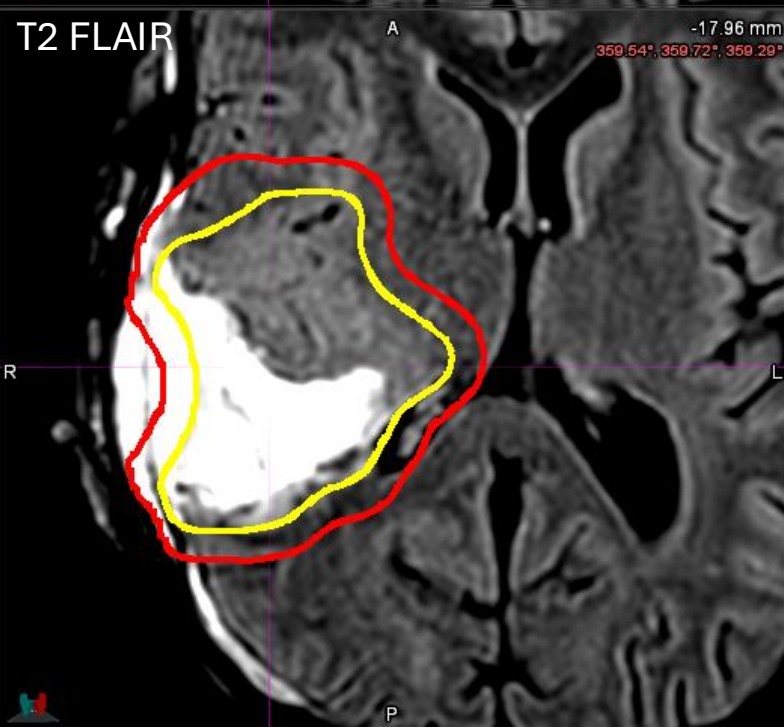
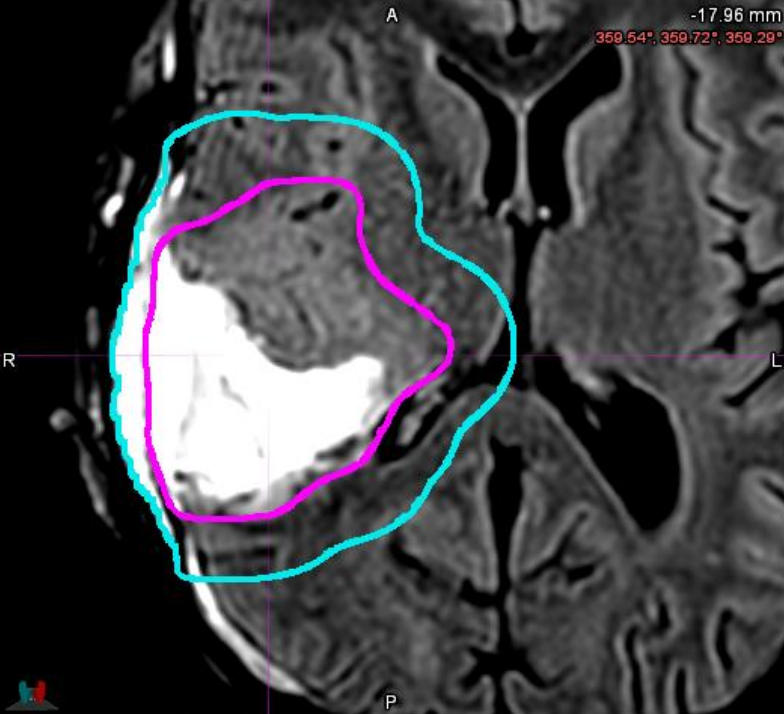
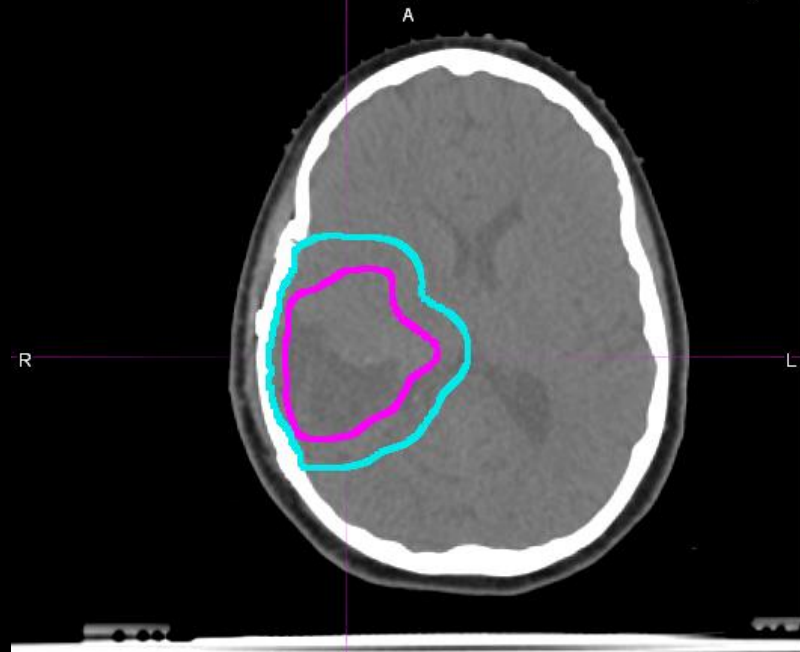




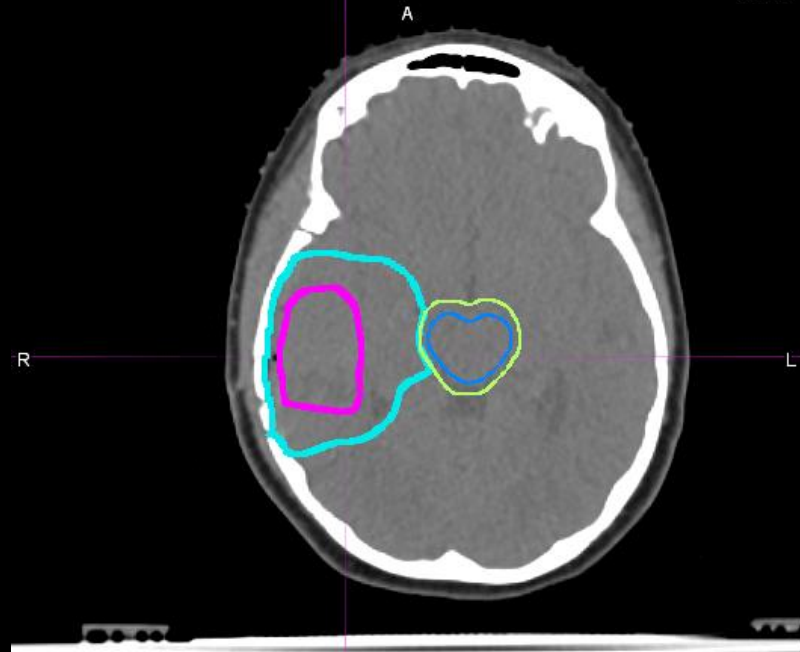




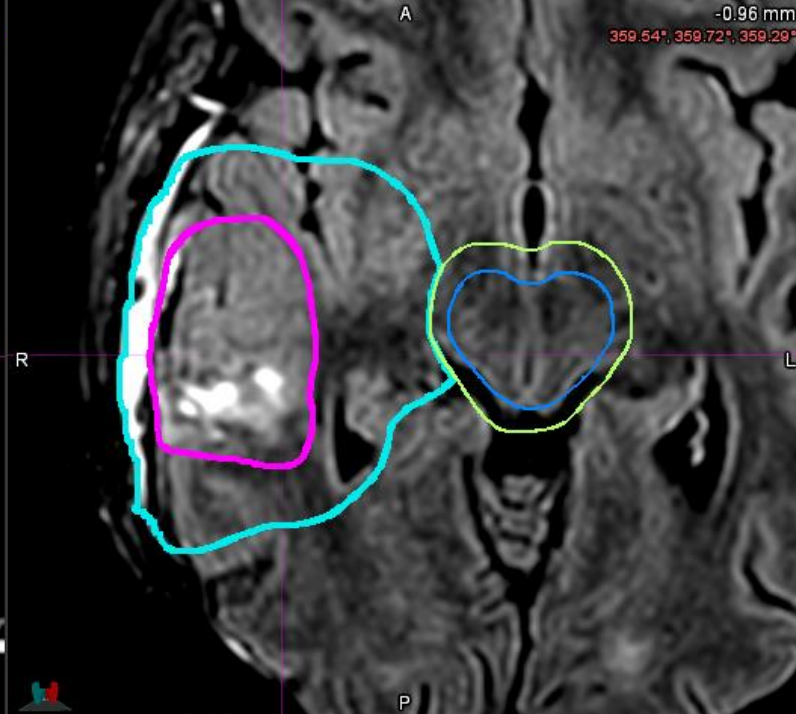
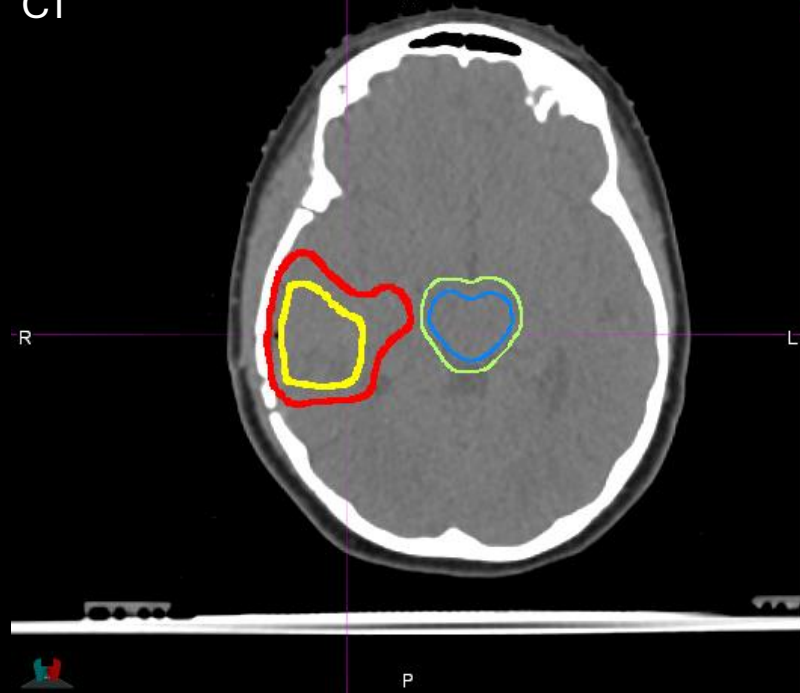




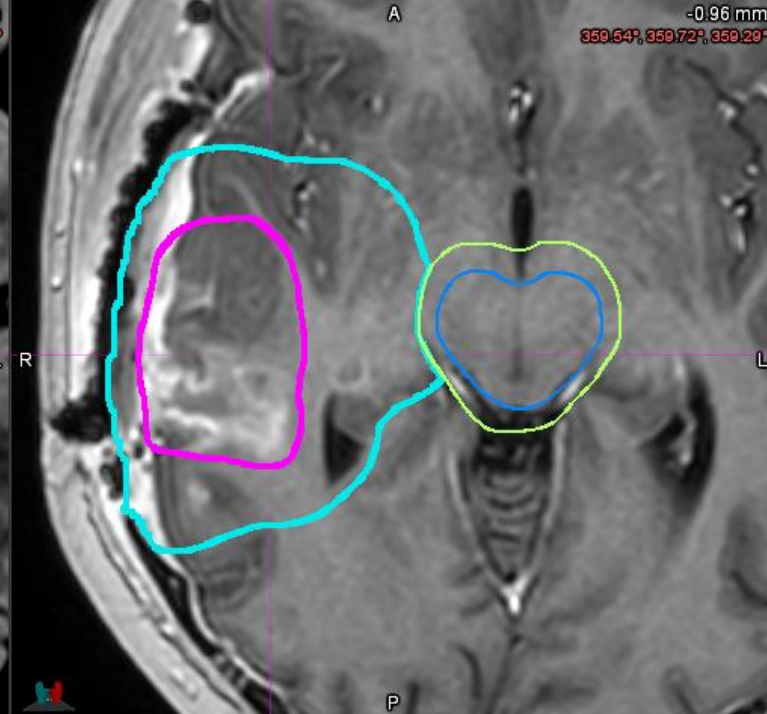
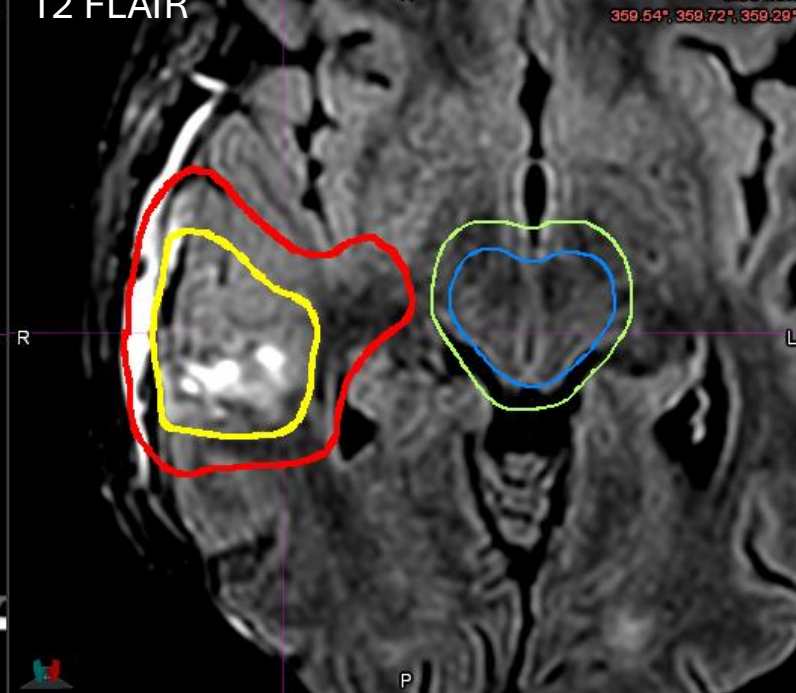




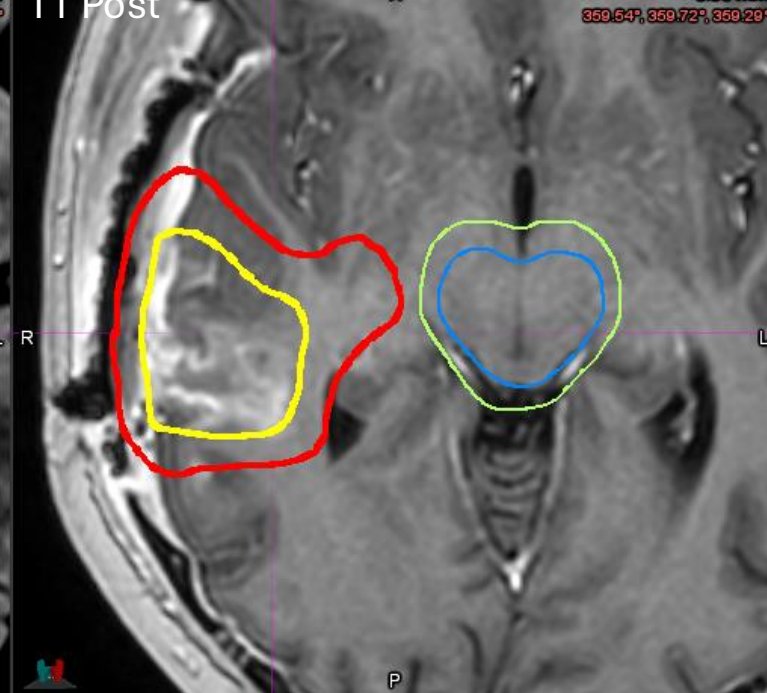
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T2 FLAIR



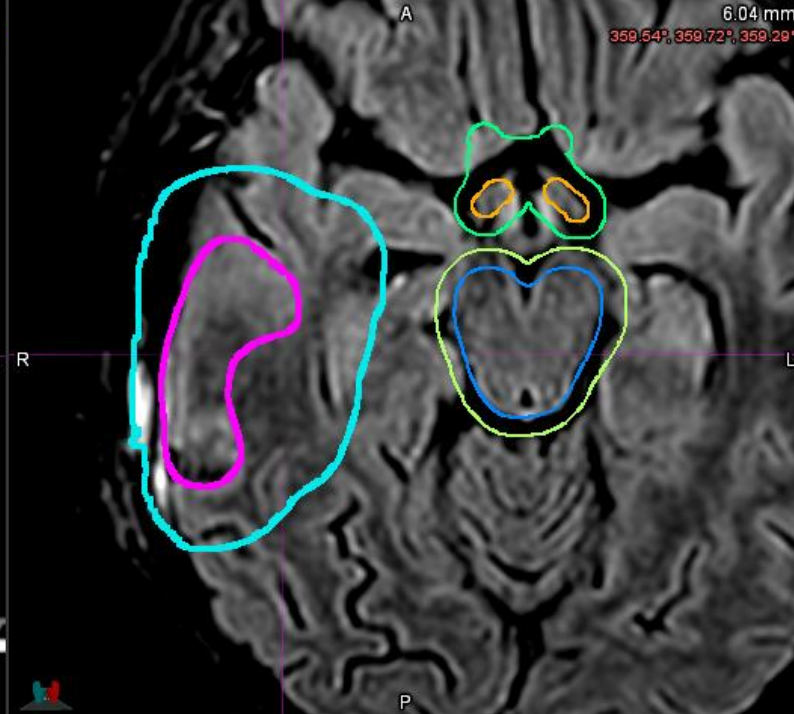
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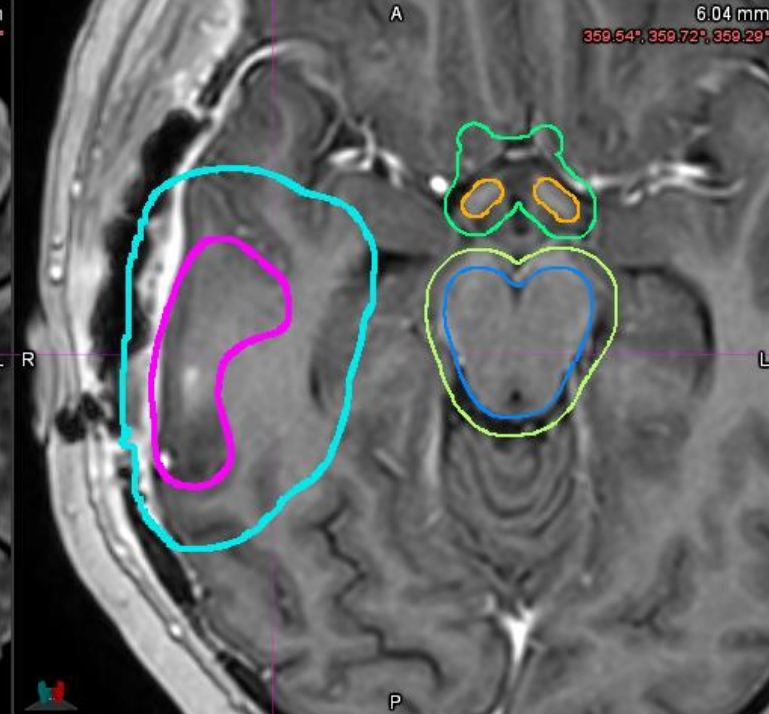
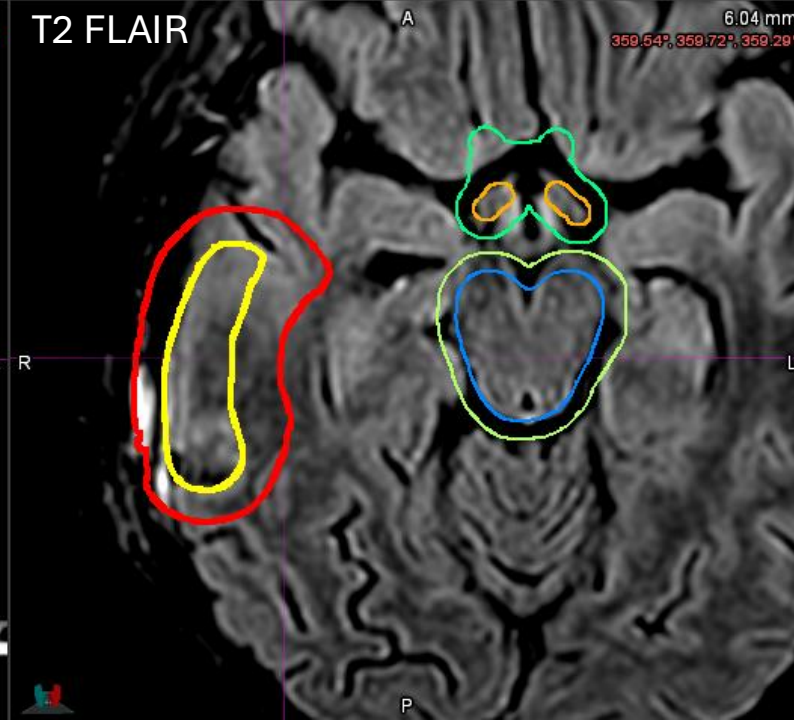




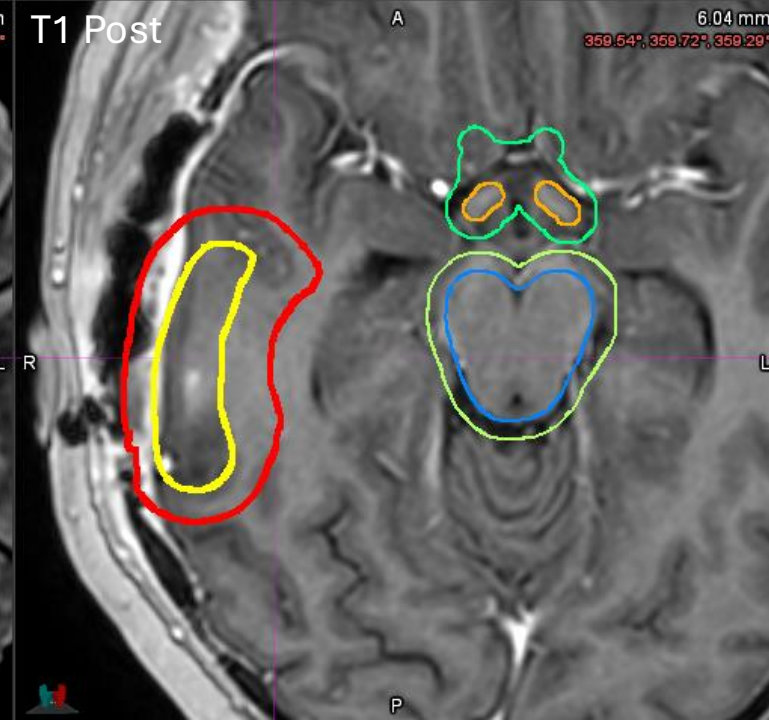
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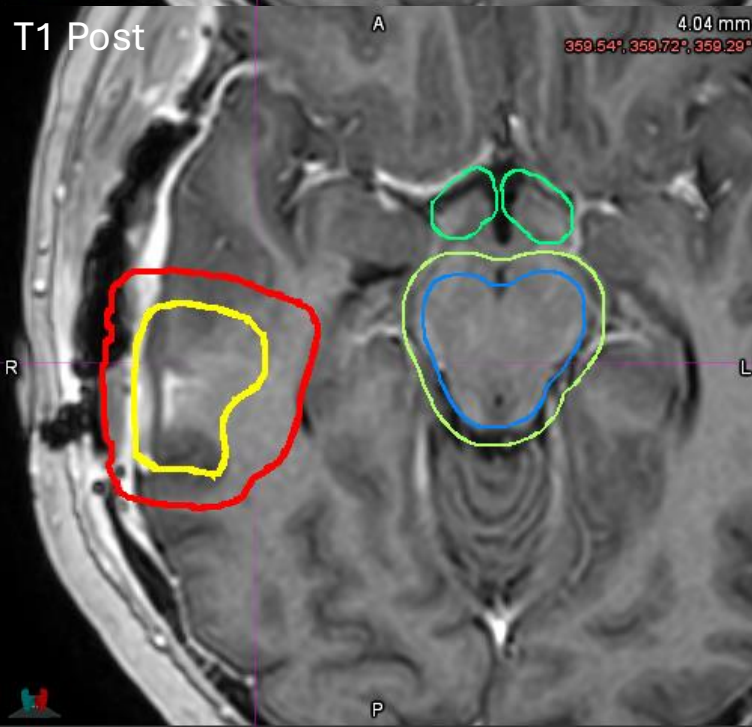
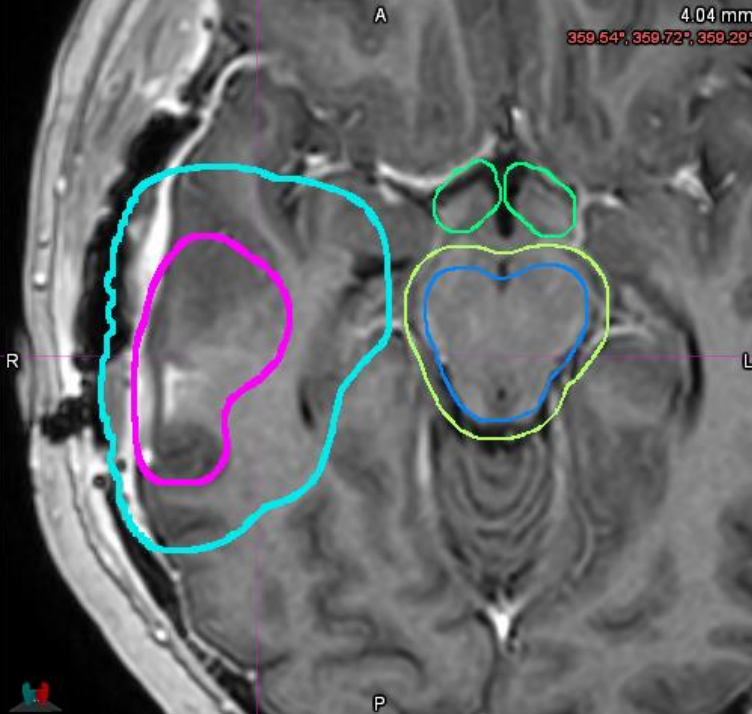
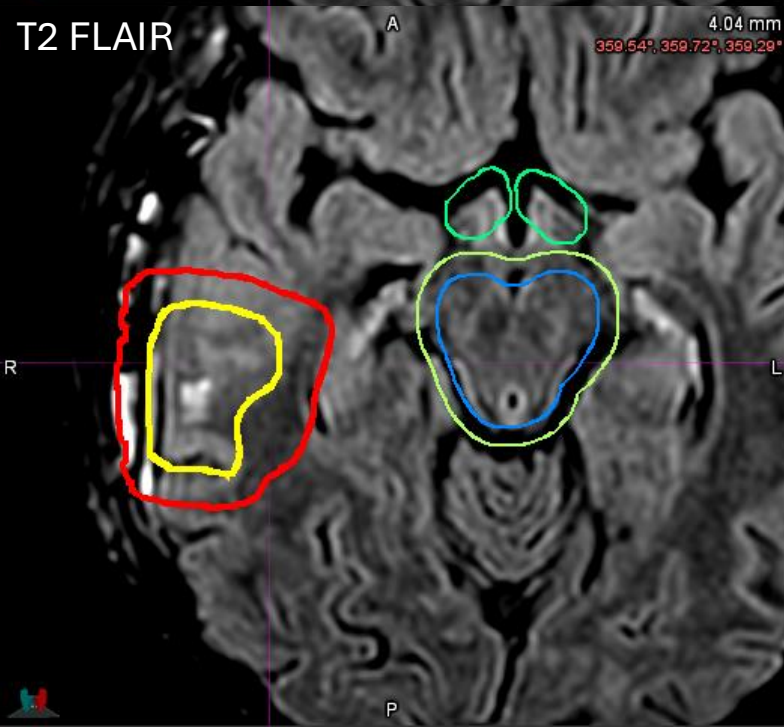
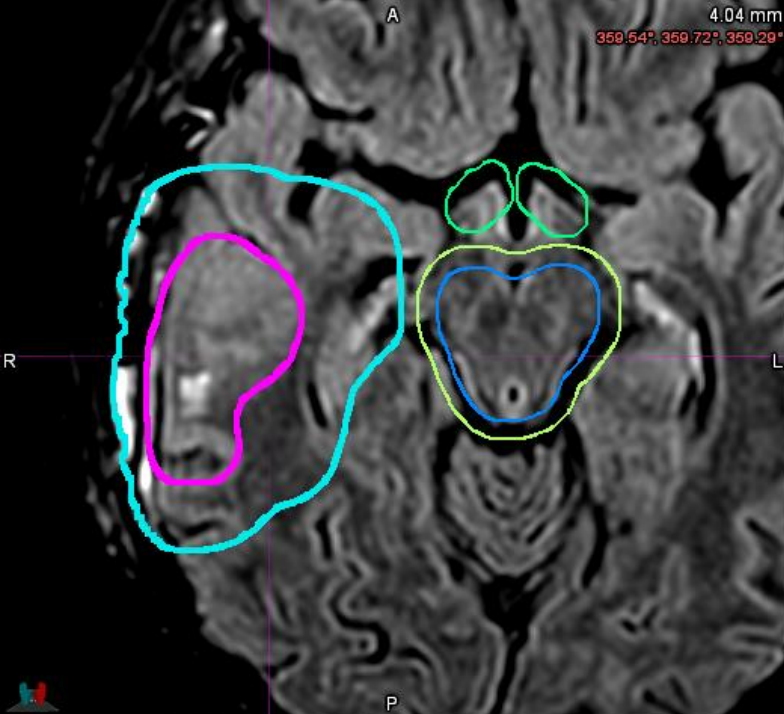
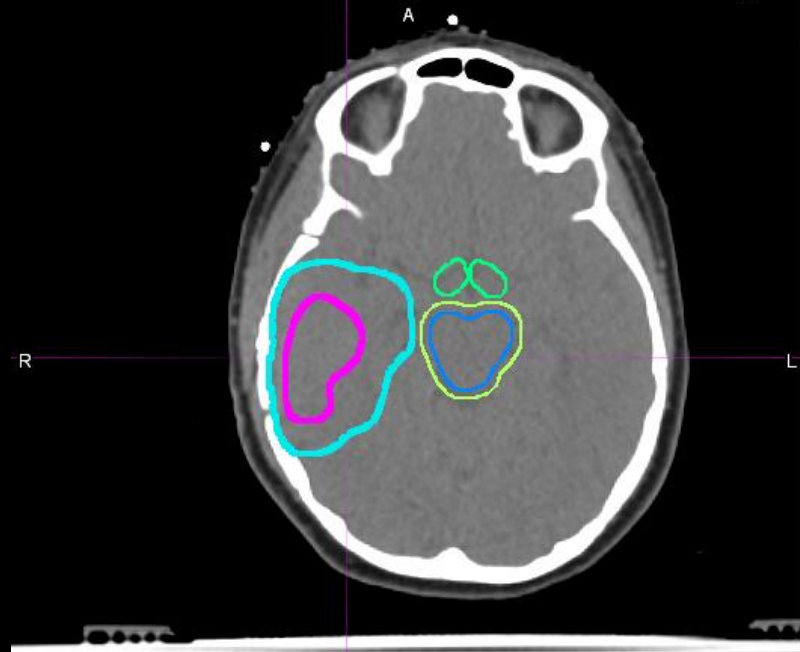
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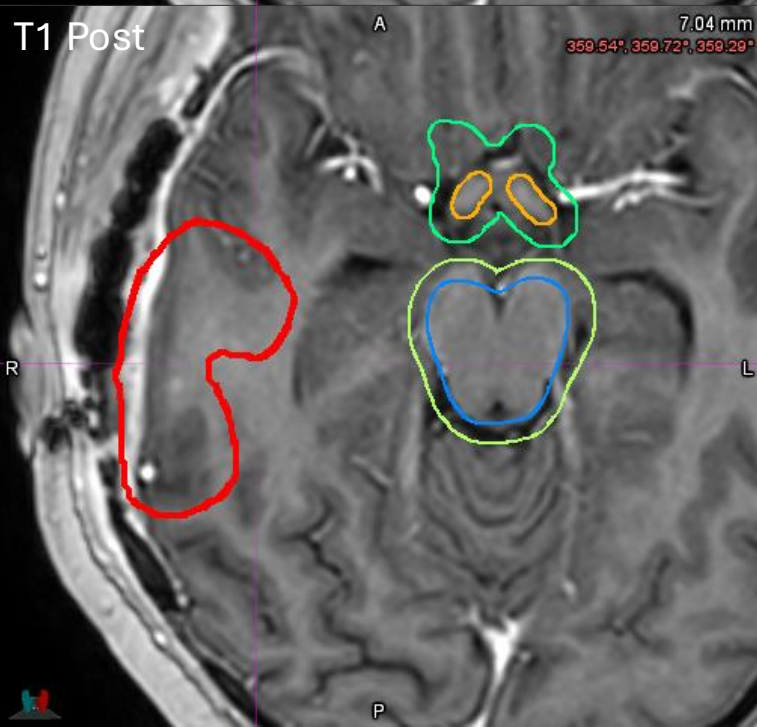
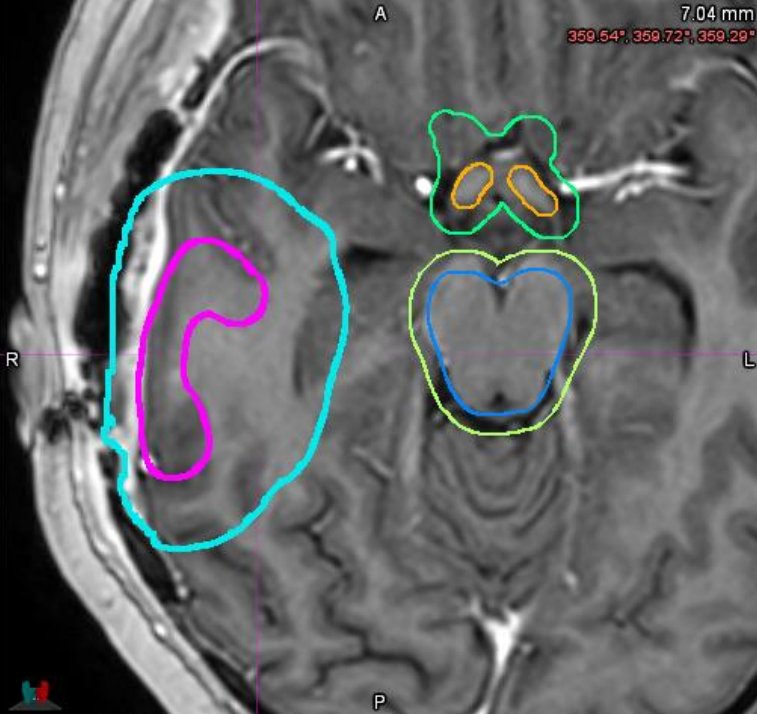
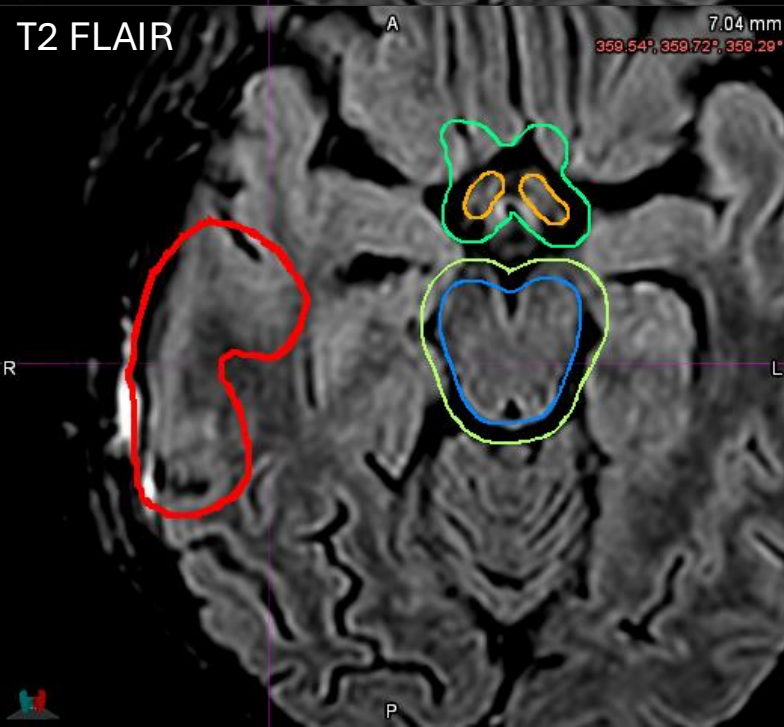
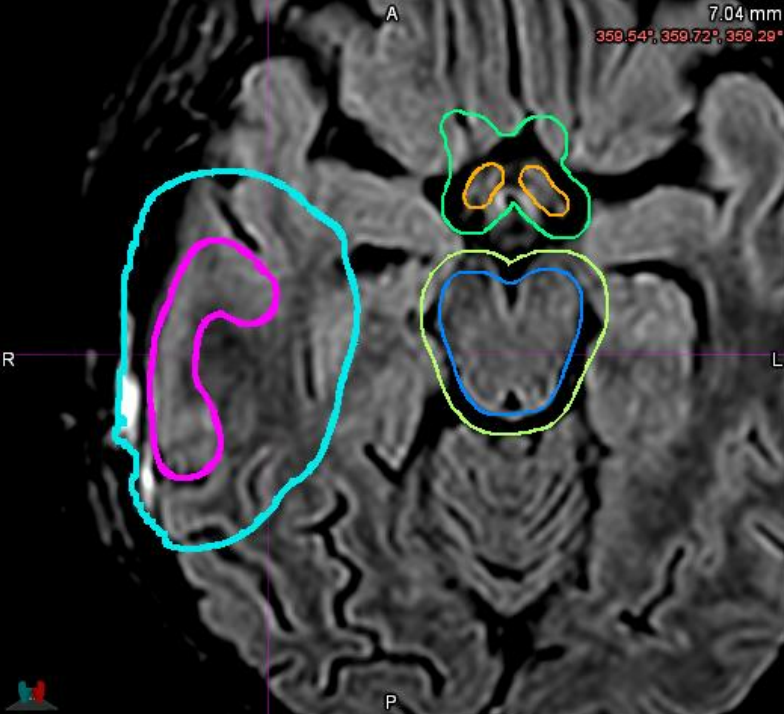
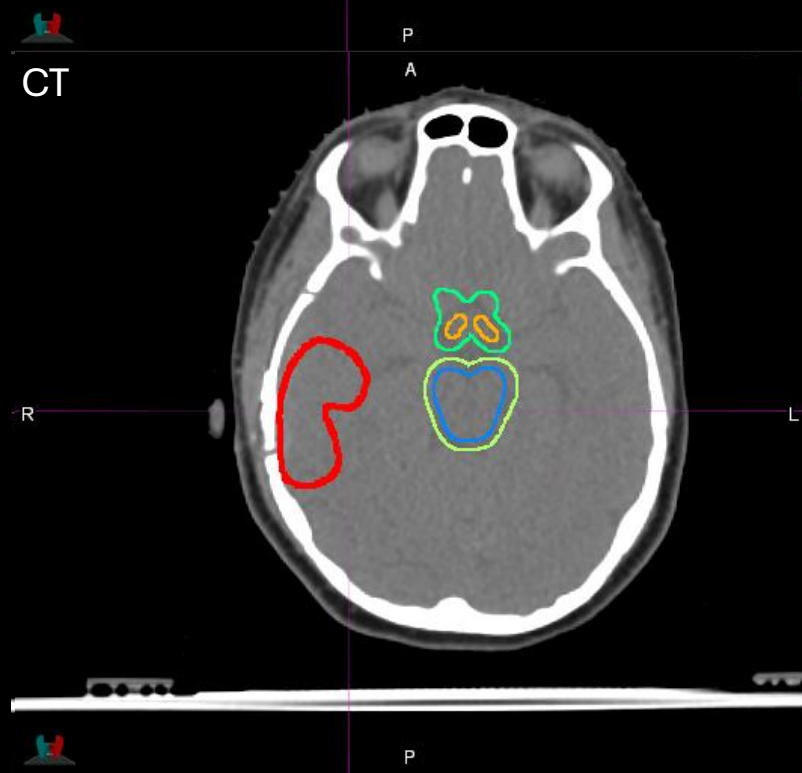
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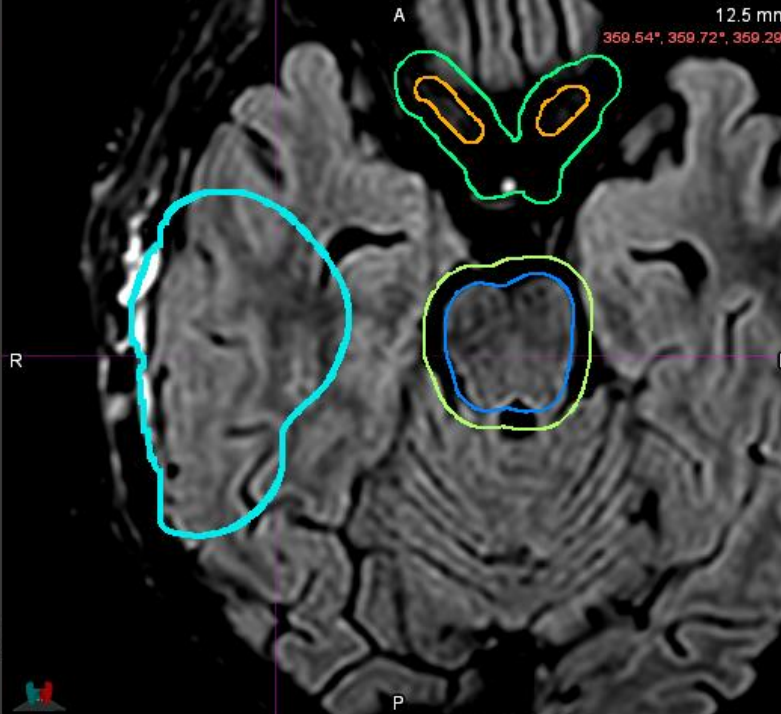




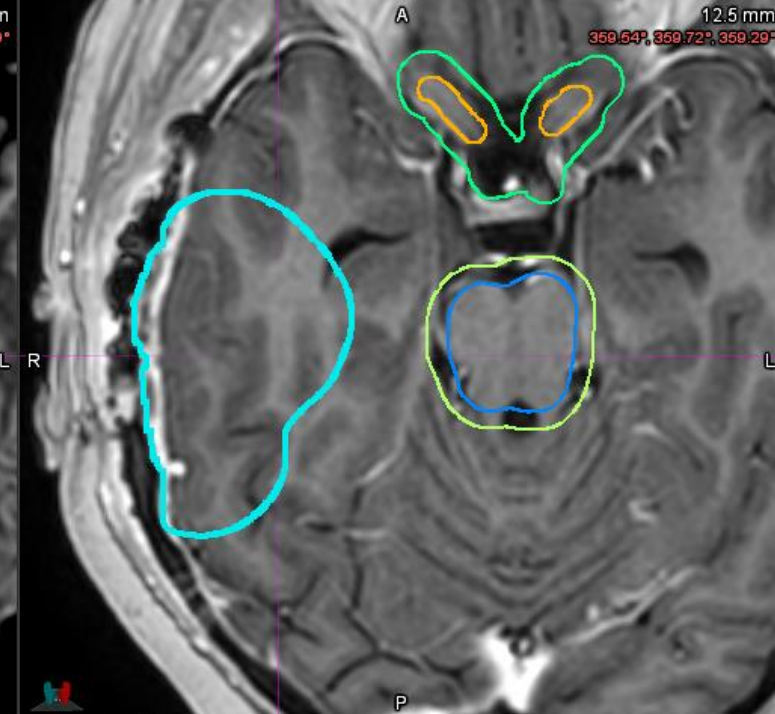
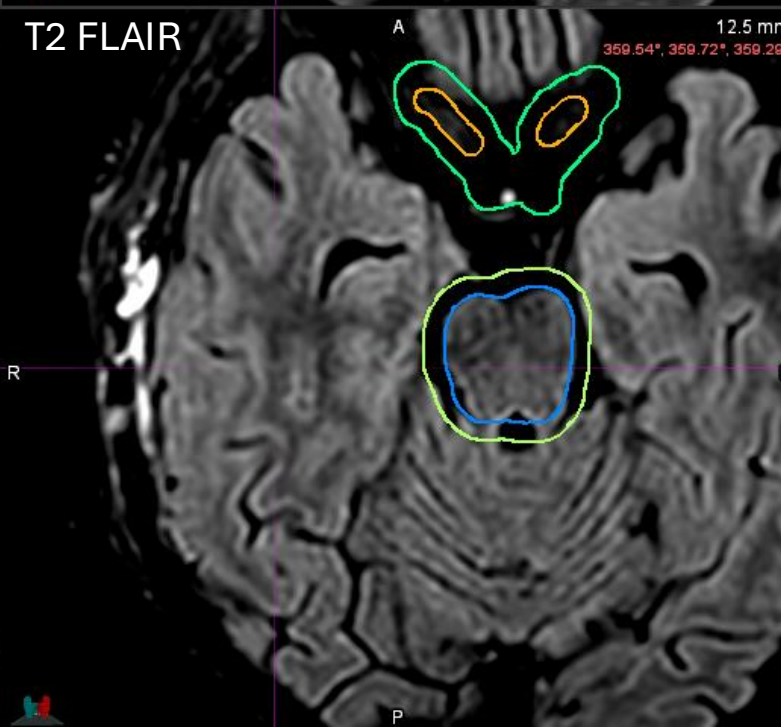




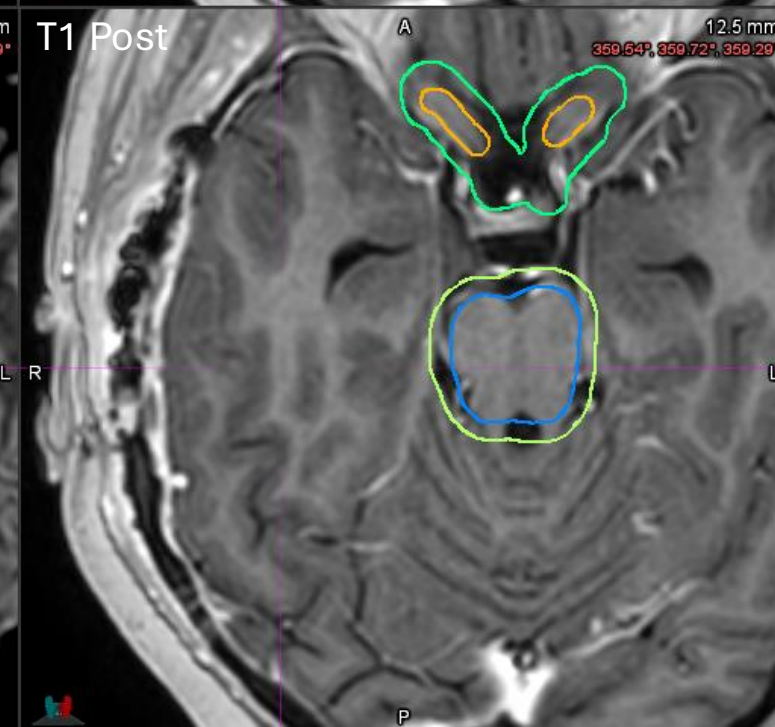
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T2 FLAIR



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

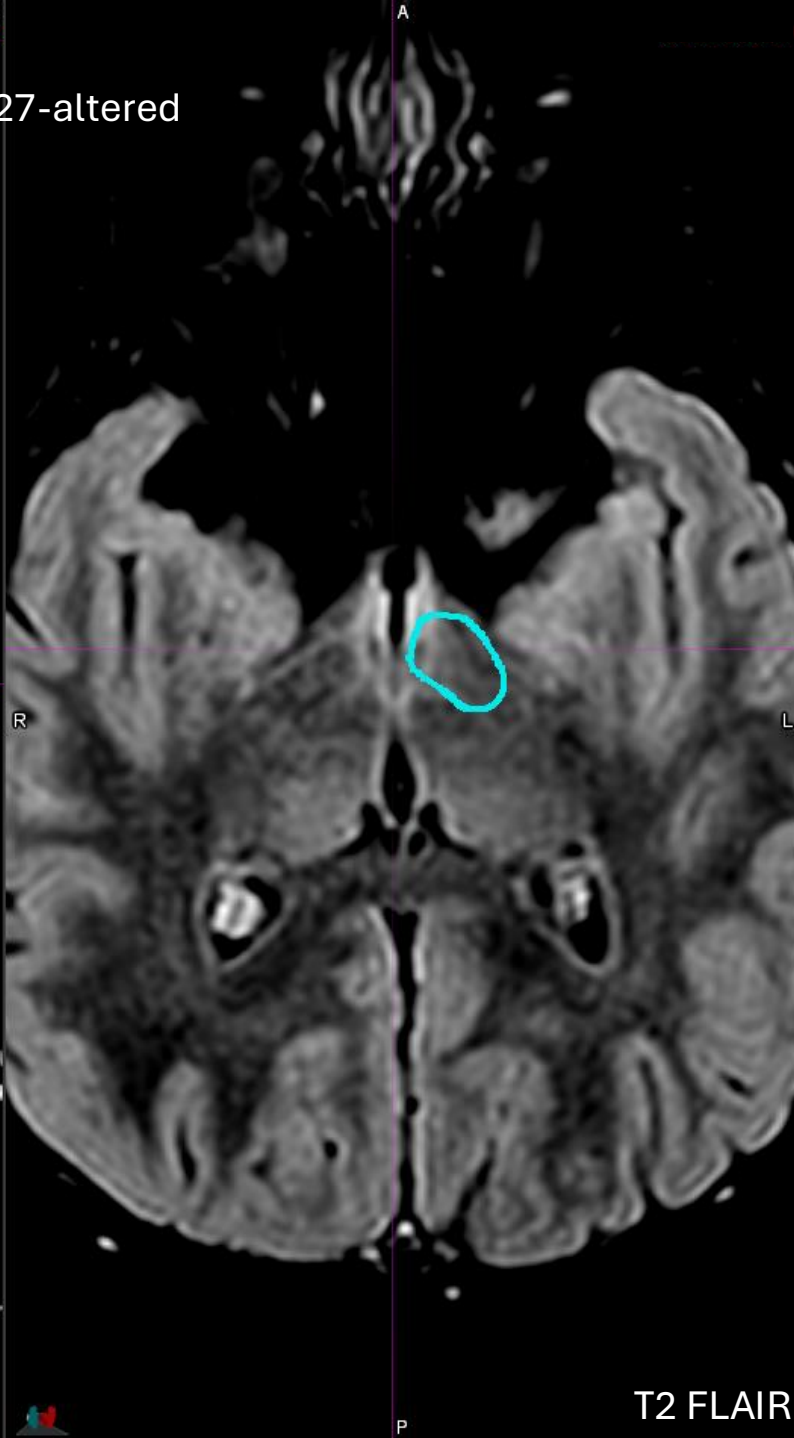
**CTV1** = 1.0 cm anatomically constrained isotropic expansion of **GTV1**

*GTV2/CTV2 are not defined for Infratentorial pHGG*

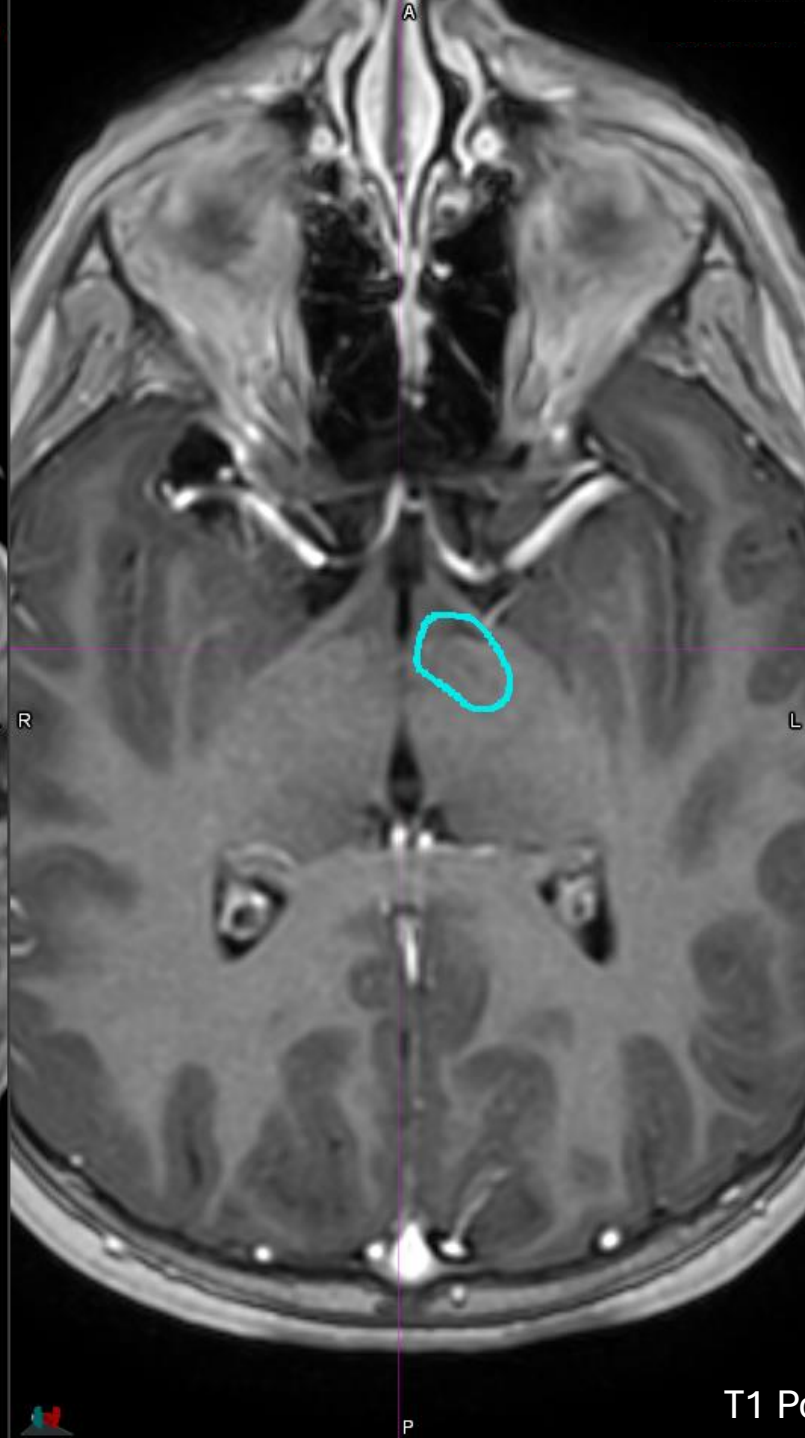
Clinical and Radiographic DIPG;  
biopsy-confirmed diffuse midline glioma, H3 K27-altered



CT



T2 FLAIR



T1 Post

