

ACNS0331 Medulloblastoma Target Volumes and Organ at Risk Atlas

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[Home](#)

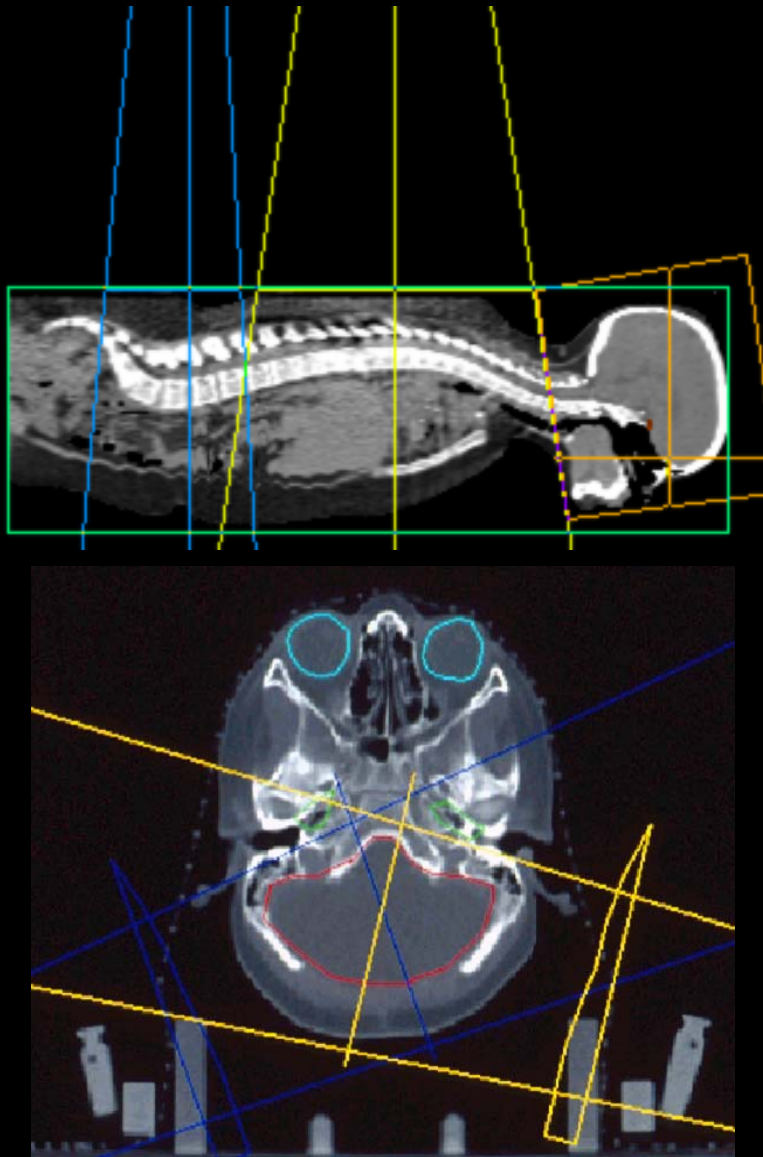
Children's Oncology Group

THIS PROTOCOL IS FOR RESEARCH PURPOSES ONLY, AND SHOULD NOT BE COPIED, REDISTRIBUTED OR USED FOR ANY OTHER PURPOSE. THE PROCEDURES IN THIS PROTOCOL ARE INTENDED ONLY FOR USE BY CLINICAL ONCOLOGISTS IN CAREFULLY STRUCTURED SETTINGS, AND MAY NOT PROVE TO BE MORE EFFECTIVE THAN STANDARD TREATMENT. A RESPONSIBLE INVESTIGATOR ASSOCIATED WITH THIS CLINICAL TRIAL SHOULD BE CONSULTED BEFORE USING OR ATTEMPTING ANY PROCEDURE IN THIS PROTOCOL.

Patient positioning and treatment planning

- Treatments may be delivered prone or supine
- 3DCRT, IMRT or Proton therapy is required
- Submission of *Individual* (CSI and Boost) **AND** *Composite* isodose distributions is **required**
 - Sum of CSI and boost(s) dose distribution
 - Isodose display in 3 planes
 - Dose volume histograms

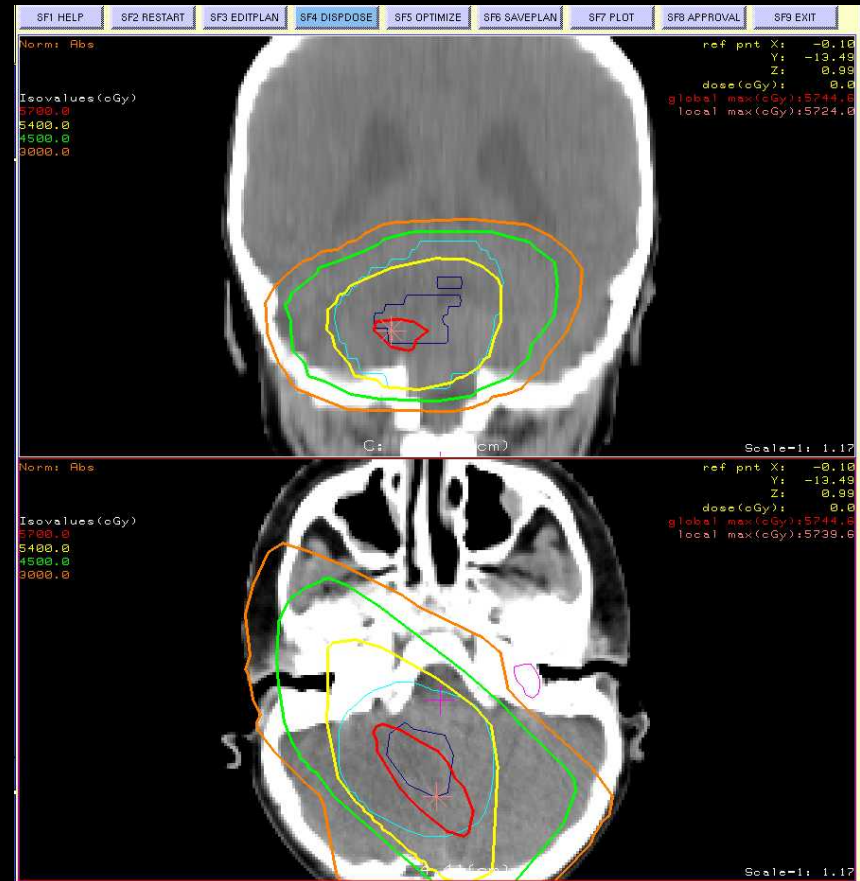
CSI and boost positioning 1/2



- Some institutions choose to treat CSI in a prone position then use the supine position for the boost.
- This requires two plans to be created.
- A **composite plan must be created** that assumes the cranial dose is equivalent, irrespective of position

CSI and boost positioning 2/2

- Submission of Composite isodose distributions is required
- What do you do if the patient was treated in 2 positions?
 - While a “true” composite plan cannot easily be created, simulating the cranial portion of the CSI on the boost plan will allow a reasonable estimate of the total dose.



Digital Data Submission

- Strongly consider digital data submission!
- QARC can accept data in the same format as the RTOG or other ITC (Image-guided Therapy QA Center) trials.
- Digital data submission not only can save on hardcopy costs (color prints) it has the potential to reduce data management time and effort.
- Information on digital data submission can be found at QARC website.

Limited Target Volume Boost

Organs at Risk (OARs) not
displayed for illustration purpose
(see below)

Above target



SLICE: 2.50 CM

Target1

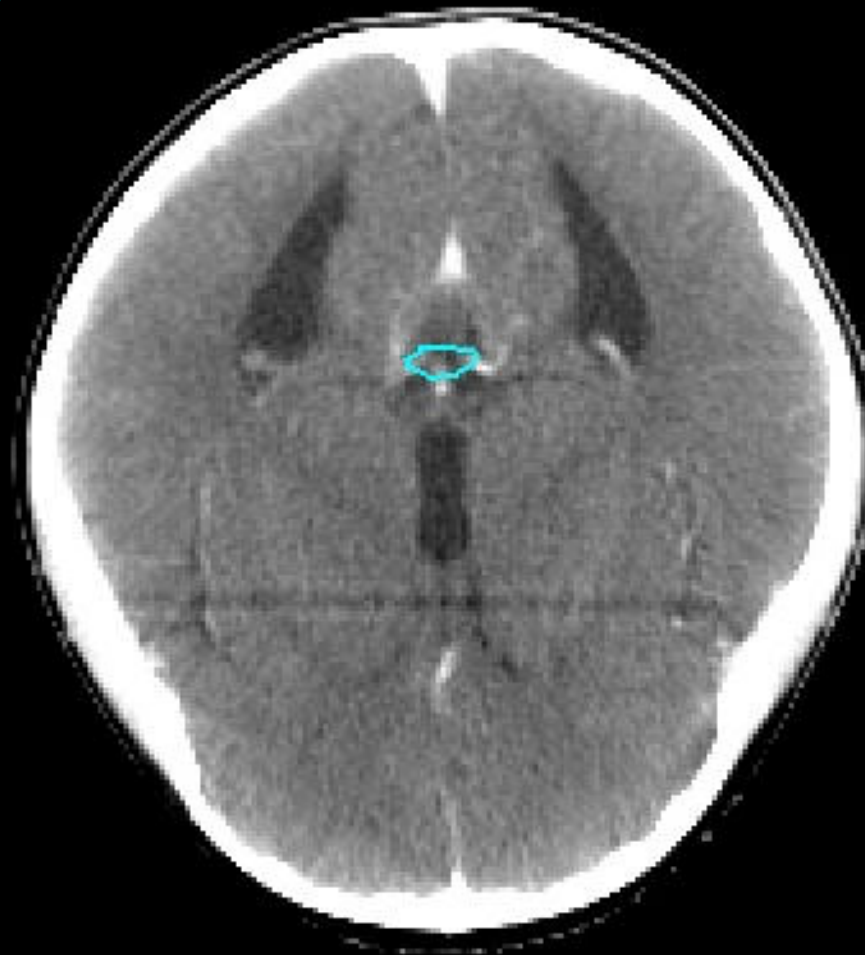
ZOOM: 2

Limited Target Volume Boost

Cyan = PTV

Pink = CTV

Red = GTV



SLICE: 2.00 CM

Target2

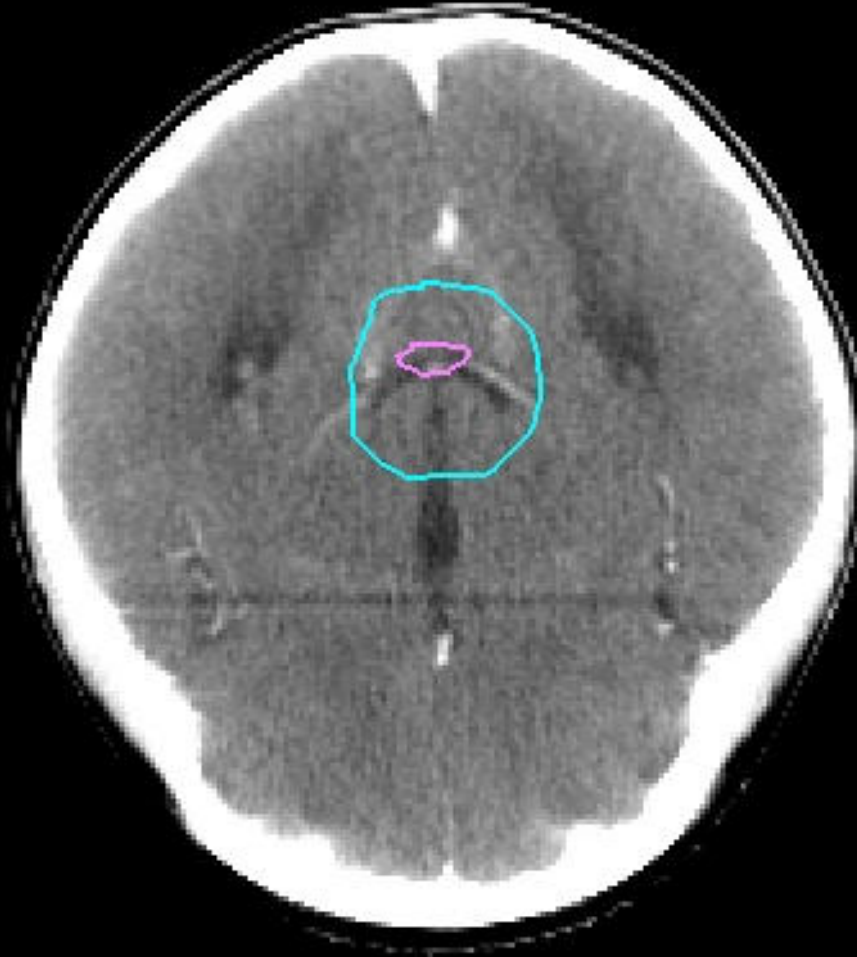
ZOOM: 2

Limited Target Volume Boost

Cyan = PTV

Pink = CTV

Red = GTV



SLICE: 1.50 CM

Target3

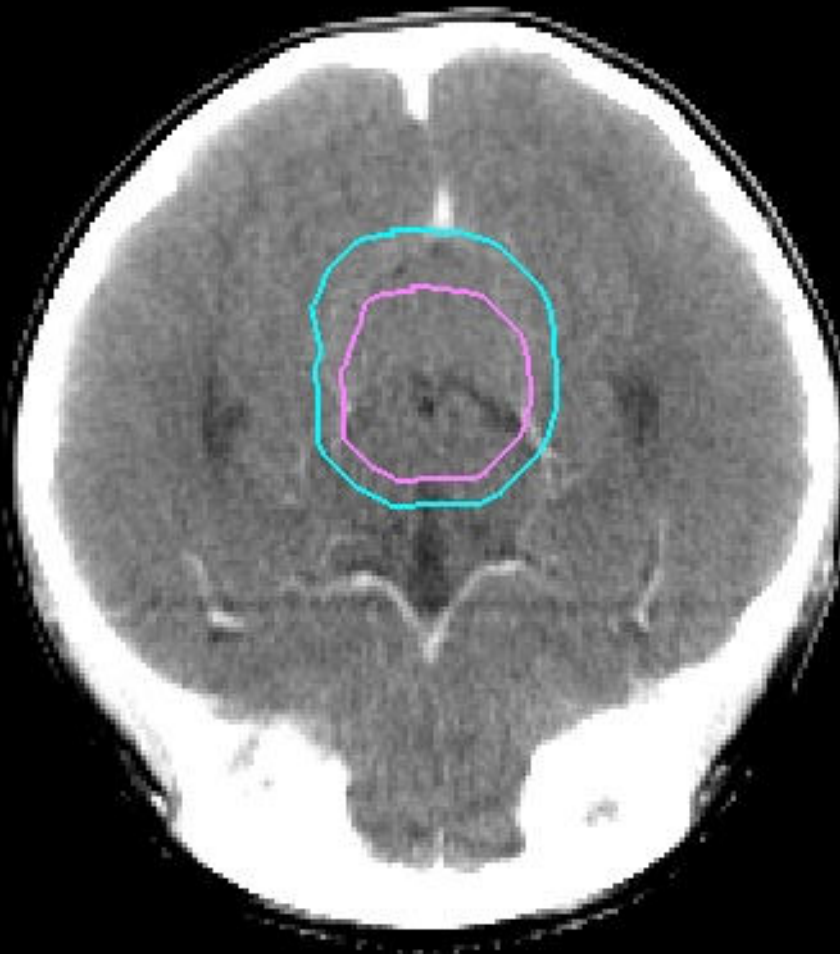
ZOOM: 2

Limited Target Volume Boost

Cyan = PTV

Pink = CTV

Red = GTV



SLICE: 1.00 CM

Target4

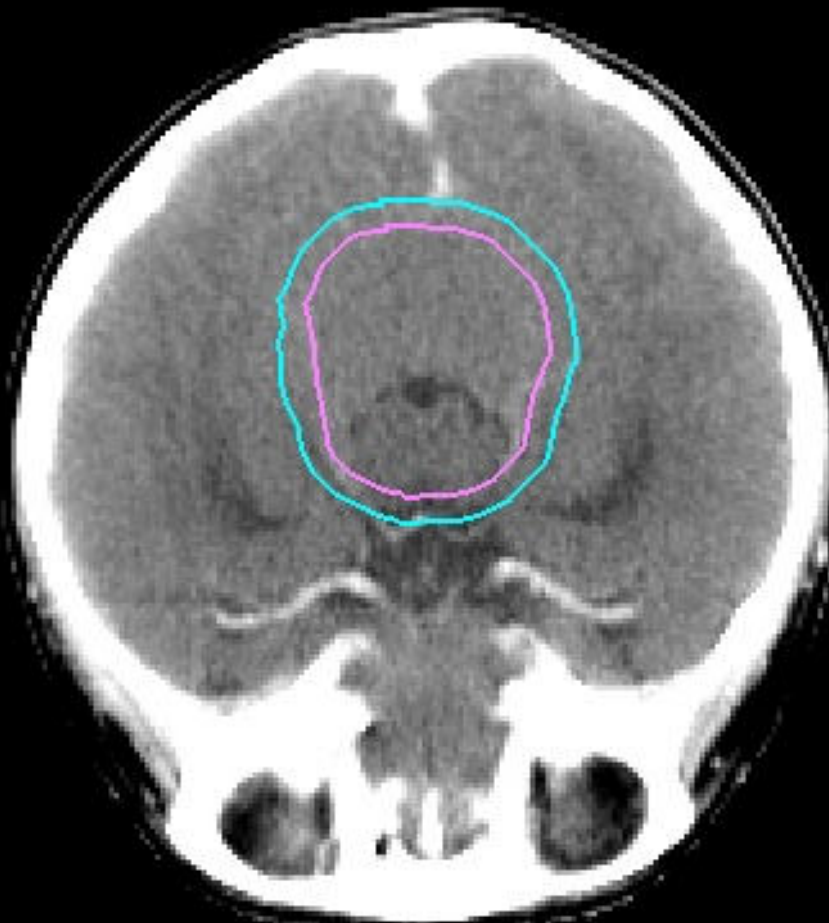
ZOOM: 2

Limited Target Volume Boost

Cyan = PTV

Pink = CTV

Red = GTV



SLICE: 0.50 CM

ZOOM: 2

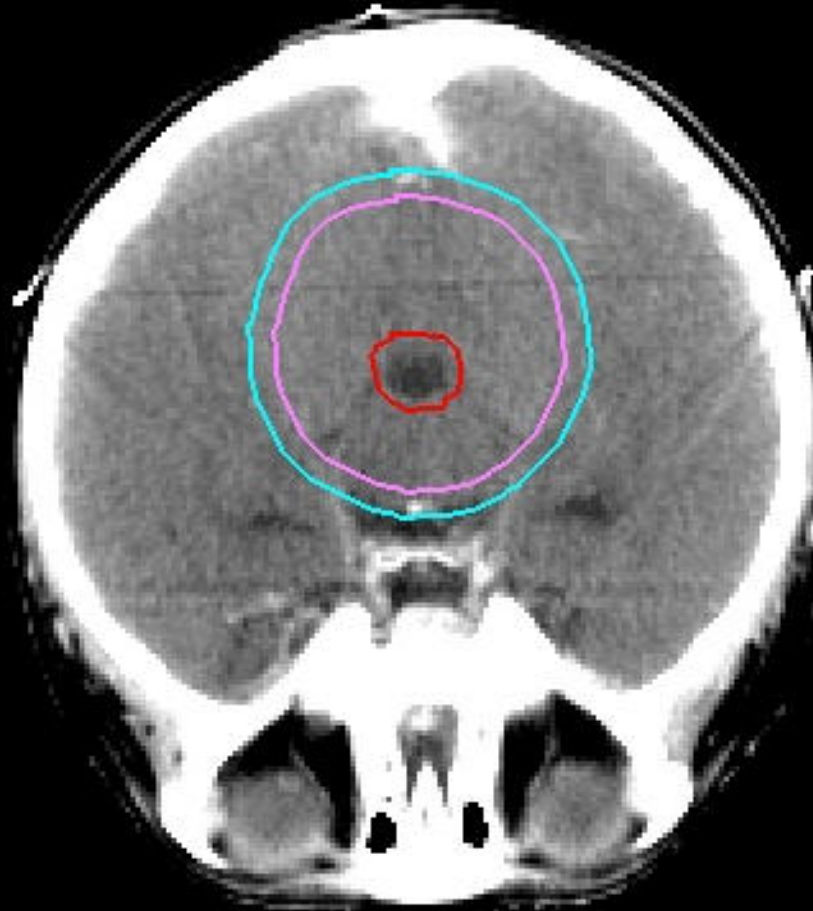
Target5

Limited Target Volume Boost

Cyan = PTV

Pink = CTV

Red = GTV



SLICE: -0.00 CM

ZOOM: 2

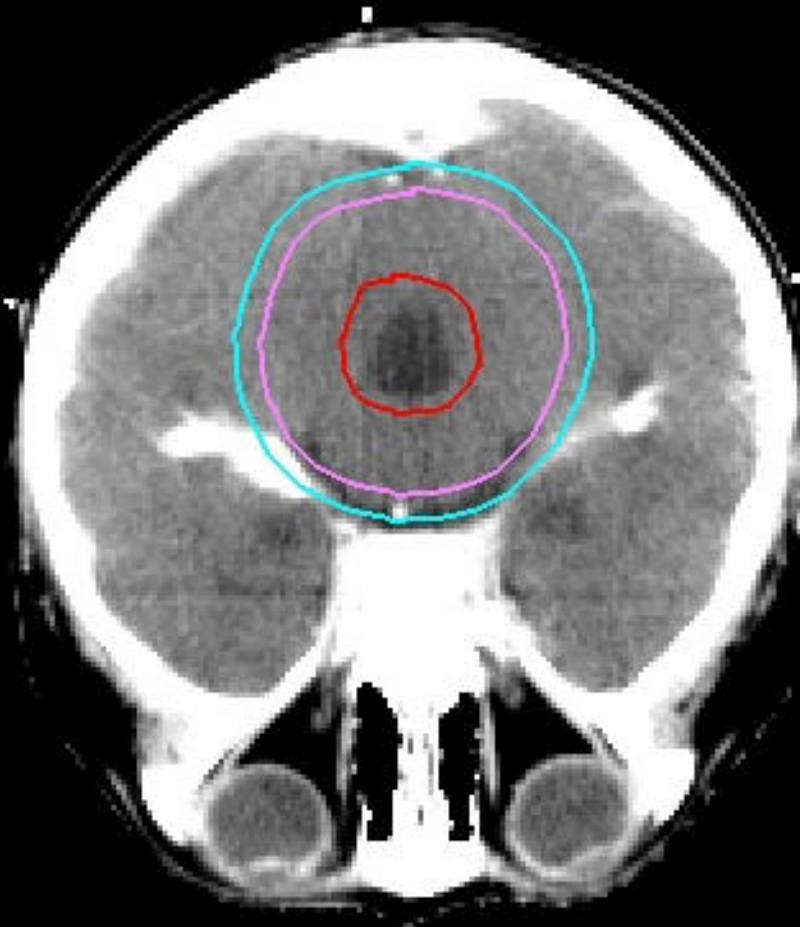
Target6

Limited Target Volume Boost

Cyan = PTV

Pink = CTV

Red = GTV



SLICE: -0.50 CM

Target7

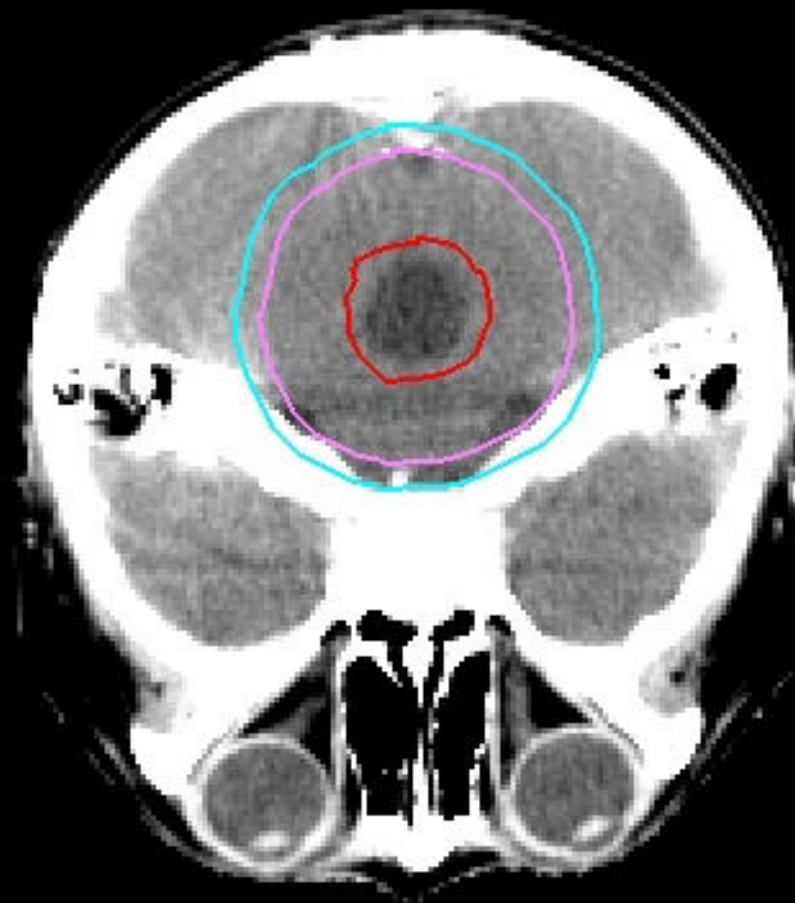
ZOOM: 2

Limited Target Volume Boost

Cyan = PTV

Pink = CTV

Red = GTV



SLICE: -1.00 CM

Target8

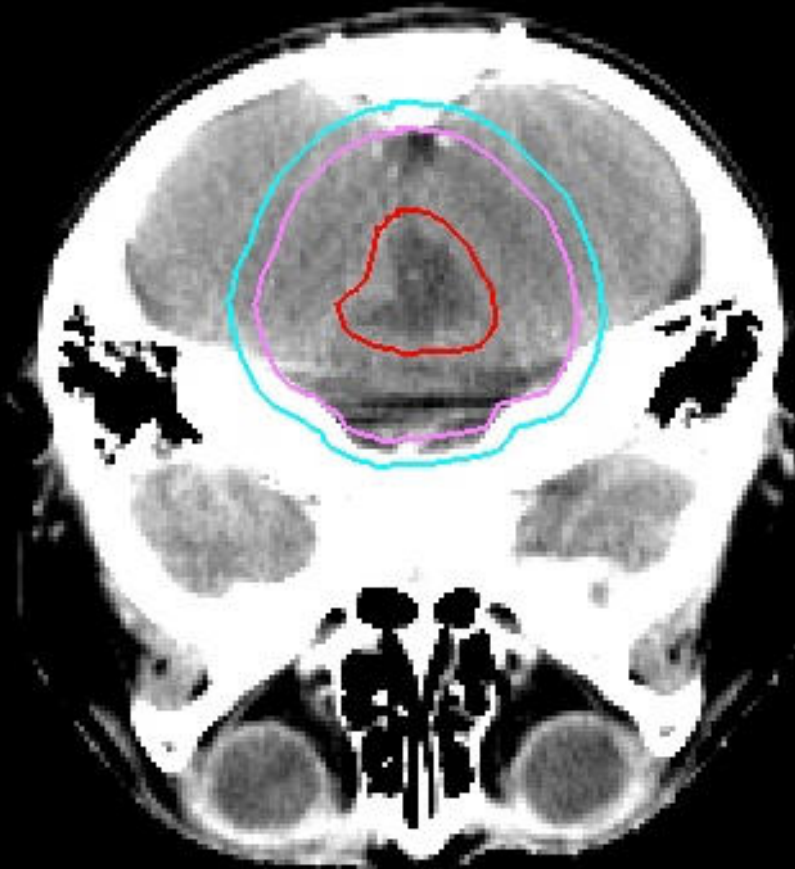
ZOOM: 2

Limited Target Volume Boost

Cyan = PTV

Pink = CTV

Red = GTV



SLICE: -1.50 CM

Target9

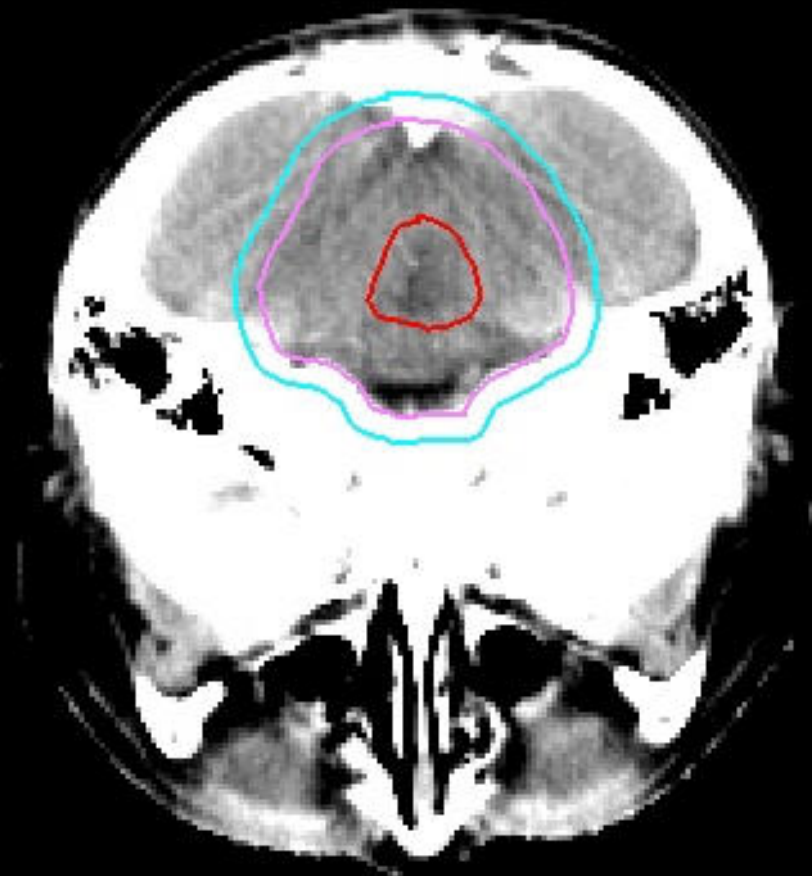
ZOOM: 2

Limited Target Volume Boost

Cyan = PTV

Pink = CTV

Red = GTV



SLICE: -2.00 CM

Target10

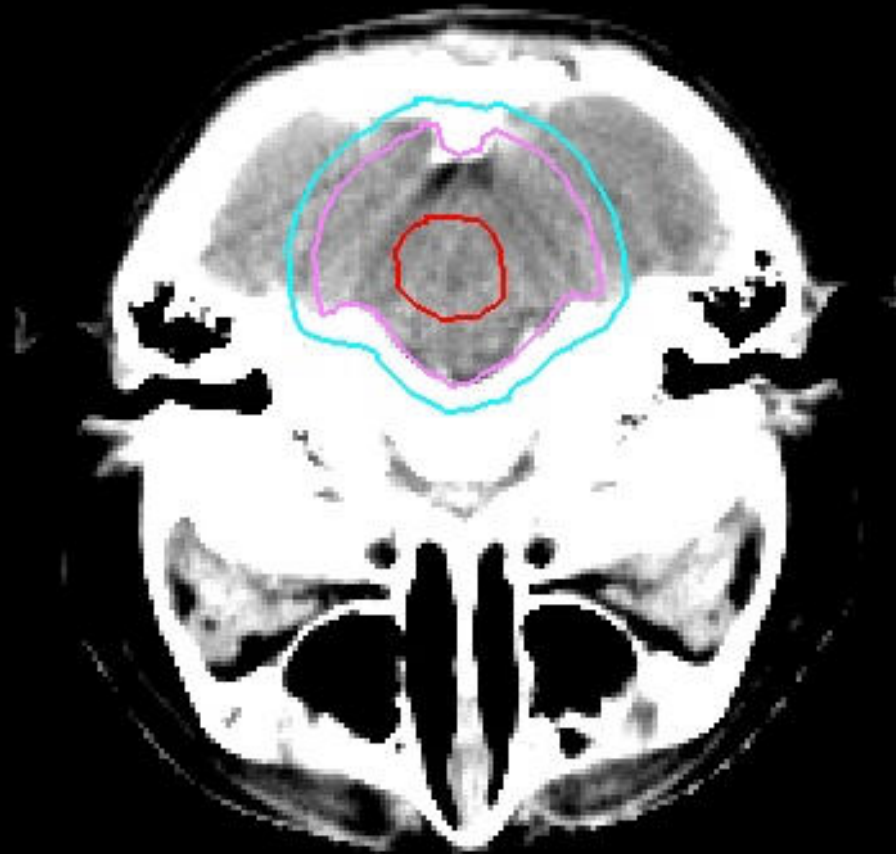
ZOOM: 2

Limited Target Volume Boost

Cyan = PTV

Pink = CTV

Red = GTV



SLICE: -2.50 CM

Target11

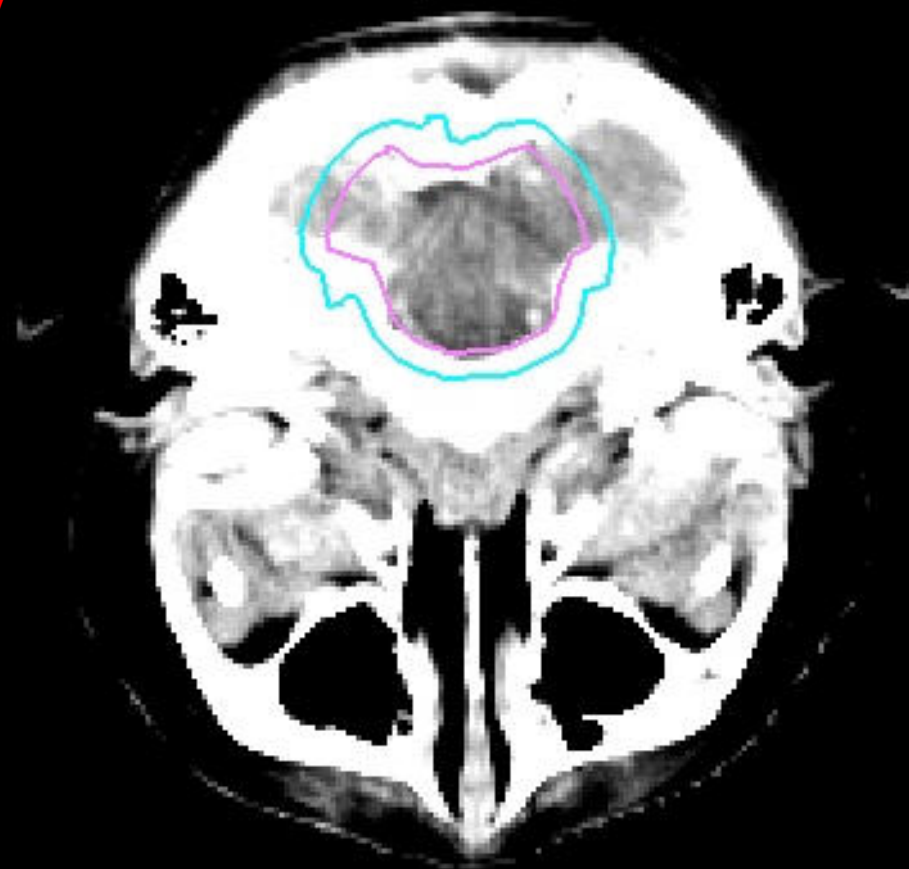
ZOOM: 2

Limited Target Volume Boost

Cyan = PTV

Pink = CTV

Red = GTV



SLICE: -3.00 CM

Target12

ZOOM: 2

Limited Target Volume Boost

Cyan = PTV

Pink = CTV

Red = GTV



SLICE: -3.50 CM

Target13

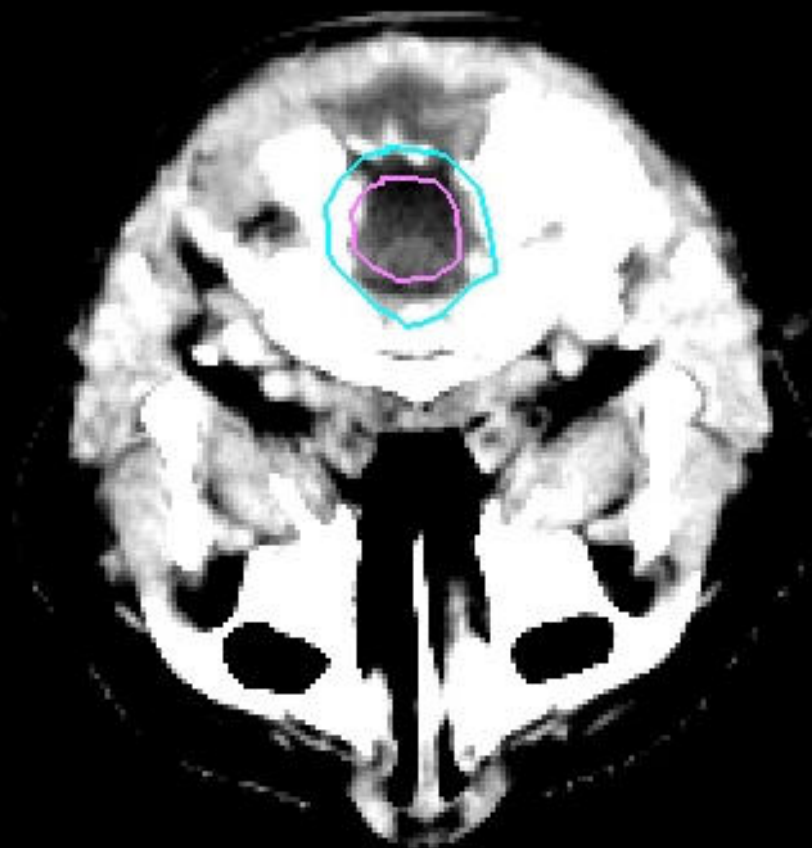
ZOOM: 2

Limited Target Volume Boost

Cyan = PTV

Pink = CTV

Red = GTV



SLICE: -4.00 CM

ZOOM: 2

Target14

Limited Target Volume Boost

Cyan = PTV

Pink = CTV

Red = GTV



SLICE: -4.50 CM

Target15

ZOOM: 2

Below target



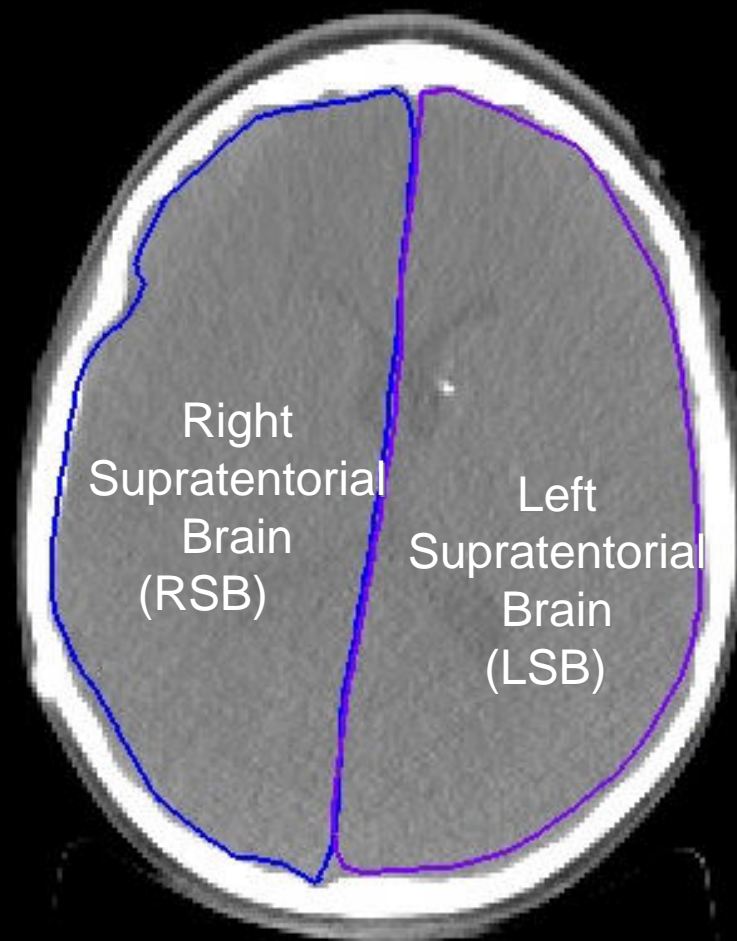
SLICE: -5.00 CM

Target16

ZOOM: 2

Whole Posterior Fossa Target Volume

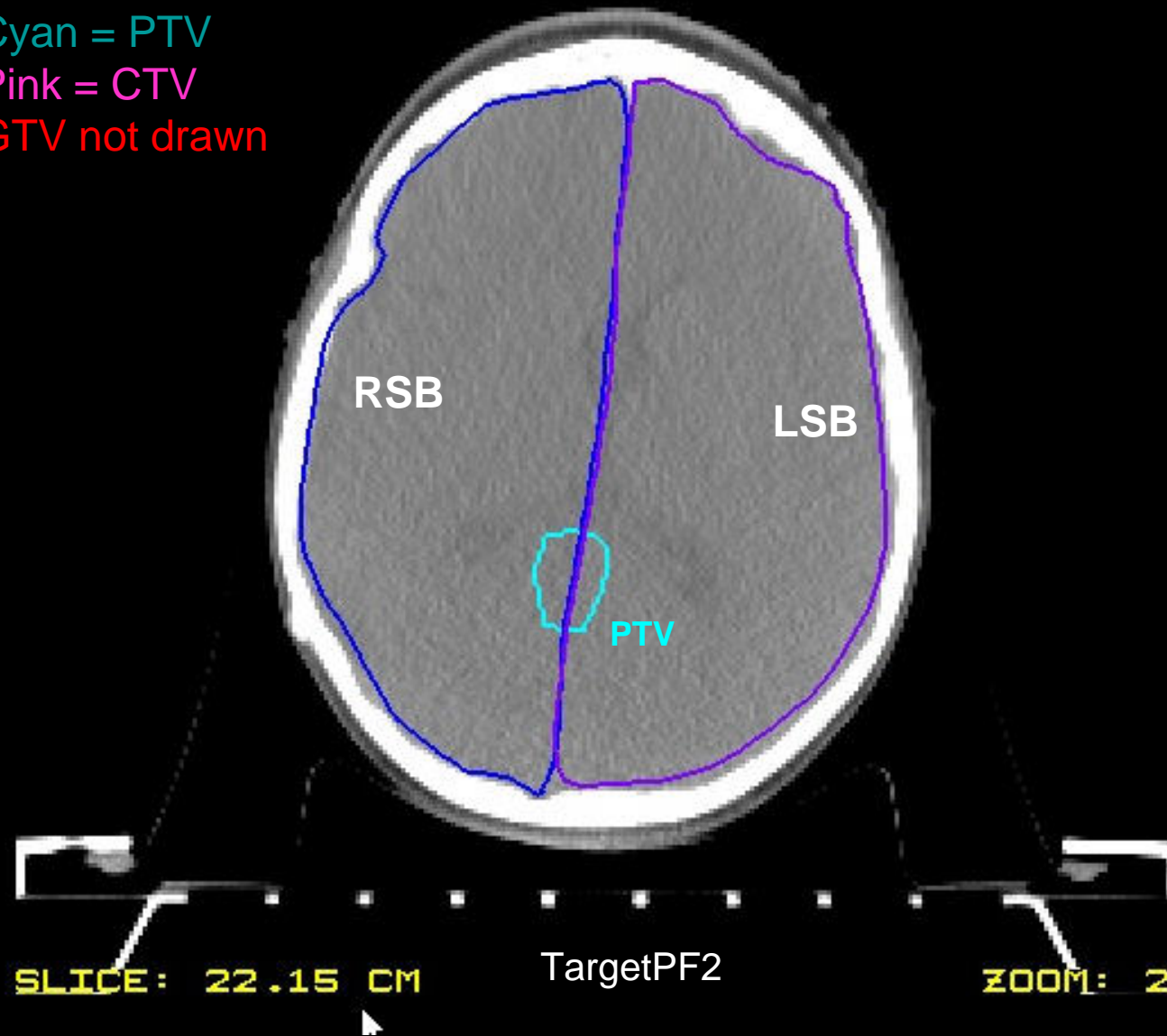
Above PTV_{PF}



SLICE: 22.45 CM TargetPF1 ZOOM: 2

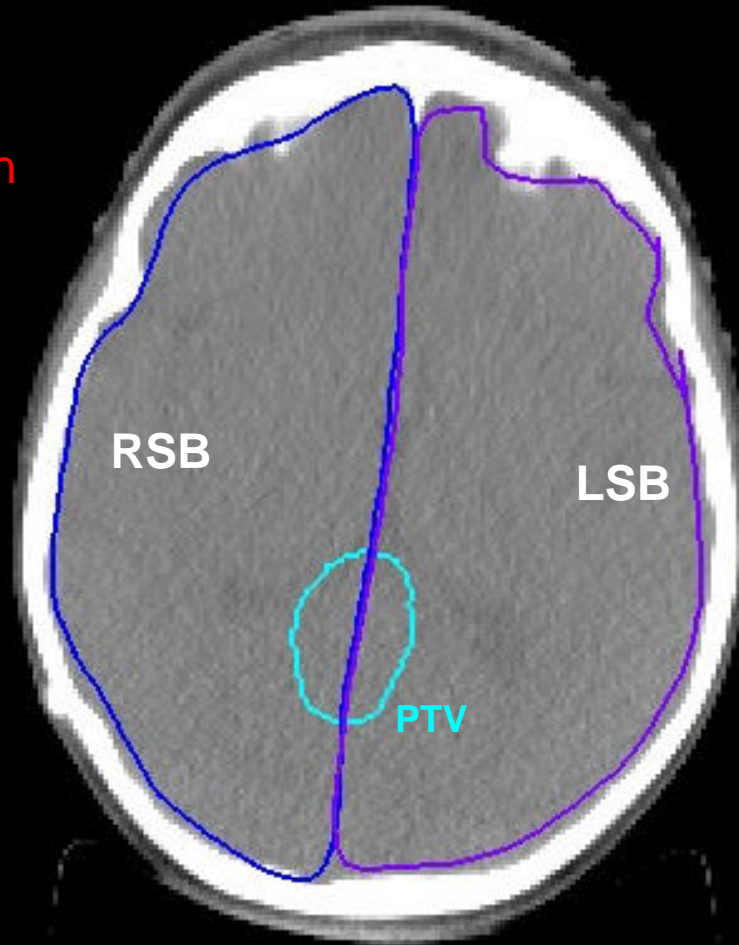
Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



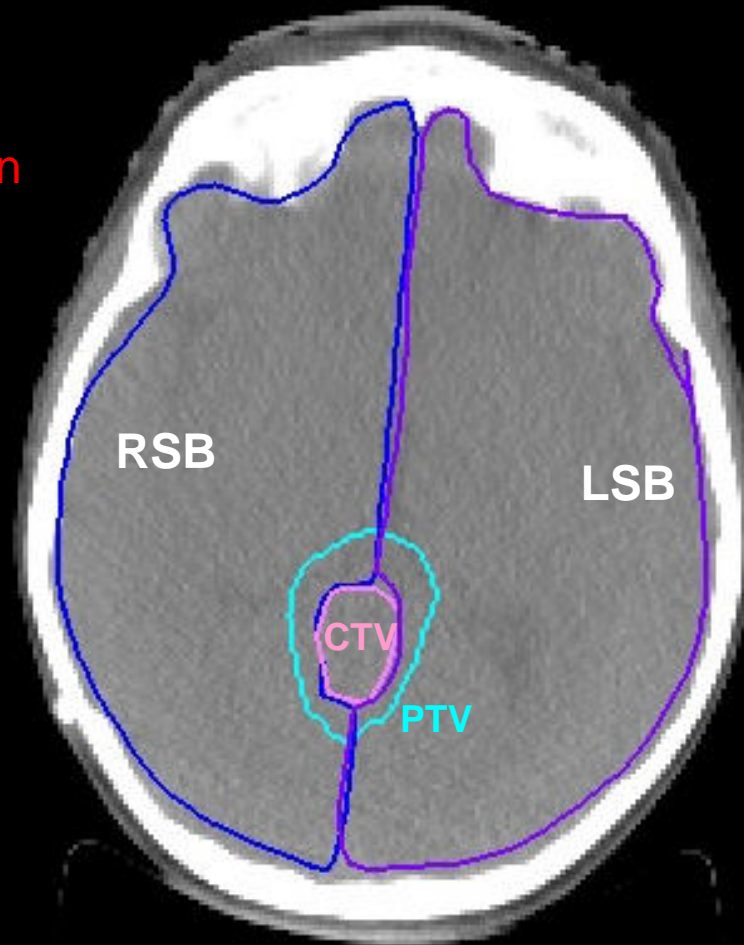
SLICE: 21.85 CM

TargetPF3

ZOOM: 2

Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



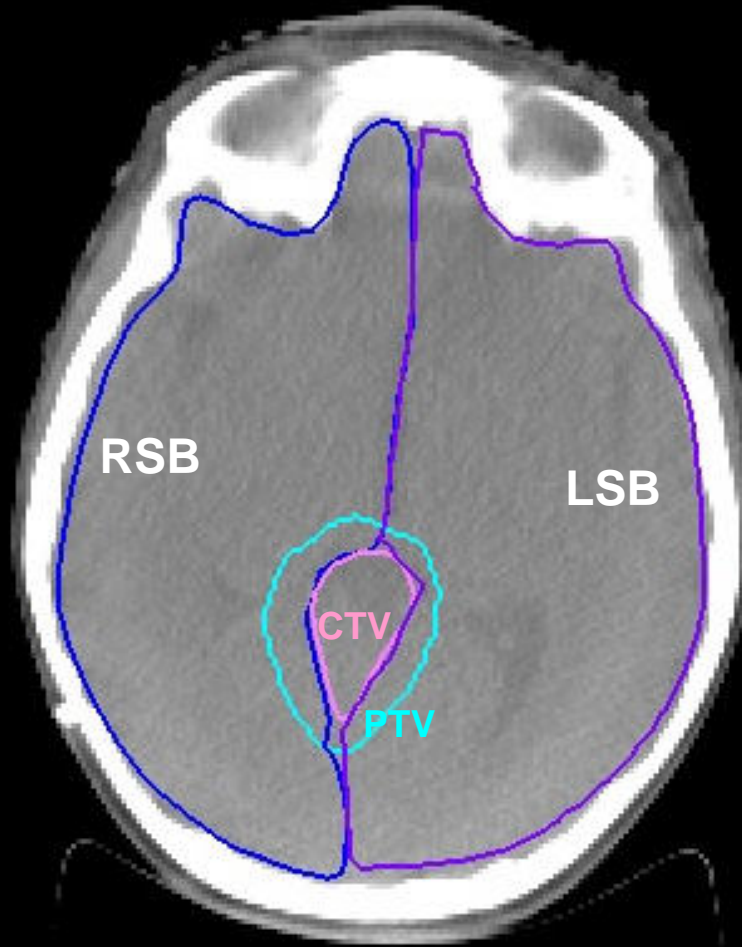
SLICE: 21.55 CM

TargetPF4

ZOOM: 2

Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



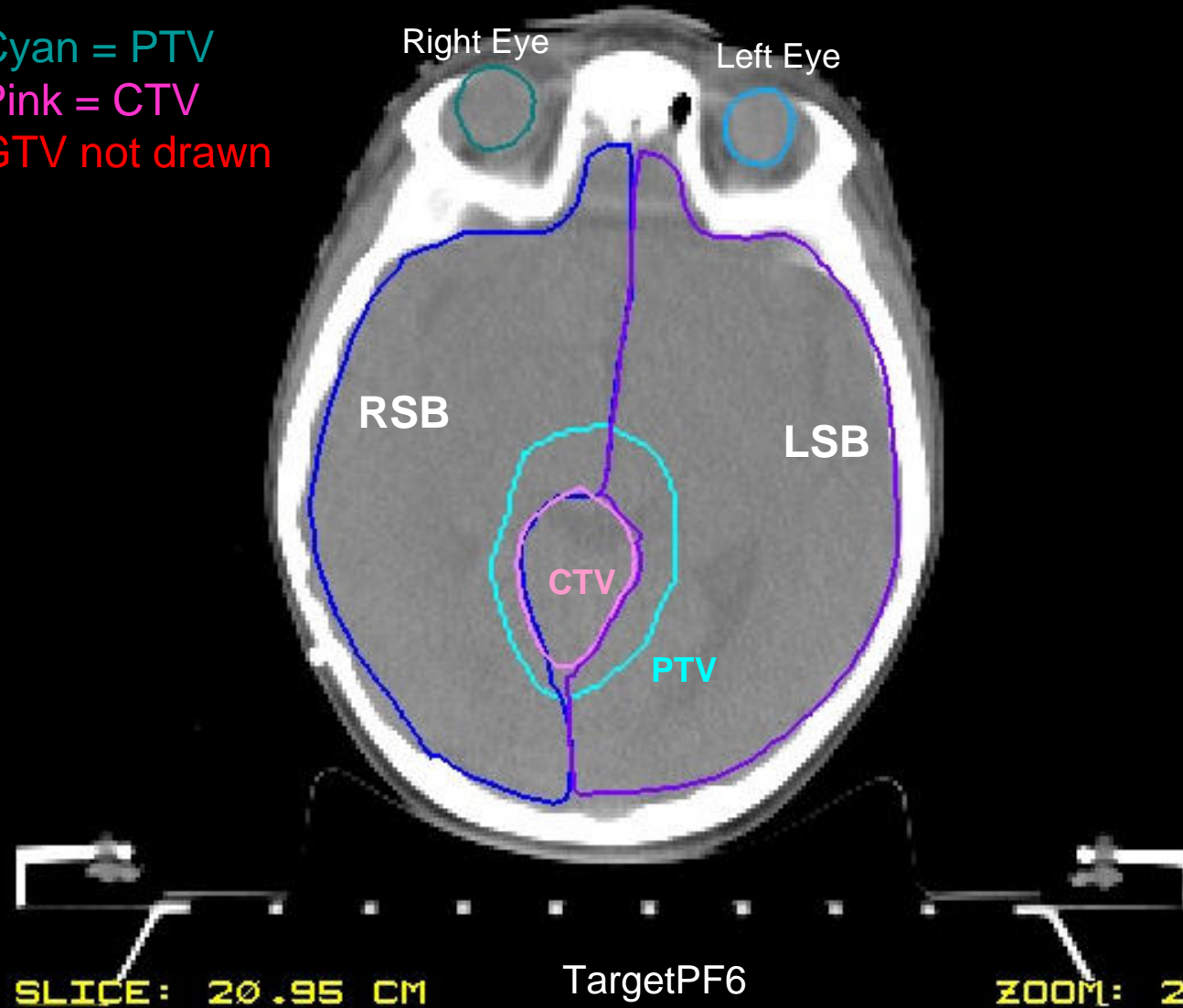
SLICE: 21.25 CM

TargetPF5

ZOOM: 2

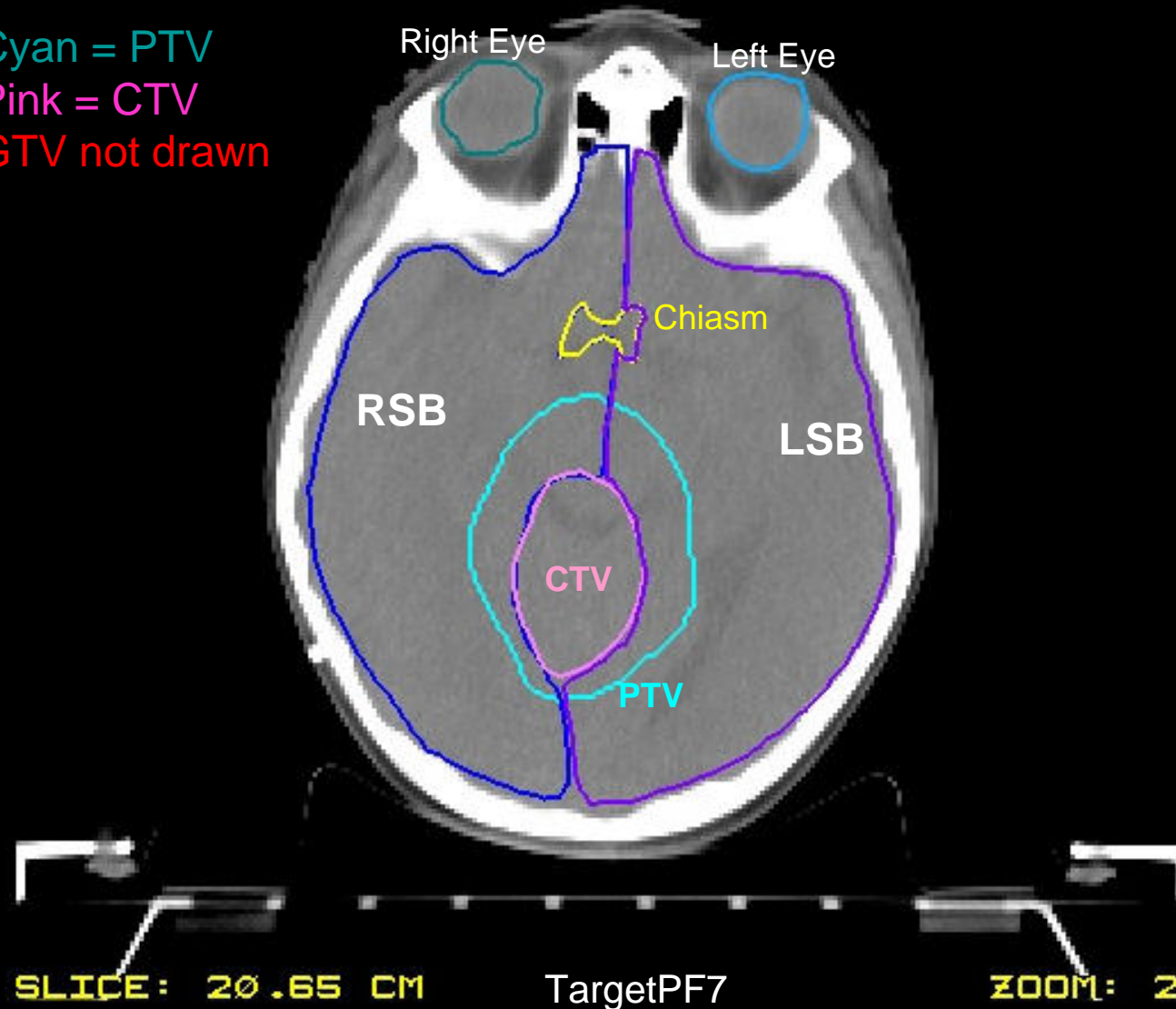
Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



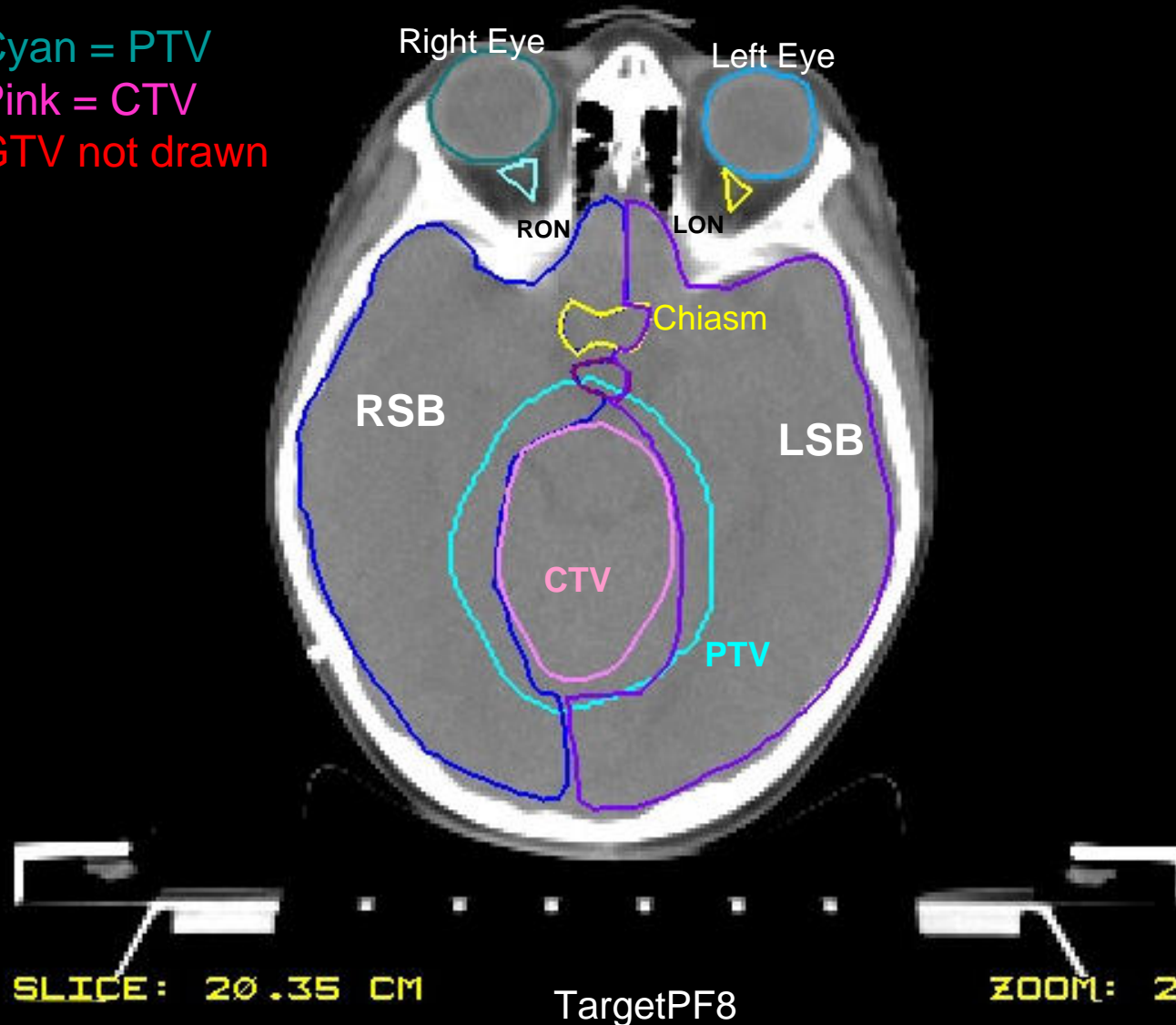
Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



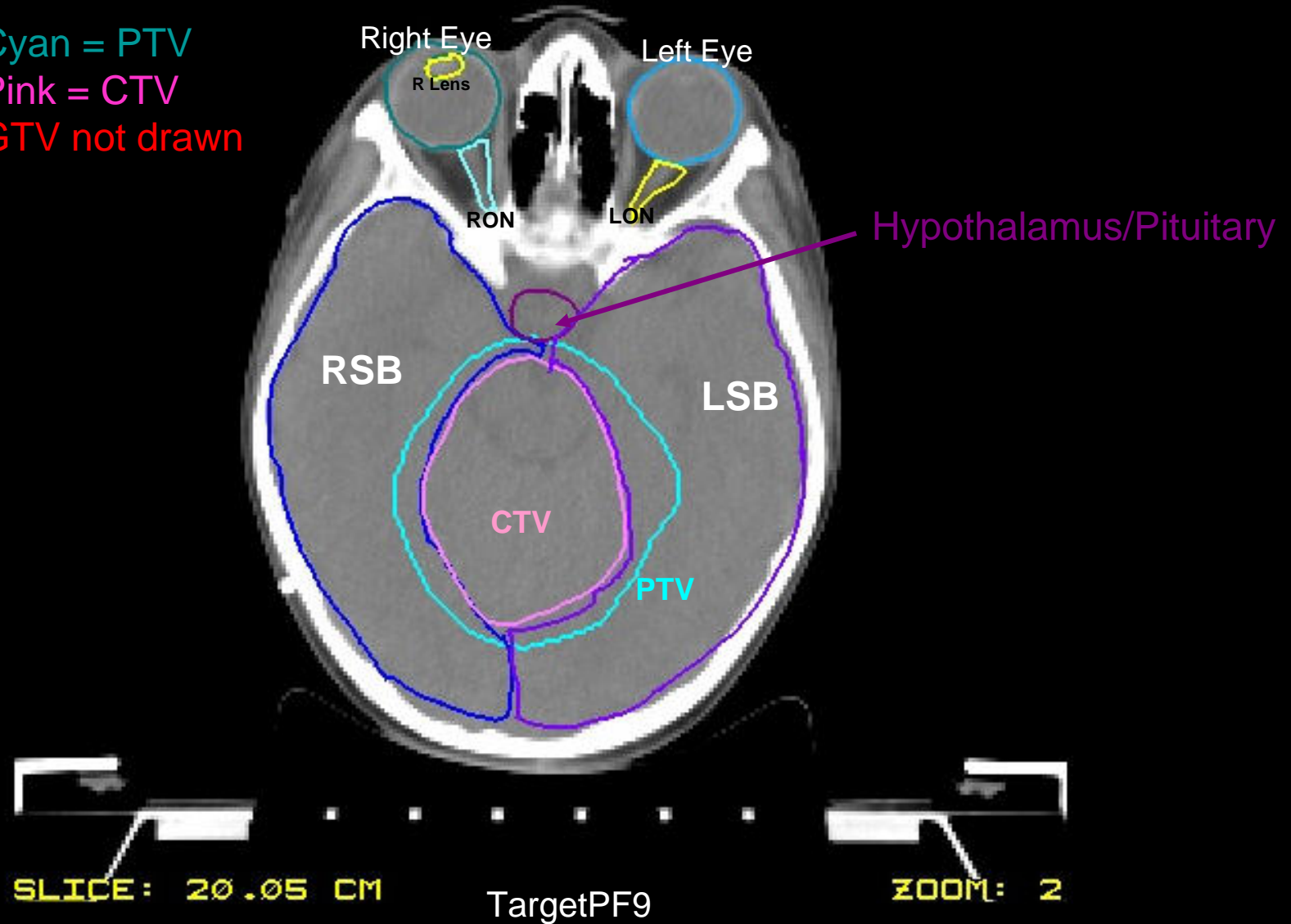
Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



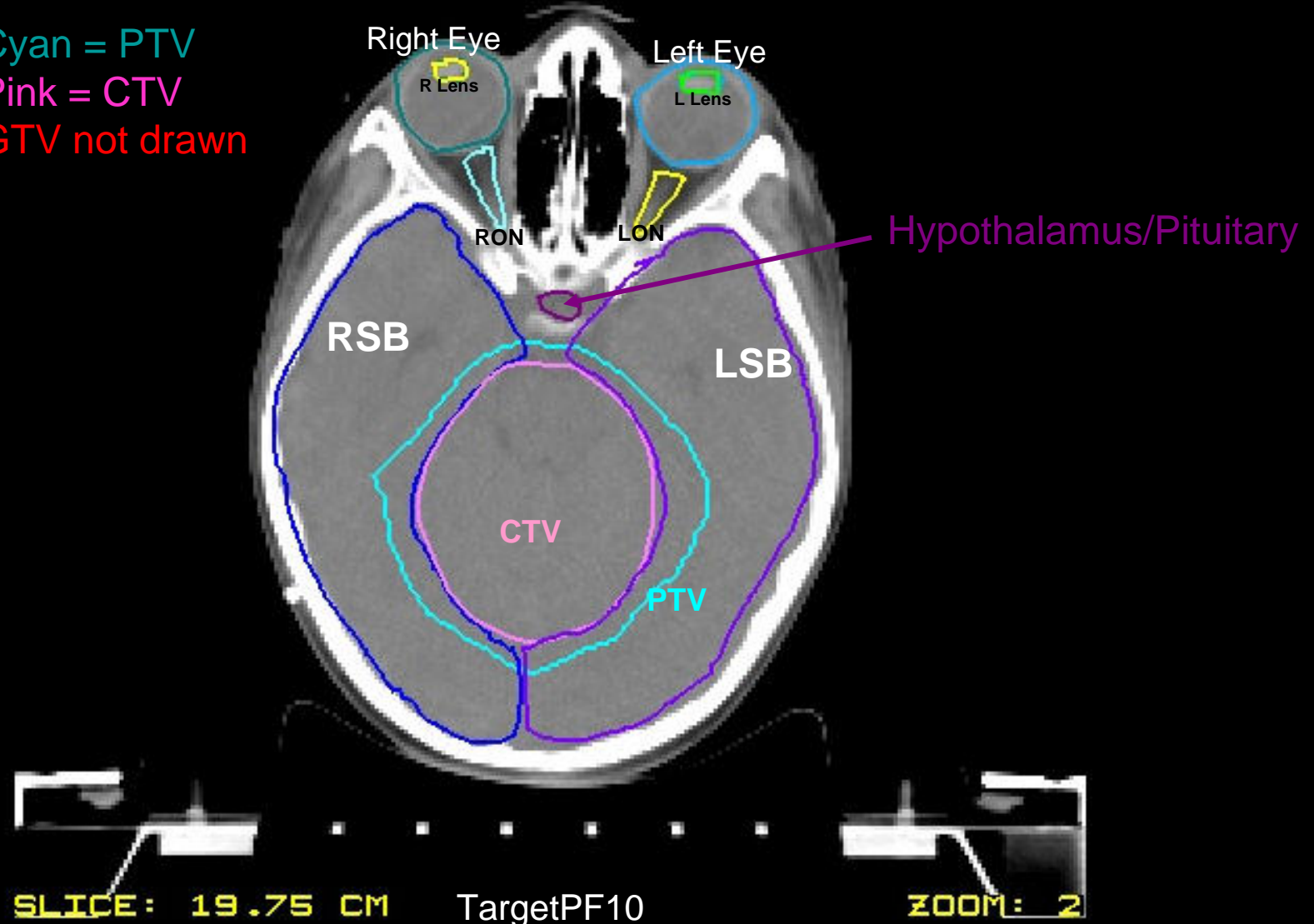
Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



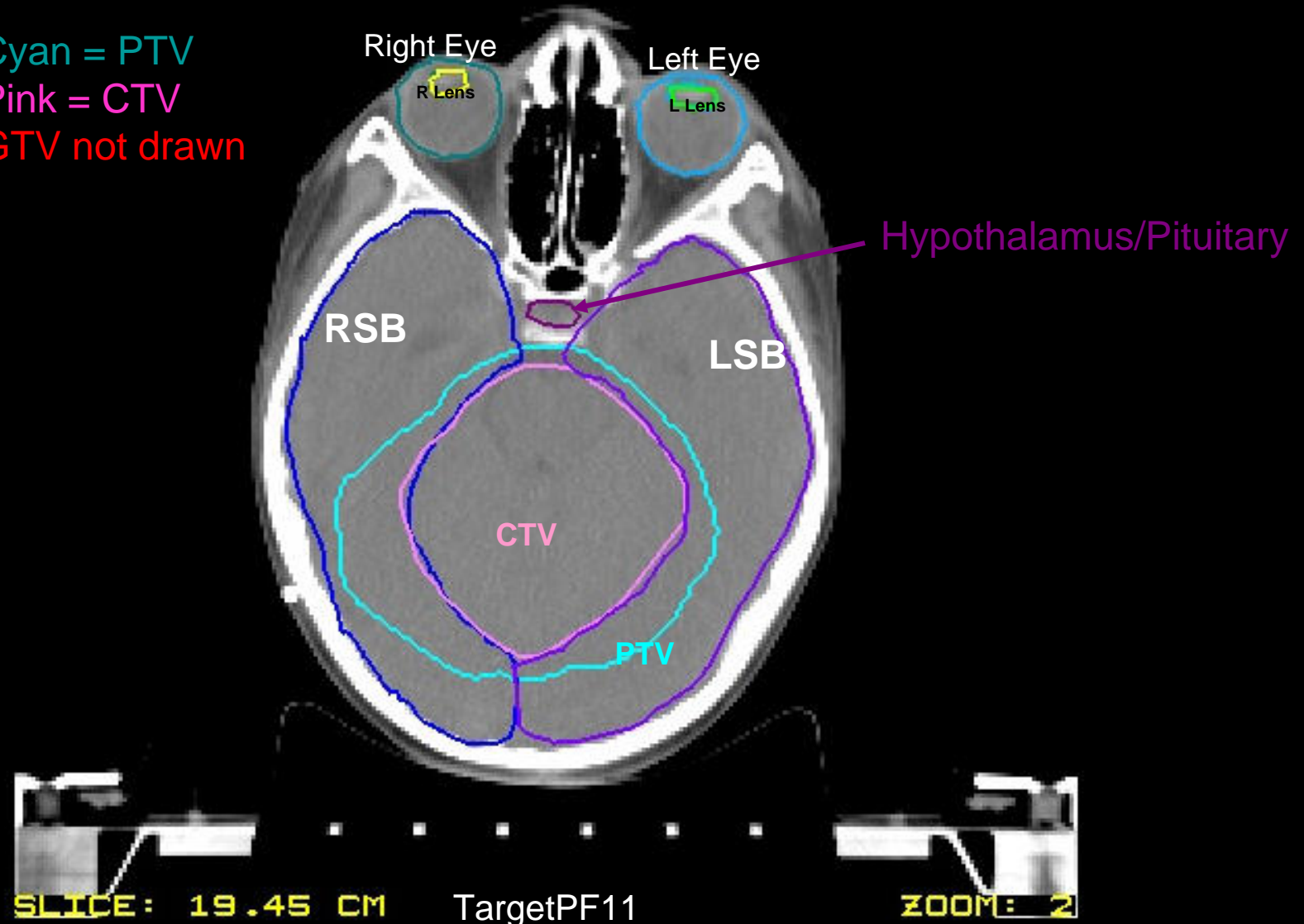
Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



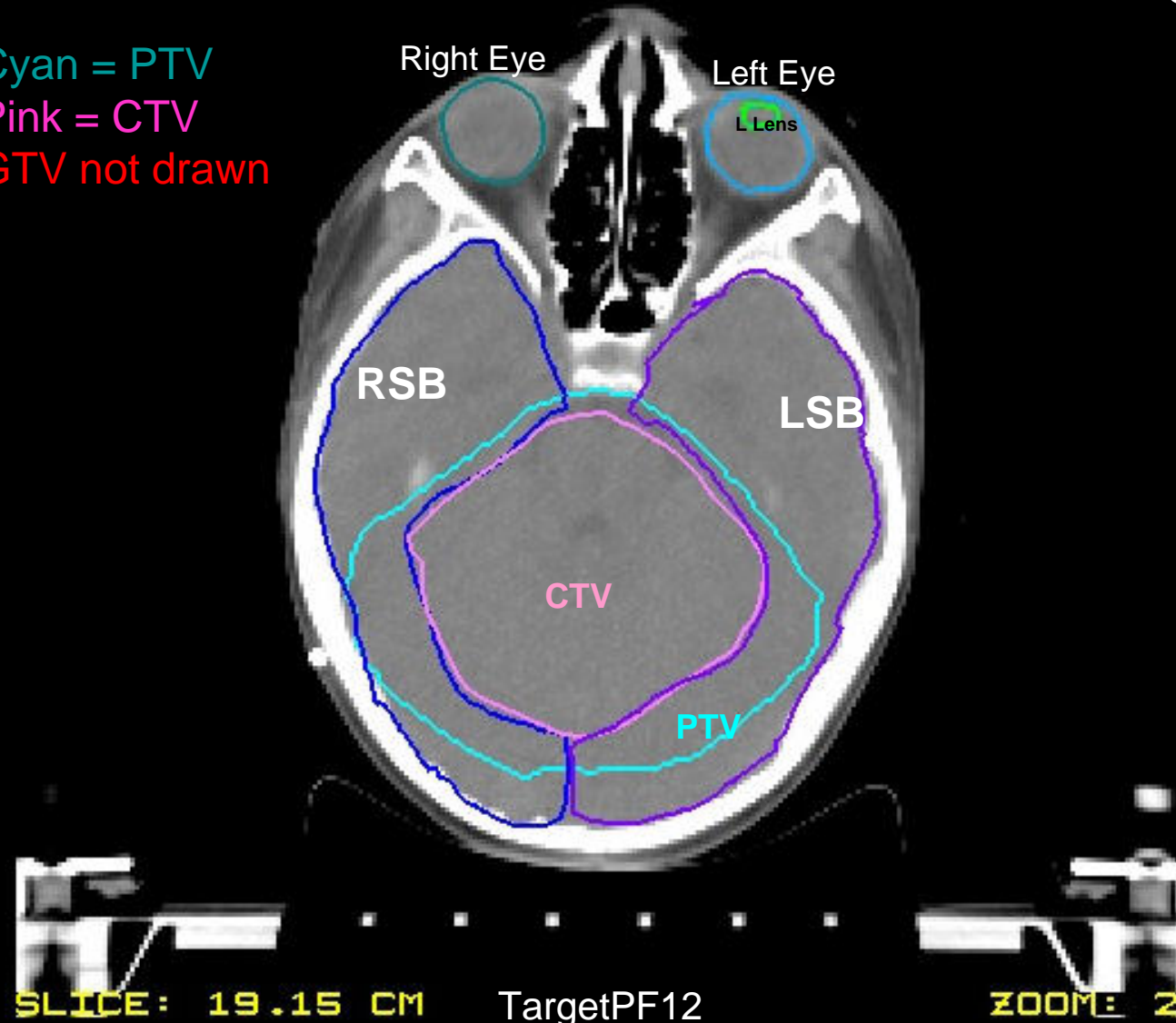
Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



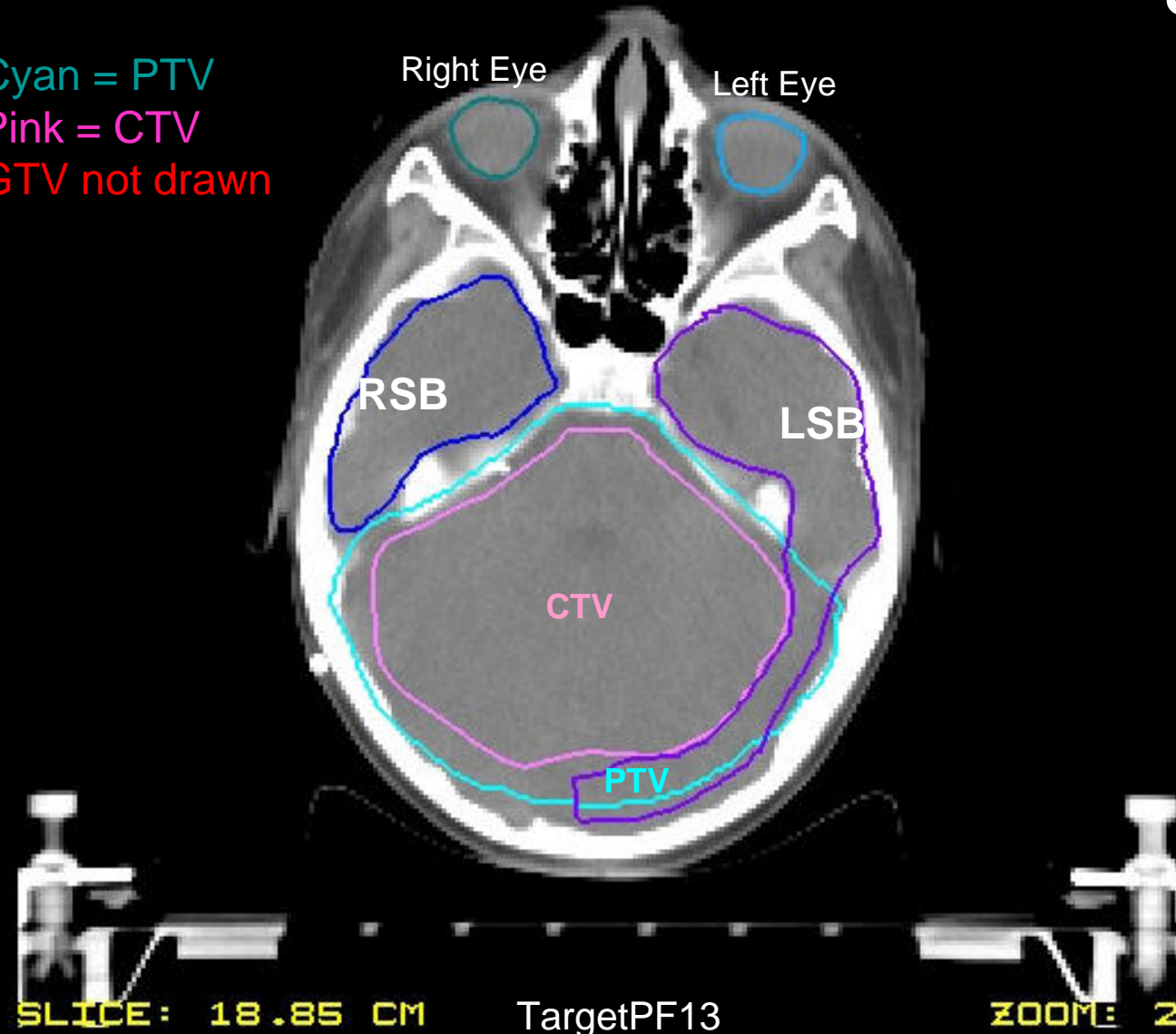
Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



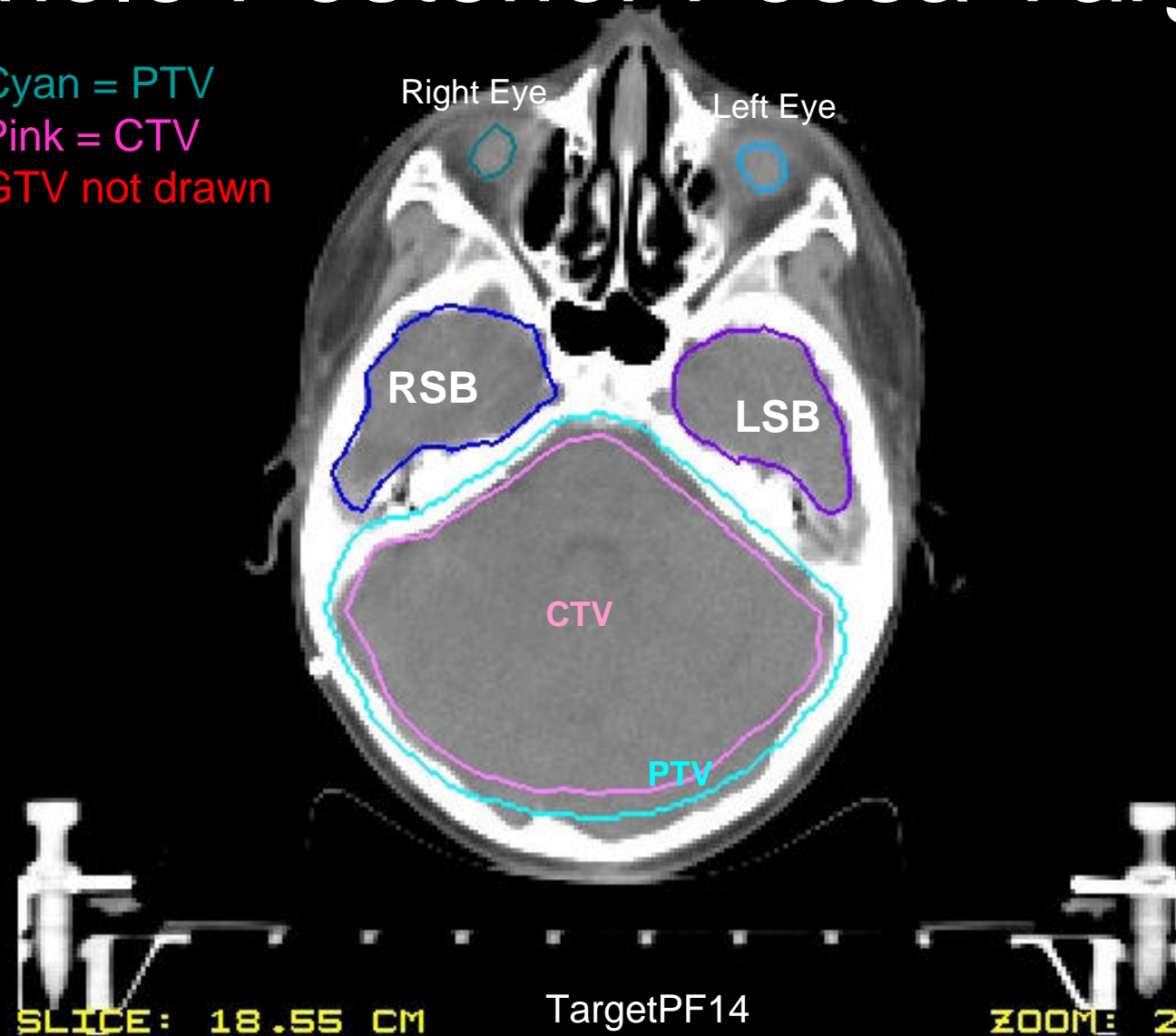
Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



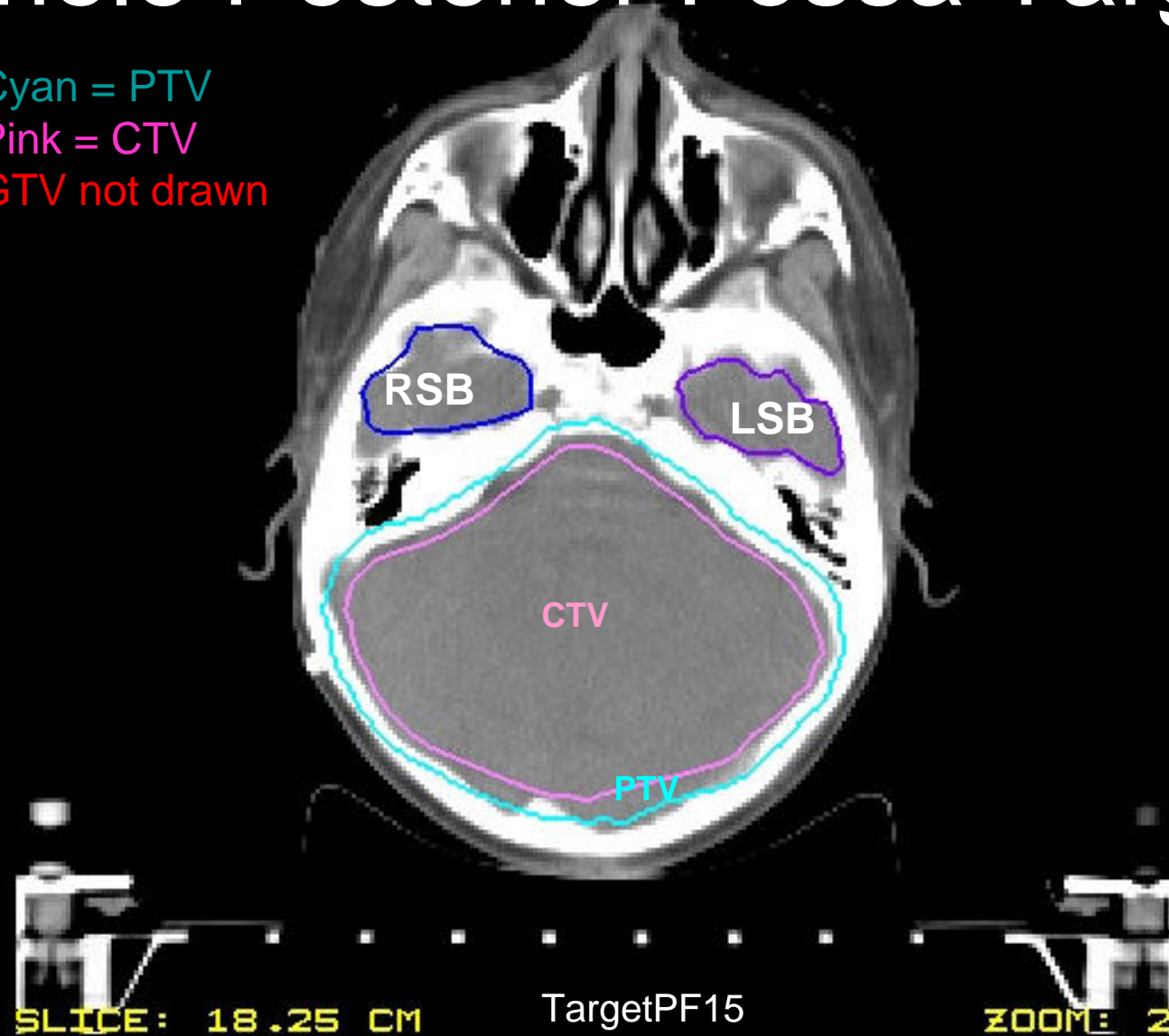
Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



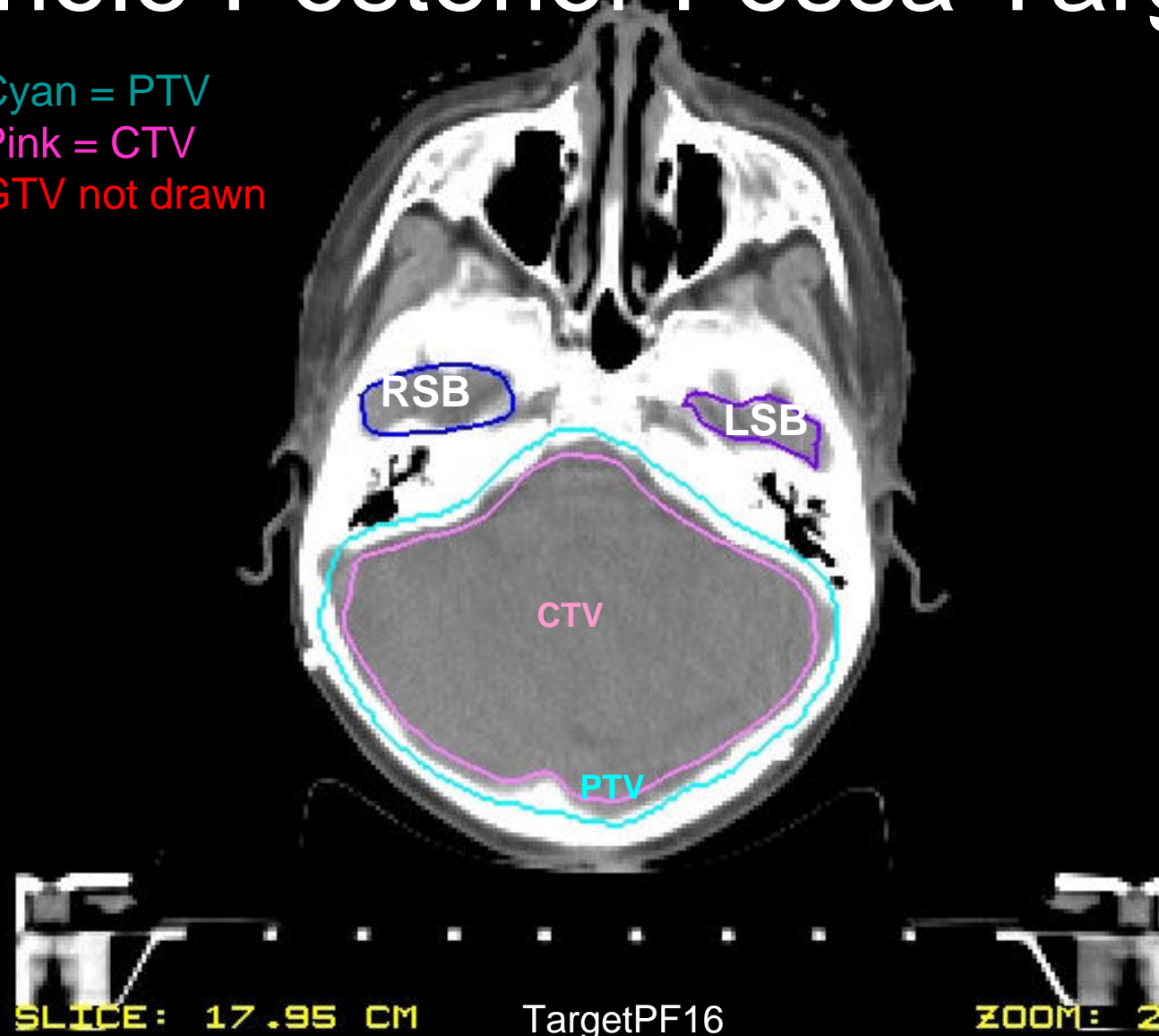
Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



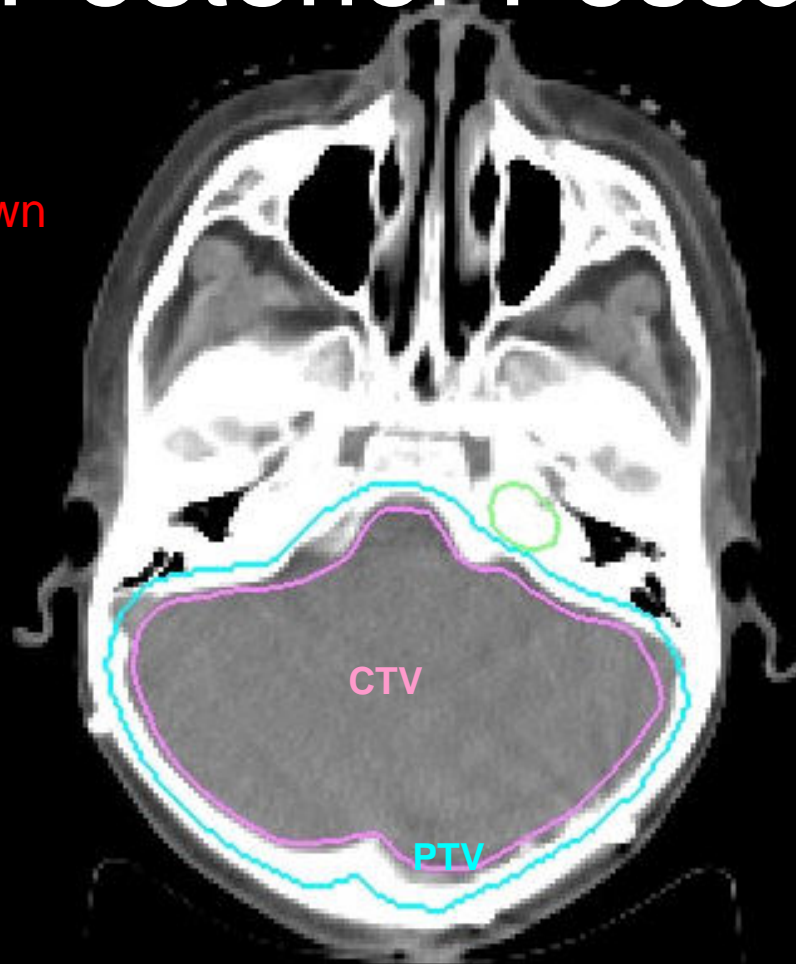
Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



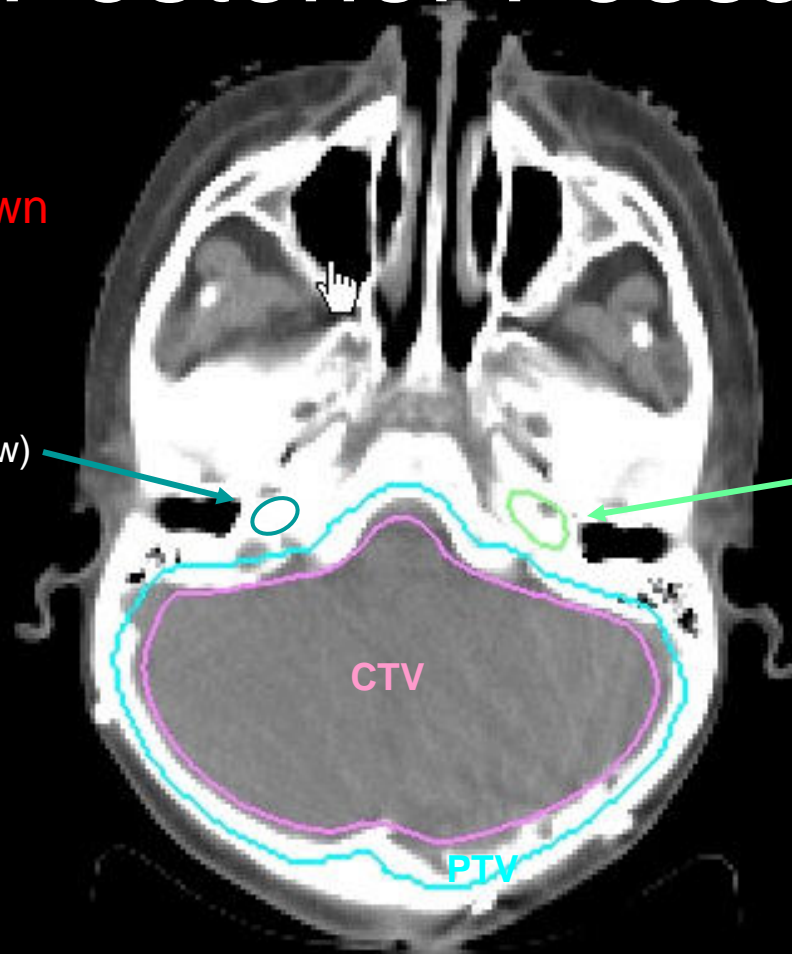
SLICE: 17.65 CM TargetPF17 ZOOM: 2

Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn

Right Cochlea
(best seen on bone window)

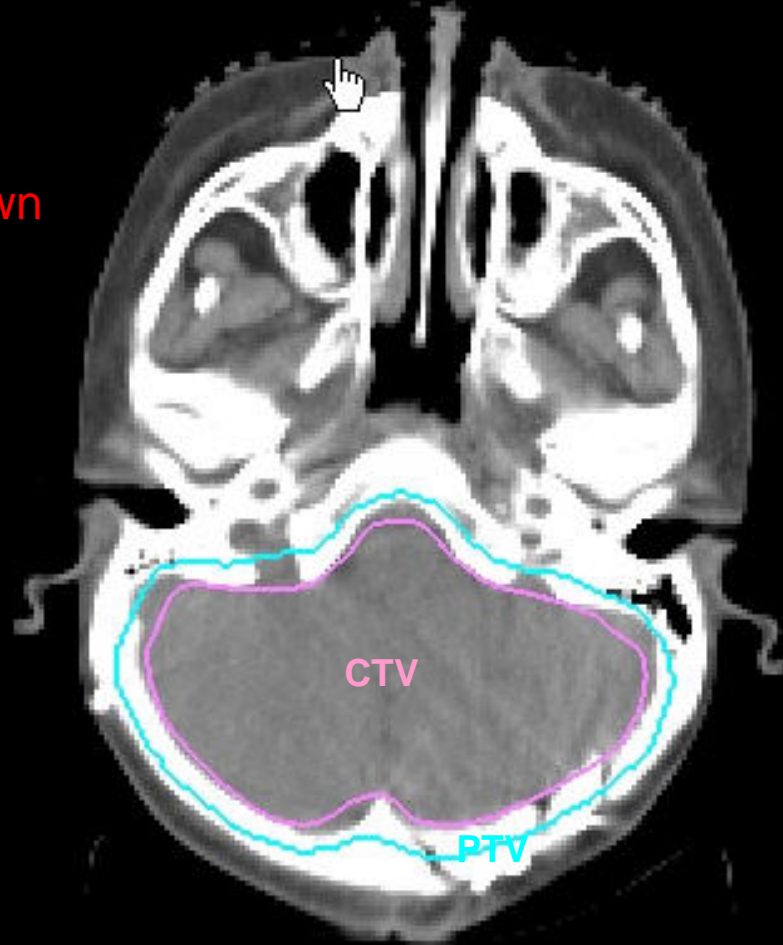
Left Cochlea
(best seen on bone window)



SLICE: 17.35 CM TargetPF18 ZOOM: 2

Whole Posterior Fossa Target

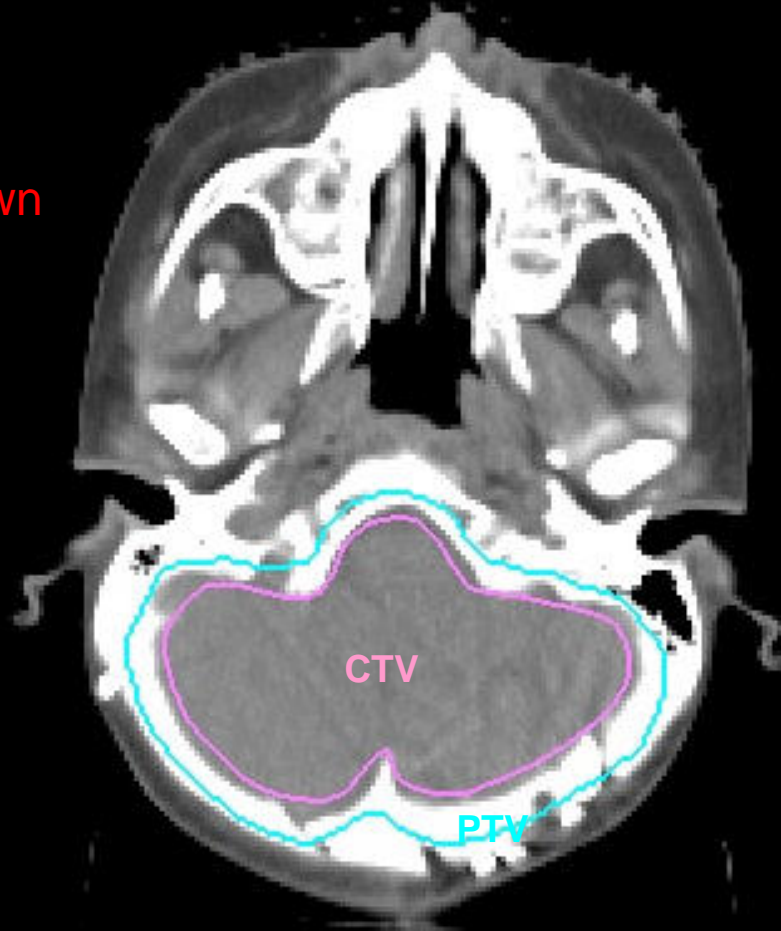
Cyan = PTV
Pink = CTV
GTV not drawn



SLICE: 17.05 CM TargetPF19 ZOOM: 2

Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



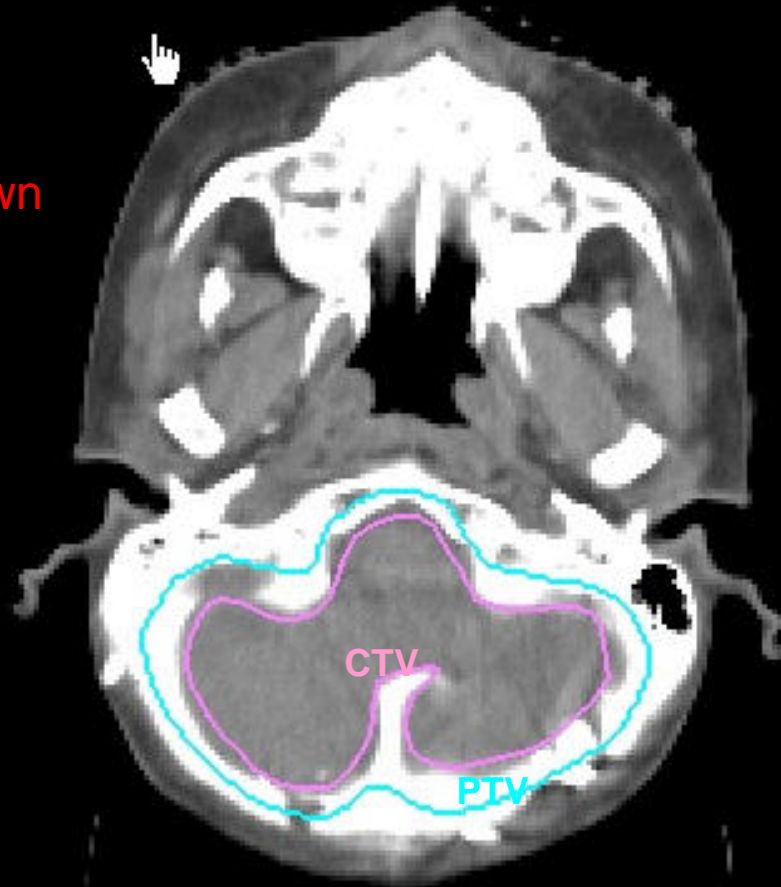
SLICE: 16.75 CM

TargetPF20

ZOOM: 2

Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



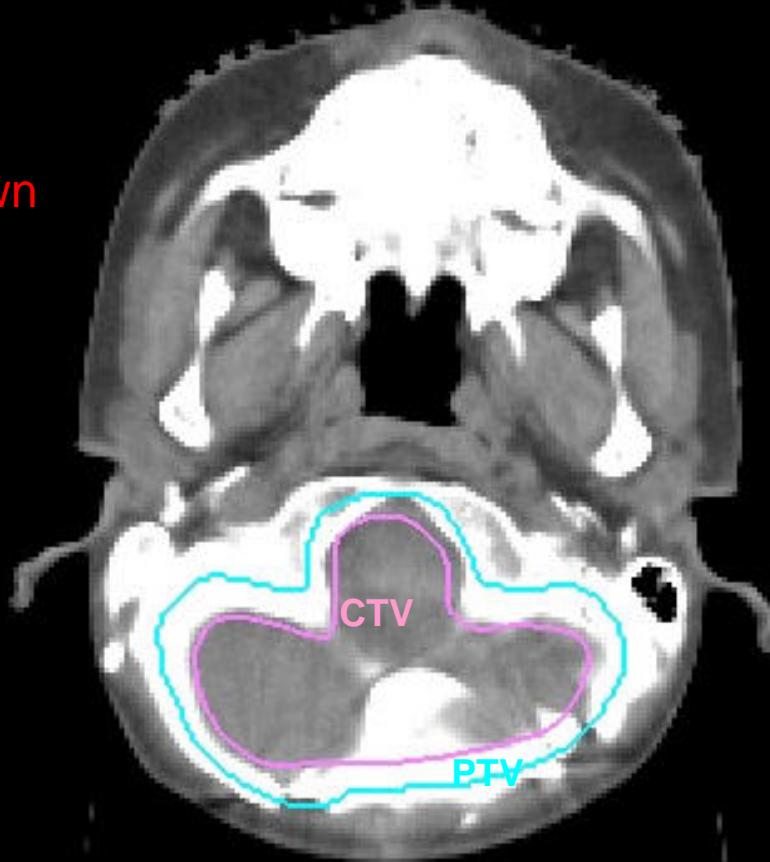
SLICE: 16.45 CM

TargetPF21

ZOOM: 2

Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



Level of
Foramen Magnum

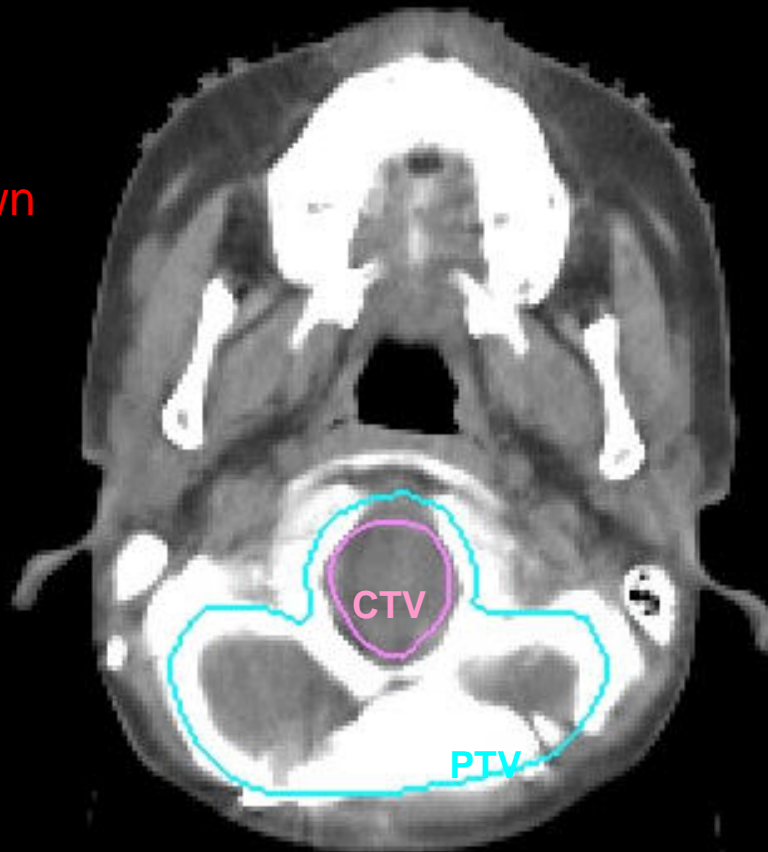
SLICE: 16.15 CM

TargetPF22

ZOOM: 2

Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



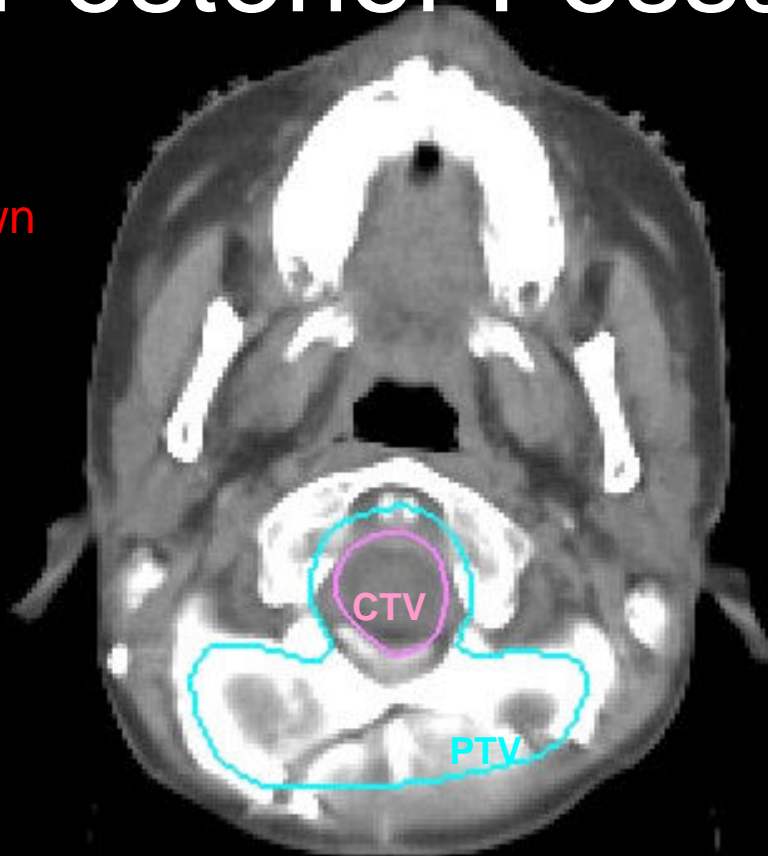
SLICE: 15.85 CM

TargetPF23

ZOOM: 2

Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



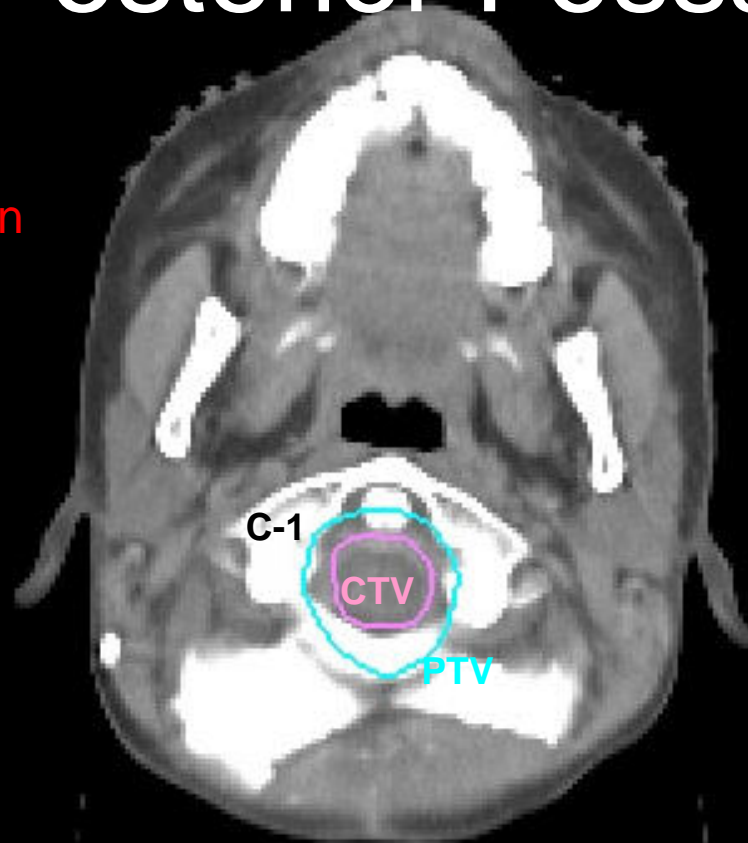
SLICE: 15.55 CM

TargetPF24

ZOOM: 2

Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



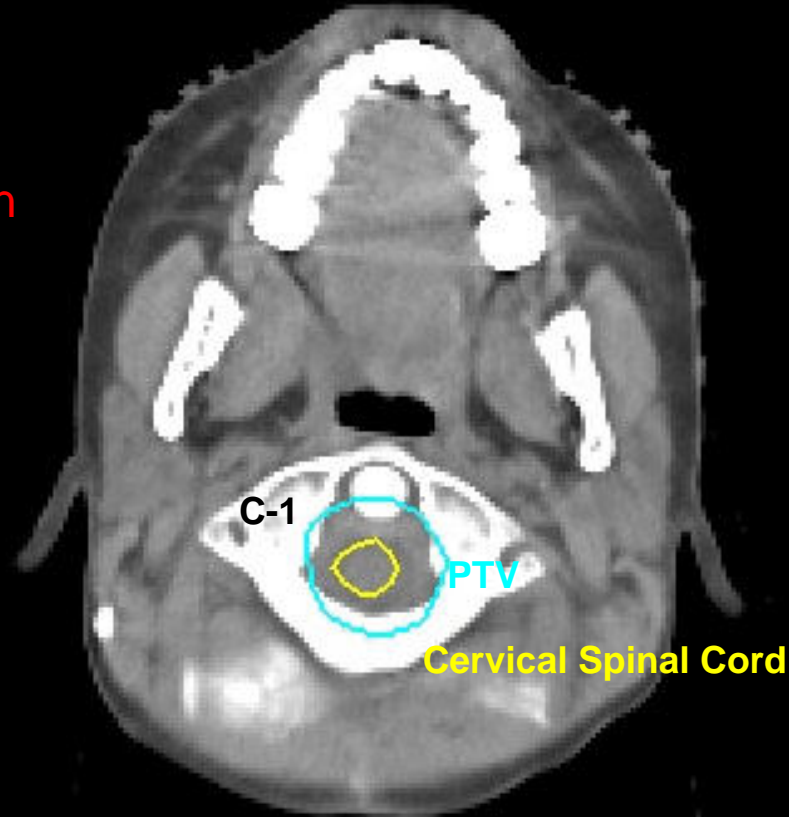
SLICE: 15.25 CM

TargetPF25

ZOOM: 2

Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn



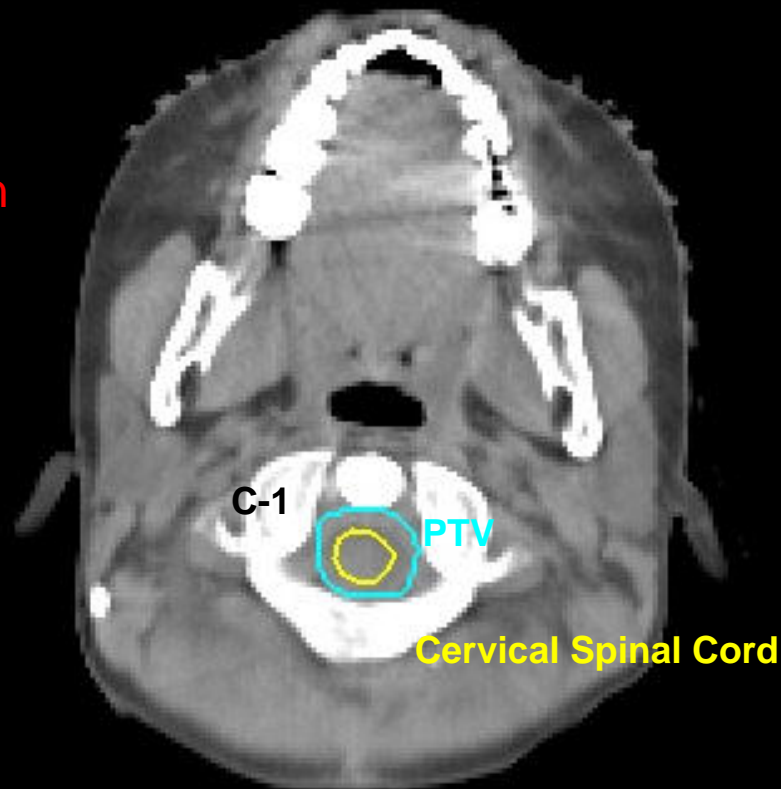
SLICE: 14.95 CM

TargetPF26

ZOOM: 2

Whole Posterior Fossa Target

Cyan = PTV
Pink = CTV
GTV not drawn

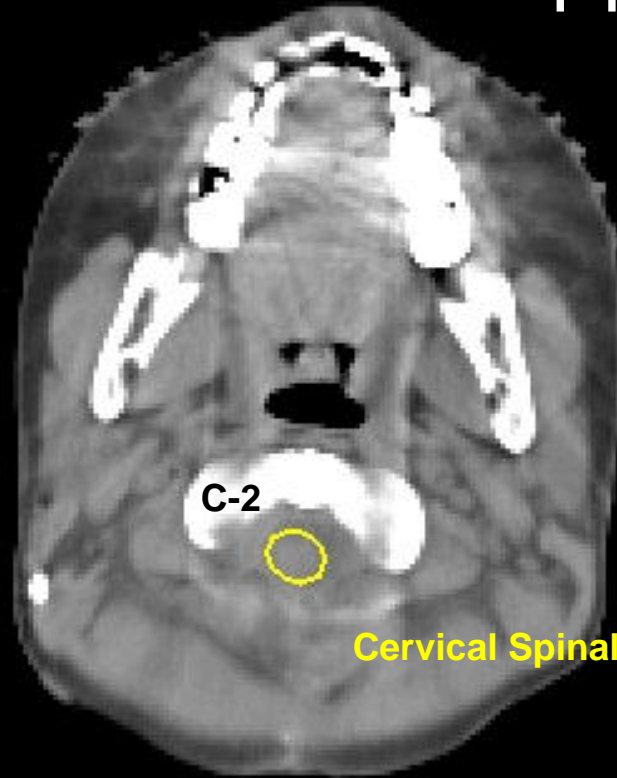


SLICE: 14.65 CM

TargetPF27

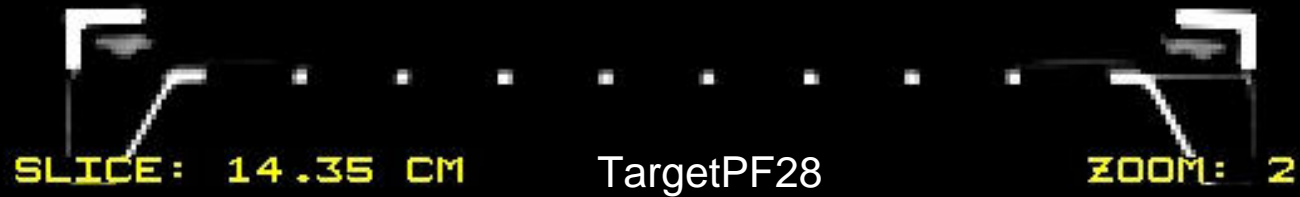
ZOOM: 2

Below PTV_{PF}



C-2

Cervical Spinal Cord

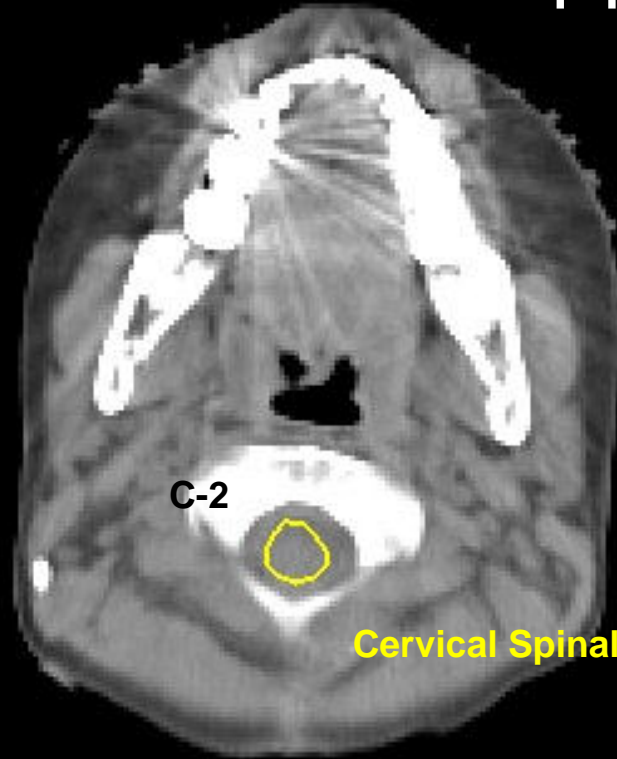


SLICE: 14.35 CM

TargetPF28

ZOOM: 2

Below PTV_{PF}



C-2

Cervical Spinal Cord

SLICE: 14.05 CM TargetPF29 ZOOM: 2

Organs at Risk

Targets not displayed for
illustration purpose

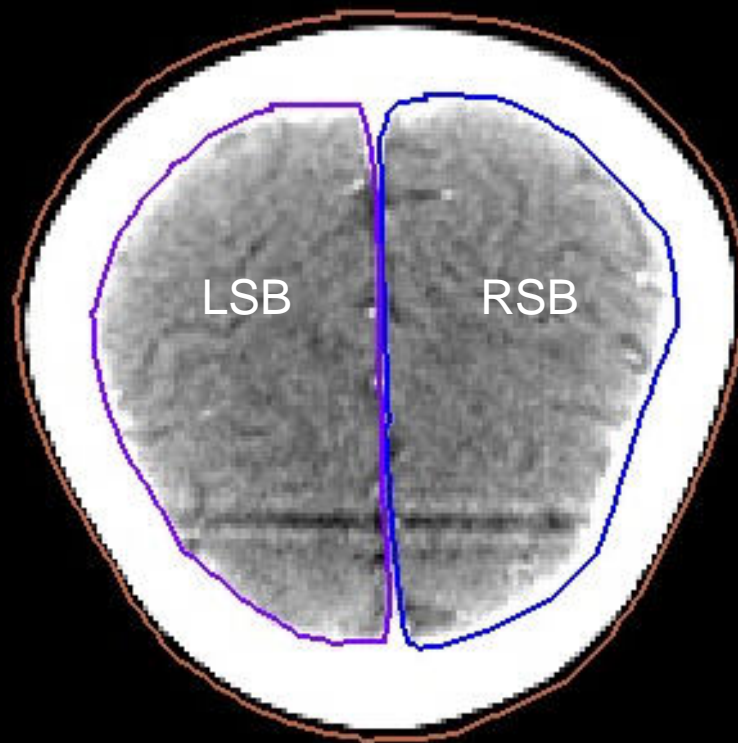
Organs at Risk

- The following organs must be defined for 3-D conformal radiation therapy or IMRT planning:
 - Supratentorial brain (left and right)
 - Cochlea (left and right)
 - Hypothalamus/pituitary
 - Eyes (left and right)
 - Optic nerves (left and right)
 - Optic chiasm
 - Cervical spinal cord (foramen magnum to top of C2)
 - Skin (non-specified tissues)

Organs at Risk

Left supratentorial brain (LSB)

Right supratentorial brain (RSB)



SLICE: 7.50 CM

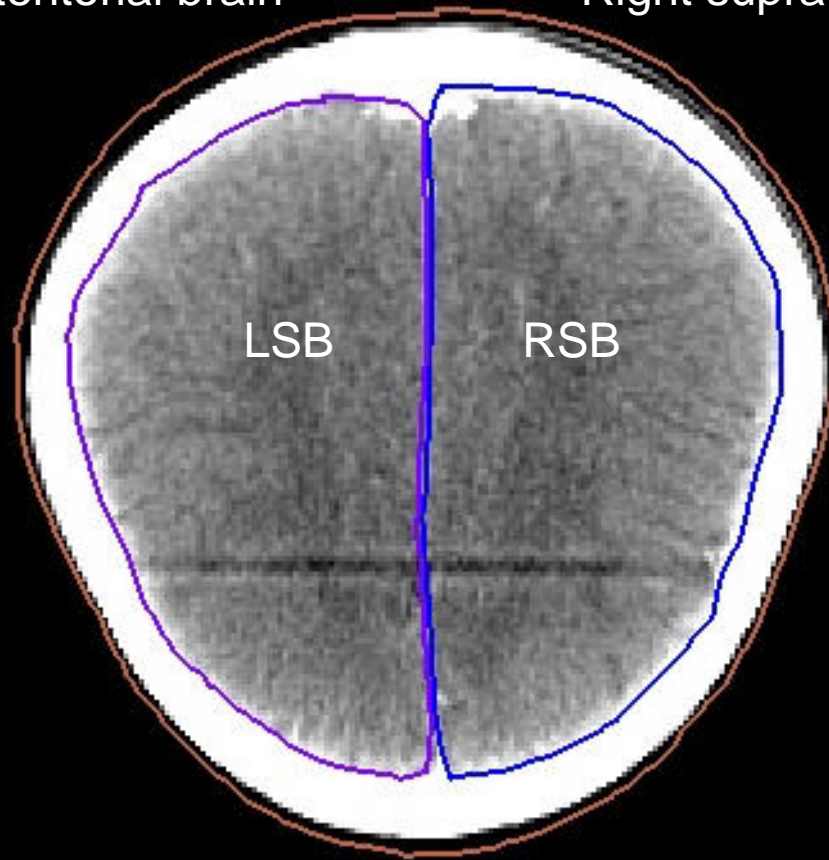
OAR1

ZOOM: 2

Organs at Risk

Left supratentorial brain

Right supratentorial brain



SLICE: 6.00 CM

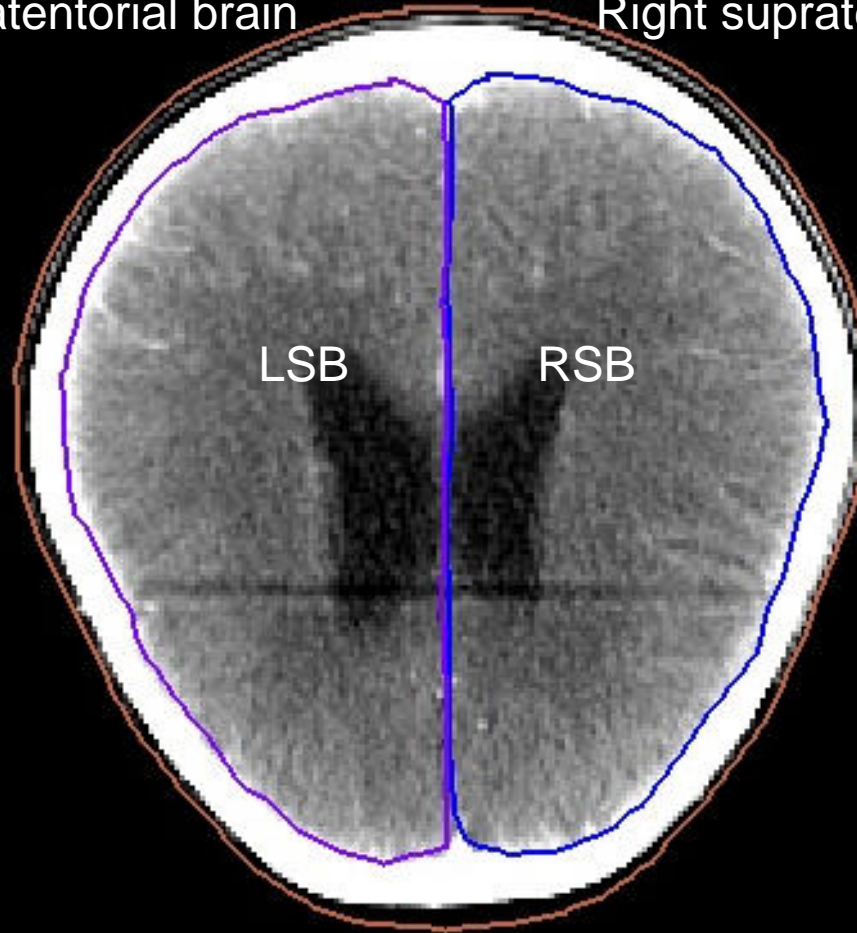
OAR2

ZOOM: 2

Organs at Risk

Left supratentorial brain

Right supratentorial brain



SLICE: 4.50 CM

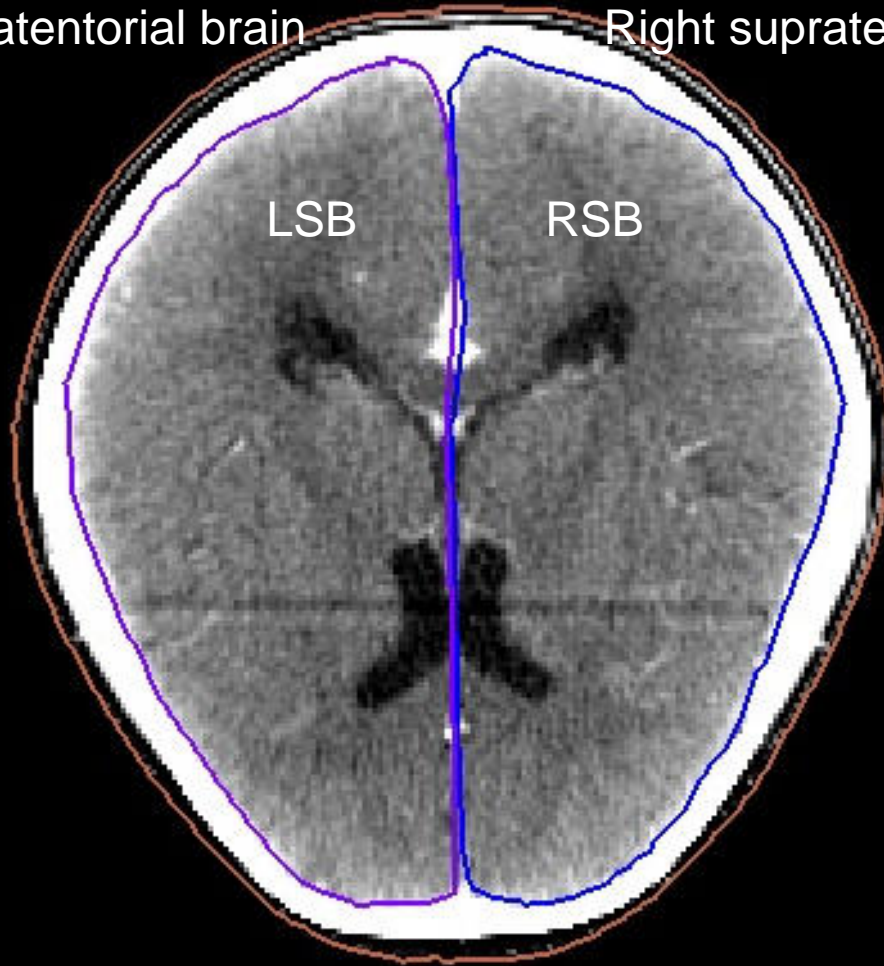
OAR3

ZOOM: 2

Organs at Risk

Left supratentorial brain

Right supratentorial brain



SLICE: 3.00 CM

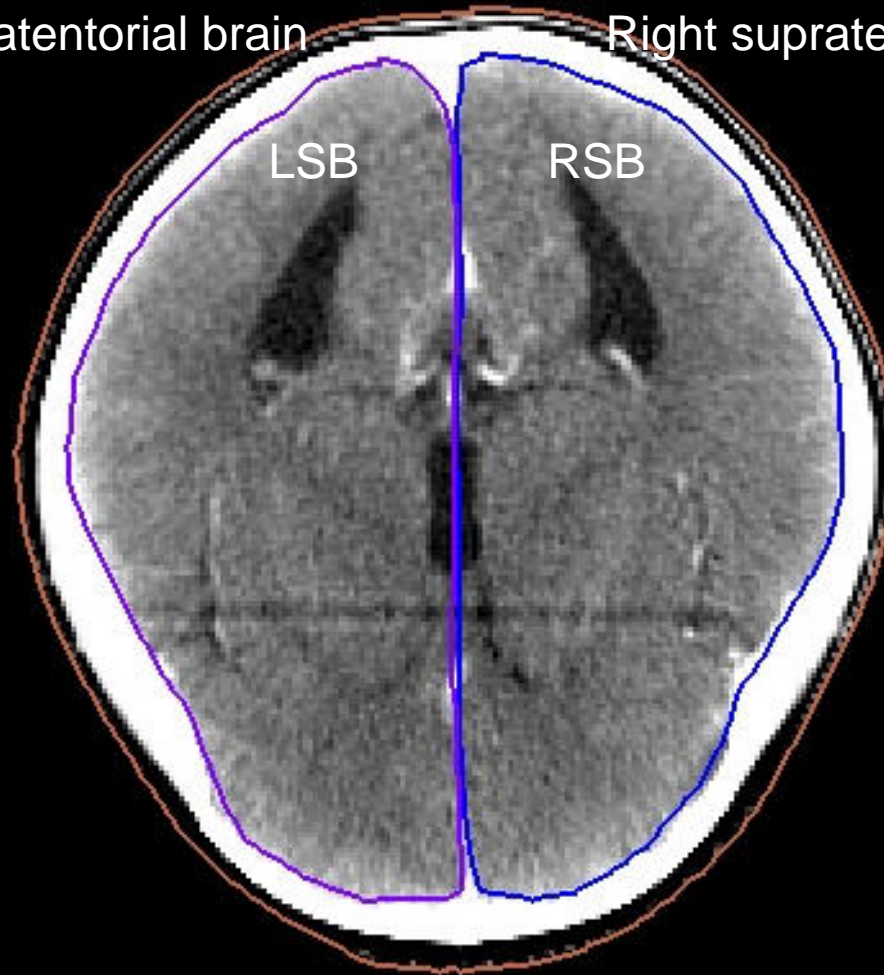
OAR4

ZOOM: 2

Organs at Risk

Left supratentorial brain

Right supratentorial brain



SLICE: 2.00 CM

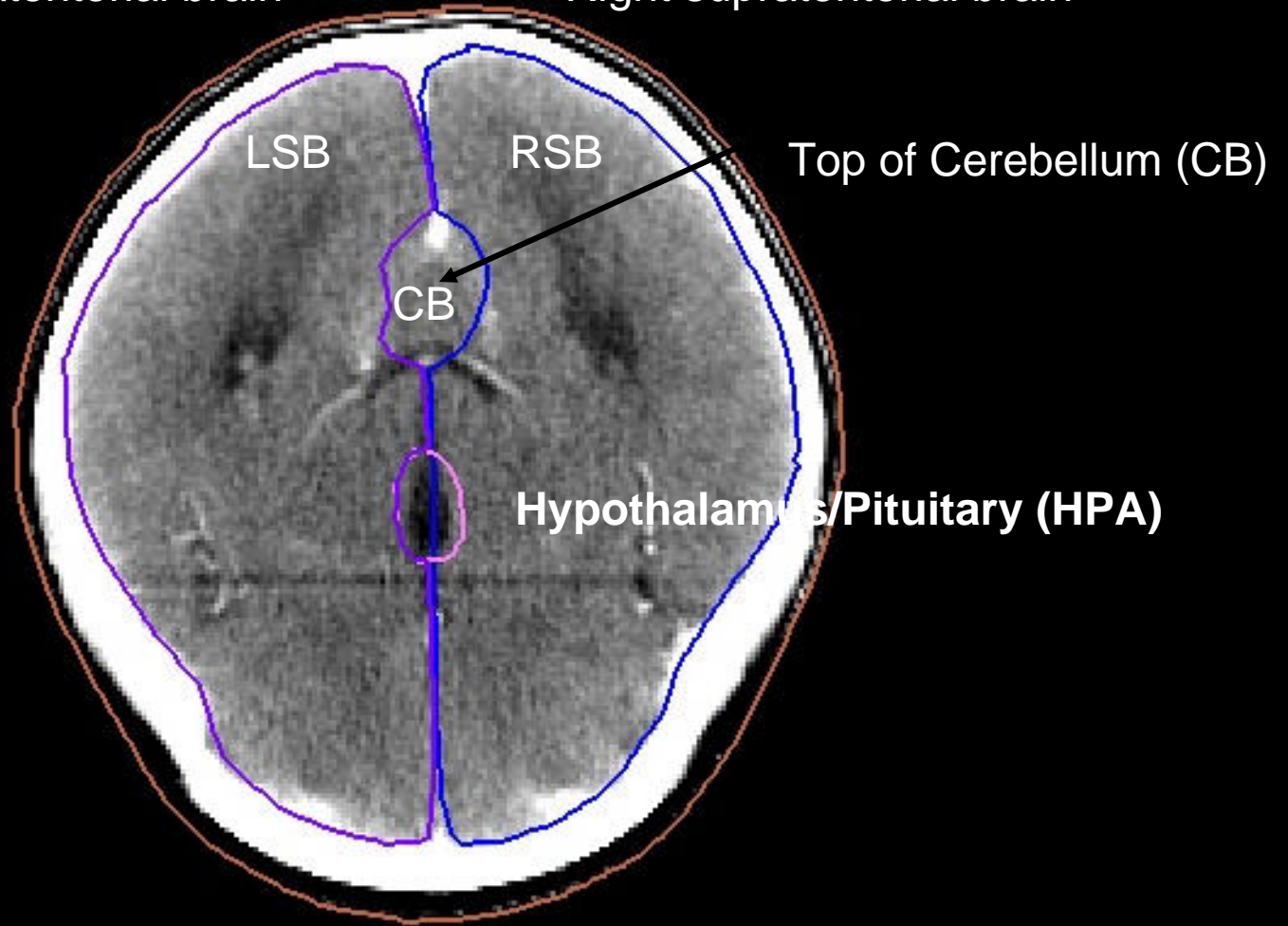
OAR5

ZOOM: 2

Organs at Risk

Left supratentorial brain

Right supratentorial brain

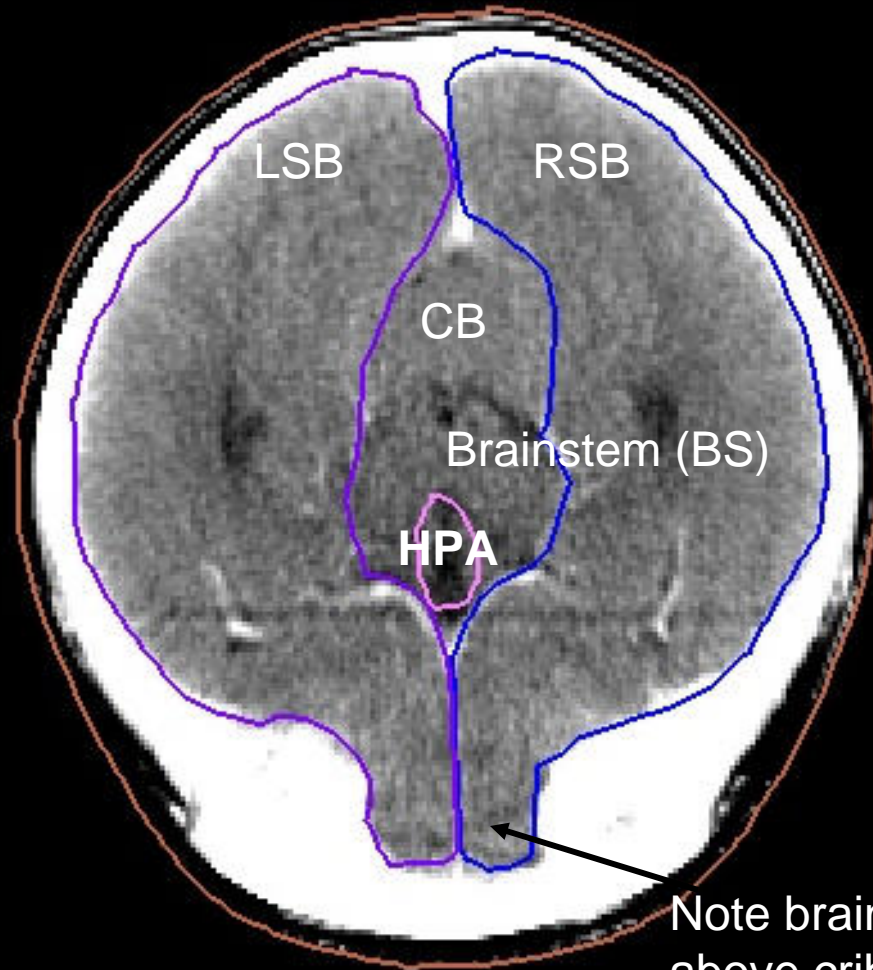


SLICE: 1.50 CM

OAR6

ZOOM: 2

Organs at Risk



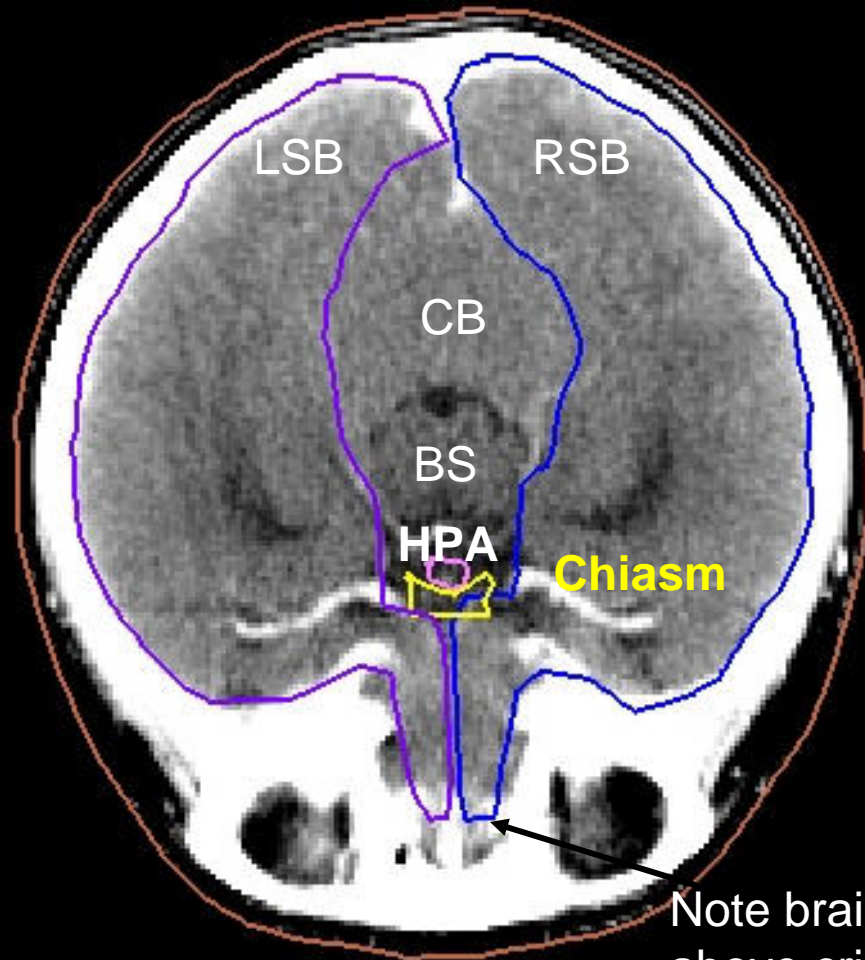
Note brain in area
above cribriform
plate

SLICE: 1.00 CM

OAR7

ZOOM: 2

Organs at Risk



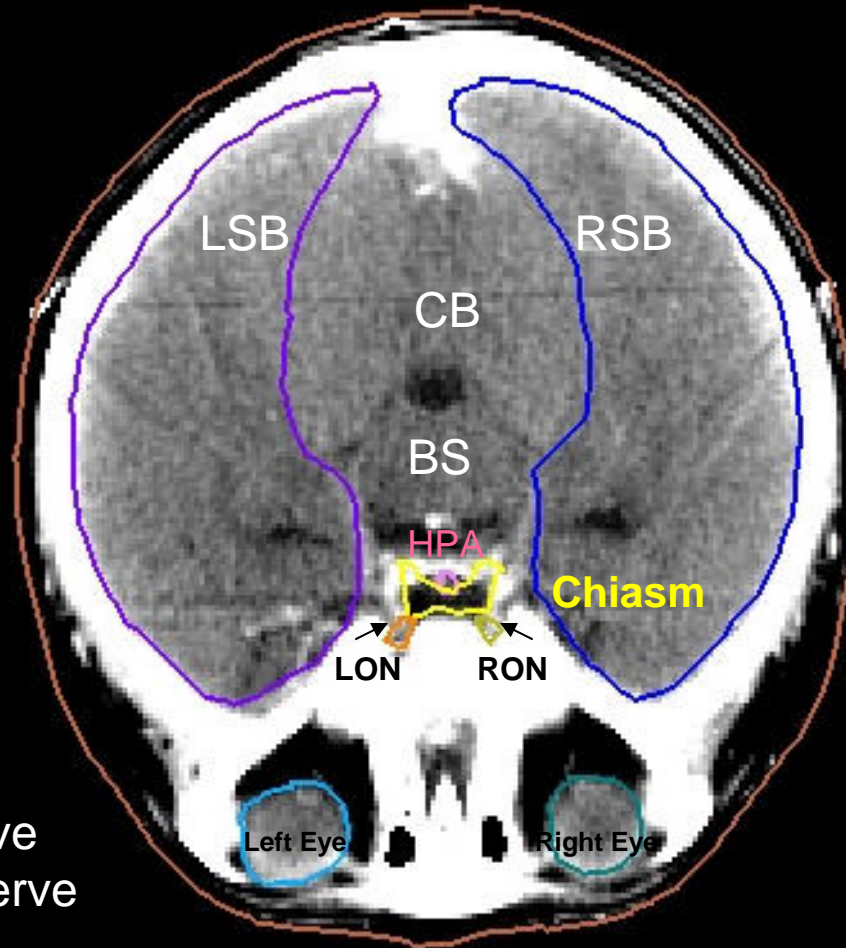
SLICE: 0.50 CM

OAR8

ZOOM: 2



Organs at Risk



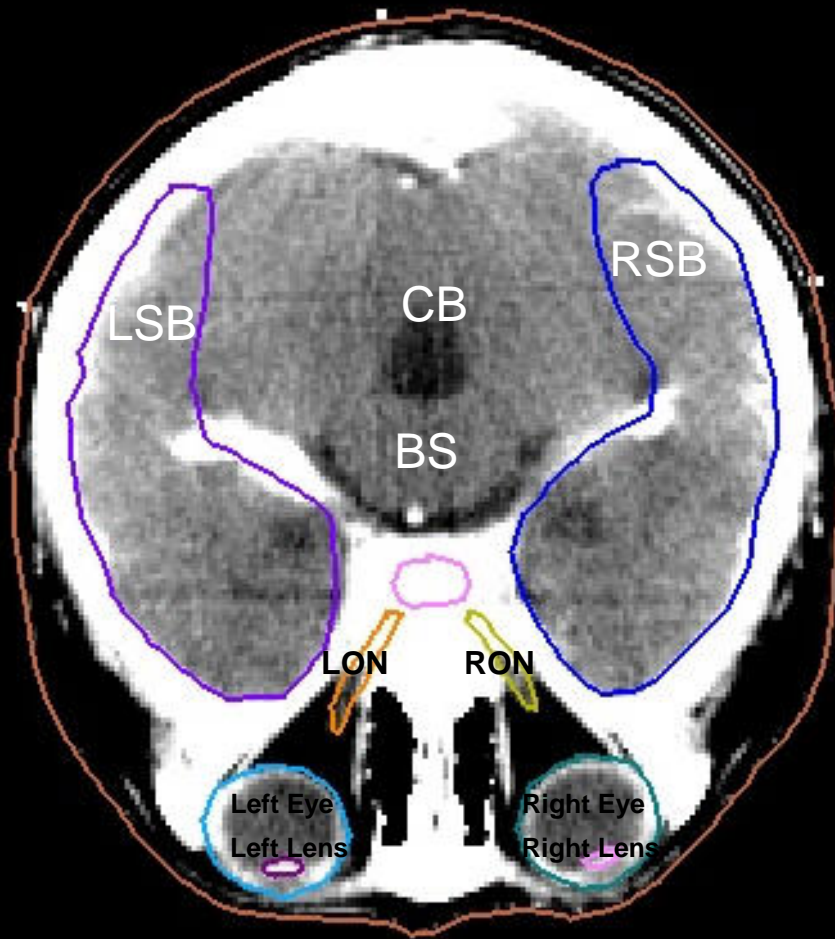
LON= Left Optic nerve
RON= Right Optic nerve

SLICE: -0.00 CM

OAR9

ZOOM: 2

Organs at Risk

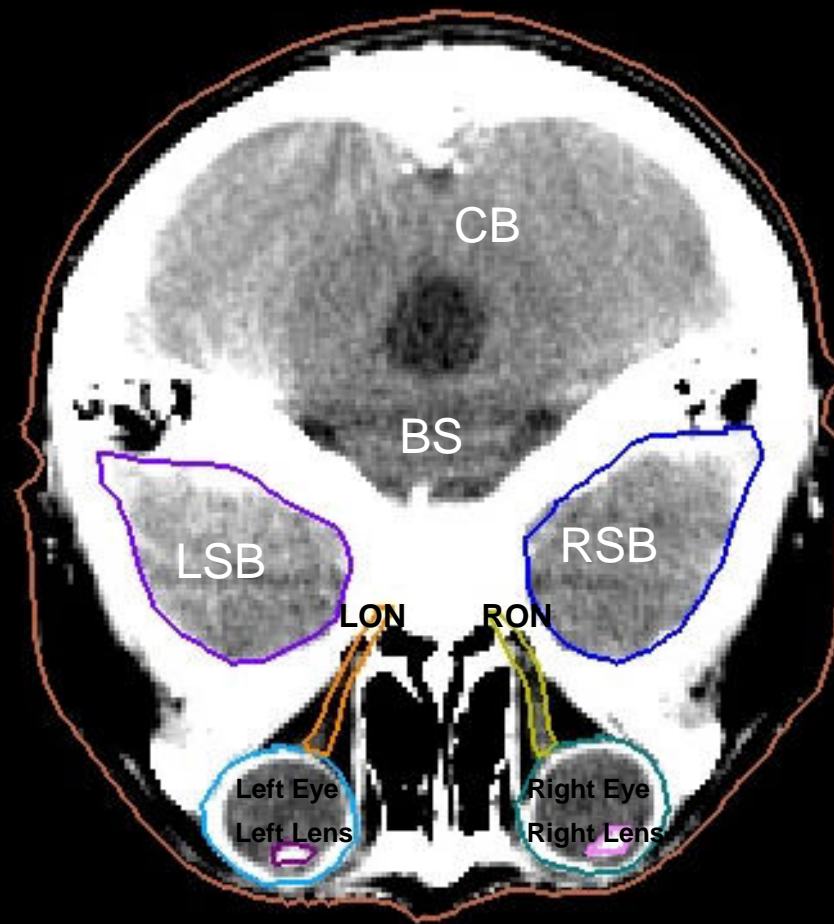


SLICE: -0.50 CM

OAR10

ZOOM: 2

Organs at Risk

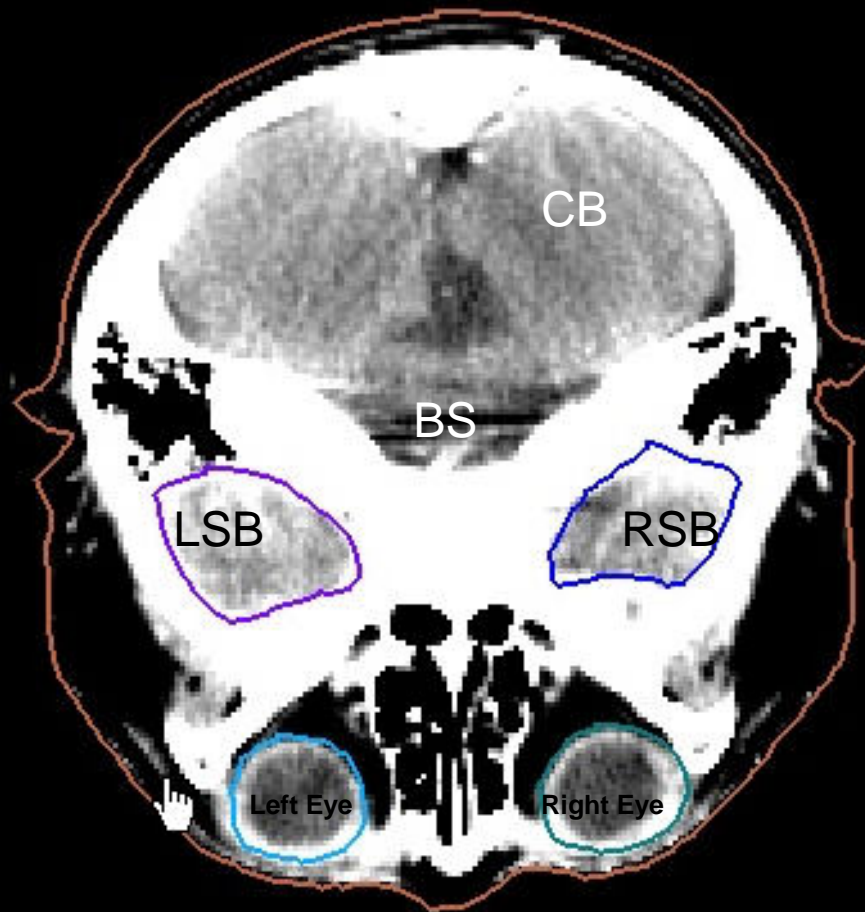


SLICE: -1.00 CM

OAR11

ZOOM: 2

Organs at Risk

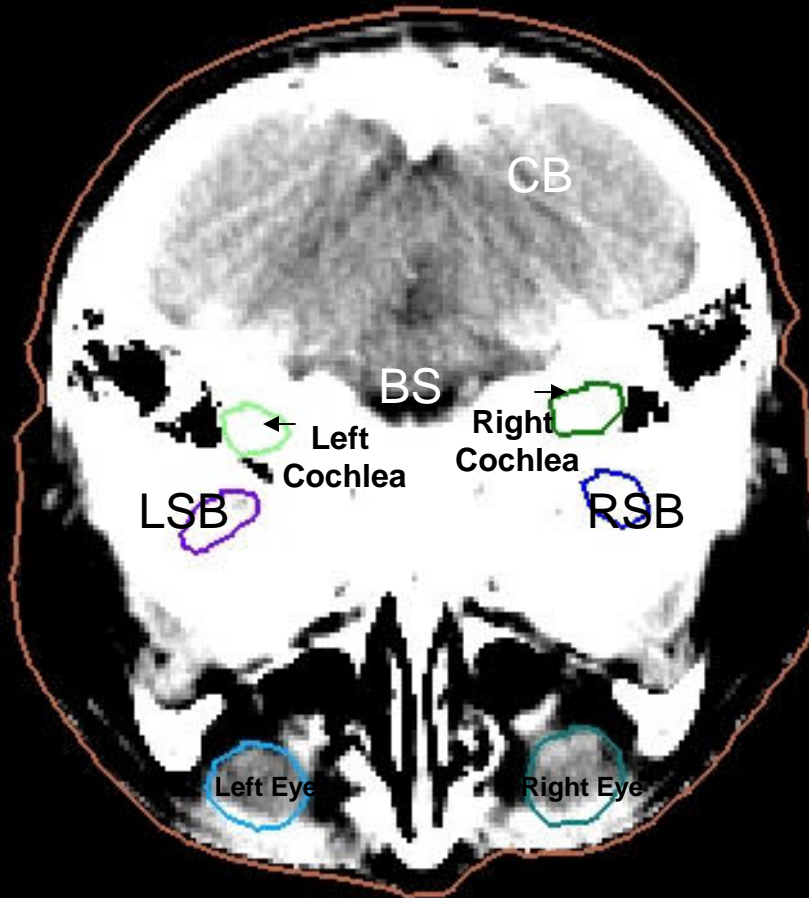


SLICE: -1.50 CM

OAR12

ZOOM: 2

Organs at Risk

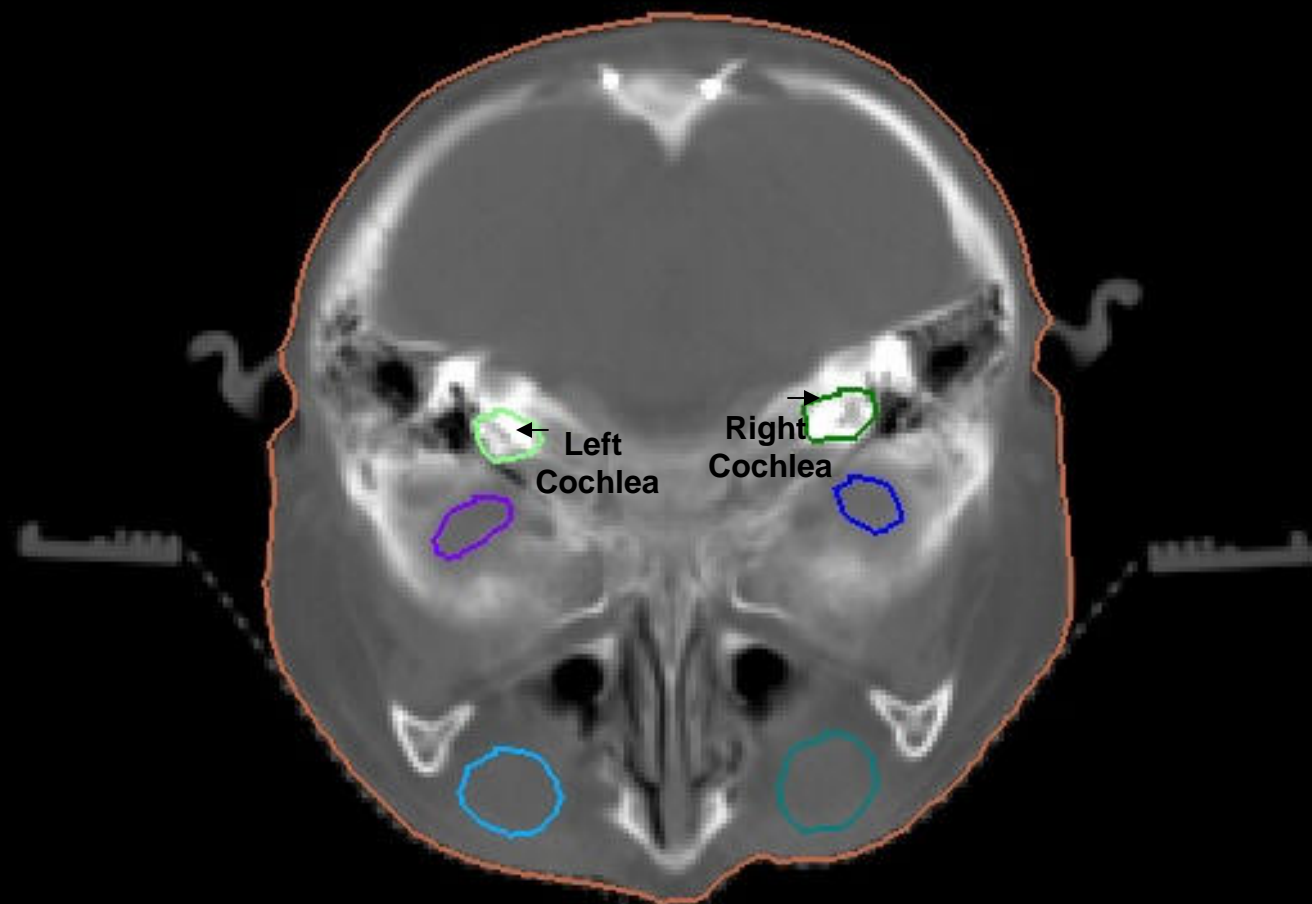


SLICE: -2.00 CM

OAR13

ZOOM: 2

Organs at Risk

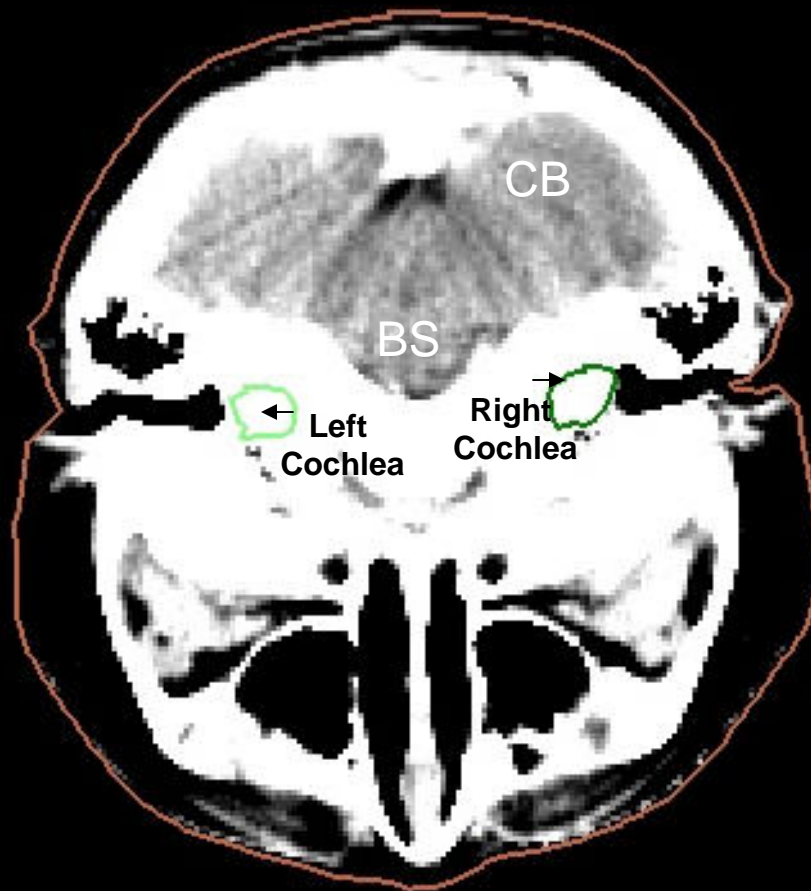


SLICE: -2.00 CM

OAR13b

ZOOM: 2

Organs at Risk

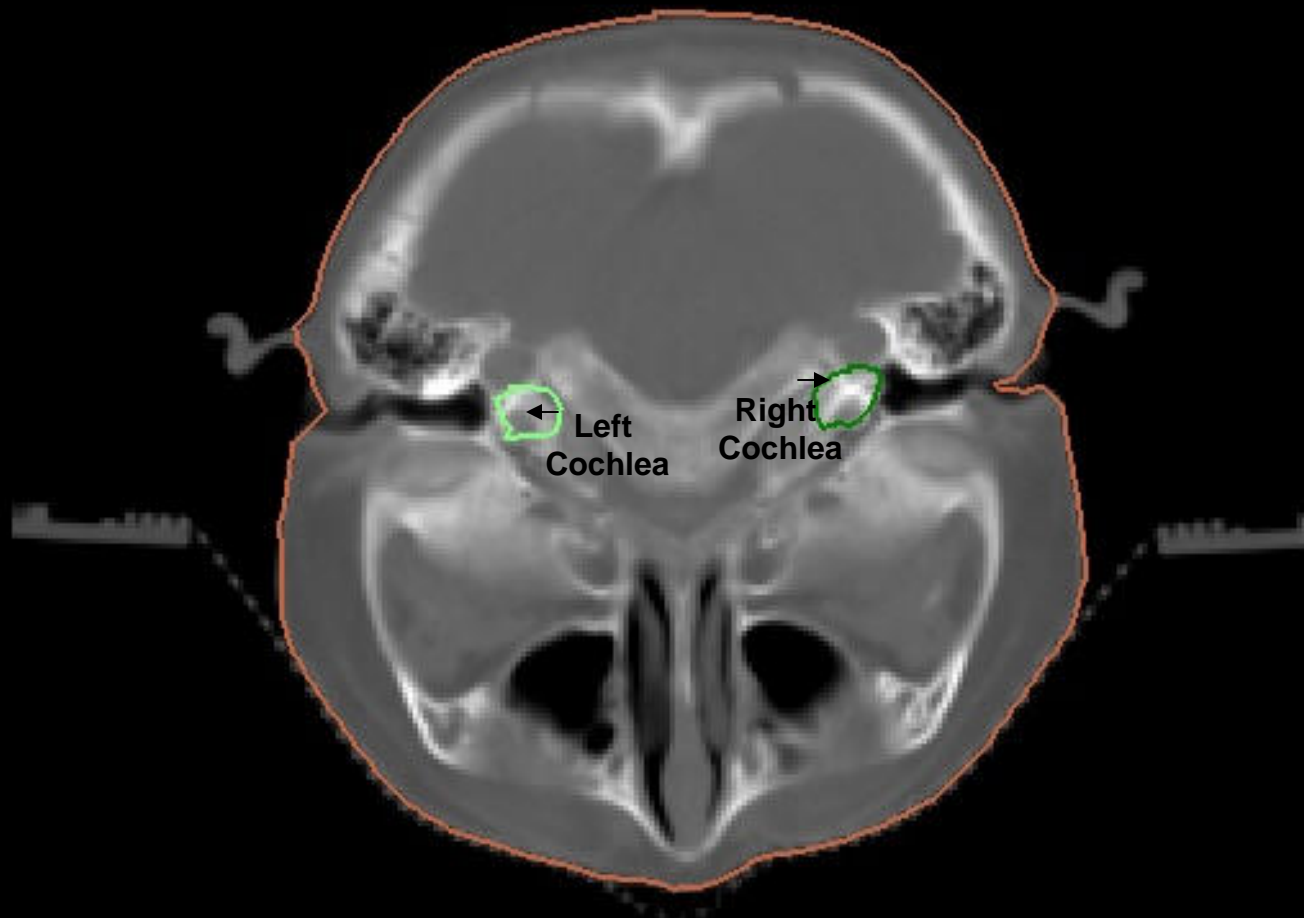


SLICE: -2.50 CM

OAR14

ZOOM: 2

Organs at Risk

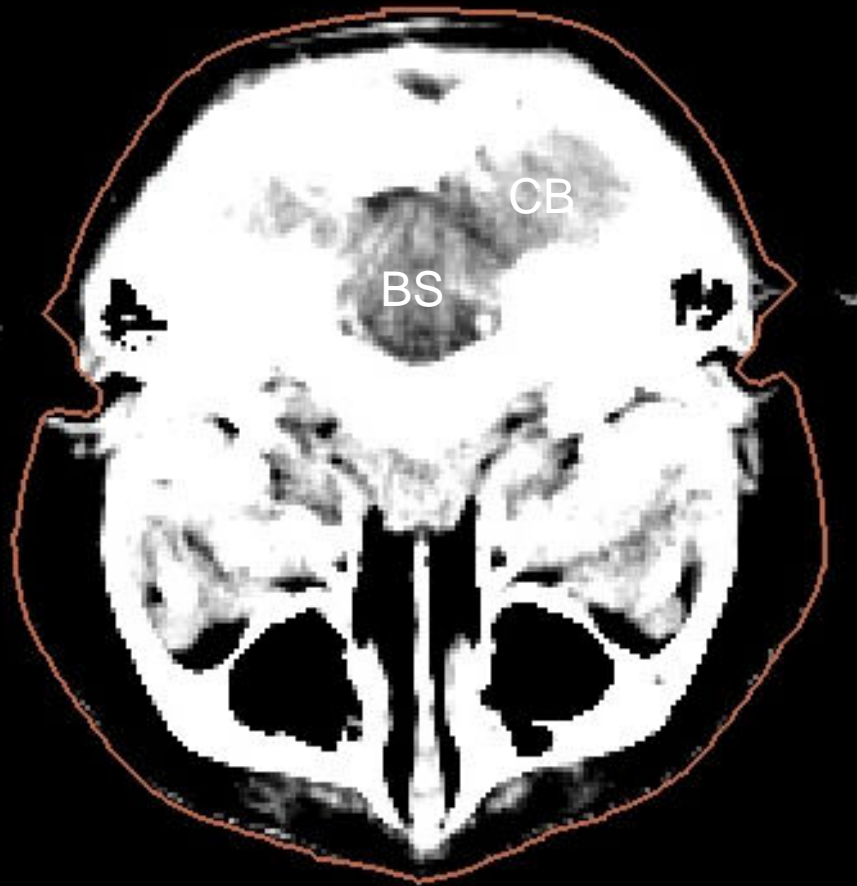


OAR14b

SLICE: -2.50 CM

ZOOM: 2

Organs at Risk

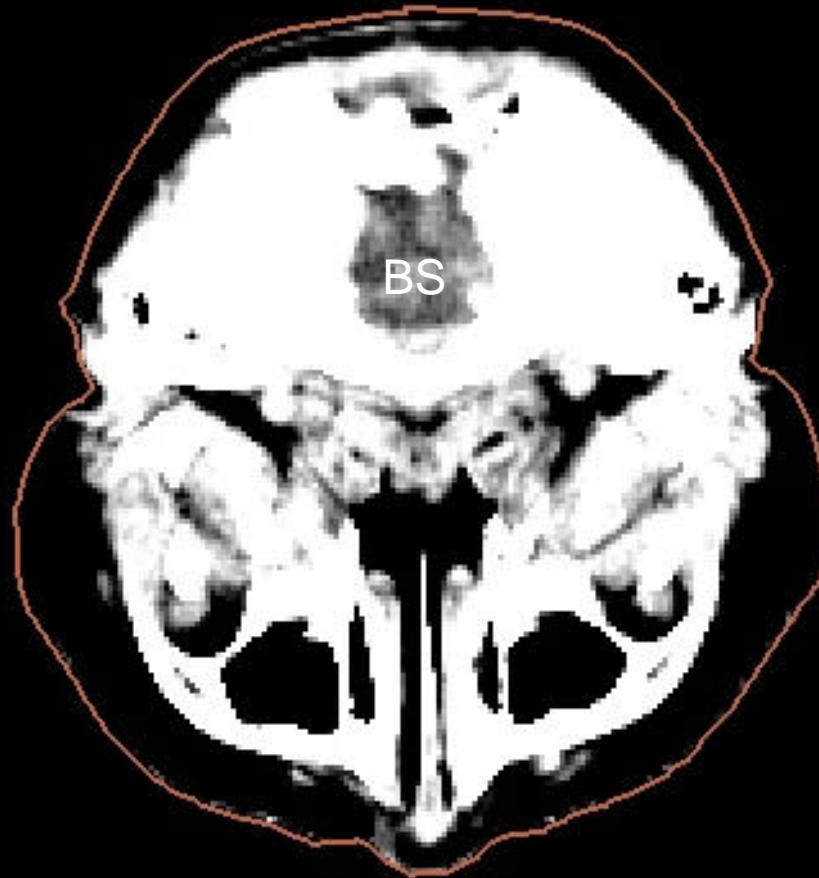


SLICE: -3.00 CM

OAR15

ZOOM: 2

Organs at Risk

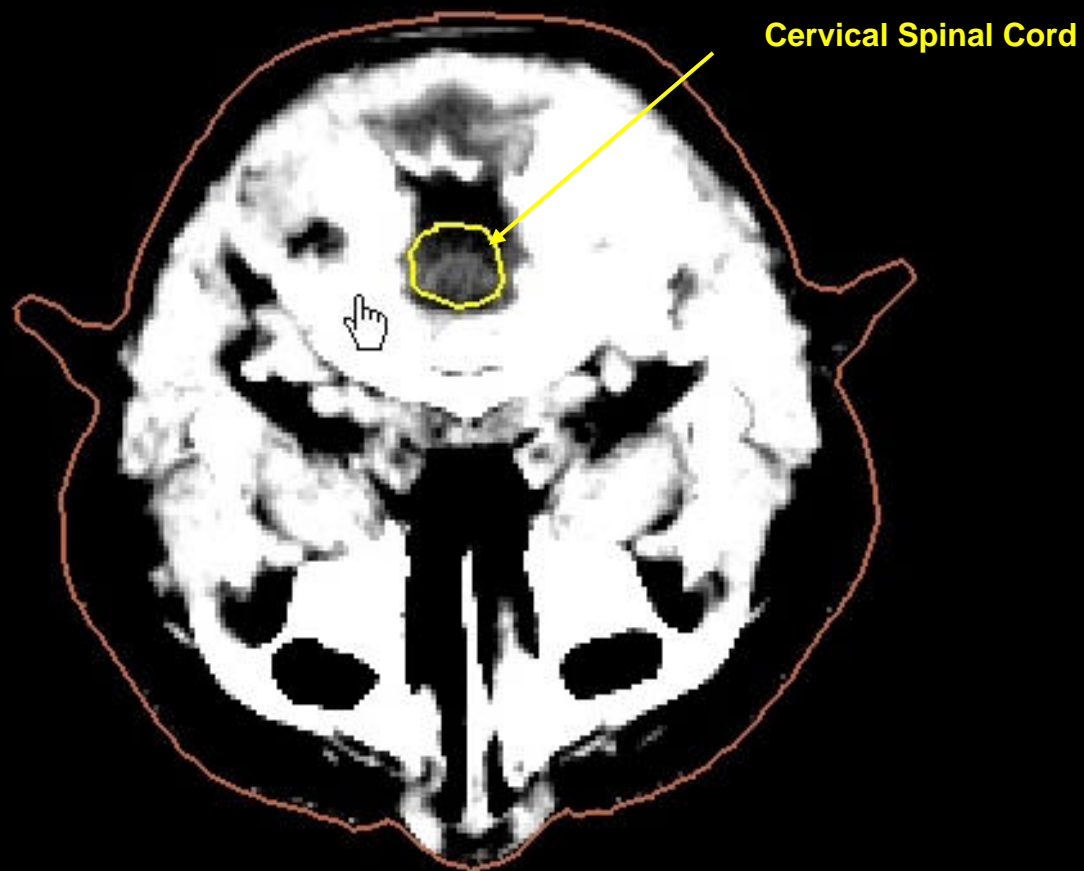


SLICE: -3.50 CM

OAR16

ZOOM: 2

Organs at Risk

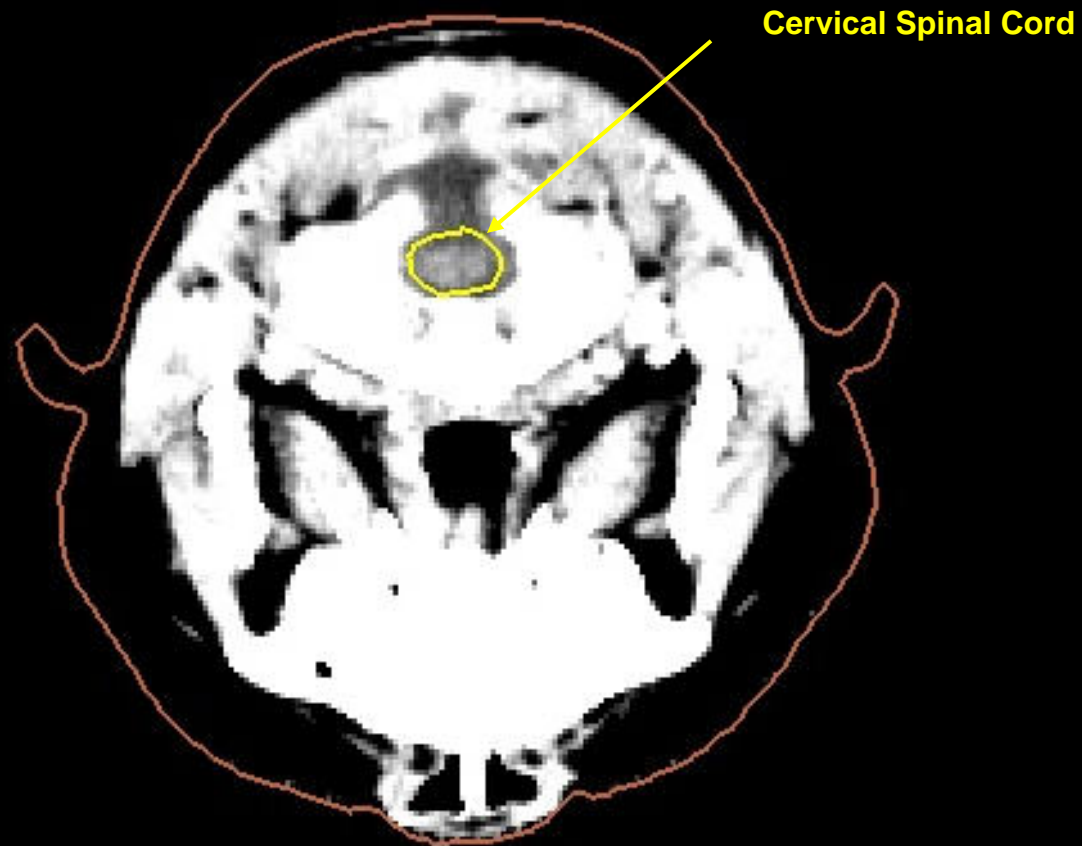


SLICE: -4.00 CM

OAR17

ZOOM: 2

Organs at Risk

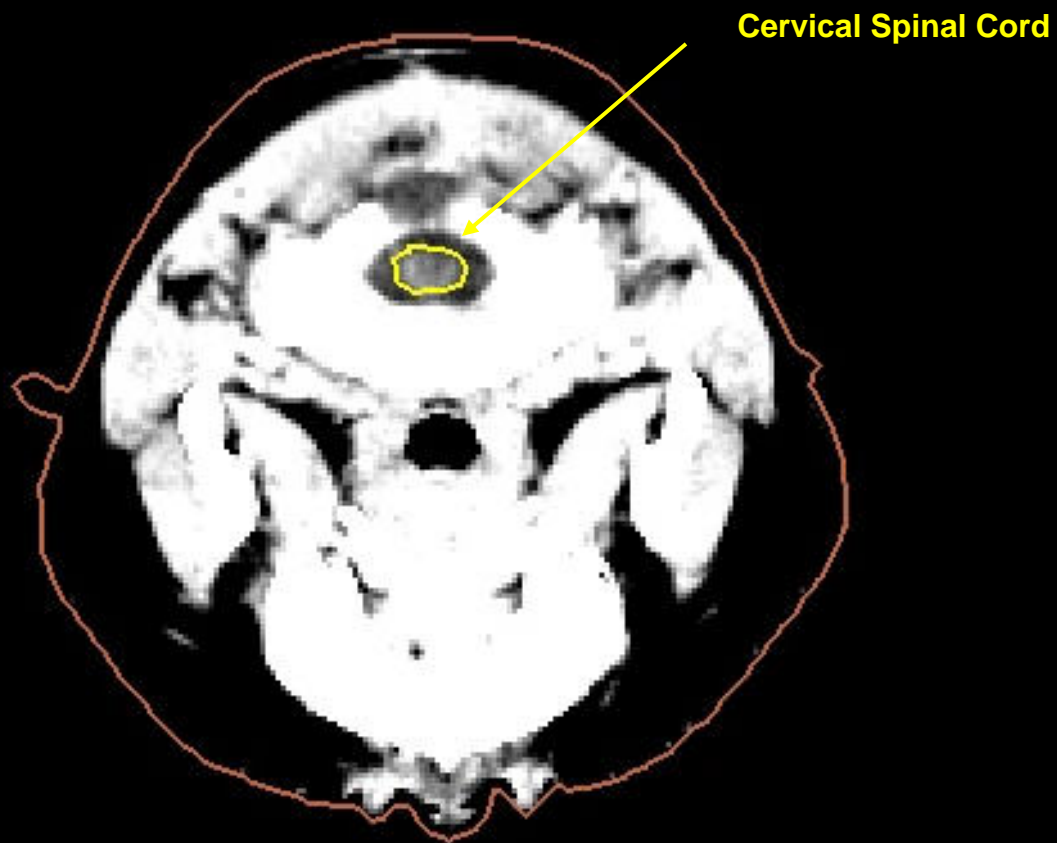


SLICE: -4.50 CM

OAR18

ZOOM: 2

Organs at Risk

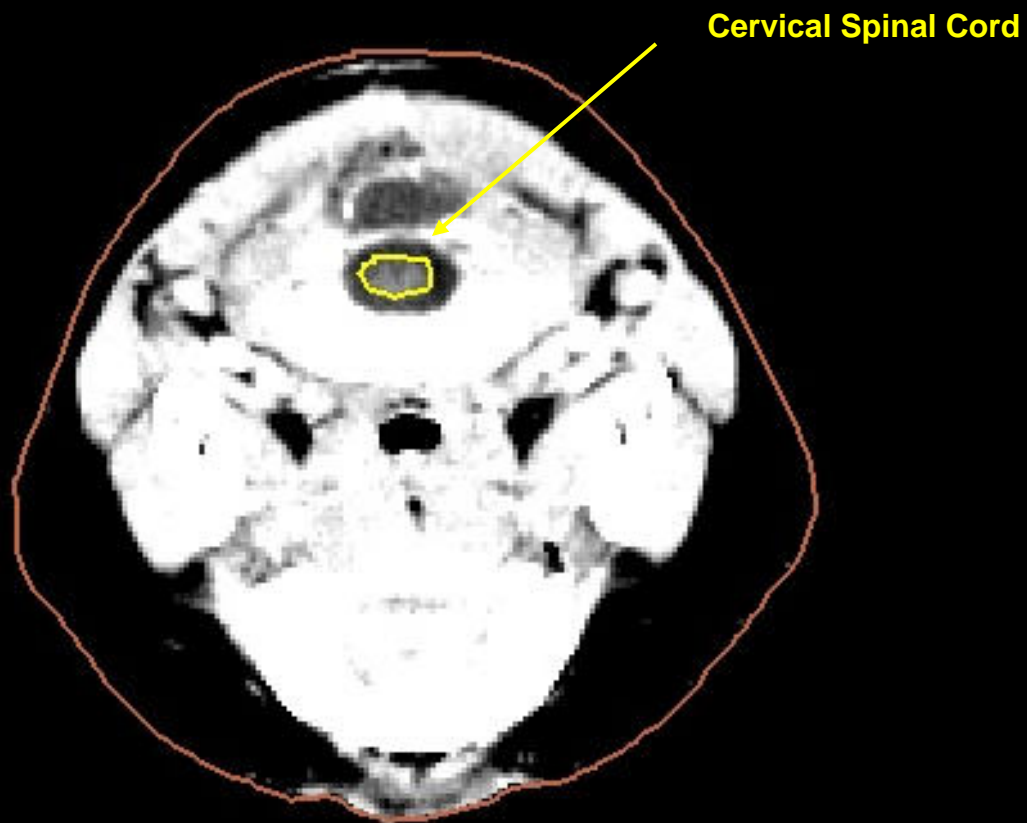


SLICE: -5.00 CM

OAR19

ZOOM: 2

Organs at Risk

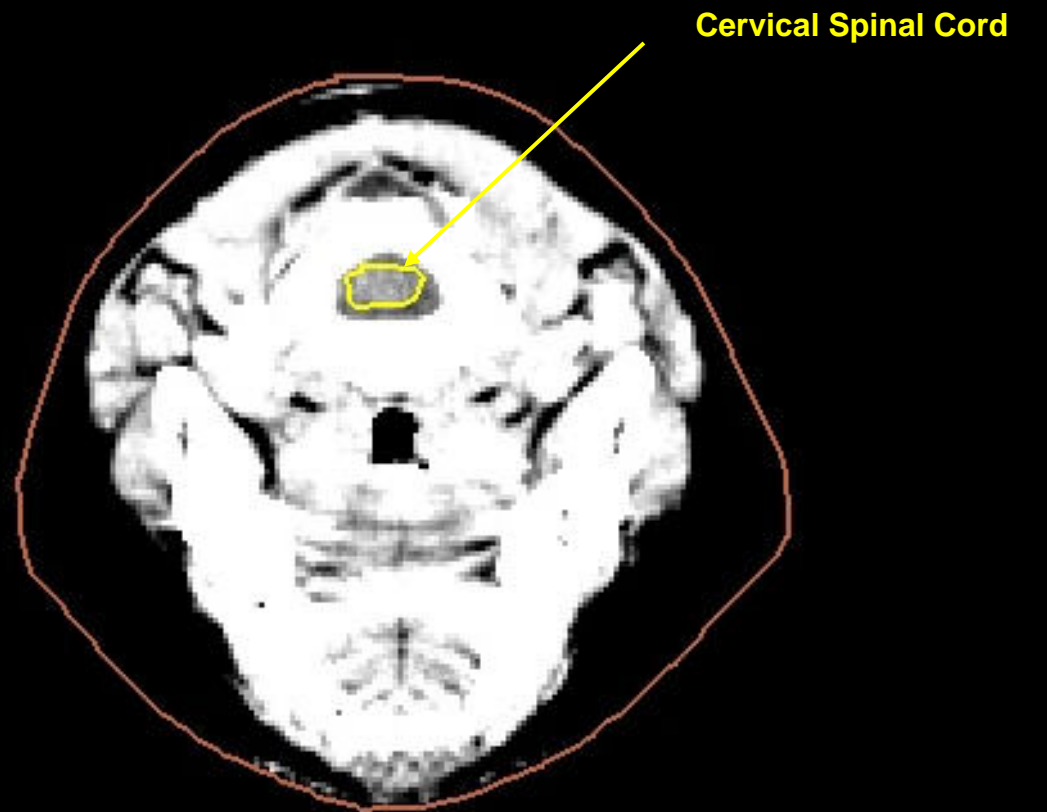


SLICE: -5.50 CM

OAR20

ZOOM: 2

Organs at Risk

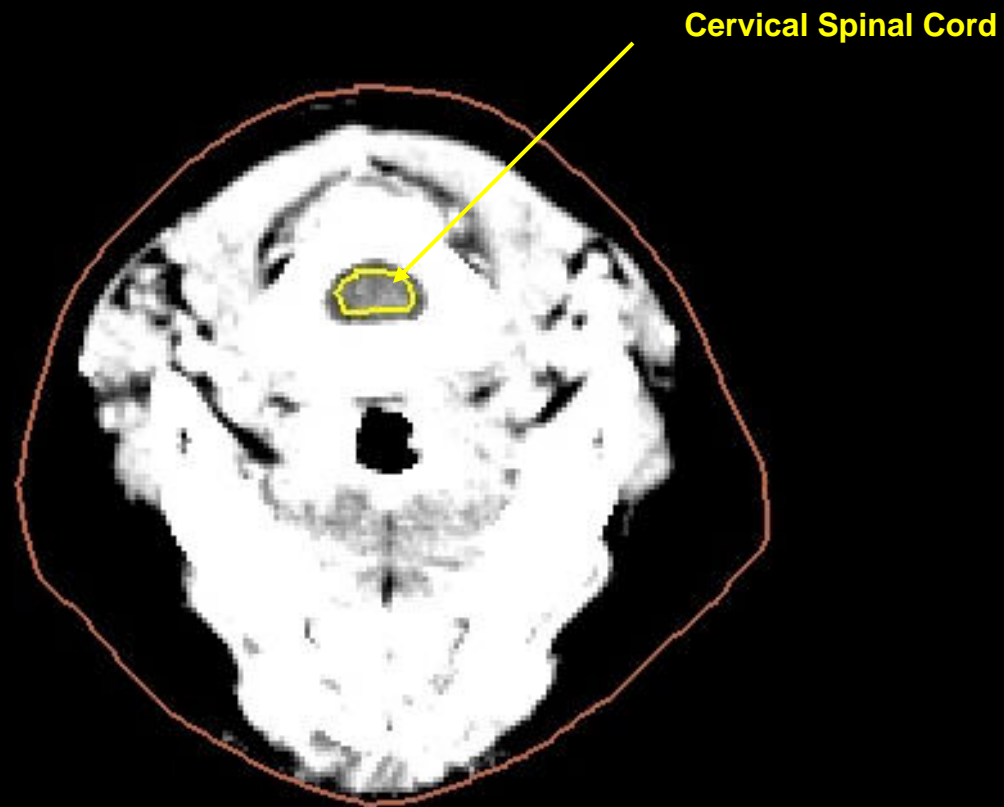


SLICE: -6.50 CM

OAR21

ZOOM: 2

Organs at Risk

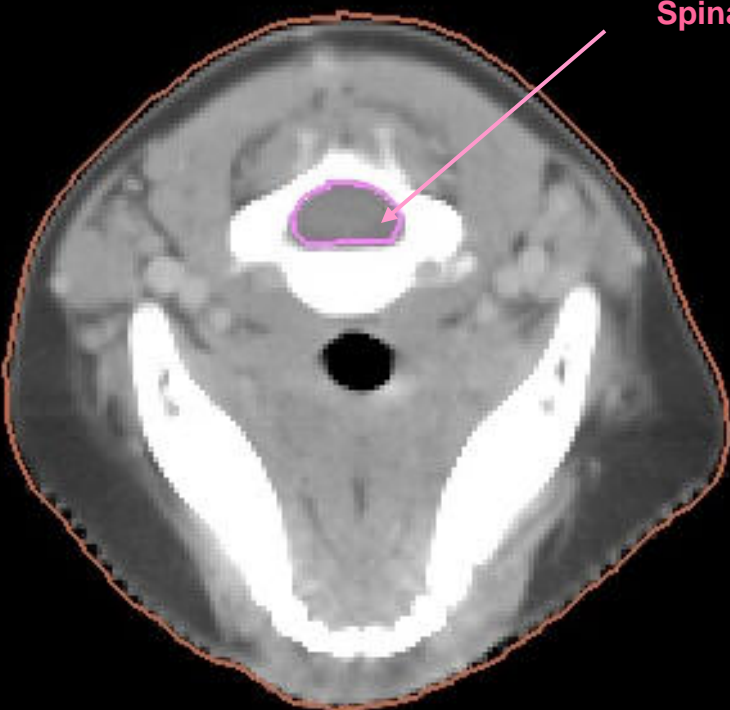


SLICE: -7.00 CM

OAR22

ZOOM: 2

Organs at Risk



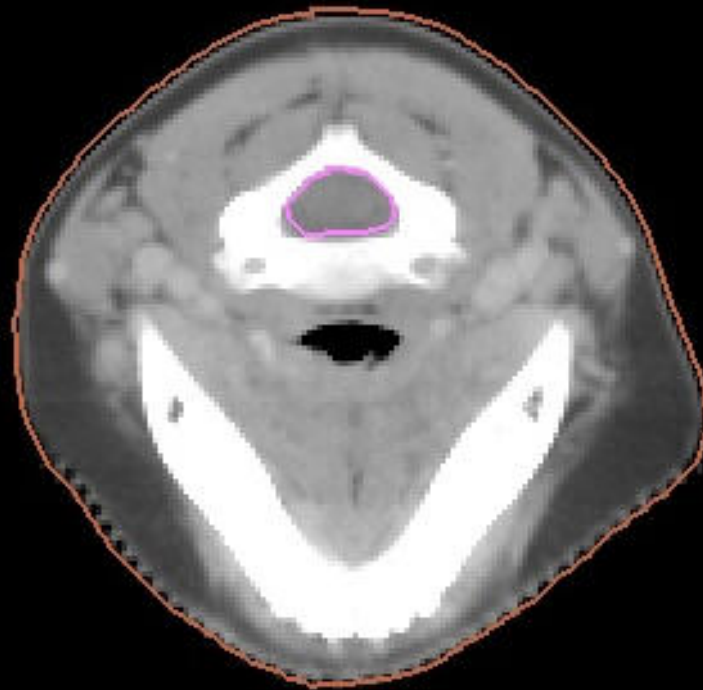
Spinal Cord

SLICE: -7.50 CM

OAR23

ZOOM: 2

Organs at Risk



SLICE: -8.00 CM

OAR24

ZOOM: 2

Treatment Plan Data Submission

- Treatment Planning CT
 - Submit copies (digital or hardcopy) with contours displayed on images for QA purposes
- Isodose Display
 - Axial, Coronal, Sagittal display of isodose (in absolute dose Gy)
 - CSI, Boost(s), AND **Composite**
- Dose Volume Histograms
 - All targets and organs at risk
 - CSI, Boost(s), AND **Composite**