

## QIBA fMRI Reproducibility Work Group Update

Thursday, February 2, 2012 at 11 AM CST

Call Summary

### In attendance

*James Voyvodic, PhD (Chair)*

Paul Carson, PhD

Barbara Croft, MD

Ted DeYoe, PhD

Cathy Elsinger, PhD

Roe Lazebnik, MD, PhD

Jeffrey Petrella, MD

David Soltysik, PhD

### RSNA

Julie Lisiecki

### Scheduling

- New call schedule did not accommodate all group members; Reproducibility calls will return to the previous schedule, Tues at 11 CT (12 ET), alternating weeks with another QIBA committee.

### Discussion

- The group wants to determine what image quantitation numbers can be generated reproducibly
- Want to incorporate reproducibility numbers within the fMRI Profile
- Regarding recent lab work:
  - Reproducible numbers for activations of motor areas were within 5 mm for peak and boundaries
  - For peak of motor area (hand) 5 mm may not be aggressive enough – a measurement of 2 mm was deemed possible
  - For language activations, reproducible measurements of peak and boundaries within 10 mm
- General Discussion:
  - Need to explore more the reproducibility of language laterality index numbers
  - No guidelines exist to relate laterality index to clinicians
  - Inability to perform a clinical trial without laterality index
  - Prognosis for interpreting a lesion
  - Conversion of images into quantitative measures for use in clinical trials
- Group's charge is to determine how accurate the measurements can be with regard to imaging
  - Need to incorporate laterality and border measurements
  - "Center" was deemed very important to help define functional border
  - Central vs. peripheral measurements were useful also; RAW T-State and AMPLE T-State reviewed
  - It is vital to note that there are subtle but important differences in the various readout measurements in clinical contexts; these may be different for different regions
  - Center can be measured more accurately than borders.
- Idea considered to separate out Profiles for motor, vision, and language in order to work on the required background – possibly to be recombined back into one Profile if enough commonality is found
  - Decided that this would be too difficult initially – too much work for future updates
  - Keep appendices or specific changes for endpoints other than motor

### Next Steps

- More work needed to determine Claim language
- Drs. Voyvodic and DeYoe to confer offline re: functional field maps

### Next Calls

- QIBA fMRI Technical Committee, **Wednesday, February 15, 2012 at 11 am CST**
- QIBA fMRI Reproducibility Working Group, **Tuesday, February 21, 2012 at 11 am CST**
- QIBA fMRI Reproducibility Working Group, **Tuesday, March 6, 2012 at 11 am CST**