Behavioral and Psychological Symptoms of Dementia (BPSD)

Professor Win Min Thit
M.B.,B.S, M.Med.Sc (Int. Med),
D.C.N (London), Dip. Med. Sc (ME),
MRCP (UK), FRCP (Edin),
FRCP(London)

Behavioral and Psychological Symptoms of Dementia (BPSD)

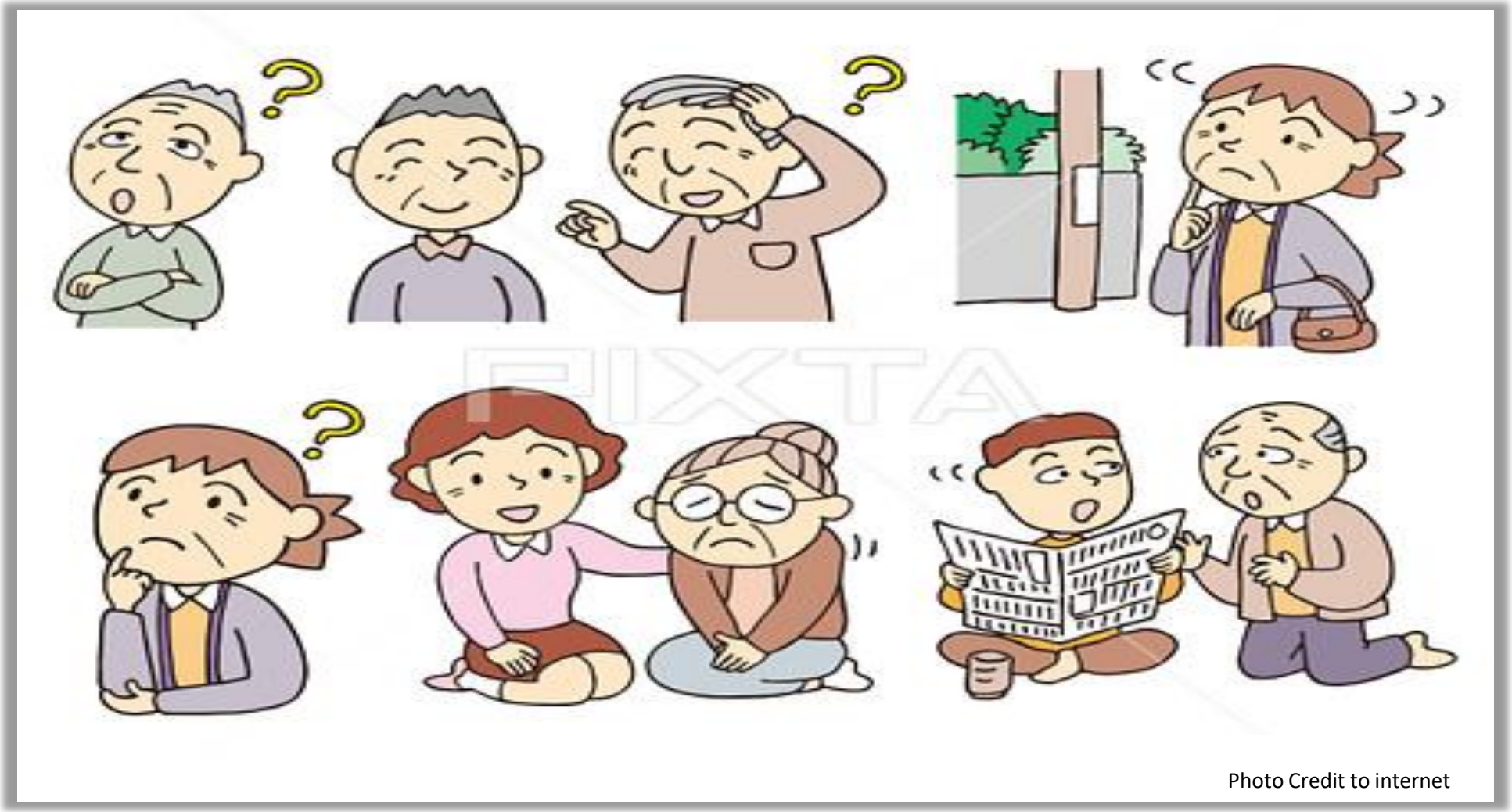


Photo Credit to internet

- Dementia affects all domains of cognition.
- **98%** incidence of Behavioral and Psychological Symptoms of Dementia (BPSD) at some point in the disease due to relentless progression after diagnosis
- including **depression, psychosis, agitation, aggression, apathy, sleep disturbances, and disinhibition**

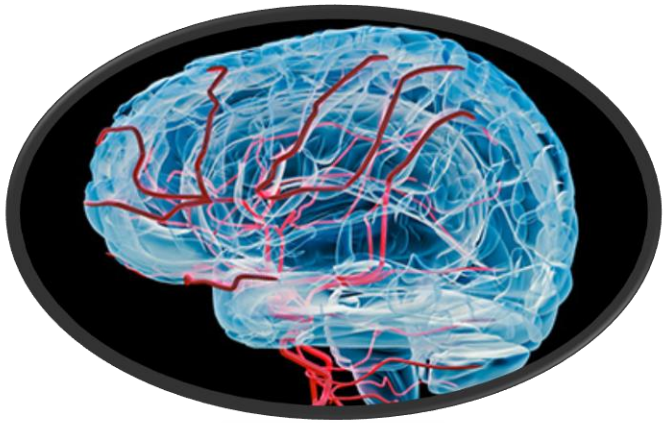
Alzheimer Disease

Photo Credit to internet

- Delusions and hallucinations are common
- The commonest delusions - stealing, grandiose delusions, and delusions that the house is not theirs
- Delusions were significantly associated with depression, anosognosia, Aggression-agitation, and global cognitive deficits.
- Apathy and depression frequently co-occur in Alzheimer Disease , but rates can be lower than in other dementias, such as Frontotemporal Dementia.
- Anxiety in Alzheimer Disease was most often associated with severe cognitive deterioration and early age of onset

Vascular Dementia

- The patterns are different in Vascular Dementia, compared with Alzheimer Disease .
- The rates of anxiety and depression in Vascular Dementia were nearly double that of in Alzheimer Disease, and that depression in Vascular Dementia was more likely to persist.



Dementia With Lewy Bodies

Photo Credit to internet

- Psychiatric symptoms are part of the core diagnostic criteria.
- Hallucinations are very common, with visual hallucinations occurring in up to 77% of patients.
- Delusions are also quite common, with a reported prevalence of 46%.
- Recurrent visual hallucinations are present early in the course

Frontotemporal Dementia

- Behavioural disturbance is more common
- Patients tend to have more apathy, behavioral dyscontrol, aberrant motor behavior, eating disorders, and sleep disturbances than Alzheimer Disease .
- Apathy can be twice as common in Fronto-temporal as in Alzheimer Disease or mixed dementia.
- Executive dysfunction, poor self-care, and restlessness showed a significant effect of disease severity only, with the more impaired patients scoring more highly.

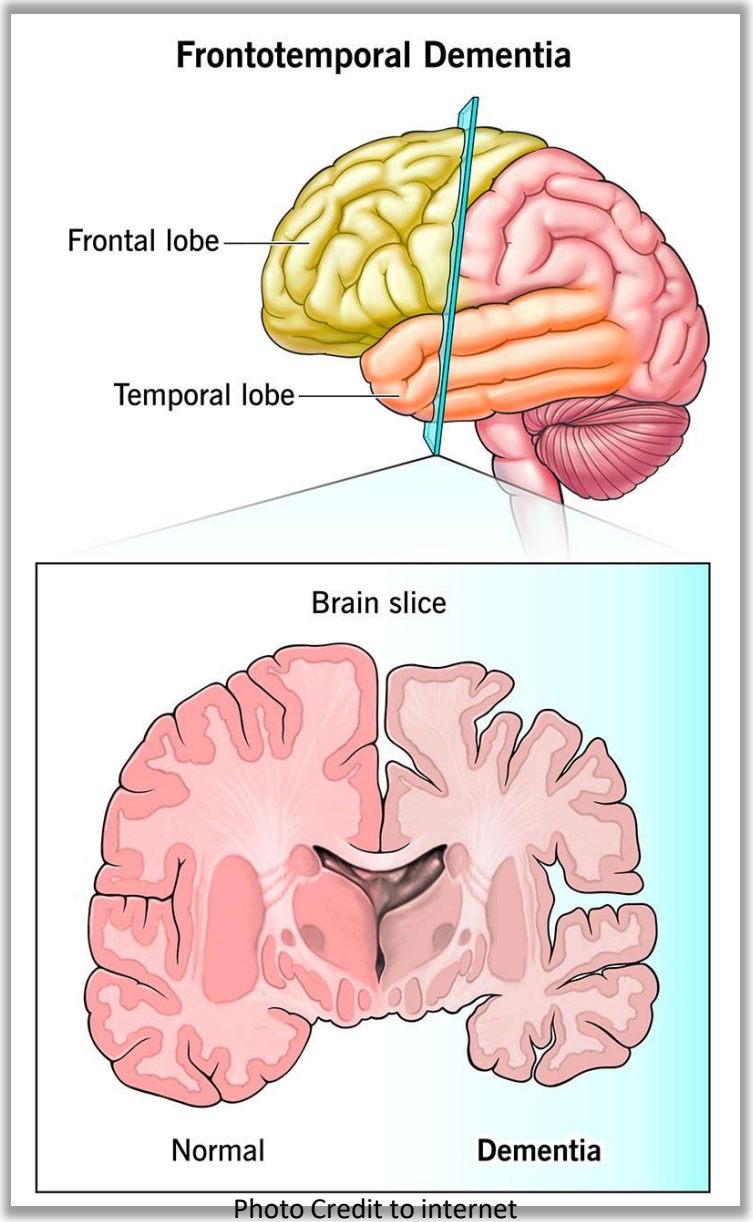


Photo Credit to internet

Case

Photo Credit to internet

- 78-year-old female with history of dementia diagnosed about a year ago with gradual decline of her cognitive status.
- Patient currently lives at her home. She is independent of her ADLs.
- However she needs help with her medications, finances and transportation.
- Last year, patient forgot to pay several of her bills and her daughter started helping her with her finances.
- She stopped driving few months ago since she was involved in an accident and injured her knee.

- The daughter recently hired a caregiver to help with her chores at home.
- The daughter fills her pill box every week and she takes her medications by herself.
- Her medical problems are significant for Hypertensive nephropathy, DM and osteoarthritis.
- She is usually calm and pleasant and an overall amiable personality as per the daughter.
- She has notable cognitive deficits most importantly difficulty with naming objects, remembering recent events and misplacing her items.

- A week later, patient becomes increasingly irritable and angry and also more confused.
- She accused the caregiver for stealing her things and bringing other people in the house.
- When the caregiver confronted her, she yelled at the caregiver “you are trying to kill me and I have to save myself” and hit the caregiver.
- Given her behaviors, she was sent to the Emergency .

What's the problem of the patient?

Behavioral and psychological symptoms of dementia (BPSD)

Behavioral and Psychological Symptoms of Dementia (BPSD)

Psychopathological features

- Depression
- Apathy
- Anxiety
- Panic
- Delusions – mostly persecutory
- Hallucinations – visual, auditory, tactile

Disturbances in Motor Function

- Agitation
- Wandering
- Repetitive purposeless behaviors
- Disinhibited behaviors
- Physical aggression
- Verbal aggression

Circadian Rhythm changes

- Insomnia
- Hypersomnia
- Sleep wake cycle reversal
- REM sleep behavior disorders
- Fragmented sleep
- Daytime napping and awakenings at night

Appetite and Eating Behavior

- Anorexia
- Hyperphagia
- Preference for sweets

Causes of BPSD

Sensory Impairment

Impair sense of isolation

Misperception of the environment Hearing aids, visual aids can be useful

Unmet Needs

Thirst, Hunger

Psychiatric Illness

Co-occuring anxiety and depression

Concomitant Psychiatric illness – Psychosis/affective disorders

Medical Illness

Any infection (eg UTI, pneumonia), Pain, Recent stroke, Metabolic

Behavioral Symptoms

Environmental Factors

Understimulation or overstimulation

Loud noises – buzzers, TV, radio

Excessive lighting, glare

Social Factors

Loss of meaningful relationships

Medications

Psychotropic medications – Antipsychotics, benzodiazepines, Antidepressants (TCA)

Other medications with anticholinergic properties Confusion, sedation, falls, akithisia, Constipation, Urinary retention

Management

Assessment

- Careful psychiatric evaluation and history – critical
- Important to delineate actual features and specifics of behavior
- Psychiatric symptoms without prior history of psychiatric illness in elderly is rarely from primary psychiatric disorders

- Caregivers should be prompted to describe what they are seeing,
  - rather than using generic terms such as “agitation” or “depression”, which can have different meanings to different observers

Photo Credit to internet

- Onset (acute, sub-acute, or chronic/progressive):
  - Acute onset of disruptive behavior – usually suggestive of medical etiology
  - Slower, insidious onset – response to a change in caregiver, routine or environment

- Temporal relationship - e.g., moving from home to nursing facility, or symptoms might worsen in the evenings following family visits, or when providing personal care

- Severity and nature of the symptoms – endangering themselves or others with aggressive behaviors
- Assessment of safety:
  - Has the patient been aggressive toward others, and if so, has this caused injury?
  - Have they caused damage to property?
  - Are they risking their health or safety by refusing basic hygiene, food, or fluids?

- Assess for any unmet needs: thirst, hunger, limited social contact.
- Evaluate for any physical discomfort: inadequate pain control, full bladder, constipation, shortness of breath.
- Evaluate for any possible infections: UTI (most common), Pneumonia, other infections.

Review Medications

- Any changes in medications preceding the onset or worsening of psychiatric symptoms
- Antispasmodics and histamine antagonists on cognition and behavior, antibiotics (especially trimethoprim-sulfamethoxazole and fluoroquinolones and penicillins and most cephalosporins {excluding ceftriaxone} , antidepressants, benzodiazepines, digoxin, levetiracetam, and muscle relaxants can contribute to both agitation and apathy.
- Medication withdrawal, especially from antidepressants, benzodiazepines, or opioids.

Management

Pharmacological Management of BPSD

Why Important?

- First line
- No FDA approved medication to control behavioral symptoms in dementia
- Most commonly used medications - antipsychotics and/or benzodiazepines – both class with significant side effects.
- Not used unless clear indication that benefits outweigh the risks
- Side effects are inevitable with medications

Non Pharmacological Interventions

Behavior Management Techniques

Cognitive/Emotion oriented Interventions
- Reminiscence therapy
- Simulated presence therapy
- Validation therapy

Psychosocial interventions
Animal assisted therapy and exercise

Sensory stimulation interventions
- Acupuncture
- Aromatherapy
- Light therapy
- Massage/touch therapy
- Music therapy
- Multisensory stimulation

Non Pharmacological Interventions

Cognitive/Emotion oriented Interventions

- **Reminiscence therapy**
  - •Using to recount pleasurable experiences in their past via conversation, photographs or music
- **Simulated presence therapy**
  - •Playing tape recordings of patient's caregiver
  - •Found to reduce anxiety and challenging behavior
- **Validation therapy**
  - •Focuses on responding to the emotion rather than the content what patient says

Caregiver training

- Typically focuses on understanding behavioral disturbances as responses to discomfort, unmet needs, or attempts to communicate
- Creating soothing environments with optimal levels of stimulation; and
- Responding to patients in ways that de-escalate problematic behaviors (e.g., distraction, giving patients clear instructions and simple choices, not rewarding the behaviors)

Pharmacotherapy

- Antipsychotic medications when non-pharmacological interventions are ineffective or in cases of behaviors that are dangerous to the patient or others
- Medications should be given an adequate trial of at least four weeks at the maximum recommended dose before concluding they are ineffective.
- To avoid prematurely abandoning a potentially effective strategy, educating and supporting caregivers is a vital component of this process.

Antipsychotics:

- Second-generation antipsychotics (risperidone, olanzapine, quetiapine, and aripiprazole) - for agitation and aggression
- Adverse effects include extrapyramidal symptoms, cerebrovascular events, somnolence, urinary tract symptoms
- Olanzapine should generally be avoided due to its anticholinergic effects and lower benefit overall
- Aripiprazole should be started 2 mg daily, olanzapine 2.5 mg daily; quetiapine 12.5 mg twice daily ; and risperidone 0.25 mg twice daily, small increments every two weeks

Selective serotonin reuptake inhibitors (SSRIs):

- Citalopram should be started at 10 mg daily and sertraline at 25 mg daily.
- Patients should be followed up two to three weeks later for response and tolerability.
- If there is no benefit but also no adverse effects, citalopram dosing should increased
- The maximum dose of citalopram is 20 mg daily and of sertraline is 200 mg daily

Apathy

- Methylphenidate
- The response usually occurs within several days

Empiric treatment of pain:

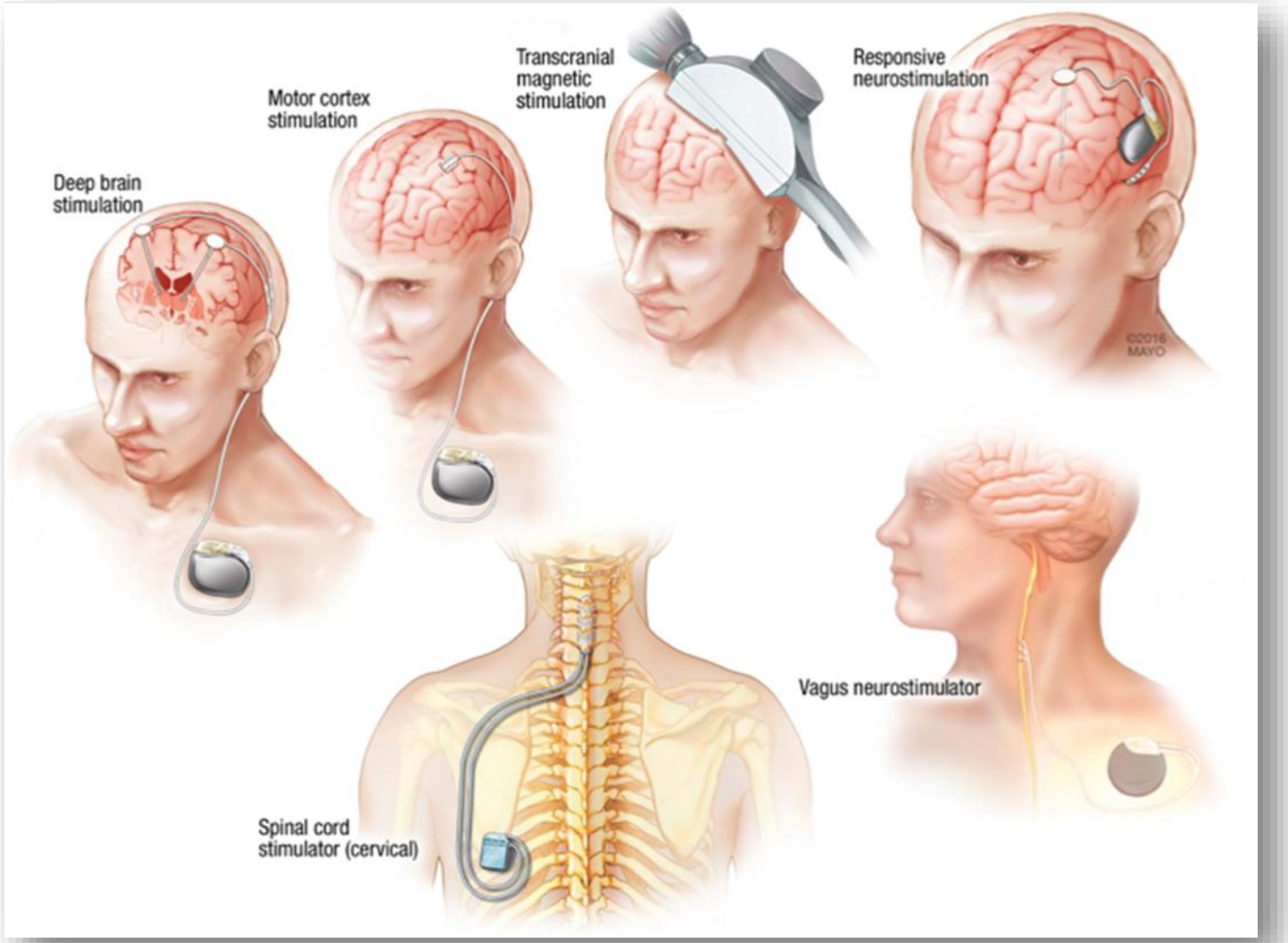
- Painful conditions are present in at least 49% of patients with dementia, but only 20 to 40% of patients with dementia receive analgesics
- Acetaminophen (3 g daily) if they were not receiving analgesics.
- If insufficient, stepped up to low-dose morphine (up to 20 mg daily), buprenorphine transdermal patch (up to 10 mcg hourly), or pregabalin (up to 300 mg daily).

- Topical therapies such as transdermal lidocaine, diclofenac gel, or methyl salicylate cream are effective for localized pain
- Duloxetine, gabapentin, or pregabalin for neuropathic pain
- Clinicians should generally avoid using muscle relaxants, chronic NSAIDs, and tricyclic antidepressants.
- Transdermal buprenorphine may be safe

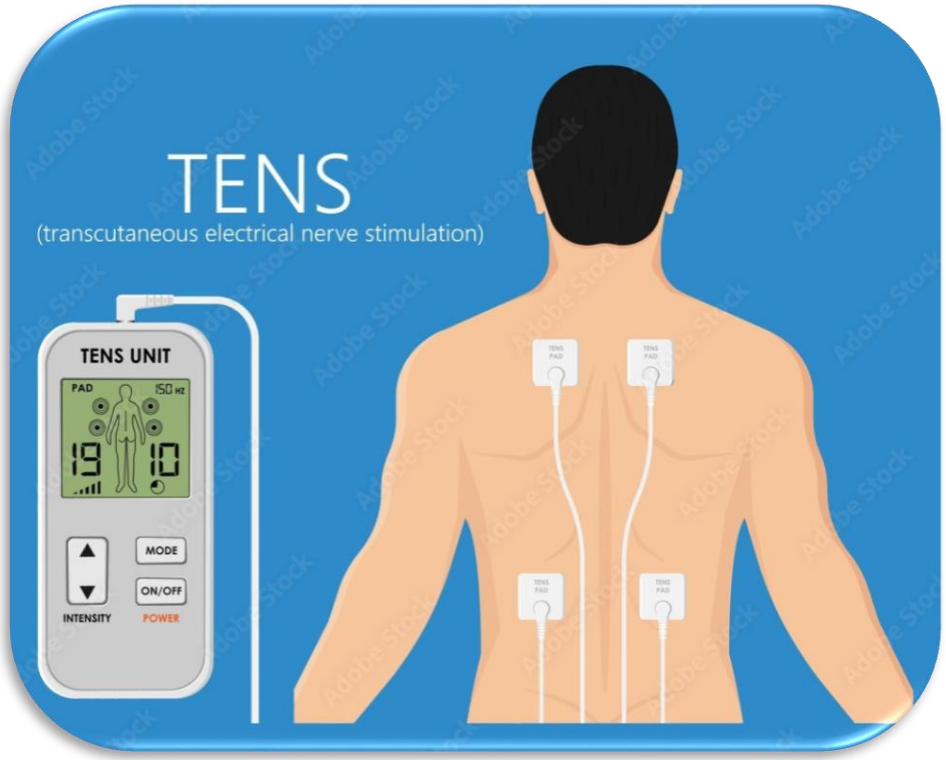
Treatment-Refractory Patients

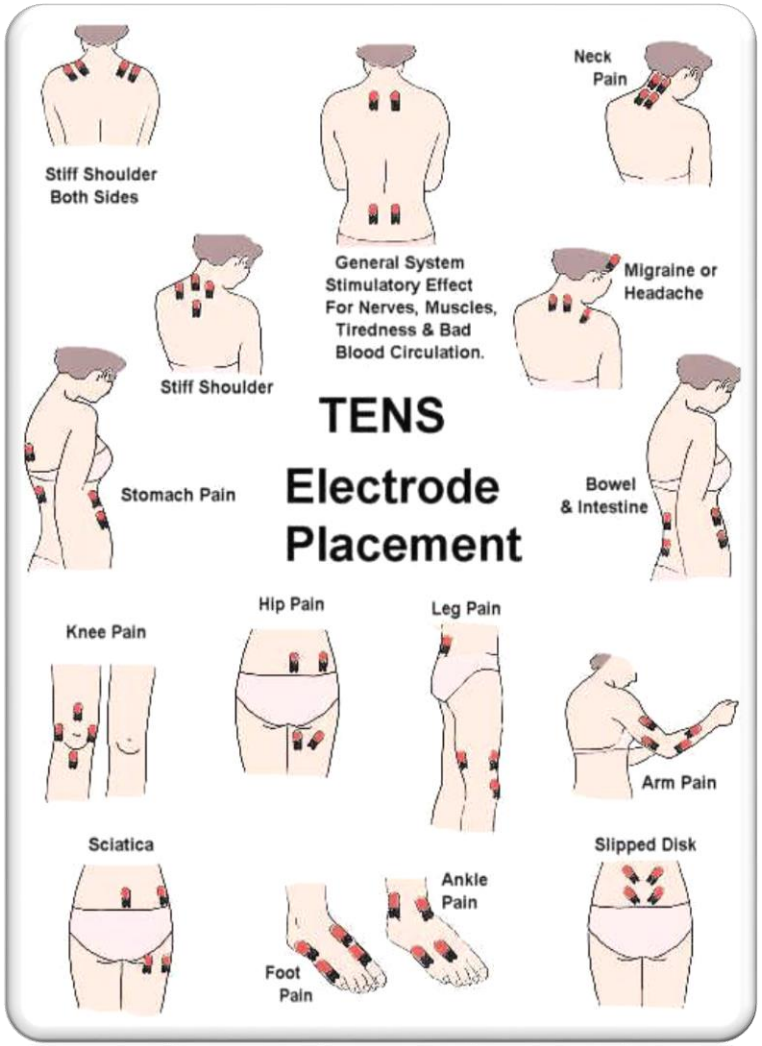
- Neurostimulation therapies may have a role in refractory patients
- Electroconvulsive therapy is highly effective and safe for geriatric depression and has also shown effectiveness and tolerability for both depression and agitation/aggression in patients with dementia

Neurostimulation Therapy

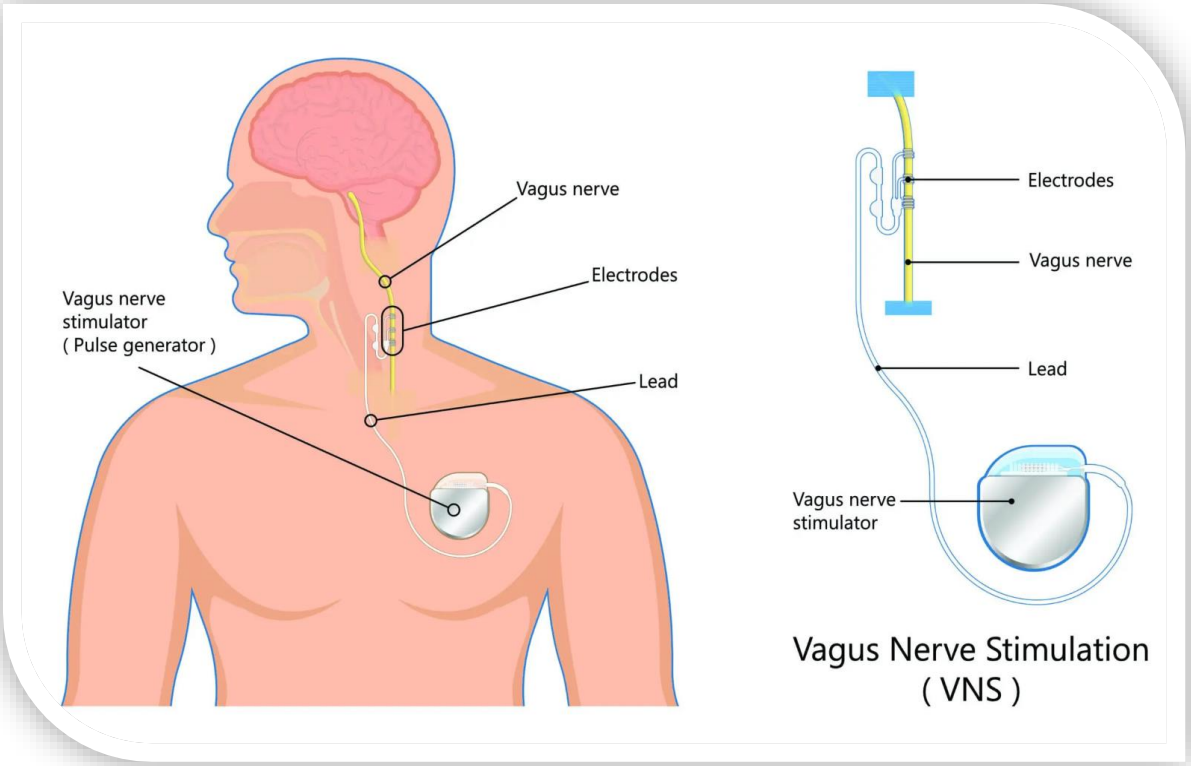


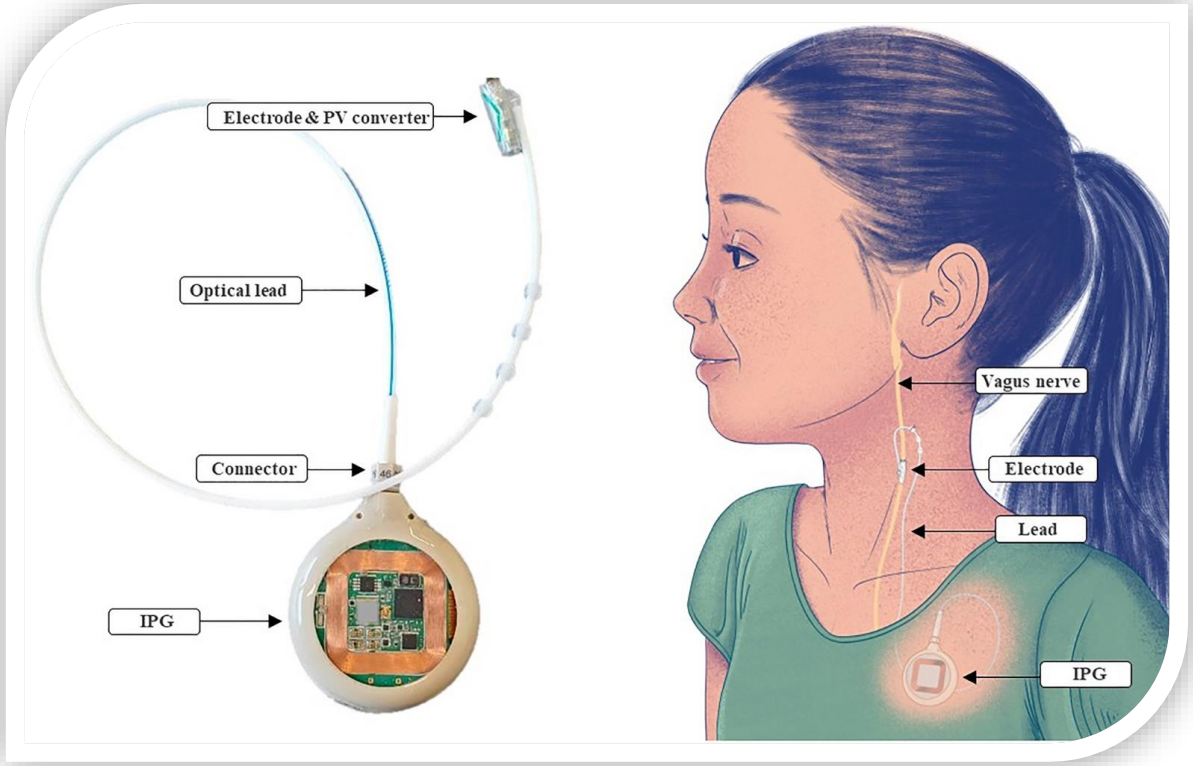
Transcutaneous Electrical Nerve Stimulation





Vagus Nerve Stimulation



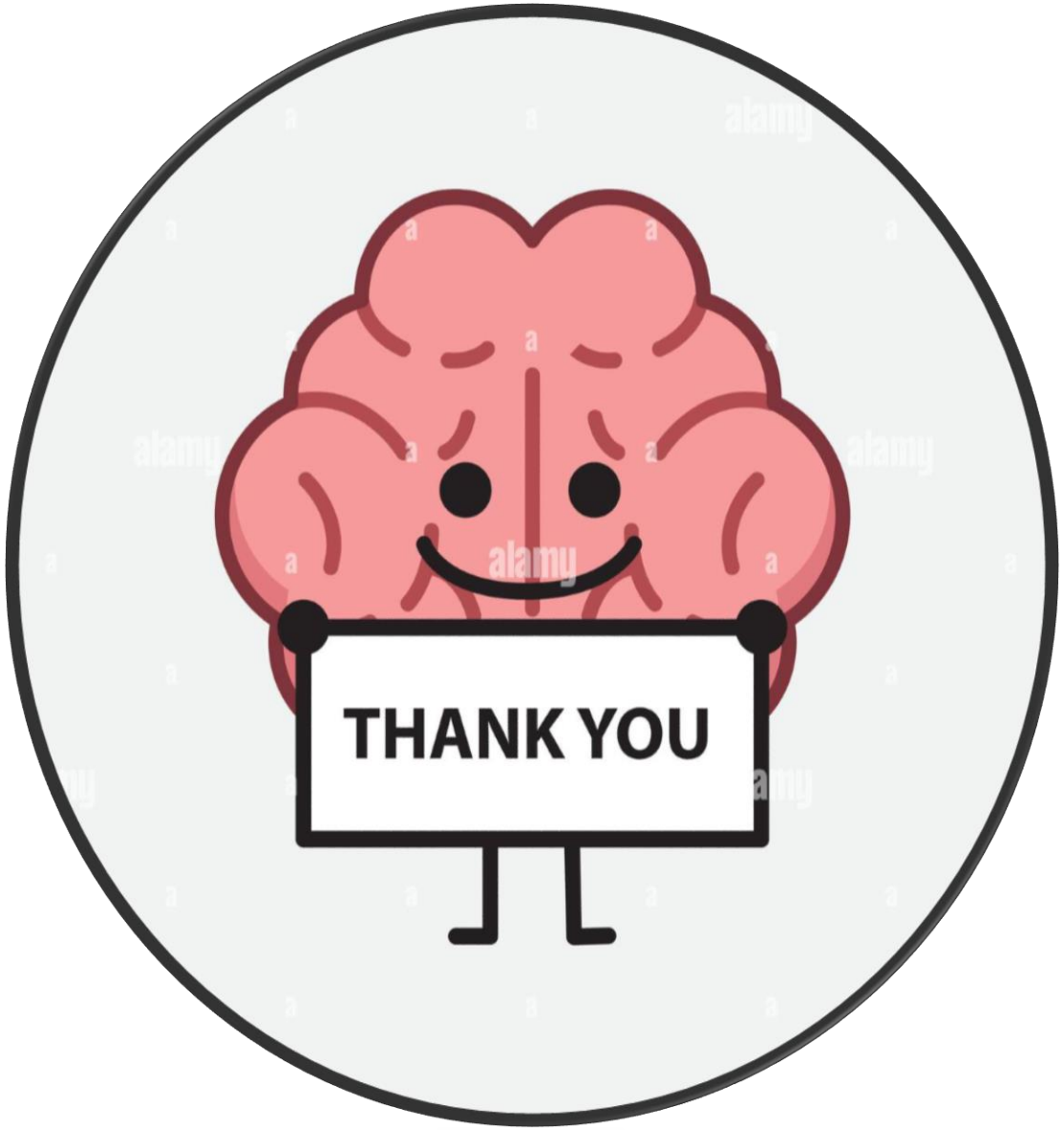


- Effective management of BPSD requires a coordinated interprofessional health care team
- Nurses and nursing assistants - identifying, quantifying, and monitoring BPSD in hospitals and long-term care facilities, where they are usually the first to notice
- Physical, occupational, and recreational therapists - identifying and removing sources of danger, assisting with family caregiver education, and providing non-pharmacological interventions

- Social workers - support family caregivers and connect them with resources such as caregiver education, respite, and permanent placement.
- Clinical psychologists - create behavioral plans that integrate non-pharmacological interventions with measures to avoid inadvertently reinforcing undesirable behaviors.

Photo Credit to internet

- Pharmacists - assist in identifying medications or drug interactions and verifying dosing regimens.
- Physicians, nurse practitioners, and physician assistants - perform medical evaluations, initiate and monitor pharmacotherapy, and oversee the interprofessional treatment plan.
- With open collaboration and communication among all members of the interprofessional healthcare team, the management of BPSD will be more effective and result in better patient outcomes


THANK YOU