## Diffusion Study Group (DSG) consensus survey

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### Motivation

"We need recommendations from your group to us"

Anonymous clinician Business meeting, Paris, June 2018

## ASL (arterial spin labeling) group did it, why can't we?

### MAGNETIC RESONANCE IN MEDICINE





Recommended implementation of arterial spin-labeled perfusion MRI for clinical applications: A consensus of the ISMRM perfusion study group and the European consortium for ASL in dementia

David C. Alsop, John A. Detre, Xavier Golay, Matthias Günther, Jeroen Hendrikse, Luis Hernandez-Garcia , Hanzhang Lu, Bradley J. MacIntosh, Laura M. Parkes, Marion Smits, Matthias J. P. van Osch, Danny J. J. Wang, Eric C. Wong ★, Greg Zaharchuk ... See fewer authors ∧

First published: 08 April 2014 | https://doi.org/10.1002/mrm.25197 | Cited by: 468

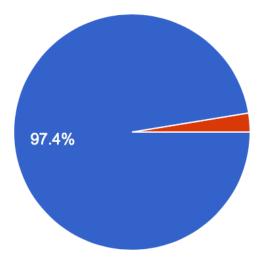
# DSG "best practices" (consensus) survey

https://docs.google.com/forms/d/1mFlzblXuc7aKKVbkm47YL MM-pBaqiC-Jwf2US2zoPA/edit

Do you think consensus can be reached on some topics of diffusion MRI?







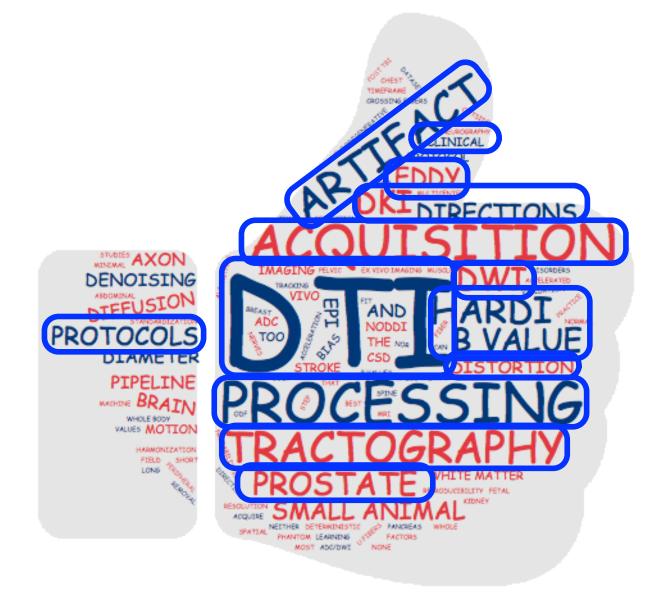


List topics (one per line) for which you think consensus guidelines for diffusion MRI HAS NOT been achieved, and briefly tell us why.

interpretation vendor differences template vs native space signal vs biophysical models Everything but DTI tractography differential diagnosis higher order models acquisition Analysis approaches Harmonization Axon diameter Axon diameter
Breast DTI
postprocessing biophysical models application specific acquisitions gradient waveforms imaging parameters Machine Learning data analysis cross scanner comparison Prostate DTI TBSS DWI radiomics Software Connectivity ROI analysis advanced techniques Body DWI MDE multi shell HARDI histogram analysis Powder averaging VBM cancer imaging biopysical models Post processing Global tractography diffusion time Scanner specific protocols connectivity quantification diffusion MRS Preclinical applications signal vs biophysical k vs q space multi fibre modelling Disease vs control advanced sequences Preclinical modelling Fiber dissection Realistic scan time Experiment design metric interpretation voxel based analysis Axonal Diameter validation phantoms multi shell acquisition nomenclature models

List topics (one per line) for which you think consensus can be reached (e.g. Diffusion Tensor Imaging, small animal ex vivo imaging, etc...).

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## Member-Initiated symposium

Further discussion to come up with 1-3 "consensus" papers to come out from our community

- 1. A clinical perspective (P Mukherjee)
- 2. DTI (C Pierpaoli)
- 3. Beyond DTI acquisitions (E McKinnon)
- 4. Pre-processing (J Veraart)
- 5. Tractography (F Dell'Acqua)

### Ready, Set, Consent

Thanks to survey participants, speakers &

#### **Moderators:**

Susie Huang, Harvard Medical School, US Shawna Farquharson, The Florey Institute, Australia

### **Organizers:**

Andrada Ianus, University College London Els Fieremans, NYU School of Medicine Claire Mulcahy, The Florey Institute