FTD is a spectrum of diseases

FTD - Motor Neuron Disease/ALS
Cognitive loss
Behavior impairment
Motor symptoms
Upper and/or lower motor neuron pathways

ALS
Cognitive loss
Behavior impairment
Motor symptoms

Corticobasal Syndrome
Cognitive loss
Behavior impairment
Parkinsonism
Eye movement disturbances

Progressive Supranuclear Palsy
Cognitive loss
Behavior impairment
Parkinsonism
Eye movement disturbances

svPPA semantic variant
Cognitive loss
Disinhibition
Inflexibility
Decreased insight
Fluent speech
Decreased word comprehension and recognition of objects, people

naPPA Nonfluent/agrammatic variant
Halting speech
Short phrases
Grammar errors

lvPPA logopenic variant
Spontaneous but slow speech output
Word retrieval problems

Behavioral Variant FTD
Cognitive loss
Disinhibition
Inflexibility
Decreased insight
Fluent speech
Decreased word comprehension and recognition of objects, people

Behavioral & cognitive loss
Parkinsonism
Eye movement disturbances

Cognitive & memory loss
Asymmetric rigidity
Apraxia

FTD is a spectrum of diseases

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The FTD spectrum shares proteinopathies and anatomic loci

Behavioral Variant FTD
- FTLD-TDP43
- Cortex, Motor neurons

FTLD-TDP43
- Prefrontal lobe
- Temporal lobe

FTLD-FUS
- Upper, lower MNs

naPPA
- Nonfluent/aagrammatic variant
- FTLD-Tau more than FTLD-TDP43 or AD pathology
- Left posterior frontal lobe, insula

IvPPA
- Logopenic variant
- AD pathology more than FTLD-Tau or TDP43
- Left post/super temporal lobe & Medial parietal

Corticobasal Syndrome
- FTLD-Tau(4R)
- Basal ganglia

ALS

Progressive Supranuclear Palsy
- FTLD-Tau(4R)
- Brainstem

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What is a biomarker?

- A biomarker is a distinct biochemical, genetic or molecular characteristic or substance that is an indicator of a biological condition or process.
What do biomarkers measure?

• A biomarker can measure the presence or progress of disease or the effects of treatment
Why do we need Biomarkers?

• To support accurate diagnosis
• To detect early disease changes
• To follow disease progression
• To support drug development and measure response to drugs in a clinical trial
Imaging Biomarkers – Diagnosis and Progression of FTD

Localize and measure changes in brain structure, function
Fluid-based Biomarkers
Finding a molecular ‘signature’ of FTD

Cerebrospinal Fluid (CSF)
Lumbar puncture

Plasma, White Blood Cells
Blood draw

Adult pluripotent stem cells
Skin biopsy

Current research is focused on finding sensitive and accurate biomarkers for FTD
Gene mutations, specific protein aggregates, molecules secreted by nerve cells

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Difficult Questions in FTD Diagnosis and Care

- Is it FTD or Alzheimer’s or something else?
- Which FTD disorder is it?
- Known gene mutation, familial or sporadic FTD?
- Is it a tau or a TDP-43 proteinopathy?
- What stage of the disease – early, late?
How can you help?

- You are the most important member of the health care team
- We need your help to answer the difficult questions in FTD
- Please join us in building our newest resources
ARTFL: Advancing Research and Therapies for FTLD
LEFFTDS: Longitudinal Evaluation of fFTLD
Coming soon……..The FTD Disorders Registry

• AFTD and The Bluefield Project have partnered to create an FTD registry

• The registry will be open to persons diagnosed with an FTD disorder, their caregivers and family members

• The registry will help advance research & drug development and empower our FTD community