



## MR Imaging Teleconference Minutes 10/16/2018

### MRI Core Call Agenda Items:

#### 1. Review 9/17 Teleconference Minutes (Appended Below)

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

Carry over item: Have determined that DTI Pure being disabled issues seem to be only on GE widebore systems. It is unclear what effect it has on overall DTI data, but does help retrieve a brain-mask more reliably for the processing downstream.

Minutes approved.

#### 2. ADNI3 Data Analysis Consistency

- 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
  - iii. Comparison of Advanced vs. Basic Sequences.
  - iv. Change in protocol i.e (2D to 3D FLAIR), (T1 moving to 1mm3)

Several months ago, it was discussed that Mayo's chief biostatistician would come up with a plan for uniformed analysis. However this doesn't seem feasible due to time constraints. So each site is encourage to look into one more of the stated questions above.

Dr. Thompson has starting working on item iii, and will send out a paper displaying his results, but initially thoughts are that the sequences are performing very well.

It was discussed that even though this task not trivial, ADNI has an obligation to provide the field with as much information as possible for the above questions, to help with their research in addition so they do not ignore the effects of the above potential changes.

#### 3. QSM

- a. Chunlei Liu – Lara Stables from UCSF to discuss QSM Status (Attachment)
- b. Has any other labs tried to process QSM?

Confirmed that good quality Images downloaded from LONI are able to produce quality QSM maps. Displayed examples.

Mayo will plan to create QSM Maps and upload to LONI for users.

#### **4. LONI Website Updates:**

a. Advanced Protocols,

i. ADNI MRI will need to make it clear in the ADNI3 documentation, that there will be a down sampled fMRI and extracted B1000 shell DTI available.

ii. Will Thompson Lab perform DTI extract?

iii. Mayo will do fMRI

Thompson Lab will send DTI Data, Mayo will upload fMRI data.

#### **5. ADNI3 Breakdown**

a. 60/60 Certified Systems

b. 789 subjects received.

i. 125 Subjects scans with Siemens VE11C

ii. 369 Subject scans VB17-VE11B

iii. 117 Philips 3.2.3 – 5.4.0

iv. 44 Subject scans with GE 24x

v. 134 Subject scans with GE 25x-27x

c. Experimental Sequence Breakdown

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

1. Axial 2D PASL – 237

2. Axial 3D PASL – 294

3. Axial 3DpCASL - 163

ii. Axial rsfMRI vs. Axial MB rsfMRI

1. rsfMRI – 688

2. MultiBand fMRI - 96

iii. Axial DTI vs. Axial MB DTI

1. DTI – 697

2. MultiBand DTI – 97

**6. Reminder: Analysis Sites need to send ADNI3 Data into Danielle/Mike Donohue ASAP.**

**7. November Meeting - 11/20/2018**