



# PSYCHIATRY

## Introduction to neuropsychiatric disorders



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# Definitions :

**Cognition :** ▪ That operation of the mind process by which we become aware of objects of thought and perception, including all aspects of perceiving, thinking, and remembering.\*

- it includes memory, language, orientation, judgment, conducting interpersonal relationships, performing actions (praxis), and problem solving.

**Cognitive disorders :** ▪ are a part of the neurocognitive disorder a category of mental health disorders that primarily affect **learning**, **memory**, **perception**, and **problem solving**.

Cognitive disorders are characterized by syndromes of **delirium**, **dementia**, and **amnesia**.

- Cognitive disorders exemplify the complex interface between **neurology**, **medicine**, and **psychiatry** in that medical or neurological conditions often lead to cognitive disorders that, in turn, are associated with **behavioral symptoms**.

\*source : dorland's pocket medical dictionary 29<sup>th</sup> edition.



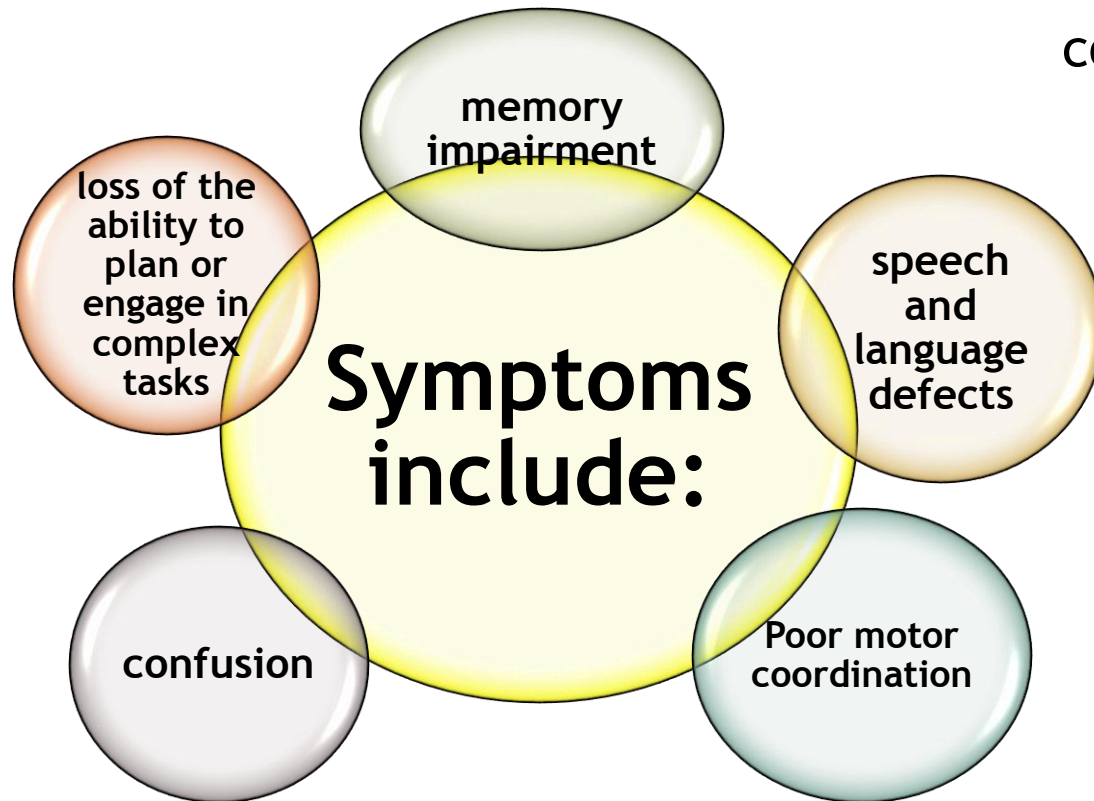
# Definitions continued :

All of them are caused by :

medical conditions

substances(drugs)

or a combination of the two.





# Delirium

- a serious mental disturbance of relatively short duration usually reflecting a toxic state, marked by illusions, hallucinations, delusions, excitement, restlessness, impaired memory and incoherence\*.
- There are four subcategories based on several causes:

general medical condition (e.g., infection).

substance induced (e.g., cocaine, opioids, phencyclidine [PCP]).

multiple causes (e.g., head trauma and kidney disease).

delirium not otherwise specified (e.g., sleep deprivation).

\*source : dorland's pocket medical dictionary 29<sup>th</sup> edition.

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# Diagnostic features :

**Disturbance of consciousness:** individuals have reduced clarity of awareness of the environment. Their ability to focus, sustain or shift attention is impaired.

- **Impaired cognition :** disturbance of memory, disoriented to time and place, speech problems, agnosia, and normal stimuli is misinterpreted.
- Short and fluctuating course.
- Caused by disease or drug.

## Associated features and diagnosis:

- Circadian rhythm disturbance.
- Psychomotor disturbances.
- Emotional disturbances.
- Abnormal EEG.





# Epidemiology

- 10 % of all hospitalized patients.
- Older adults are most susceptible to delirium .(Studies have shown that up to 30% to 40% of older patients have delirium at some point during hospitalization). The percentage is the same for HIV patients during hospitalization.
- Children are also more susceptible than normal adults.
- Patients with history of delirium or brain injury are more likely to have an episode of delirium than the general population.

# Etiology

- Delirium most often results from a multitude of interferences with brain function.
- Disturbance of the reticular formation and acetyl-choline transmission are thought to be involved in the etiology, Noradrenergic hyperactivity has been associated with alcohol withdrawal delirium.
- Major causes can be divided into :
  - a) **General medical conditions**
    - systemic disease (fever ,hypertension ,diabetes .immune diseases eg: MS ,SLE ).
    - CNS (epilepsy ,brain abscess , hydrocephalies, meningitis , encephalitis ).
  - b) **Substance induced delirium is either associated with intoxication or withdrawal from drugs.**
    - either intoxication with or Withdrawal from prescribed medications .a
    - or drug of abuse.( benzodiazepines ).



# Treatment

- **Diagnosis and treatment of the underlying cause.**



# Dementia

- Is marked by severe impairment in memory, judgment, orientation, and cognition. It is characterized by severe multiple cognitive deficits, including **memory loss**.  
(Though memory loss generally occurs in dementia, memory loss alone doesn't mean you have dementia.)
- The major defects involve **orientation, memory, perception, intellectual functioning, and reasoning**.  
Consciousness **IS NOT** impaired  
The defects represent a change from baseline and interfere with functioning.
- Marked changes in **personality**, affect, and may be associated with **behavioral** problems.  
Dementias are commonly accompanied by **hallucinations (20-30%)**, and **delusions (30-40%)**. Symptoms of **depression and anxiety** are present in **40-50%** of patients with dementia.

**IMPORTANT NOTE: Dementia IS NOT a part of normal aging process, though old age is a risk factor.**



Early Signs of Dementia	Normal Aging
Forgetting the names of people close to them	Forgetting the names of people they rarely see
Forgetting things more often than they used to	Briefly forgetting part of an experience
Repeating phrases or stories in the same conversation	Not putting things away properly
Unpredictable mood changes	Mood changes in response to an appropriate cause
Decreased interest in activities & difficulty making choices	Changes in their interests



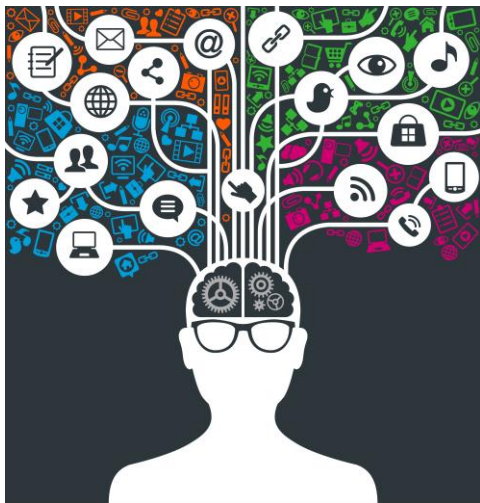


# Epidemiology:

A syndrome of the elderly, 5% of Americans over the age of 65 have sever dementia, and 15% have mild dementia.

**Increasing age** is the most important **risk factor**.

15% of dementia cases are reversible.



# Etiology:

Most common cause is **Alzheimer's disease (50-60%)** followed by **vascular disease**.

Other common causes include **head trauma** , **alcohol** , **movement disorders** (such as Huntington's disease and parkinsonism) and HIV infection.



## Diagnosis:

- 1 **Dementia of the Alzheimer's type**, which usually occurs in persons over 65 years of age and is manifested by **progressive intellectual disorientation and dementia, delusions, or depression**
- 2 **Vascular dementia**, caused by **vessel thrombosis or hemorrhage**
- 3 **Other medical conditions** (e.g. human immunodeficiency virus [HIV] disease, **head trauma, Pick's disease, Creutzfeldt-Jakob disease**, which is caused by a slow-growing transmittable virus)
- 4 **Substance induced**, caused by toxin or medication (e.g., gasoline fumes, atropine)
- 5 **Multiple etiologies**
- 6 **Not otherwise specified** (if cause is unknown).

## Management:

- 1 Potentially reversible causes for the dementia  
(**hypothyroidism, CNS syphilis, subdural hematoma, vit B12 deficiency, uremia, hypoxia**).
- 2 Identify other **treatable medical conditions** that may worsen the dementia.
- 3 **Supportive measures**.
- 4 Ensure **proper treatment** of any underlying medical problems or associated disruptive symptoms.
- 5 Maintain proper **nutrition, exercise, and daily activities**.
- 6 Provide an environment with frequent cues for orientation to day, date, place, and time.
- 7 As functioning decreases, **nursing home placement** may be necessary



Dementia may be:

- ① progressive
- ② remitting
- ③ stable.

In reversible causes of dementia the course depends on how quickly the cause is reversed.

For Dementia of Alzheimer's type the course is likely to be one of slow deterioration.

## Difference between Dementia and Delirium :

Dementia:

- History of **Chronic disease**.
- **Insidious** onset
- Duration **months-years**.
- **Progressive** course, majority **irreversible**.
- level of consciousness **Normal** early on.
- **Normal** level of arousal.
- Usually in **nursing homes** and psychiatric hospitals.

Delirium:

- History of **Acute** disease.
- **Rapid** onset.
- Duration **days-weeks**.
- **Fluctuating** course, often **reversible**
- **Fluctuating** level of consciousness.
- **Agitation** or stupor, in medical, surgical and neurological words.



# Amnestic Disorders

Amnestic Disorder **Impaired recent short term and long term memory attributed to a specific organic cause** (drug or medical disease) patient is normal in other areas of cognition.



## Diagnosis:



- The development of **memory impairment** as manifested by impairment in the ability to **learn new information** or the inability to **recall previously learned information**.
- The **memory impairment** cause significant impairment in social or occupational functioning.
- The **memory impairment** dose not occur during the course of a delirium or dementia.
- The disturbance is due to **general medical condition or substance**.



## Etiology :

- Amnestic Disorder: is marked by memory impairment and forgetfulness.

The three subcategories are:

- ① caused by medical condition (hypoxia)
- ② caused by toxin or medication (e.g., marijuana, diazepam) and
- ③ not otherwise specified.

Most common form is caused by **thiamine deficiency** associated with **alcohol dependence**. May also result from **head trauma, tumor, surgery, hypoxia, infraction, seizures and herpes simplex encephalitis**.

Typically any process that damages certain **diencephalic structures** (limbic system, hypothalamus, thalamus) and **temporal structures** (mammillary bodies, fornix, hippocampus) can cause the disorder.



## Management:

- Identify the **cause** and **reverse** it if possible, **otherwise, institute supportive medical procedures.**



# Quiz yourself (MCQs)

1 - The transmitter that is affected in a DELIRIUM patient is ?

- a) ACH.
- b) NE.
- c) Dopamine.

2 - The most common cause of DEMINTIA is ?

- a) Alzheimer's disease.
- b) Vascular disease.
- c) Huntington's disease.

3 - DELIRIUM involves dysfunction in ?

- a) Basal ganglia.
- b) Reticular formation.
- c) Red nucleus.

4 - Loss of the memory of recent events due to a specific organic cause is ?

- a) Delirium.
- b) Dementia.
- c) Amnestic disease.



# Quiz yourself (SAQ)

1 - A 76 y.o. woman was admitted to the hospital after she was found lying on the floor of her bed room , in the hospital she was incoherent and hypervigilant and had disorganized thoughts . Recently the patient had been complaining of insomnia and she was on benzodiazepine before hospitalization.

**Diagnosis : Delirium 2ndry to substance intoxication .**

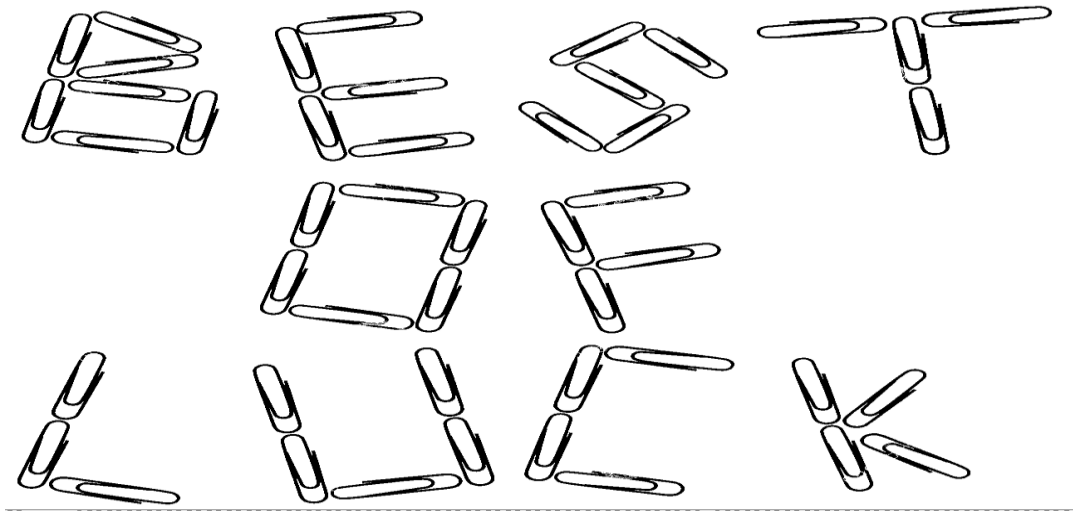
2 - Dementia caused by depression is called ?

**Pseudodementia.**

3- The difference between hallucinations and illusions is ?

**Hallucinations:** are perceptions of false stimuli that don't exist .

**Illusions:** are false perceptions (miss interception) of real stimuli that do exist .



[helpful video](#)



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