PAIN
REPOSITORY

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Background

Chronic pain continues to be one of our most significant and difficult health problems. As opposed to acute pain conditions, central factors are thought to become crucial in maintaining pain chronicity; thus, brain imaging has become a primary tool for discovery of mechanisms and treatments for chronic pain. However, it has become clear that the sample sizes needed to test many important hypotheses about pain will not be obtainable by any single site or laboratory.
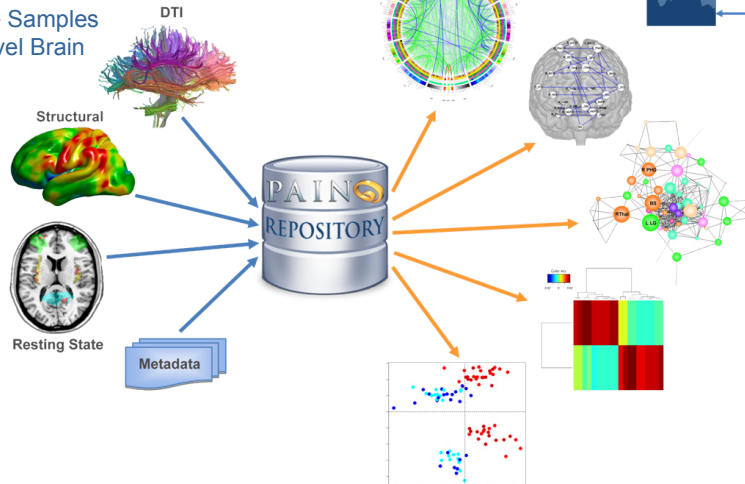
The **P**ain and **I**nteroception Imaging **N**etwork (PAIN) Repository (PAINRepository.org) is a newly created NIDA/NCCAM funded neuroimaging data repository that aims to accelerate scientific discovery regarding brain mechanisms in pain, providing more rapid benefits to pain patients, through the harmonization of efforts and data sharing.

Goals

The PAIN Repository is targeting collection of MRI scans from 1,000 subjects in the next 2 years for big data analysis:

➢ Diverse chronic pain conditions and healthy controls

➢ Structural, DTI and resting state functional scans

➢ Both standardized data for multisite combination and non-standardized for meta-analysis

Multimodal Imaging and Large Samples Enable Sophisticated Multilevel Brain Network Analyses
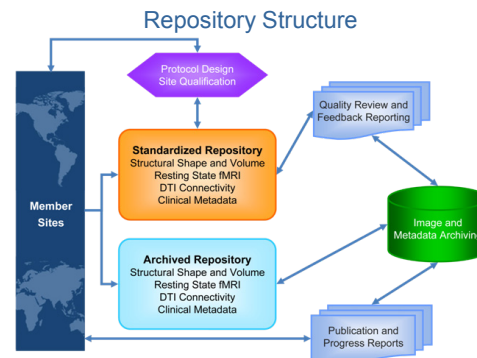

PAINREPOSITORY.ORG

Membership

➢ Members contribute scans and have first access to the large repository collection

➢ New collaborations are encouraged

➢ Scans are simple and doable with any clinical or research 3T scanner and can be added to ongoing studies

➢ Contributed data sets meet NIH and journals requirement for making the data publicly available

➢ The PAIN Repository is open to all pain researchers

➢ For more information, visit PAINRepository.org

PAIN Repository Features

Repository Structure

Standardized/Archived Repository Data Comparison

	Archived Data	Standardized Data
MEMBERSHIP		
Membership required for data access	✔	✔
Data requests are vetted by a membership executive committee to avoid conflicts	✔	✔
DATA		
Meets NIH and journals requirement for making the data publicly available	✔	✔
MRI, DTI and Resting State fMRI data	✔	✔
Large pool of healthy control scans from both males and females	✔	✔
Subject metadata	Basic demographic	Biobehavioral and clinical assessments
Imaging data QC	Basic	Comprehensive
Scanning acquisition protocols	Varied	Standardized
Supports future inclusion of genomics data		✔
SECURITY		
De-identified data to protect subject privacy	✔	✔
Data stored at a secure datacenter at UCLA	✔	✔
Data transfers using SFTP or secure web interface	✔	✔
DIAGNOSIS		
Includes multiple pain conditions	✔	✔
Includes primary pain diagnosis plus comorbidities		✔
Supports the creation of special pain interest groups and illness specific measures		✔
DATA ANALYSIS		
Suitable for direct combination of datasets for large-scale analyses		✔
Provides training and testing samples	✔	✔
Increased ability for subgroup analyses (e.g., sex; comorbidities)	Via meta analysis	Via direct comparison

Repository Metadata