

QIBA DCE-MRI Subcommittee Update  
Sept 15, 2010 at 11 AM CDT

Call Summary

|                                 |                     |
|---------------------------------|---------------------|
| In attendance                   | Despina Kontos, PhD |
| Gudrun Zahlmann, PhD (Co-chair) | David E. Purdy, PhD |
| Sandeep Gupta, PhD (Co-chair)   | Mark Rosen, MD, PhD |
| Daniel P. Barboriak, MD         | Stephen Russek, PhD |
| Orest B. Boyko, MD, PhD         | Annette Schmid, PhD |
| Michael H. Buonocore, MD, PhD   |                     |
| Yue Cae, PhD                    | RSNA                |
| Robert J. Gillies, PhD          | Fiona Miller        |
| Alexander Guimaraes, MD, PhD    | Joe Koudelik        |
| Gregory Karczmar, PhD           |                     |

**Topics for discussion included DCE-MRI Profile update and phantom updates**

- Method needed to document non-analyzable data; to declare data as failure; when data deviation falls into “unacceptable” range; further discussion needed to define “poor” DCE data
- Criteria needed to assess “good” data based on general committee experience; need group consensus on DCE quantitative parameters and acceptable image sets
- What constitutes an acceptable DCE-MRI exam proposed for the Profile
- Wiki posting deemed most appropriate location to track revisions

**DCE-MRI Profiling**

- Imaging protocol section complete within Profile; number of slices and lesion location requires more discussion
- Profile content from Drs Evelhoch and Knopp still needed
- Dr Karczmar to forward arterial input function details to Dr Gupta for incorporation
- Vendor feedback needed; Dr Purdy to follow-up with Profile comments
  - Profile details needed to assist neophytes
  - Clinical trial setting eventual goal of Profile
- Clinical community, CRO’s, academics, Pharma, equipment manufacturers (all stakeholders) will be interested in Profile for quality control “rules”
- Need to determine whether QC section should include guidelines on DCE-MRI quantification parameters
  - May be dependent on type of trial
- Dr Gupta to make 1<sup>st</sup> pass on Profile before next group call
- Industry not interested in non-actionable item tests; manufactures may not see DCE-MRI phantom as helpful/needed when setting-up their systems; phantom may appear more a hurdle, similar to ACR accreditation phantom when it was new
- Benefits to the imaging device industry need to be incorporated within the Profile; Dr Purdy to provide industry feedback; is QIBA reaching too far concerning system certification?
- Need real clinical patient data with results for cross-comparison and validation testing of a variety of software packages; software deliverables needed
- Need clinical data to validate whether quantitation is working as expected
- Repeat data would be extremely useful
- Data for various body regions needed
- RIDER, MD Anderson CC, NCI currently hosting datasets
  - May be of relevance to Ad-hoc Committee on Open Image Archives

**Ad Hoc Committee on Open Image Archives currently pursuing use-cases**

- RSNA staff to forward current OIA use case examples to DCE-MRI Subcommittee for feedback
- All imaging initiative need to converge; link needed between imaging community, Critical Path Initiative, and RSNA to make imaging Archive a reality

**Moving forward, three projects identified:**

- 1- Assess software performance with test datasets (phantom and human); need standardized software to measure motion in datasets
- 2- Our own software to be used for site phantom measurements
- 3- Catalogue of artifacts needed

**Poster for RSNA 2010 Annual Meeting**

- Opportunity exists to display one Committee poster at RSNA 2010; more discussion needed to identify content
- Suggest use opportunity to show complete phantom data set

**Next Steps:**

- Finalize phantom activities
- Complete phantom dataset needed; Dr Buonocore to scan phantom once received from Duke and data to be combined for poster
- Dr Jackson to follow-up with needed funding for repairs to the DCE-MRI phantom number 1 (at The Phantom Lab now for repairs)
- Finalize DCE-MRI Profile
- Software work needed next
- Next call scheduled for: Wednesday, Oct 13, 2010 at 11 am CDT