

GHG teleconference Minutes : Proton trial QA

Monday 13th August, 1200-1300 GMT

Attendees: Jonny Lee (chair, JLee), Jess Lye (JLye), Joerg Lehman (JLeh), Elizabeth Miles (EM), Ying Xiao (YX), Stephen Kry (SK), Walter Bosch (WB), Catharine Clark (CCI), Marianne Aznar (MA), Coreen Corning (CCo), Eduardo Zubizarreta (EZ)

Apologies: Paige Taylor, Teiji Nishio, Enrico Clementel

| Item | Agenda | Action |
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| 1. | Apologies | |
| 2. | <p>Introduction – aim of the group <i>Harmonise QA world-wide:</i></p> <ul style="list-style-type: none"> - want proton centres to be able to streamline seamlessly into international proton trials - RTTQA, JLee – 2 proton centres opening 2018 and 2020 - EORTC, CCo, MA –developing proton QA. Marianne commented that EORTC will be focussing on trials with both photon and proton arms. - TROG, JLeh – No protons currently but want to prepare in advance. ACDS (JLye) will do dosimetry audit for TROG. Aiming for 2020. - IROC, SK, YX – 6yrs experience, around a dozen trials. Proton QA programme stable. Photon vs proton trials, developed comprehensive programme. NRG (WB) has developed and published guidance for H&N brain, GI (on NRG website) Developing guidance for oesophagus. Will send publication link to group. Walter collecting data in prostate and breast proton trials. - IAEA (EZ) – No trials in next 3 years. Dosimetry lab will not be providing service. Will provide regional projects but no activity for 3-4 years | YX |
| 3. | <p>Review and discussion of proton QA questionnaire responses Update since F2F GHG meeting</p> <ul style="list-style-type: none"> - Japanese colleagues who cannot join us have updated that their robust planning criteria have reduced to 7mm passive irradiation and to 4mm for liver patients. - RTTQA and NPL developing simple range verification phantom using film. Film off-parallel to the beam to avoid streaming effects. IROC interested in tolerances to be used with the phantom. | |
| 4. | <p>Updates and discussion on QA activity <i>Dosimetry/equipment QA</i> Phantom materials</p> <ul style="list-style-type: none"> - IROC biggest challenge has been finding bone substitute materials. Have good substitute for light bone; 658HU about 1.35g/cc. Something around density of 2.0 would be good for future work. | |

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| | <ul style="list-style-type: none"> - NPL PhD – looking at plastics that are water equivalent for protons. Further work with new PhD student looking at bone equivalence. Developing materials working with Barts lab. - Are there any vendors that offer commercial products? IROC could not find any appropriate industry materials. IROC plastic sourced through food industry NOT radiation oncology industry. - Proton equivalence of commercial proton phantoms need to be scrutinised. Will centre's audit results with these phantoms be relevant/acceptable? <p><i>Plan assessment</i></p> <ul style="list-style-type: none"> - experience in reviewing proton plans for quality, accounting for robustness is still to be built up at RTTQA. JL suggested that the group share plans and discuss them together to build experience. E-mail JLee to be added to Plan Assessment group. - Discussion over whether to include passive scatter as centres are moving towards pencil beam scanning, although some larger centres that are big trial recruiters may only have passive scatter. Group decided to prioritise review of pencil beam scanning plans. <p><i>Patient positioning, immobilisation, IGRT and on-set review</i></p> <ul style="list-style-type: none"> - Are there different approaches that are required for proton treatments? - Some protocol templates (NRG) recommend differences for proton and photon positioning. Beam angle for protons are different, often use less beams so approach may be different. - Decision making on set – reviewing whether patient setup is adequate. - JL queried recruiting a radiographer to the group. CCo and EM only rads on GHG? - May be a case for a training dataset to be built up over time using CBCT data collected during the trials. Not much of this data has been gathered so far, only for spine SBRT and a H&N trial (IROC),lung SBRT (EORTC) and not for protons. - JLee to find out if EPTN is working on this <p>EPTN working groups – CCI on dosimetry arm</p> | <p>All</p> <p>JLee</p> |
| <p>5.</p> | <p>Establishment of working groups Please e-mail JLee (jonathan.lee11@nhs.net) if you would like to be actively involved in one of the three groups above.</p> <p>CCI – Should the dosimetry group compile a list of current proton materials and look for what material properties were missing</p> | <p>All</p> |
| <p>6.</p> | <p>AOB</p> | |
| <p>7.</p> | <p>Date of next meeting Next face-to-face probably at ESTRO 2019. A doodle poll for the next proton teleconference (around November – January) will be sent out.</p> | |