



UNIVERSITY OF
CAMBRIDGE

Progressive supranuclear palsy & corticobasal syndrome:

What we know about them and what is coming ...

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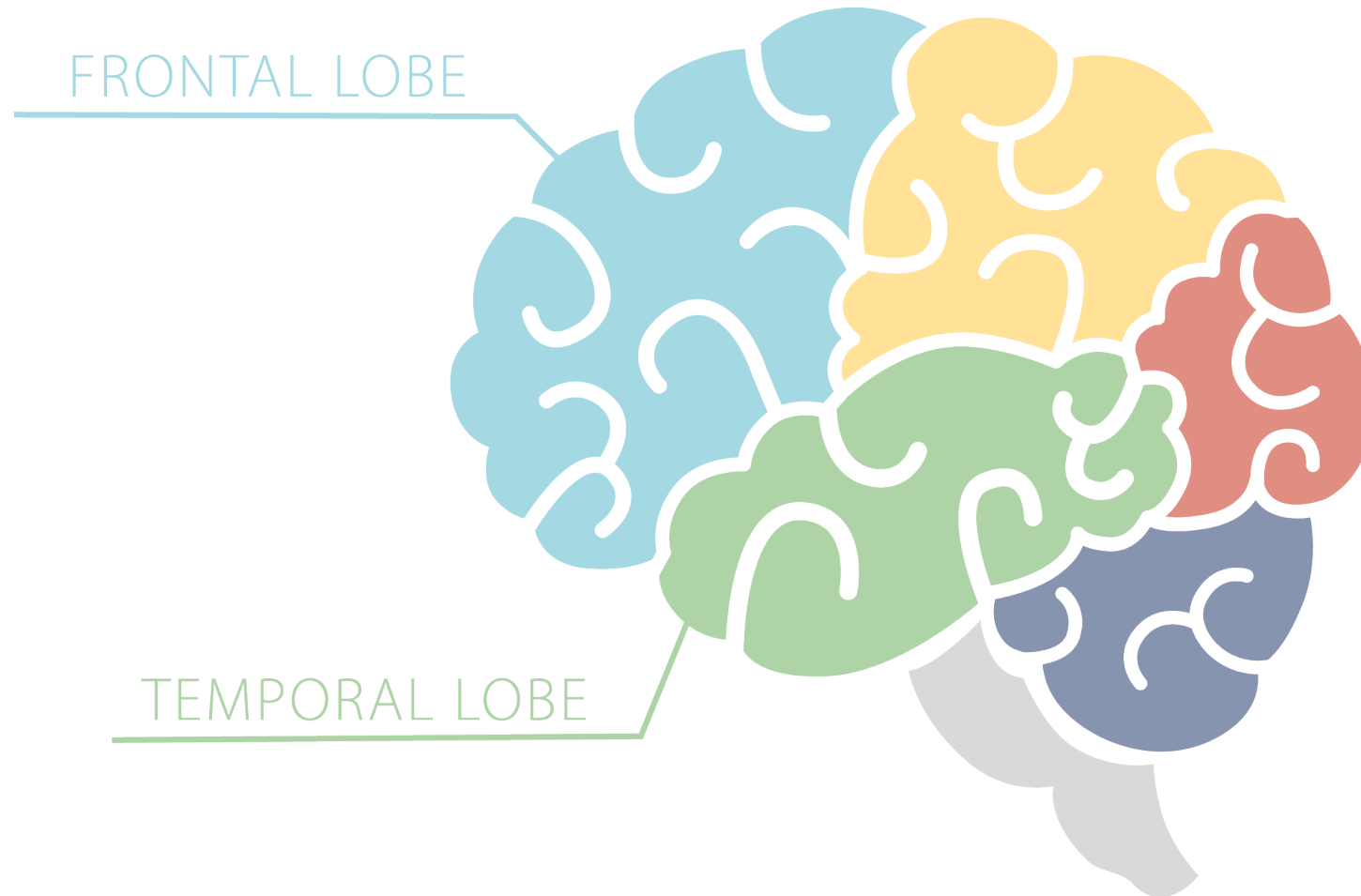
Negin.holland2@nhs.net

Outline

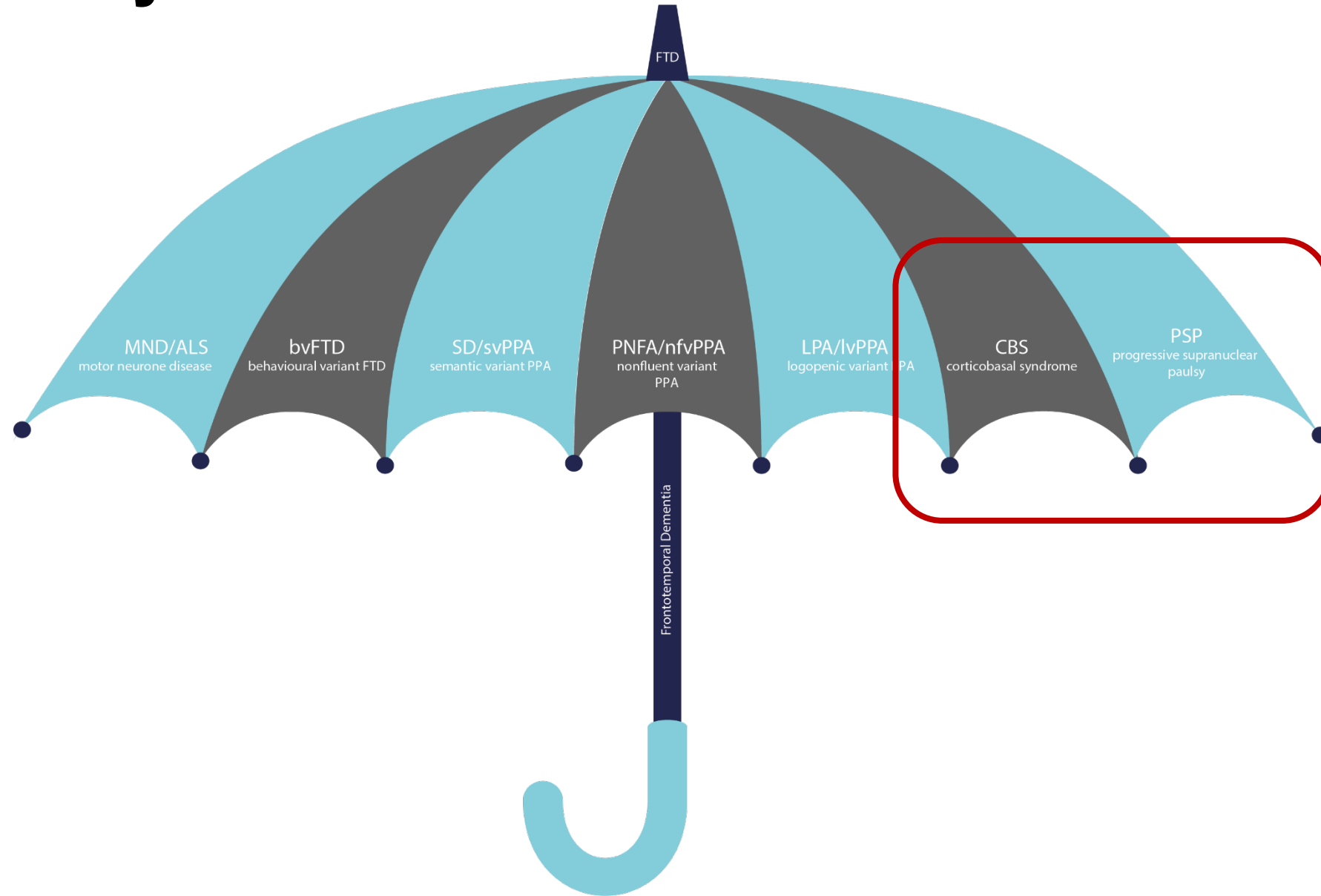
- What are PSP and CBS?
- How are they diagnosed?
- What causes PSP and CBS?
- Current treatment approaches
- Living with PSP/CBS: what helps?
- Research Updates
- How can people with PSP/CBD and their carers help research?
- Questions

What are PSP and CBS?

Both are rare neurodegenerative diseases (~ 1-10 in 100,000 of the population) causing frontal and temporal lobe degeneration (FTLD):



Syndromes associated with FTLD



What are PSP and CBS?

Both are rare neurodegenerative diseases (~ 1-10 in 100,000 of the population) affecting frontal and temporal/parietal lobes:

Physical symptoms

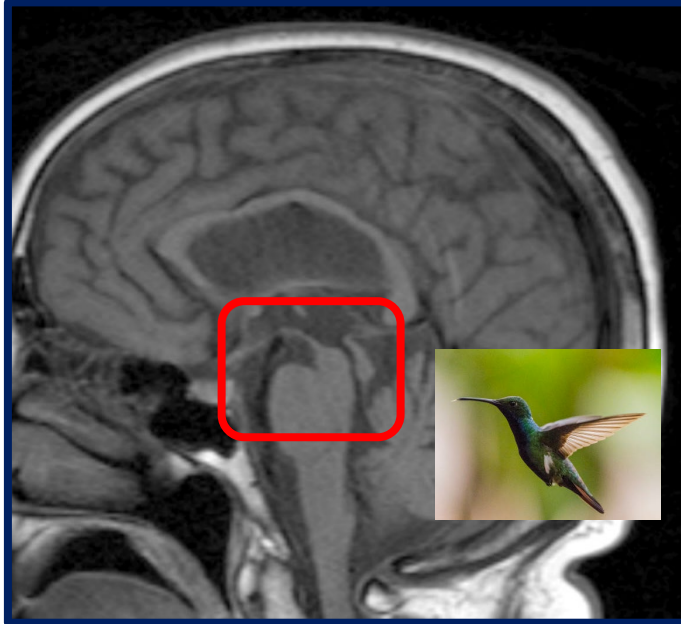
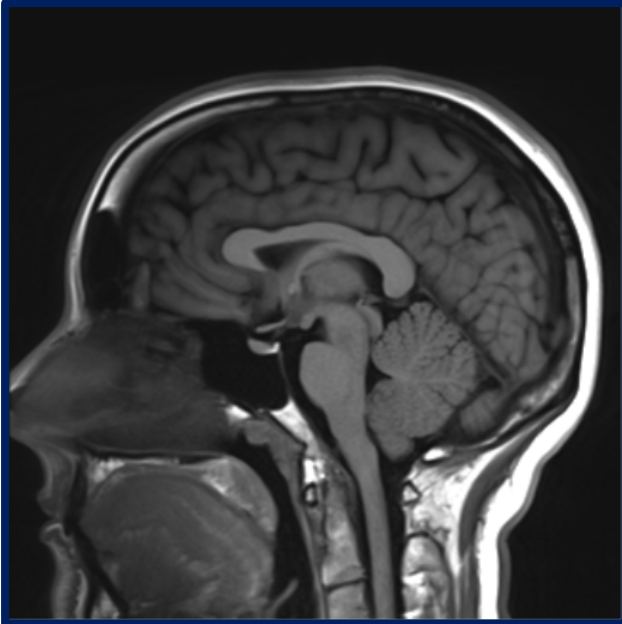
- **PSP:** Balance and eye movement problems, early falls, stiffness
- **CBS:** Asymmetric stiffness/rigidity, clumsy limb ("alien limb"), speech/swallowing issues.

Behavioural symptoms

Slowed thinking/decision making, change in personality, early impulsivity/apathy.

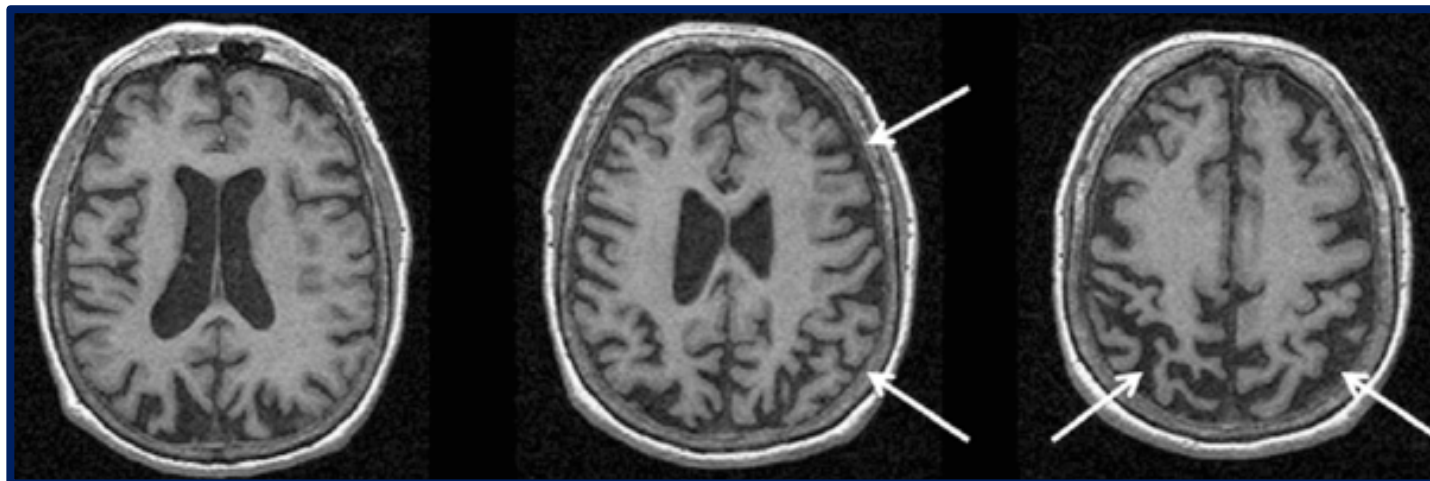
How are PSP/CBS diagnosed?

Importance of **clinical history**, **neurological exam**, and **brain imaging (MRI)**



Caveats:

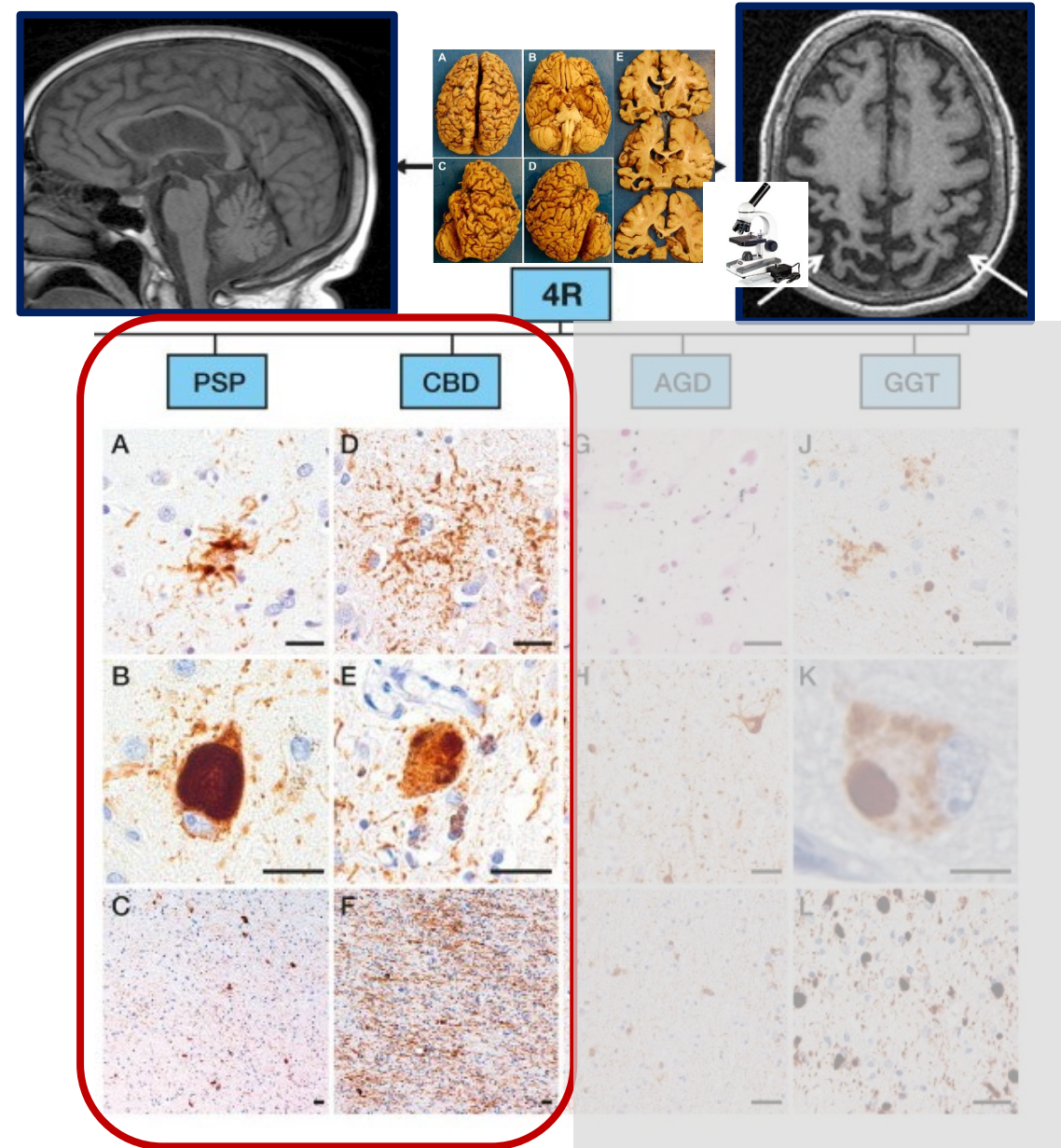
- Delay in early diagnosis due to symptom overlap with Parkinson's & other conditions
- No blood test to diagnose PSP/CBD (yet!)

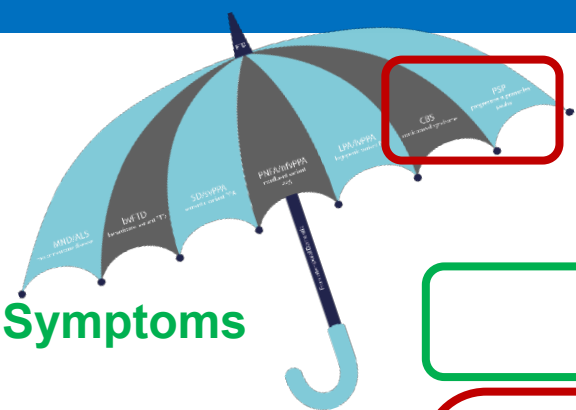


What causes PSP and CBS?

Tau protein buildup in brain cells →
disrupts communication and causes cell loss.

PSP and CBD are called **tauopathies**.
No clear cause yet, but **not usually inherited**.





Symptoms

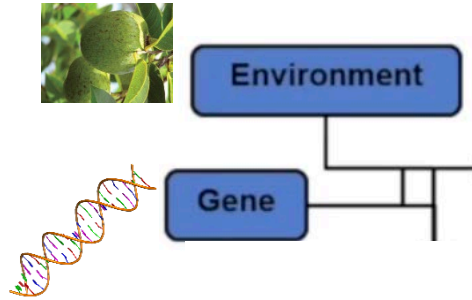
Behaviour	Language	Mobility	Balance	Stiffness	Swallowing
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Syndromes

Brain pathology

Genetics

Causes of PSP and CBS are more complex than just tau buildup



Current treatment approaches

Symptom-focused:

- **Movement/stiffness:** Physiotherapy, walking aids (OT), medications (madopar, Sinemet, amantadine, botox)
- **Speech/swallowing/drooling/secretions:** Speech & language therapy
 - voice banking, picture boards
 - Discussions around PEG/Risk feeding
 - Medications (atropine, carbocisteine, pineapple juice)
- **Mood/cognition/emotional lability:** Medication if needed (SSRIs, etc.), carer support
- **Support services:** OT, social worker, palliative care, charity patient groups (PSPA patient forum), financial advice (benefits, council tax/bill discounts)

No current treatment slows progression — but research is ongoing ...

Living with PSP/CBS – what can help?

Multidisciplinary care is key.

Tips for caregivers: fall prevention, communication strategies, emotional support.

Support groups and advocacy organisations (e.g., PSPA, AgeUK).



Research updates

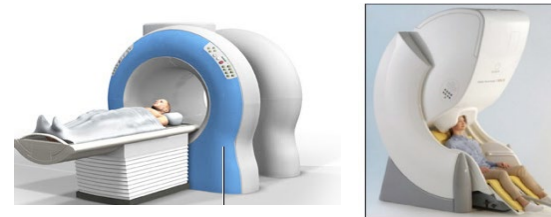
Diversity



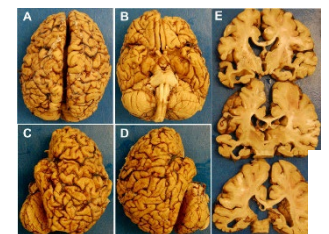
Blood biomarkers



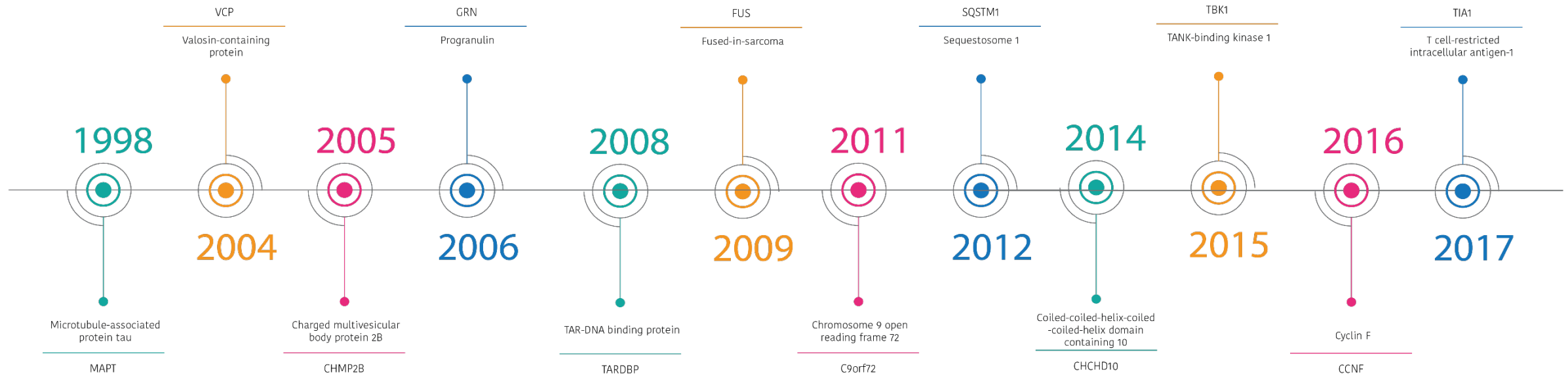
MRI/PET/MEG



Brain donation

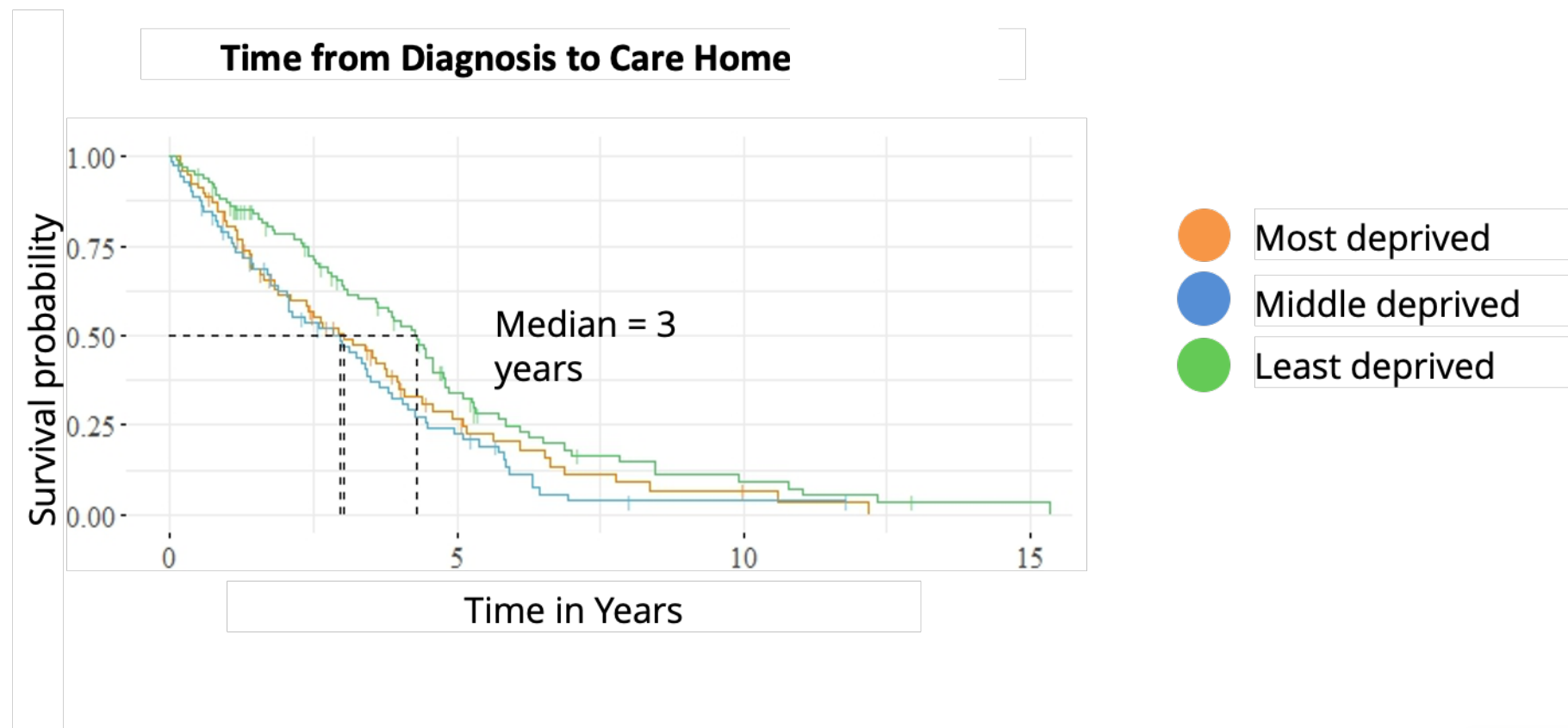


Impact of genetic diversity



And many others since 2020: LRRK2, TMEM106B, TRIM11

Impact of socioeconomic diversity



For FTD/PSP/CBS - Living in an area of higher deprivation was significantly associated with shorter time to institutional care

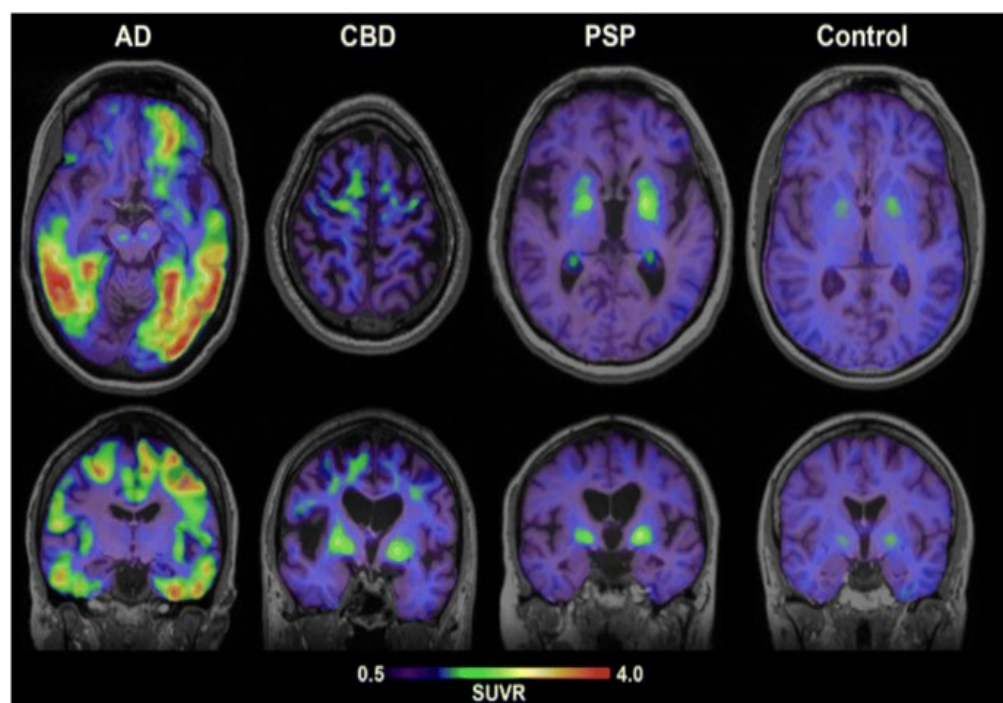


Research updates

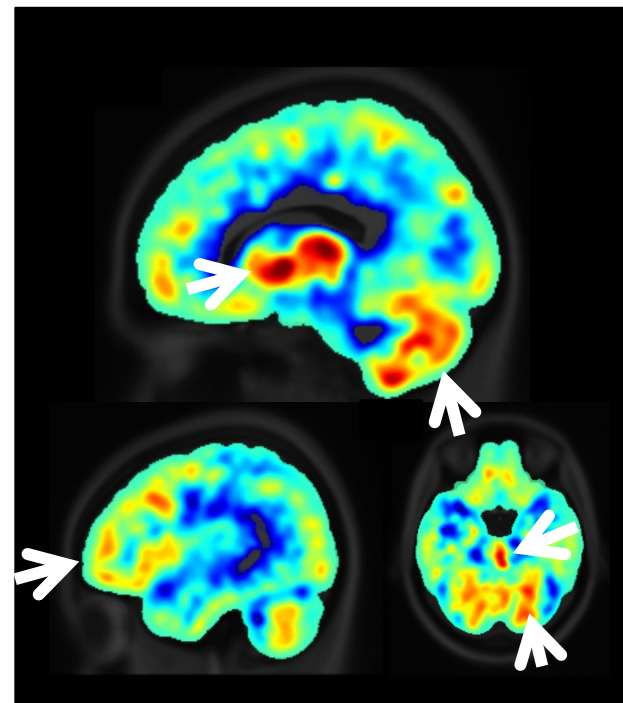
Understanding the Disease Better

- Advances in **brain imaging** (PET scans to detect tau, inflammation, communication loss).
- Studies into the **microenvironment** of the brain (how immune cells, inflammation, and support cells contribute).

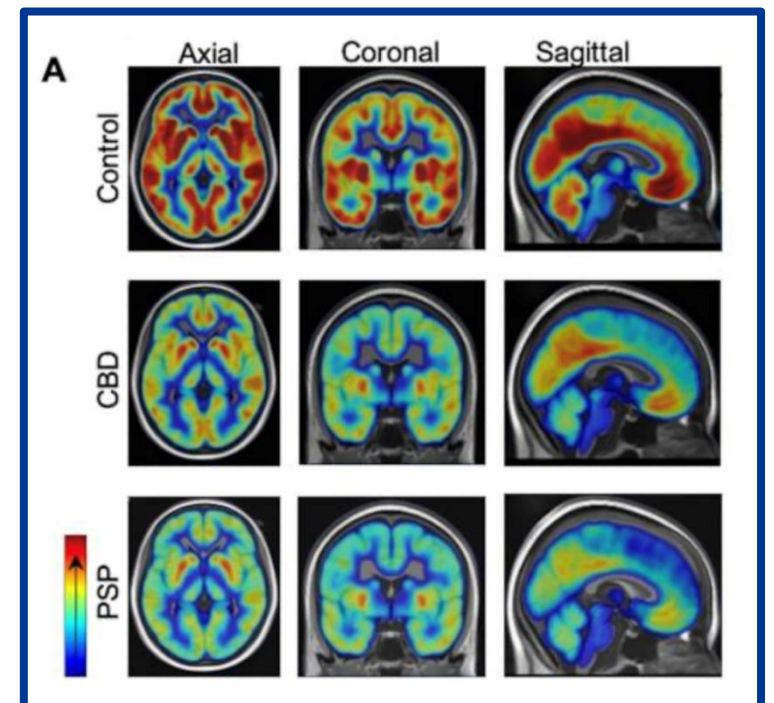
Tau imaging



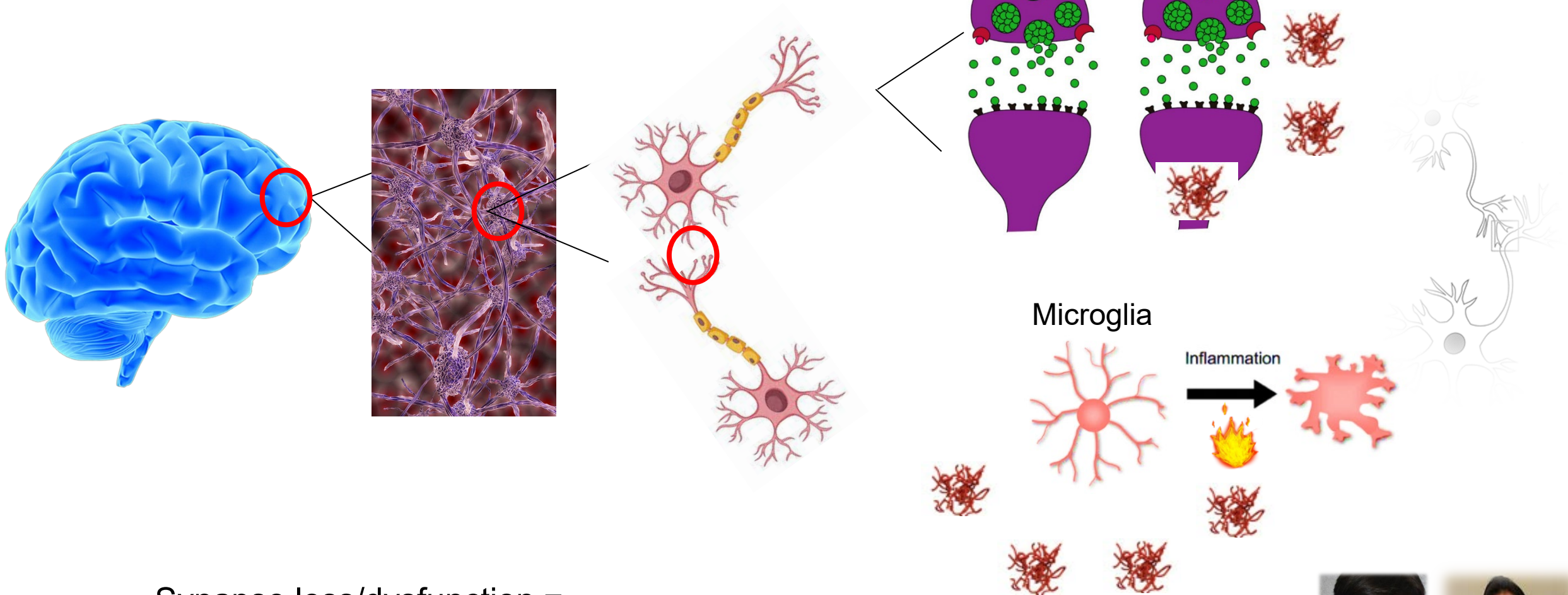
Inflammation imaging



Synaptic (communication) imaging



Inflammation and synaptic loss



Synapse loss/dysfunction =
slow movements, slow thinking, slow speech



Research updates



Understanding the Disease Better

- Genetic and environmental factors
- Advances in **brain imaging** (PET scans to detect tau, inflammation, communication loss).
- Studies into the **microenvironment** of the brain (how immune cells, inflammation, and support cells contribute).




Therapeutic and symptomatic trials

- **Anti-tau therapies** (e.g., monoclonal antibodies targeting tau).
- **Anti-inflammatory or neuroprotective agents.**

Clinical Trials

Disease modifying Trials



PROSPER

The PROSPER Study is a Phase 2 clinical trial run by Ferrer that will evaluate how safe and effective a study medicine called FNP-223 may be in treating PSP.

FNP-223 targets certain proteins that accumulate in the brains of those with PSP.


You may be eligible to take part if:

- Are between **50 and 80 years old**
- Have been told by your doctor that you have **diagnosis of possible or probable PSP, Richardson's syndrome subtype**

A Phase 3 study of safety and efficacy of AMX0035 in Progressive Supranuclear Palsy (PSP)

PROFIL Study to Investigate the Effect of GPB on NFL Levels in Patients With Corticobasal Syndrome (CBS)	NCT05983588	Recruiting	<ul style="list-style-type: none">• Corticobasal Syndrome (CBS)	<ul style="list-style-type: none">• Drug: RAVICTI 1.1 g/ml• Drug: Placebo	Technical University of Munich	Interventional
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Symptomatic Trials



NORAPS

Noradrenaline for Progressive Supranuclear Palsy



SYNAPSE-FTLD

Developing treatment for challenging behaviours in frontotemporal dementia and related disorders.

Officially registered as SYNAPSE-FTLD: Design and delivery of clinical trials to treat challenging behaviours in the syndromes associated with frontotemporal lobar degeneration.



Treatment of Disturbed Sleep in Progressive Supranuclear Palsy (PSP)	NCT04014387	Recruiting	<ul style="list-style-type: none">• Treatment	<ul style="list-style-type: none">• Drug: Suvorexant• Drug: Zolpidem• Drug: Placebo oral capsule	University of California, San Francisco
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Research updates

Understanding the Disease Better

- Advances in **brain imaging** (PET scans to detect tau, inflammation, communication loss).
- Studies into the **microenvironment** of the brain (how immune cells, inflammation, and support cells contribute).

Therapeutic Trials

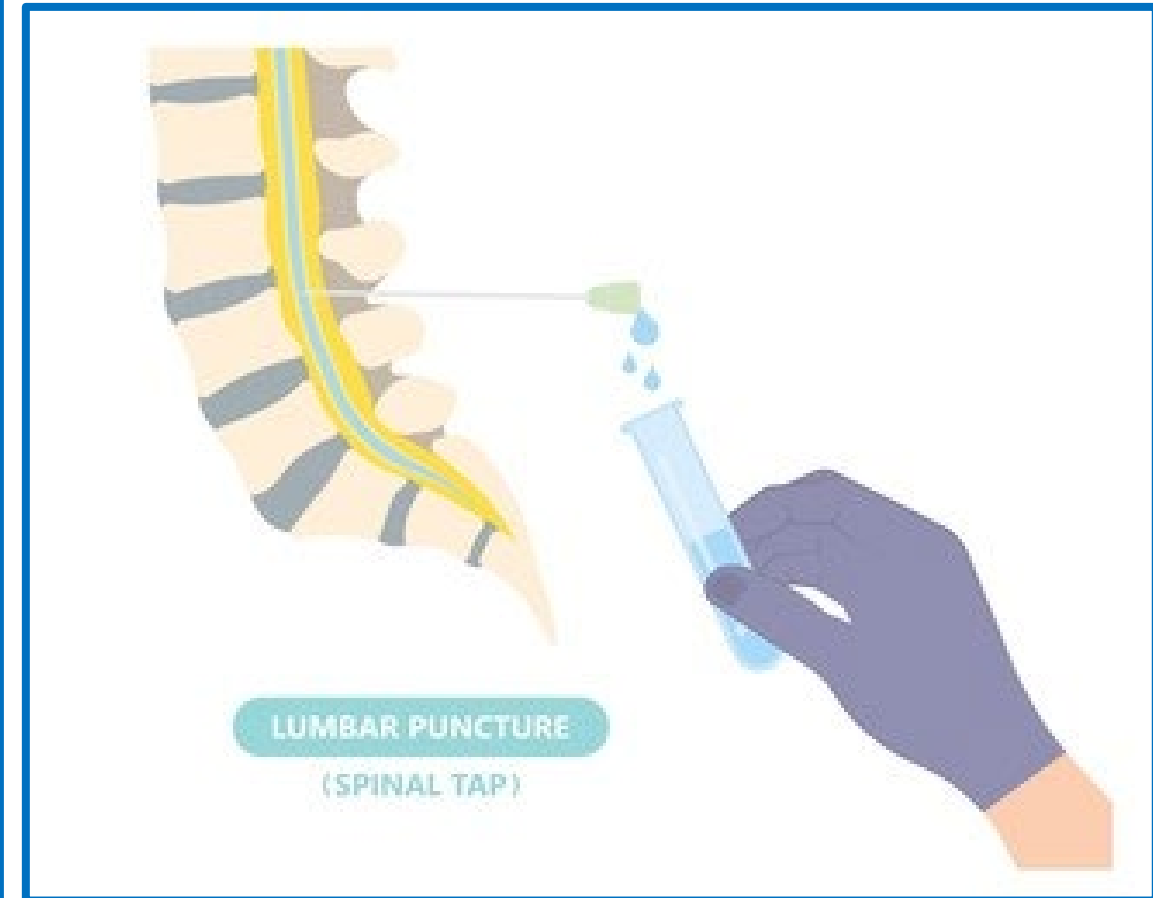
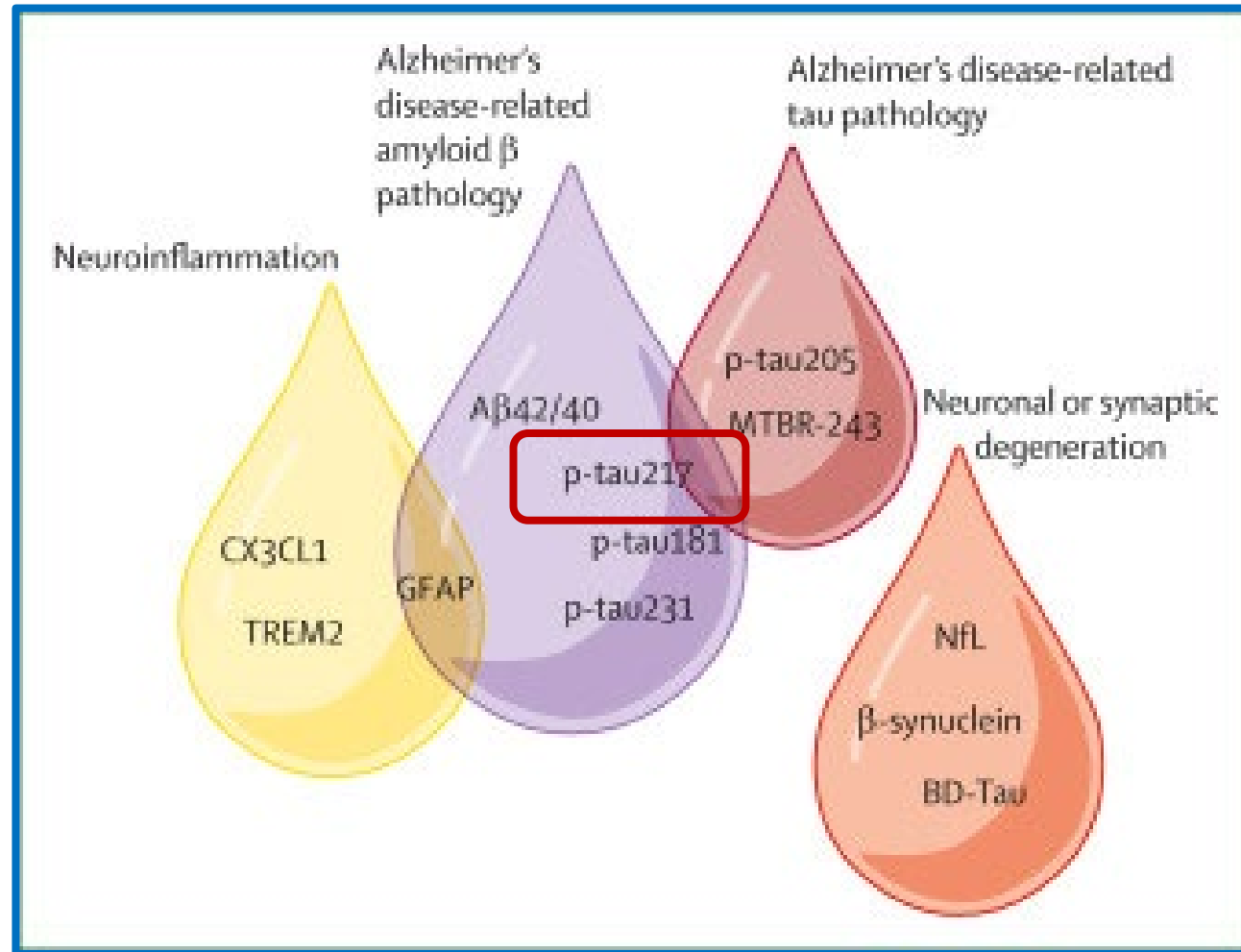
- **Anti-tau therapies** (e.g., monoclonal antibodies targeting tau).
- **Anti-inflammatory or neuroprotective agents.**

Many trials are early phase, but we are learning rapidly.

Biomarkers and Diagnosis

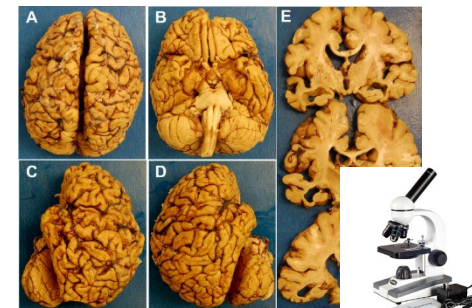
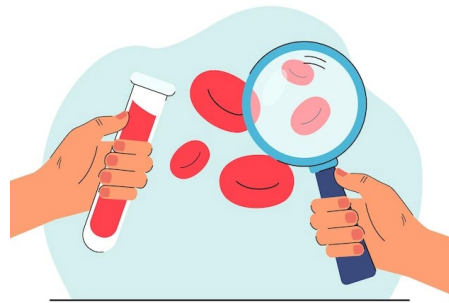
- International efforts to find blood or spinal fluid markers.
- For earlier diagnosis or tracking progression.

Blood and spinal fluid biomarker updates



How people with PSP/CBS & carers can contribute to research ...

- Patient advisory committee – commenting on feasibility of research studies; what really matters to patients
- Clinical assessments
- Language, memory and thinking tests – paper and computer based
- Blood test and lumbar puncture
- Brain imaging – MRI, PET, MEG
- Clinical trials
- Brain donation



**With thanks to:
Our participants**

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