QIBA FDG-PET/CT Digital Reference Object (DRO)
Subcommittee Update WebEx
April 17, 2009
2-3PM CDT

Call Summary

In attendance:
Paul E. Kinahan, PhD (Chair)
Ronald Boellaard, PhD   **RSNA**
Dennis Nelson, PhD   Susan Anderson
John G. Wolodzko, PhD   Joe Koudelik
Brian Zimmerman, PhD

General Discussion:

The call summary from March 27, 2009 was approved without any changes.

Review of Process Model

- Discussion of relationship of *DRO Image Data 'Brick'* (stack of slices) and *Vendor-Specific Raw Image Data*
    o Dr. Ling Shao and Steve Kohlmyer, from manufacturers, could provide information
    o There are choices in tags and attributes so best approach may be for manufacturers to generate their own DICOM tags based on meta data we supply
- Discussion of *Vendor Specific Conversion*
    o Vendors and software developers to be involved
    o On some scanners, user can select how to export data (various units possible), e.g. there is no one fixed format across all vendors
    o Vendor DICOM stacks should be clinically relevant and contain 'all the flavors they produce', potentially they would write DROs in both manners

Review of Proposed DRO Object
- DRO Object and added hot point can be modified easily with MATLAB tool and staff with Dr Kinahan
    o We could make it a single voxel DRO; single voxel creates a more sensitive process
    o Suggestion to use a certain area (like partial voxels) so everyone is using the same thing
    o Could use a checkerboard pattern or mottling for evaluating inhomogeneity effects
    o Suggestion to apply 5-10mm smoothing (and have a region of non-smoothing) to check contouring; i.e. are contours smooth or crossing through voxels?

- To assist vendors, focus on decreasing the effort needed and present in format to assist getting DRO into their system
- List required parameters for vendors, i.e. draft data set with smoothing, variable background, etc
- Use ASCI file header e.g. interfile format for readability

Next steps:
- Dr Kinahan will:
  - Revise the diagram and send to group for additions or suggestions; when review is complete, will send to other FDG-PET subcommittees for review and comment. Set will then be part of package to present to vendors
  - Send list of metadata for member review (expand or compress the list), then circulate to other committees
- Check with scanner manufacturers to see where they are and what is needed to move forward
- Schedule next call to specifically include manufacturer members