The QIBA MSK Biomarker Committee
MR-based cartilage compositional biomarkers (T1ρ, T2) for risk prediction, early diagnosis and monitoring of treatment of degenerative joint disease

Goals and Claims
PRELIMINARY CLAIMS
- Cartilage matrix composition reflected by the T2 and T1rho relaxation time values is measurable with MRI at 3T with a within-subject coefficient of variation of 4-5%.
- A measured increase in T2 and T1rho of 11-14% or more indicates that a true/critical change has occurred with 95% confidence.

Profile Stages
Establish Claim.
Profile details includes standardized subject handling, image data acquisition and analysis.
Need to establish Quality Control criteria.
Conformance specifications includes image acquisition sites, MRI devices, reconstruction software and hardware.


Update and Current Groundwork Projects
Multi-Vendor Multi-Center Study
A cross-calibration study has been funded by the Arthritis Foundation ((Cleveland Clinic, UCSF, University of Kentucky, Albert Einstein College of Medicine) and data from ongoing GE/NBA study (Stanford, HSS, UCSF) can be used to compare the acquired imaging data from different MR systems (GE, Siemens, and Philips) and sites.

Next steps and how you can participate
1. Obtain funding for larger scale cross-calibration study.
2. Work with NIST (National Institute of Standards and Technology) on developing a MSK calibration phantom.
3. Review current meta-analyses and published studies on clinical application of cartilage T1rho and T2.
4. Study initiated investigating meaningful longitudinal changes in T2 using the OAI data.

Contacts
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