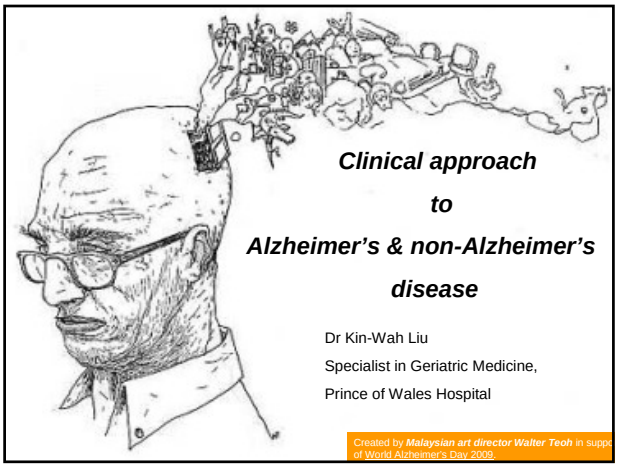
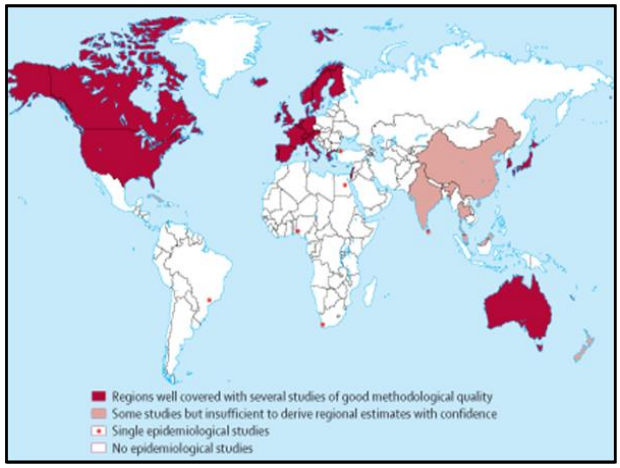
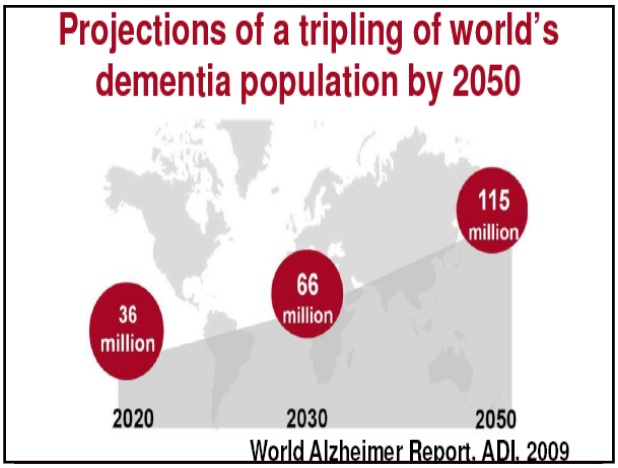
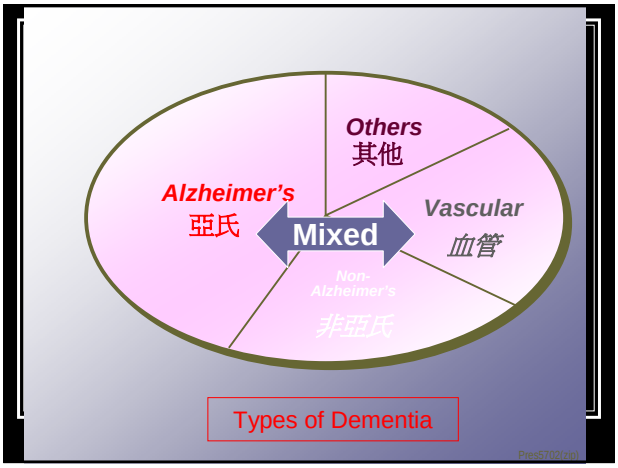






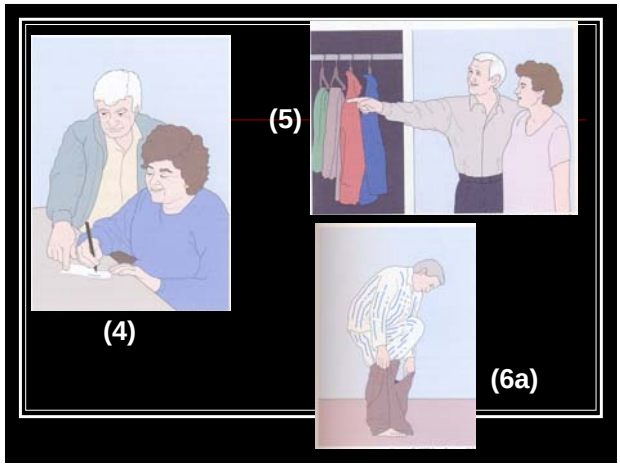
PREVALENCE AND INCIDENCE, ADI ASIA PACIFIC AND NON-ADI ASIA PACIFIC

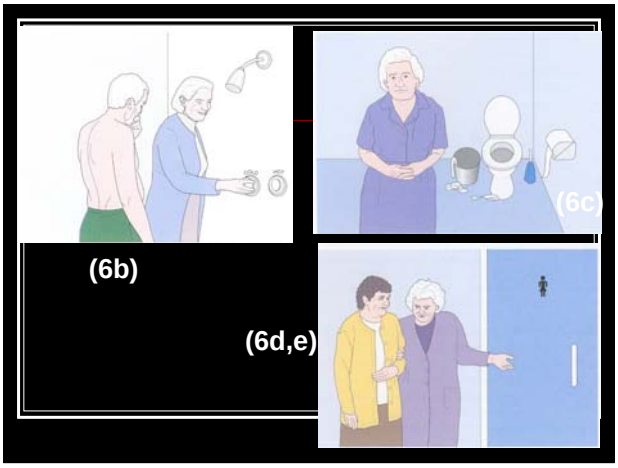
	2005		2020		2050	
'000 people	Prevalence	Incidence	Prevalence	Incidence	Prevalence	Incidence
Australia	195.4	60.2	301.3	91.1	664.1	199.7
China (inc Macao)	5,541.2	1,721.0	9,596.3	2,916.7	27,004.4	8,269.0
Hong Kong SAR	59.7	18.5	109.2	32.6	332.0	99.6
India	3,248.5	1,026.8	5,541.8	1,714.4	16,290.1	4,974.6
Indonesia	606.1	191.4	1,016.8	314.1	3,042.0	932.0
Japan	1,871.2	570.2	3,251.3	983.4	4,873.1	1,417.7
Malaysia	63.0	20.1	126.8	39.0	453.9	138.8
New Zealand	38.2	11.8	54.6	16.6	117.6	35.5
Pakistan	330.1	107.3	566.6	179.3	1,916.2	584.3
Philippines	169.8	54.8	316.3	99.2	1,158.9	353.9
Singapore	22.0	6.8	52.6	15.7	186.9	56.7
South Korea	246.3	75.5	542.2	164.3	1,569.9	475.4
Sri Lanka	86.0	26.9	148.0	45.1	409.0	125.0
TADA Chinese Taipei	138.0	43.1	253.4	76.6	659.3	199.4
Thailand	229.1	71.4	450.2	137.2	1,233.2	377.0
ADI Asia Pacific	12,844.3	4,005.9	22,327.6	6,825.2	59,910.6	18,238.7
Non-ADI Asia Pacific	859.3	276.2	1,399.6	437.1	4,730.9	1,448.6
Total region	13,703.6	4,282.1	23,727.1	7,262.3	64,641.5	19,687.3

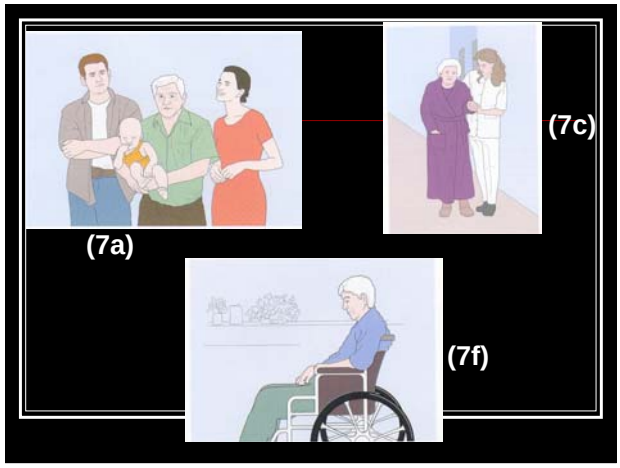


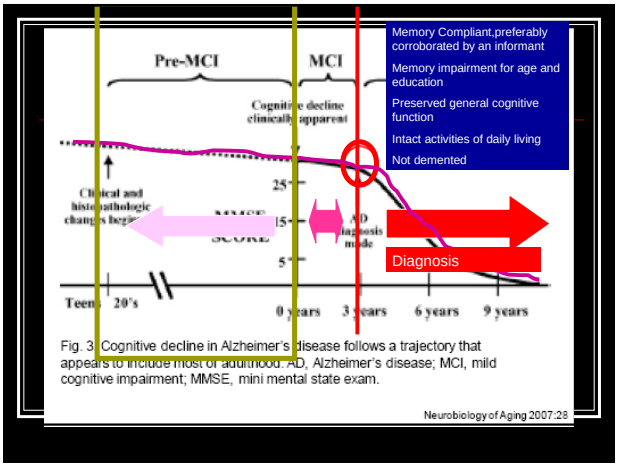
FAST
(Global Deterioration Scale)

Functional Assessment Staging Test
for
Alzheimer's Disease









DSM-IV

1) Memory impairment
2) Aphasia
   Apraxia
   Agnosia
   Disturbance in executive functioning (planning, organizing,sequencing, abstracting)
3) Gradual onset and continuing
4) Not due to: a)other CNS diseases(CVA, parkinson's, huntington's, sdh, nph,brain tumour)
   b) systemic(hypothyroidism, B12 def, hypercalcemia, HIV)
   c) substance-induced
5) Exclude delirium
6) Exclude psychiatric diseases(major depression, schizophrenia)

GPCOG Informant Interview

B. Informant Description *(GPCOG Informant interview)*

Compared to a few years ago……	Yes	No	Don't know	N/A
1. Does the patient have more trouble remembering things that have happened recently?	☑	☐	☐	☐
2. Does he or she have more trouble recalling conversations after a few days?	☑	☐	☐	☐
3. When speaking, does the patient have more difficulty in finding the right word or tend to use the wrong words more often?	☑	☐	☐	☐
4. Is the patient less able to manage money and financial affairs (e.g. paying bills, budgeting)?	☑	☐	☐	☐
5. Is the patient less able to manage his or her medication independently?	☑	☐	☐	☐
6. Does the patient need more assistance with transport (either private or public)?	☑	☐	☐	☐

Dementia Screen

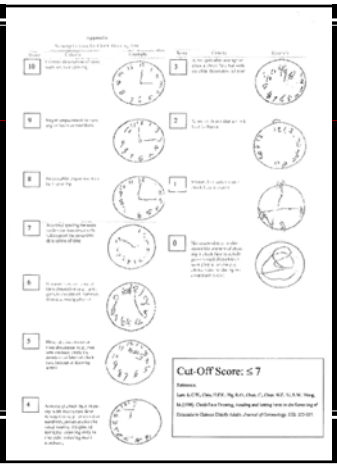
- CBP,ESR
- RFT, LFT
- Ca/P
- MSU: R/M, C&ST
- B12, Folate
- Thyroid function
- ?VDRL
- CXR
- CT Brain

Clinical tools

- MMSE
- Clock face
- Geriatric Depression Scale
- Clinical Dementia Rating Scale

MMSE
mini-mental state examination

Cut-off Point:
Nil education: <18
1-2 yrs: <20
>2 yrs: <22

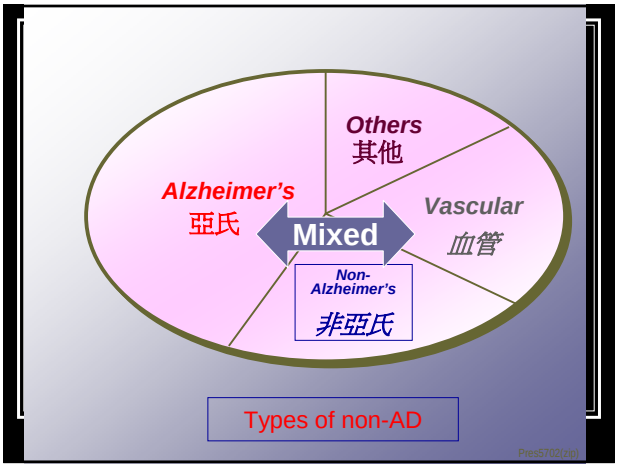


Tips 1

1) Ask family for substantially noticeable memory decline in the past 1-2 yrs
2) Blaming close family members for taking his/her belongings usually money
3) Age window for onset: 75-80 yr
4) Disclosing the diagnosis

Tips 2

1) Simple tests
2) MMSE for baseline documentation
3) Clock test very sensitive for early AD with typical pattern



Non-Alzheimer Degenerative Dementia

(Curr Opin Neurol 1998, 11:417 - 427)

- Frontotemporal(behavioral)
- Cerebral Lewy Body Disease(CVH)
- Progressive Supranuclear Palsy(Occular, bulbar)
- Corticobasal Degeneration(Apraxia)

Pres5702(zip)

Clinical Dementia Rating 1 (Mild Dementia)

	None 0	Questionable 0.5	Mild 1	Moderate 2	Severe 3
Memory	No memory loss, or slight inconstant forgetfulness	Consistent slight forgetfulness; partial recollection of events; "benign" forgetfulness	Moderate memory loses; more marked for recent events; defect interferes with every day activities	Severe memory loss; only highly learned material retained; new material rapidly lost	Severe memory loss; only fragments remain
Orientation	Fully oriented	Fully oriented except for slight difficulty with time relationships	Some difficulty with time relationships, oriented for place and person at examination, but may have geographic disorientation	Usually disoriented to time, often to place	Oriented to person only
Judgment and problem solving	Solves everyday problems and handles business and financial affairs well; judgment good in relation to past performance	Slight impairment in solving problems, similarities and differences	Moderate difficult in handling problems, similarities, and differences; social judgment usually maintained	Severely impaired in handling problems, similarities and differences; social judgment usually impaired	Unable to make judgments or solve problems
Community affairs	Independent function at usual level in job, shopping and volunteer and social groups	Slight impairment in these activities	Unable to function independently at these activities although may still be engaged in some; appears normal to casual inspection	No pretense of independent function outside home. Appears well enough to be taken to functions outside a family home	No pretense of independent function outside home. Appears too ill to be taken to functions outside a family home
Home and hobbies	Life at home, hobbies, and intellectual interests well maintained	Life at home, hobbies, and intellectual interests slightly impaired	Mild but definite impairment of function at home, more difficult chores abandoned; more complicated hobbies and interests abandoned	Only single chores preserved; very restricted interests, poorly maintained	No significant function in home
Personal care	Fully capable of self-care	Fully capable of self-care	Needs prompting	Requires assistance in dressing, hygiene, keeping of personal effects	Requires much help with personal care; frequent incontinence

Mr. Ho

- 67 yrs old
- Education up to secondary school
- Retired teacher for few years
- Hypertension for >10 yrs
- Poor memory for 2 years
- Poor calculation
- Hot temper according to wife
- Independent ADL
- P/E unremarkable

Progress

- Admitted in 3/2006 due to AROU with urosepsis
- Developed delirium in ward
  - agitation with irrelevant speech
- Complex visual hallucination
  - seeing “ants crawling on the wall and body” and “ ancestors who had passed away”.

Progress

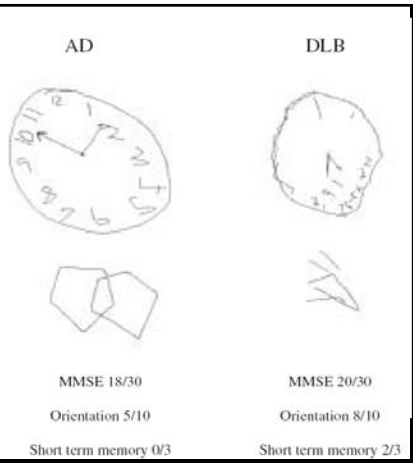
- Cry out with arms thrashing about during sleep for 2-3 years
  - ?REM related behavioral disorder (REMBD)
- Decline in ADL
  - Incontinence sometimes

Progress

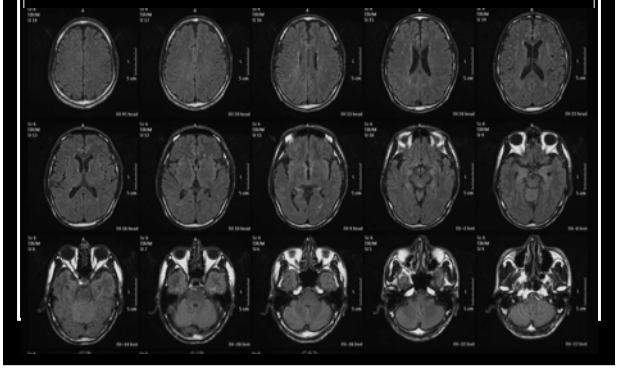
- Parkinsonism features noted during follow up
  - Masked face
  - Cogwheel rigidity of upper limbs
  - Brisk reflexes
  - Palmomental reflex not present
- Geriatric Depression scale 7/15

[redacted]

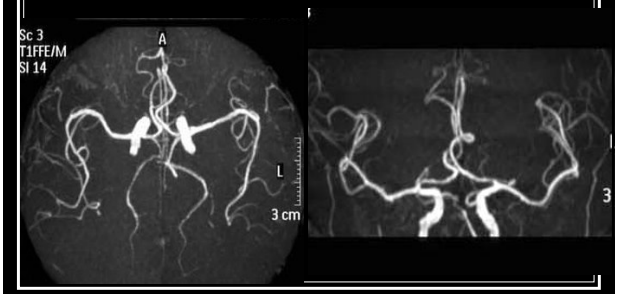
Visuo-constructive abilities in clock drawing and pentagon copying of a DLB and AD patient for comparison.

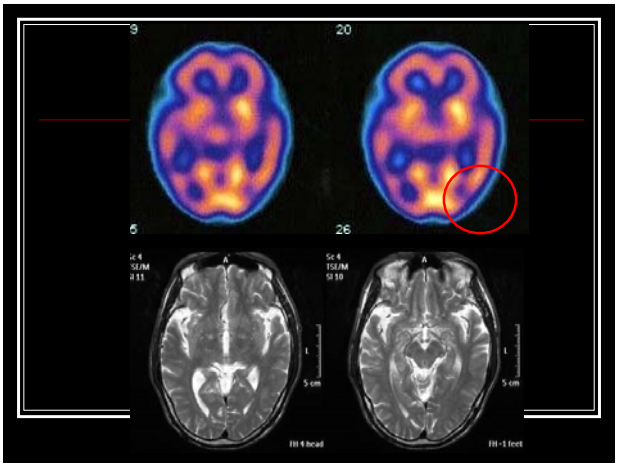


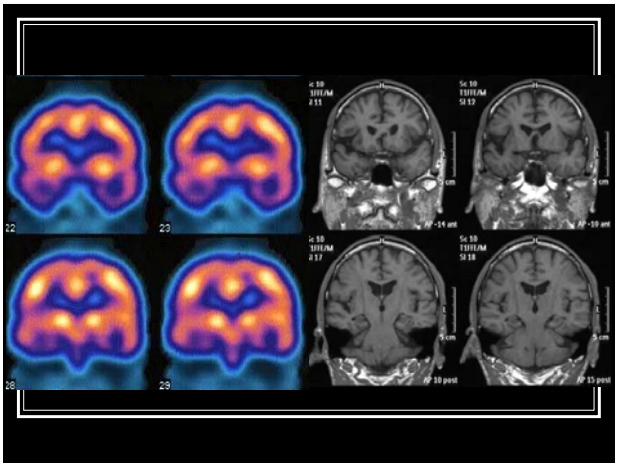
< 5 lacunar infarcts,
no significant small vessel disease



MRA – No large vessel disease

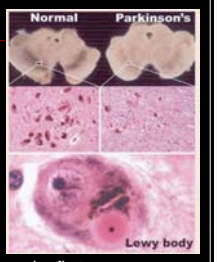






What is Lewy bodies (LB)?

- Lewy bodies are neuronal cytoplasmic inclusions
- composed of abnormally phosphorylated **proteins** aggregated with **ubiquitin** and **alpha-synuclein (presynaptic protein)**



- Named after Dr. Frederick Lewy who first described LBs in 1912 in idiopathic parkinson's disease patient

Table 1 Revised criteria for the clinical diagnosis of dementia with Lewy bodies (DLB)

1. *Central feature* (essential for a diagnosis of possible or probable DLB)
   - Dementia defined as progressive cognitive decline of sufficient magnitude to interfere with normal social or occupational function. Prominent or persistent memory impairment may not necessarily occur in the early stages but is usually evident with progression. Deficits on tests of attention, executive function, and visuospatial ability may be especially prominent.
2. *Core features* (two core features are sufficient for a diagnosis of probable DLB, one for possible DLB)
   - Fluctuating cognition with pronounced variations in attention and alertness
   - Recurrent visual hallucinations that are typically well formed and detailed
   - Spontaneous features of parkinsonism
3. *Suggestive features* (If one or more of these is present in the presence of one or more core features, a diagnosis of probable DLB can be made. In the absence of any core features, one or more suggestive features is sufficient for possible DLB. Probable DLB should not be diagnosed on the basis of suggestive features alone.)
   - REM sleep behavior disorder
   - Severe neuroleptic sensitivity
   - Low dopamine transporter uptake in basal ganglia demonstrated by SPECT or PET imaging
4. *Supportive features* (commonly present but not proven to have diagnostic specificity)
   - Repeated falls and syncope
   - Transient, unexplained loss of consciousness
   - Severe autonomic dysfunction, e.g., orthostatic hypotension, urinary incontinence
   - Hallucinations in other modalities
   - Systematized delusions
   - Depression
   - Relative preservation of medial temporal lobe structures on CT/MRI scan
   - Generalized low uptake on SPECT/PET perfusion scan with reduced occipital activity
   - Abnormal (low uptake) MIBG myocardial scintigraphy
   - Prominent slow wave activity on EEG with temporal lobe transient sharp waves
5. *A diagnosis of DLB is less likely*
   - In the presence of cerebrovascular disease evident as focal neurologic signs or on brain imaging
   - In the presence of any other physical illness or brain disorder sufficient to account in part or in total for the clinical picture
   - If parkinsonism only appears for the first time at a stage of severe dementia

4. Supportive features

- Repeated falls and Syncope
- Transient loss of consciousness
- Severe autonomic dysfunction
  - Postural hypotension, urinary incontinence
- Systematized delusions
- Hallucinations in other modalities
- Depression

- Relative preservation of medial temporal lobe structures on CT/MRI scan
- Generalized low uptake on SPECT/PET perfusion scan with reduced occipital activity
- Abnormal (low uptake) MIBG myocardial scintigraphy
- Prominent slow wave activity on EEG with temporal lobe transient sharp waves

Pictures taken from a video in a sleep laboratory of older men who have RBD. These men throw punches while dreaming of fighting during REM sleep.

www.nature.com/.../images/nature04287-f4.0.jpg

- REM sleep behaviour disorder (REMBD)
  - Excessive muscle tone and undesirable behavioural manifestation during REM sleep
  - Prevalence of RBD range from 0.4% of persons age 70 years or older to 0.5% of the general population .

5. Features Making the Diagnosis Less Likely

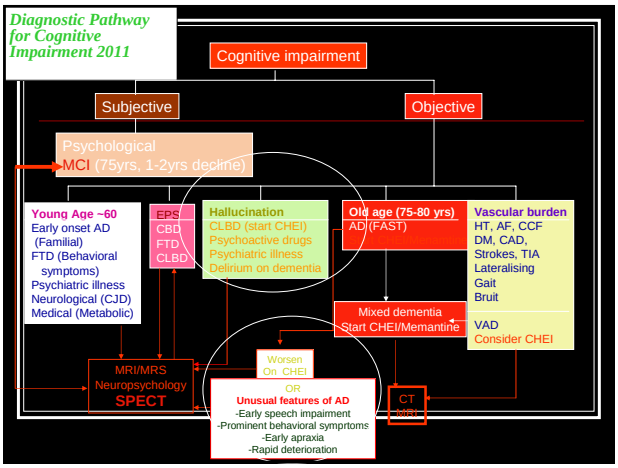
a. cerebrovascular disease evident as focal neurologic signs or on brain imaging

b. any other physical illness or brain disorder sufficient to account in part or in total for the clinical picture

c. Parkinsonism for the first time at a stage of severe dementia

DLB vs Alzheimer's Disease

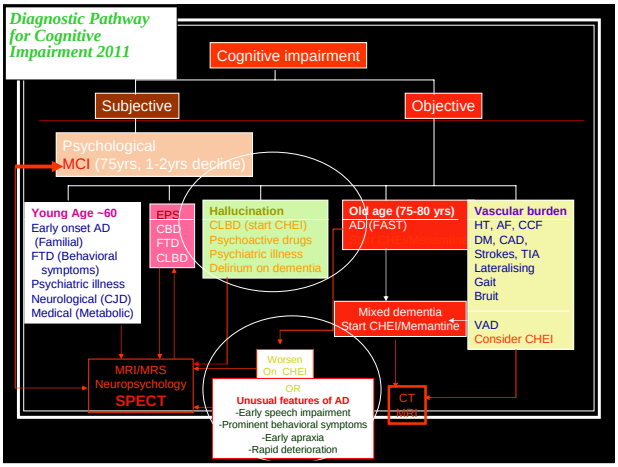
- Memory problems occur later in DLB
- Visuospatial ability worsened early in DLB (thus more fall in DLB)
- Attention more affected in DLB
- More fluctuation in DLB
- More rapid progression DLB
- Hallucinations & delusions more common in DLB
- Parkinson symptoms at onset in DLB



Non-responding to CHEI!

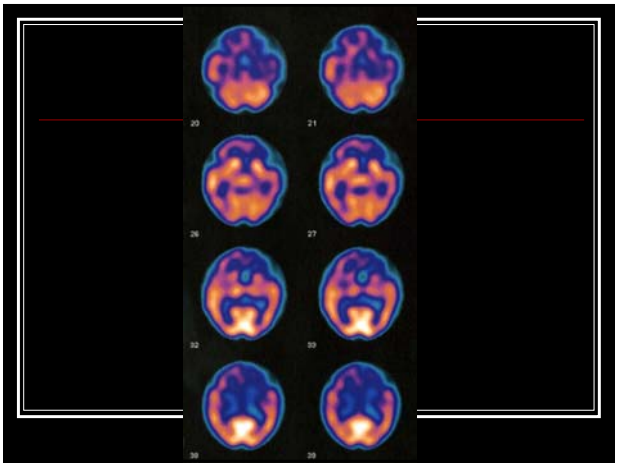
Non-AD

eg. Frontotemporal Dementia



Behavioral characteristics

- Disinhibition, impulsivity,
- Inertia,
- Loss of personal and social awareness
- Loss of insight
- Mental rigidity and inflexibility
- Hyperorality
- Utilization behaviour
- Stereotypies and rituals




Thank you
謝謝您