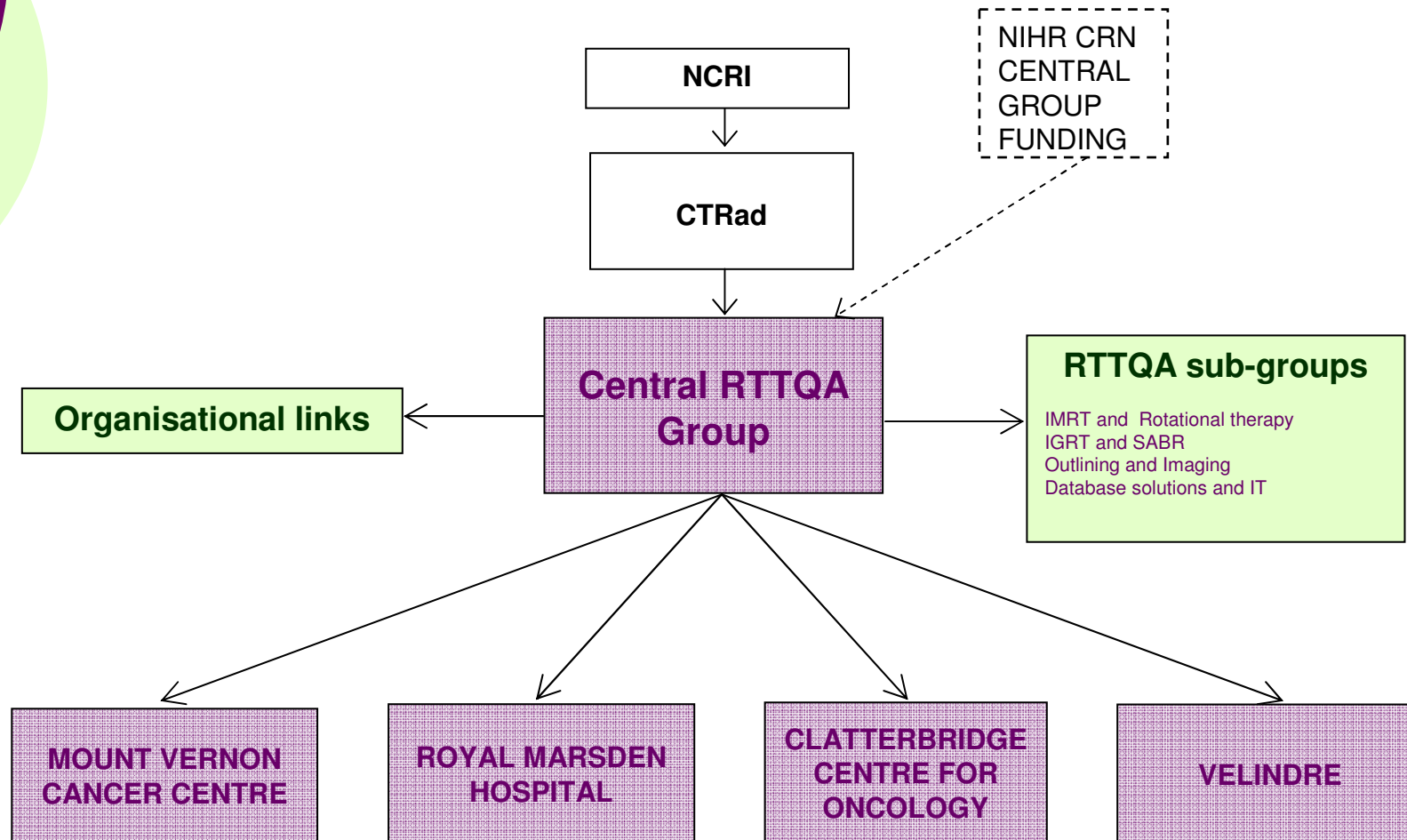




UK Radiotherapy Trials QA Group Update report

GHG Meeting May 2013

RTTQA group structure





Radiotherapy
Trials QA

RTTQA Trials QA Portfolio

Current trials with associated QA programmes: 27

QA Category	Number of trials
Minimal	4
Basic	4
Moderate	7
Complex	12
Total	22

Future trials:

Trial status	Number of trials
Funded	9
Full application	4
Outline application	5
Preliminary stage	5



RTQA process naming

- The naming of RTQA processes for the group has been updated in line with recent GHG proposal
- This naming will be adopted for all future trials
 - Facility questionnaire
 - Process document
 - Outlining benchmark case
 - Planning benchmark case
 - Dummy run
 - Beam output audit
 - Complex treatment dosimetry check
 - Prospective/Retrospective individual case review



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Standardizing naming conventions

- The Chief Investigators for all future UK trials are being approached to suggest the standardized naming convention
- 3 new trials have agreed to adopt

International Journal of
Radiation Oncology
biology • physics

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Physics Contribution

Standardizing Naming Conventions in Radiation Oncology

Lakshmi Santanam, Ph.D.,* Coen Hurkmans, Ph.D.,[†] Sasa Mutic, Ph.D.,*
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James Galvin, D.Sc.,[‡] Prabhakar Tripuraneni, M.D.,[§] Jeff Michalski, M.D.,*
and Walter Bosch, D.Sc.*[¶]



International collaborations

CURRENT

- **CONVERT**
 - Open UK trial with international recruitment
- **SUPREMO**
 - Open UK trial with international recruitment
- **BIG 3-07**
 - Open TROG trial with UK centre recruitment
- **De-ESCALaTE**
 - Open UK trial; international recruitment proposed
- **INTERLACE**
 - Open UK trial; international recruitment proposed
- **RADICALS**
 - Open UK trial; collaboration with TROG RAVES trial

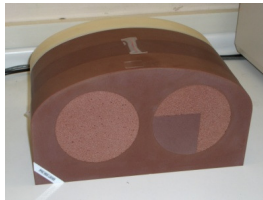
FUTURE

- **RAIDER**
 - Randomised PHIII adaptive RT in bladder cancer, collaboration with TROG



Radiotherapy
Trials QA

IMRT subgroup - current projects



- Streamlining IMRT credentialing across trials
- Finalising Thorax IMRT credentialing programme for Isotoxic lung IMRT trial to open late 2013
- Validating postal audit phantom
- ArcCheck validation and audit procedure
- Rotational therapy QA including tomotherapy now required. Development undertaken by RTTQA group members



IGRT subgroup - current projects

- IGRT credentialing programme development
- The first programme will be implemented for the HYBRID trial opening Autumn 2013:
 - A multicentre randomised phase II study of **HY**pofractionated **B**ladder **R**adiotherapy with or without **I**mage guided **aD**aptive planning
- Using IMSIMQA software
 - Working closely with OSL to develop software for import/export of images/registration objects



Outlining & Imaging subgroup – current projects

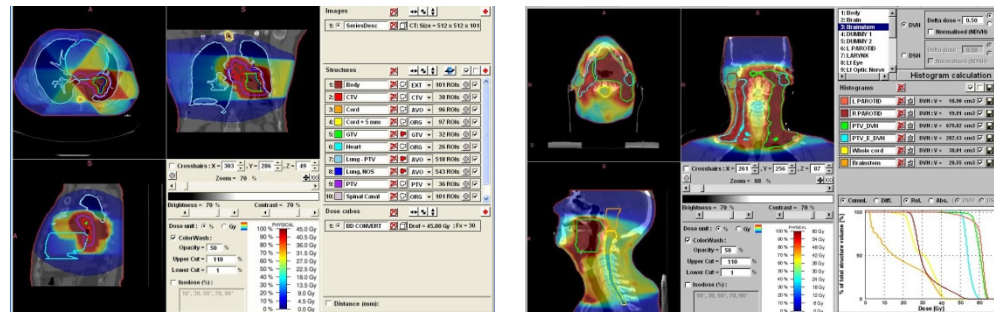
- Development of outlining guidelines in association with all trial protocols
- Introduce structure nomenclature conformity in trial protocols
- Evaluation of contouring assessment tools: conformity indices
- Improve efficiency and quality of prospective review process
- Develop a QA programme for implementing different imaging modalities for outlining



Radiotherapy
Trials QA

Database and IT – current projects

- Website re-design
- Data review and analysis
 - VODCA (Visualisation & Organisation of Data for Cancer Analysis)
 - CERR (A Computational environment for Radiotherapy Research)



- Develop centralised digital review facility for RTTQA group



National Rotation Radiotherapy Audit

- Collaboration

- NPL
- IPEM
- RTTQA
- Royal Surrey Hospital

Royal Surrey County Hospital

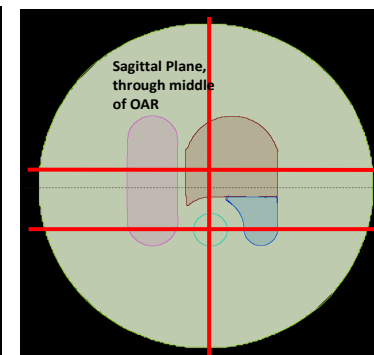
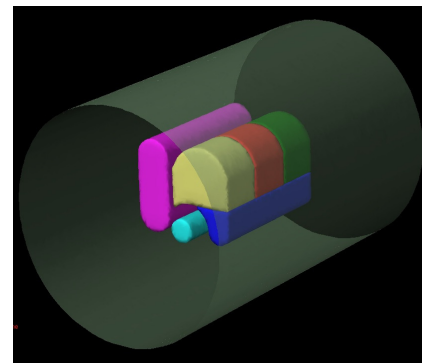


NHS Foundation Trust



- Visits to clinical centres completed

- 44 centres, 47 systems



Sagittal Plane,
through middle
of OAR

1st Coronal Plane,
through the array

2nd Coronal Plane,
4cm POST from
image origin



SABR QA

- QA subgroup of the UK SABR consortium
- Audit visits
 - Collaboration between RTTQA, NPL, Royal Surrey Hospital
 - Solid Water Audit - 6 audits completed
 - CIRS phantom audit planned for late 2013
- Trials
 - PACE - Industry funded with associated QA but no independent audit programme
 - No linac based SABR trials open in the UK
 - 1 trial submitted for funding
 - 2 further trials in work up to funding submission

Brachytherapy QA

- QA programme implemented for the INTERLACE trial
- Dosimetry audit to be performed in collaboration with IPEM and NPL
 - Visits to centres
 - 2 phantoms
 - Dose audit from a line source at 20mm (Alanine)
 - Dose distribution for cervix applicators used in the INTERLACE trial (Gaf Chromic)

PET imaging for target volume delineation

- QA programme in early stages of design
- Collaboration with the NCRI PET QA group
- UK local site pilot study
 - ^{18}F -FDG-PET in Guiding Dose-Painting with Intensity Modulated Radiotherapy in Oropharyngeal Tumours: A Phase I Feasibility Study (FiGaRO)
- Use this study to define some guidelines which can be implemented for national studies in the future