



## MR Imaging Teleconference Minutes 11/20/2018

### MRI Core Call Agenda Items:

#### 1. Review 10/16 Teleconference Minutes (Appended Below)

- a. Minutes will be posted to the LONI website.

Minutes approved.

#### 2. ADNI3 Deliverables

- a. a. If you haven't already, please send/post most recent analysis to Mike Donahue

Reminder to send deliverable to Mike and copy Danielle. Only Mayo QC, Mayo MCH and UPenn HRH data received so far for ADNI3.

Question? -- How should longitudinal data be handled? (Subjects who carried over from ADNI2-ADNI3)

Process as is? Without consideration of manufacturer change.

Only process subjects where only vary small change occurred.

Identify changes, and analyze subjects who have only had a minor change and hold off on subjects with major changes.

ADNI could provide "Cleaned" analysis datasets, then also offer "Full" dataset for expert users.

ADNI could provide a list of with each subjects scanner history, (Software/Sequence/Scanner Change) so users could identify their own "cleaned" subjects.

LONI could allow users to select their expertise level and this could be used to segregate images/analysis.

At this point all analysis sites should process all the data and QC their own data.

Considering Creating 4 Levels of raw data. (Analysis data will need to be cleaned as it is only provided in spreadsheet form)

All Data

Imaging Sequences Change

Scanner/Hardware Change

Subject Date QC Level/Poor Rating

Default should be that users only get cleaned data and they must select checkboxes to receive other unclean data.

### **3. ADNI2 Data Lock planned for 1st quarter of 2019**

- a. MRI Core should planned to create “Standardized Lists” for ADNIGO/2 Data
- b. How should we approach QC for standardized lists? Mayo vs. Analysis sites vs. both

Bulk of next ADNI call should be about QC and creation for standardized lists of ADNIGO/ADNI2 data.

### **4. ADNI3 Data Analysis Consistency (on going item)**

- a. How to deal with protocol heterogeneity within a particular modality (e.g. anatomic MR, DTI, etc.)
  - i. Manufacturer Difference
    1. Individual subjects switch manufacturer – longitudinal analysis
    2. Cross sectional effect of manufacturer
  - ii. Model difference within manufacturer:
    1. Individual subjects switch manufacturer – longitudinal analysis
    2. Cross sectional effect of manufacturer

### **5. Advanced vs. Basic Sequences: fMRI/DTI/ASL**

### **6. Creating Derived Series for Upload to LONI**

- a. Extracted/Downsampled DTI and fMRI will be sent to LONI.
  - i. Mayo will do fMRI

Confirmed – Mayo will downsample MB fMRI data to match basic fMRI series.

- ii. Dr. Thompson’s group will handle DTI

Confirmed Dr. Thompsons group will pull out the B1000 data from multishell data.

### **7. QSM**

- a. Working on plan for QSM Creation/Analysis moving forward for ADNI3

Did not get to on call, will carry over.

### **8. ADNI3 Breakdown (Needs to be updated)**

- a. 60/60 Certified Systems
- b. 840 subjects received. (17 Failed Studies)
  - i. 144 Subjects scans with Siemens VE11C
  - ii. 378 Subject scans VB17-VE11B
  - iii. 127 Philips 3.2.3 – 5.4.0

iv. 46 Subject scans with GE 24x

v. 143 Subject scans with GE 25x-27x

c. Experimental Sequence Breakdown

i. 2D PASL vs. 3D PASL vs. 3D pCASL

1. Axial 2D PASL – 250

2. Axial 3D PASL – 305

3. Axial 3DpCASL - 177

ii. Axial rsfMRI vs. Axial MB rsfMRI

1. rsfMRI – 729

2. MultiBand fMRI - 105

iii. Axial DTI vs. Axial MB DTI

1. DTI – 730

2. MultiBand DTI – 105