

QARC Update

ATC

June 22, 2006

QARC IMRT Benchmark

approved: **65**

(13 since 1/1/2006)

hold: **9**

As of 15 June 2006

QARC IMRT Benchmark

Reasons for Hold

- 5 PTV dose uniformity unacceptable
- 1 OAR dose too high
- 1 dose distribution and DVHs not sent
- 2 insufficient dose verification data

As of 15 June 2006

QARC+RPC IMRT Benchmark

168 approved or on hold

Type of IMRT

9 MIMiC

5 Tomotherapy

46 DMLC (sliding window)

83 SMLC (step & shoot)

16 DMLC & SMLC

9 not recorded

As of 15 June 2006

QARC+RPC IMRT Benchmark

14 treatment planning systems

Relative Dosimeters used for Dose Verification:

95 EDR2 film

23 XV film

32 diode array

2 ion chamber array

6 portal imager

9 other

As of 15 June 2006

Update on ATC Method 1 at QARC

As of 15 June 2006

ATC Method 1 at QARC

- The system is now fully functional, with studies linked to the patient's record in the QARC database.
- Supports data acquisition via CD or FTP to QARC (with secure user accounts).
- QARC responsible for FTP account management
- Procedure for processing FTP account requests has been formalized.
- Currently 17 FTP accounts.

Current Protocols Supporting Digital RT Submission

COG ACNS0121	Phase II Trial of Conformal Radiotherapy For Children With Localized Ependymoma
COG ACNS0126 (closed 9/6/2005)	Phase II Study of Temozolomide For Children With High Grade Glioma
COG ACNS0331	Newly Diagnosed Standard Risk Medulloblastoma
CALGB 80101	Phase III Trial of Adjuvant Chemoradiation For Gastric or Gastroesophageal Adenocarcinoma
ACOSOG Z4032	Phase III Study of Sublobar Resection Plus Brachytherapy in High Risk Patients With Non-Small Cell Lung Cancer

As of 15 June 2006

Current Accrual (6/15/06)

Protocol	Number of Cases
ACNS0121	8
ACNS0126	5
ACNS0331	15
miscellaneous studies	10
Total of 38 cases from 18 institutions	

As of 15 June 2006

QARC caBIG Initiatives

caBIG - Cancer Biomedical Informatics Grid

In Vivo Imaging Workspace

Face to Face Meeting – Bethesda –
July 20 -21

QARC participating in SIG's:

- Testbed
- Software Development

eXtensible Imaging (XIP)
Platform RFP: Letter of
Intent submitted 6/14/06.
QARC participating with
an industry partner.

Clinical Trials Management Systems Workspace

Face to Face Meeting – Chicago –
July 10 - 11

QARC participating in SIG's:

- Clinical Trials Database
- CRF (Case Report Form)
standardization
- System Interoperability
and Harmonization
- Credentialing

Revision of 3D BENCHMARK

- Current one is out-of-date
- designed when 3D systems just becoming commercially available

Proposed new QARC 3D Benchmark

Aim: verify expertise in using 3D planning system

creation of PTV from GTV

definition of critical OARs (optic structures, brainstem)

use of non-orthogonal beams (using BEVs to
choose beam angles)

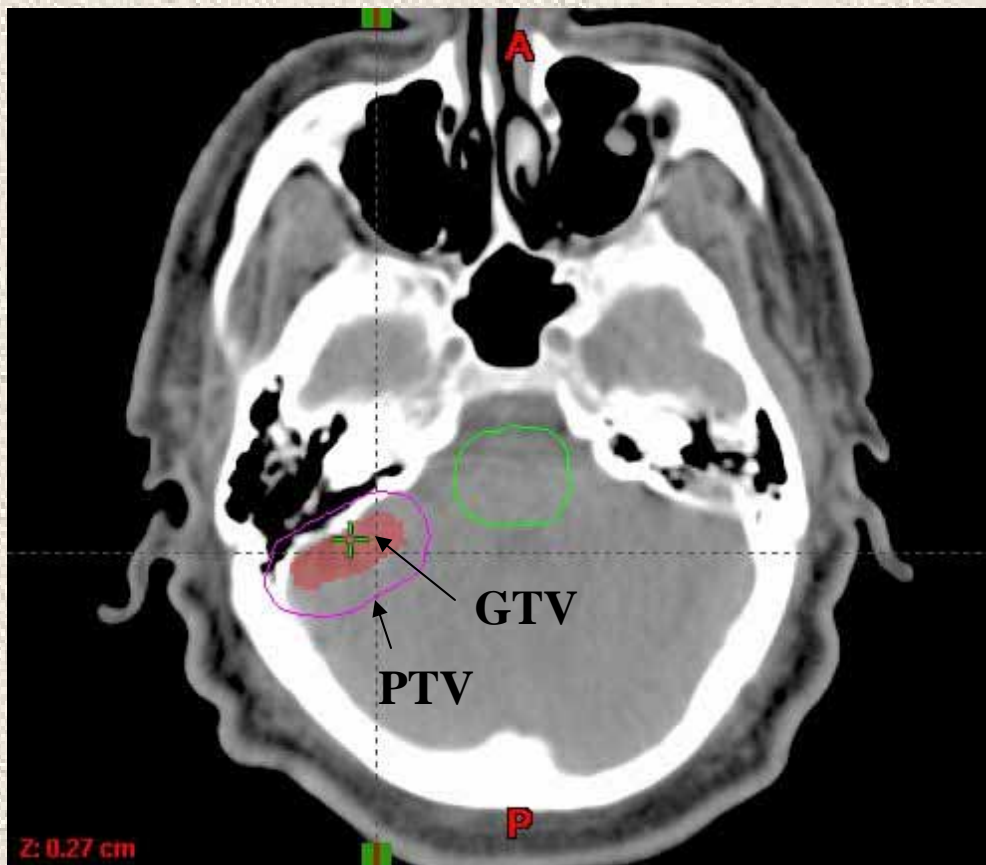
dose uniformity to PTV

dose sparing of normal tissues

dose conformity

DVHs of TVs and OARs

Proposed new QARC 3D Benchmark



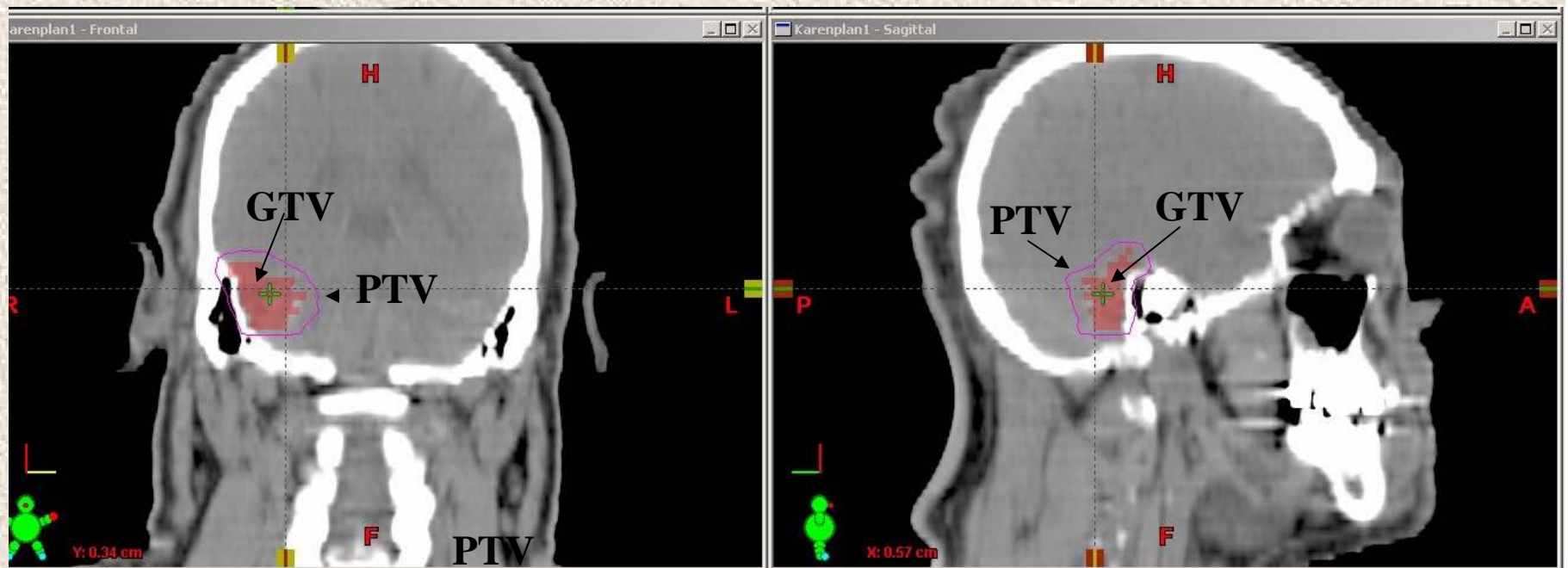
Define PTV

5mm margin from GTV

Define brainstem

June 2006

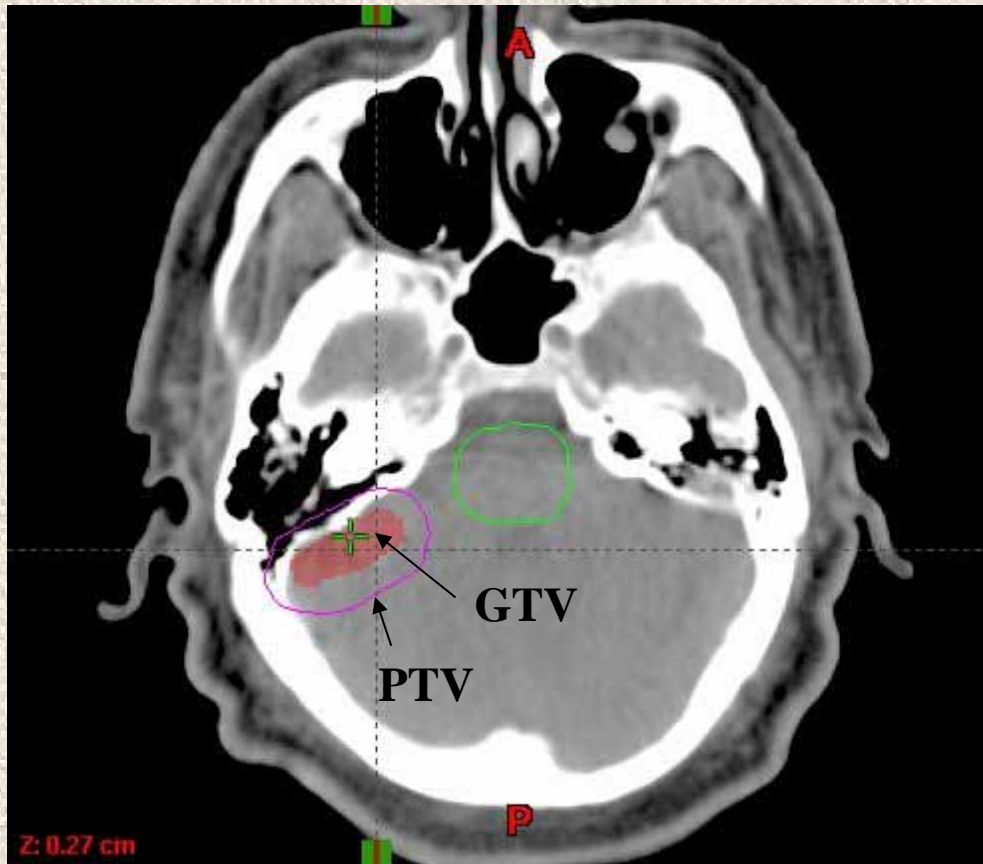
Proposed new QARC 3D Benchmark



- Define PTV: 5mm margin from GTV
- Define brainstem
- Define Optic structures

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Proposed new QARC 3D Benchmark



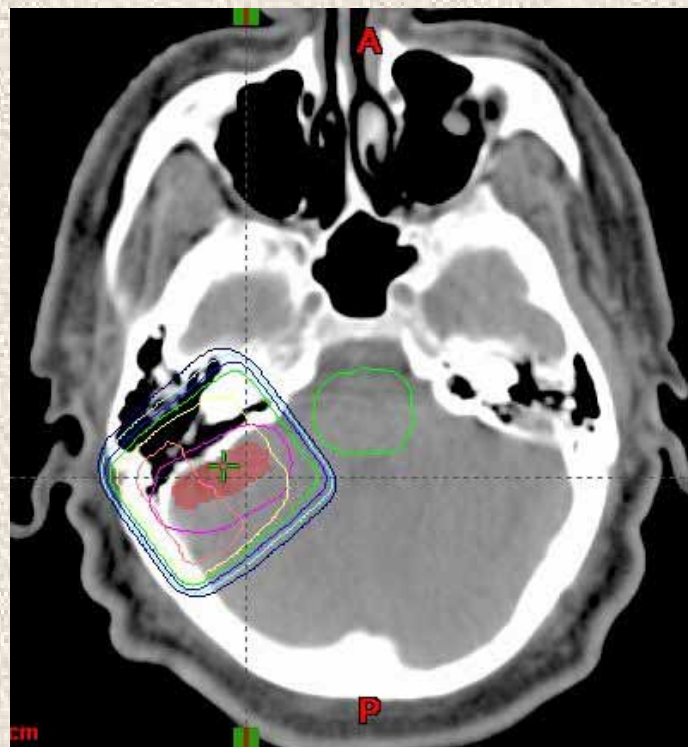
Dose Prescription

5400 cGy to PTV

≤ 4500 cGy to
Brainstem

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Proposed new QARC 3D Benchmark



Assess:

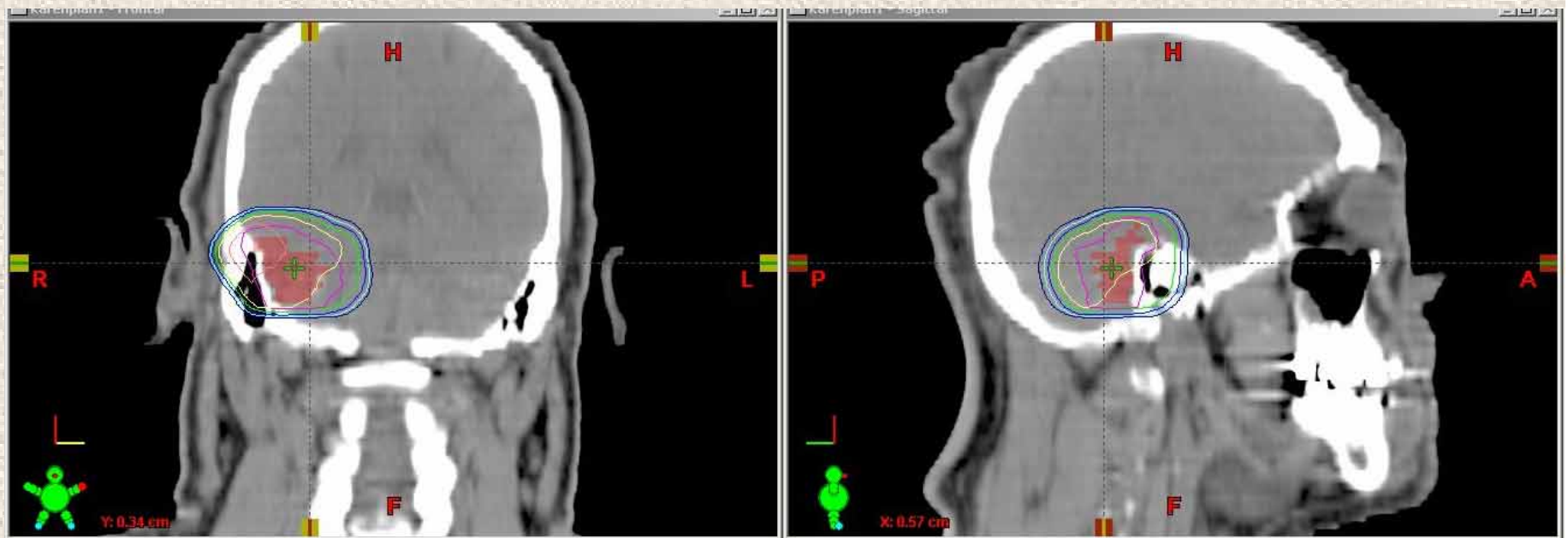
PTV and OARs

Dose Coverage of PTV

Doses to OARs

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Proposed new QARC 3D Benchmark



Assess:
PTV Dose Uniformity
Conformity Index

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RPC Partial Breast Benchmark

