

Design of study

Work in progress

Surgical response

“**Duration of response**” was calculated based on patient’s **surgery date** and **self-reported time of pain recurrence**. Patients with no pain recurrence were followed for a maximum of 5 years.

- “**Responder**” = Patient with $\geq 50\%$ reduction in pain, assessed by the pain numeric ranking scale (NRS), and a score of I-III on the BNI scale.
- “**Non-responder**” = Patient with $< 50\%$ reduction in pain, assessed by the pain numeric ranking scale (NRS), and a score of IV-V on the BNI scale.
- “**Pain recurrence**” was defined as reversion of pain to a score of IV-V on the BNI scale.

Pain grade

Selection of **principal components** was conducted in consecutive manner (highest to lowest λ) to account for a 95% threshold of cumulative explained variance.

- Statistical testing (Spearman correlations) of PCs and duration of response to determine the best ‘pain grade’.
- PC weights provided insight on important variables.


NB! PCA and surgical response data are independent, so there is no leaking of information about the outcome !



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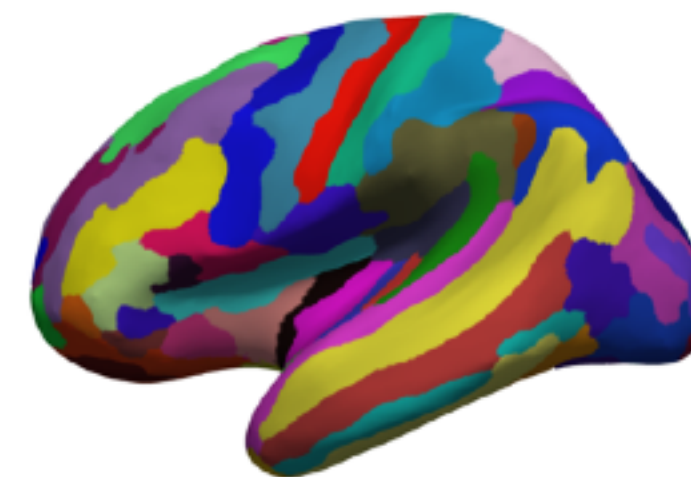
Supervised ML classification task



86 TN subjects with
T1 and DWI imaging

Initial diagnosis of TN

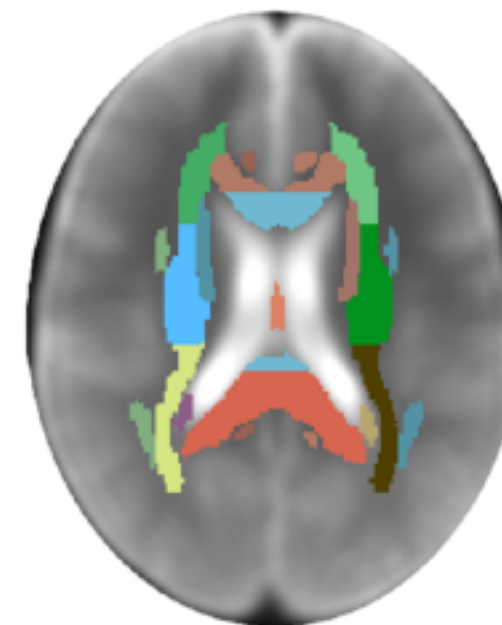
Freesurfer recon-all (GM)



420 T1 imaging metrics in
Destrieux atlas parcellation

- Cortical GM
- Thalamus
- Hypothalamus
- Hippocampus
- Amygdala
- Basal Ganglia

FSL DTI estimation (WM)



144 regional DTI scalar
measurements in JHU White
matter atlas

- FA
- AD
- RD



Duration of response

SVM Classification task
10-fold Cross-Validation

