↓ in NEUROCOGNITIVE DOMAINS ?

- ① EXECUTIVE fx → PLANNING, DECISION-making
- ② PERCEPTUAL - MOTOR fx → VISUAL perception, motor coordination
- ③ LANGUAGE → naming, word finding
- ④ LEARNING + MEMORY → recall
- ⑤ SOCIAL COGNITION → understand → Emotions, Behaviors
- ⑥ ATTENTION → sustained attention

⊖ → Ø Neuro - cognitive disorder

⊕ → Acute ↓ cognition ? ↓ consciousness ? ⊕ → DELIRIUM

⊖ → Gradual onset + Ø Consciousness change

ONLY (MEMORY) APPEARS ? Ø ↓ in ADL ? Mini-MSE normal ? ⊕ → MILD Neuro - cogn. disorder = normal AGING

⊖ → ≥ 1 DOMAIN ↓ FUNCTIONING in ADL (ADLs, IADLs) MMSE < 24/30

DEMENTIA — MAJOR neurocogn. disorder → COMMONLY

- ① Executive → ↓ JUDGEMENT
- ② Percept. - Motor → APRAXIA (apraxia), AGNOSIA
- ③ Language → APHASIA
- ④ Memory → AMNESIA

4 A's → PERSONALITY CHANGES

OR ⑤ ↓ SOCIAL + ⑥ ↓ ATTENTION

↓ W

- Vit B12 (folate, B1)
- PSEUDO-DEMENTIA (Depression)
- HYDROCEPHALUS

Exclude REVERSIBLE CAUSES

60 %

ALZHEIMER

PAT = OLD (>65y) — usually 7th/8th decade

β - AMYLOID build-up

- MICRO
  - NEURO-FIBRILLARY TANGLES
  - BETA-AMYLOID PLAQUES
- MACROSCOPIC
  - cortex atrophy
  - wide sulci
  - narrow gyri
  - hyperexpanded ce vacuo

GENERALIZED CORTICAL DEGEN → Ø FNDs

- FRONTAL lobe + TEMPORAL lobe

↓ Ach

↑ GLUTAMATE

DGX: CLINICAL ⇒ AMNESIA PLUS ≥ 1 OTHER A

Initial: ① MEMORY → AMNESIA (after years other N.C.D.)

Late: BEHAVIOR → apathy + ↓ social; irritability

STAGES

	①	②	③	④	⑤
↓ MEMORY	recent both	↑	profound	complete Ø	complete Ø
OTHER A's	normative APHASIA	↑ APHASIA	APRAXIA AGNOSIA		
PSYCH signs	AWARE of ops but DENIAL	↑ personality traits	DELUSIONS DISINHIBITION	PSYCHOSIS complex SOCIAL INDIFFERENCE	all fx
ORIENTATION	↓ in UNFAMILIAR places	↓ in FAMILIAR places			
ADL	✓	PROFESSIONAL WITHDRAWAL	⊗ PERSONAL HYGIENE	COMPLETE DEPENDANCE	BED-Bound w/ ↓ Awareness, Amnesia

Tx:

① AchE - BLOCKER (↑ Ach) — Donepezil, Galantamine, Rivastigmine — SE → Dizziness, insomnia; Nausea

② MEMANTADINE (↓ Glutamate (NMDA - Blocker)) — SE → Dizziness; Confusion, Hallucination

③ SYMPTOMATIC — SSRI; melatonin, Z-compounds; Anti-psychotics

OTHER

VASCULAR

- MULTI-INFARCT
- LACUNAR
- BINSWANGER'S

MRI → INFARCTS

CORTEX SIGN — esp MOTOR (DDx Alzheimer) — FND (apraxia, agnosia)

PURE motor/sensory

STEP-WISE PROGRESSION → DDx Alzheimer (gradual progress)

WIDESPREAD "WHITE MATTER Disease" — gradual progression

FRONTO-TEMPORAL (PICK'S disease)

EARLY-ONSET Pt = YOUNGER (<65y)

PICK BODIES

ATROPHY

- FRONTAL (changes in) → PERSONALITY, BEHAVIOR
- TEMPORAL → APHASIA (Late) → MEMORY

Dgx → CLINIC +/- MRI

Tx → Ø

LEWY BODY

Accumulation of PROTEIN α-SYNUCLEIN = LEWY BODIES

in CORTEX (DDx) — PARKINSON'S: ↓ in BASAL GANGLIA

believed to be part of a SPECTRUM of disease

CL: TRIAD

- ① DEMENTIA → ① EXEC ② ATTENT.
- ② PARKINSON'S sym.
- ③ HALLUCINATIONS + DELUSIONS

Dgx: CLINICAL → DDx vs PARKINSON'S DISEASE DEMENTIA; DEMENTIA w/ LEWY BODIES

1y RULE (usually ≥65y): ≥ 1y → PD BEFORE DEMENTIA; < 1y

Tx: (consider) AchE

HUNTINGTON'S

CHOREA → always → DEMENTIA

HIV

↳ YEARS after → PCN; 3-synapt.; opportunistic infections

Creutzfeldt - Jakob

PRIONS — misfolded PrPc → "SPONGIFORM ENCEPHALOPATHY" → INTRA-CELL VACUOLES

CL:

- RAPIDLY PROGRESSIVE DEMENTIA → (weeks - months) → RIP
- MYOCLONUS when STARTLED
- OTHERS → MOTOR → DYSFUNCTION; ↓ ↑, ATAXIA; BEHAVIORAL changes

Gold standard = BIOPSY (brain) ↳ Ø routinely

Dgx:

DGX - CRITERIA

- ① EEG
- ② MRI → exclusion DDx; cortical → CHANGES (Ventricles)
- ③ CSF → ① 14-3-3 PROTEINS; ② RT-QUIC