

Sleep Disorders

Made by

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What is sleep?

	Sleep	coma
1-Spontaneous or induced:	spontaneous	induced
2-Physiological or pathological:	physiological	pathological
3-Brain activities:	Active than awake	Diminished
4-Perception:	Decreased but it is selective.	Lost
5-Recovery:	Spontaneous or induced	Guarded according to cause.
6-Recurrence:	periodic	Not recurrent
7-EEG :	stages	Slowing

Stages of sleep:

	NREM	REM
1-Other name:	<ul style="list-style-type: none"> Orthodox – sleep, Quiet sleep, Synchronized or phasic sleep. نوم تقليدي 	<ul style="list-style-type: none"> Paradoxical (unexpected) Active sleep, Dyschronized (out of phase)
2-Physiological function of body:	decreased	increased
3-Muscle tone:	Not lost	atonia
4-Percent:	75 – 80%	20- 25%
5-Benign erection in men:	Not occur	present
6-EEG changes:	<ul style="list-style-type: none"> Stage I: Stage II: Stage III: Stage IV 	<ul style="list-style-type: none"> Saw tooth appearance
7-EOG:	<ul style="list-style-type: none"> Slow 	<ul style="list-style-type: none"> Rapid
8-EMG:	<ul style="list-style-type: none"> Less active 	<ul style="list-style-type: none"> Atonia.

Functions of sleep

Physiological function:	Psychological function:
1-Restoration after fatigue:	Ego integrity: <ul style="list-style-type: none">▪ Through dream
2- Homeostasis: <ul style="list-style-type: none">▪ Protein synthesis:▪ Neuroendocrinal function as GH & gernalin▪ Immunology:	
3- Cognitive function: Memory consolidation during sleep	

Classification of sleep disorders

Based on the DSM-5 diagnostic manual, sleep disorders can be classified into:

A. Dyssomnia

B. Parasomnia

C. Sleep disorder related to another mental disorder

D. Other sleep disorders.

A- Dyssomnia

Is defined as a disorder of the quantity
or timing of sleep.

Classifications of Dyssomnia

Dyssomnia include the following sleep disorders:

1-Primary insomnia

2-Primary hypersomnia

3-Narcolepsy

4-Circadian rhythm sleep disorder

5-Breathing related sleep disorder

6- Dyssomnia not otherwise specified.

Insomnia

Def.

Insomnia is diagnosed when the main problem lies with difficulty in initiating or maintaining sleep.

Epidemiology

Affect at least 30% of the general population
women being more affected as compared to men.

DSM-5 diagnostic criteria of insomnia

1-The DSM-5 diagnostic criteria state that there must be sleep difficulties for at least 3 nights per week, for the past 3 month.

These sleep difficulties include

- a. Difficulties associated with initiation of sleep
- b. Difficulties with maintaining sleep
- c. Early morning awakening and inability to return back to sleep

2-The sleep disturbances must have resulted in marked impairments in terms of functioning.

3-The DSM-5 specified that the sleep difficulties must have occurred despite there being adequate opportunities for rest.

Etiology of insomnia

- 1. Intrinsic causes:** idiopathic or primary insomnia, sleep apnoea syndrome, periodic limb movement disorder and restless leg syndrome
- 2. Extrinsic causes:** Poor sleep hygiene, sleep disorders due to environmental, adjustment, altitude, and substance-related issues.
- 3. Circadian rhythm disorders**
- 4. Medical disorders:** chronic pain, pulmonary diseases (e.g. COPD), neurological disorders (e.g. Parkinson's disease), endocrine disorders, iron deficiency (restless leg syndrome and sleep apnoea).
- 5. Psychiatric disorders:** generalized anxiety disorder, depression, bipolar affective disorder, chronic pain disorders, posttraumatic stress disorder, anorexia nervosa, somatoform disorder and schizophrenia.

Treatment of insomnia

1. Non-pharmacological treatment:

(a) Sleep education

(b) Sleep hygiene

(c) CBT

2. Pharmacological treatment:

Mirtazapine , Agomelatine Zopiclone, Zolpidem and
Benzodiazepine

Hypersomnia

Def.

Individuals suffering from hypersomnia tend to present with recurrent sleep attacks during the day and excessive sleep.

DSM-5 diagnostic criteria of hypersomnia

1-The DSM-5 diagnostic criteria state that there must be excessive sleepiness that have occurred at least 3 times per week, for at least 3 months. The excessive sleepiness is characterized by:

- a. Recurrent periods of sleep or lapses back to sleep even within the same day
- b. Prolonged sleep episode of more than 9 hours that is not restorative
- c. Difficulties associated with being fully awake after abrupt awakening.

2-The sleep disturbances must have resulted in marked impairments in terms of functioning.

Etiology of hypersomnia

- Drug effects e.g. long acting benzodiazepine
- Poor sleep routines e.g. playing online game whole night
- Circadian rhythm sleep disorders
- Chronic physical illness
- Frequent parasomnia
- Insufficient night time rest
- Kleine-Levin Syndrome
- Narcolepsy
- Obstructive sleep apnoea (the most common cause of secondary hypersomnia)
- Psychiatric disorders e.g. melancholic depression

Narcolepsy

Clinical features of Narcolepsy

Sudden attacks of sleep and:

- 1- Cataplexy (which is the sudden and brief episode of paralysis with loss of muscular tone)
- 2- Excessive sleepiness
- 3- Hypnagogic hallucinations (hallucination when falling asleep; hypnopompic (waking up) hallucinations: less common)
- 4- Sleep paralysis

Treatment of hypersomnia

1-Non-pharmacological treatment: Encourage patients to adopt a regimen of regular naps in the day time.

2-Pharmacological treatment:

Modanfinil and SSRIs (e.g. fluoxetine) have also been used to help reduce cataplexy.

Circadian rhythm sleep disorder

Def

In this condition, the patient's sleep wake schedule is different from the normative sleep wake pattern of other people in the society.

Types of circadian rhythm sleep disorder

Types

1. Advanced sleep phase syndrome – early onset of sleep

with resultant early morning awakening.

2. Delayed sleep phase syndrome – delayed onset of sleep,

usually at 2am. It should be noted that the total number of sleep time is still

normal.

Aetiology of circadian rhythm sleep disorder

1. Time zone changes
2. Shift work (e.g. security guard)
3. Irregular sleep wake pattern

Treatment of circadian rhythm sleep disorder

1. Sleep education

2. Medications

- a. Agomelatine or melatonin to reset circadian rhythm.
- b. Hypnotics, such as short acting benzodiazepines.

B-Parasomnia

Def

is defined as abnormal behaviours that occur during sleep or during the transition between sleep and wakefulness.

classifications

1. Sleep-terrors ,sleep walking and sleep talking
2. Parasomnia associated with REM sleep such as nightmares and sleep paralysis
3. Sleep-related movement disorder such as nocturnal leg cramps, and rhythmic movement disorder.
4. Other parasomnia includes sleep bruxism, sleep enuresis and also other parasomnia not otherwise stated.

Sleep-walking

Epidemiology

1. This condition is prevalent amongst children and adults.
2. Up to 17% of children are affected, with incidences higher amongst those between 4 to 8 years old.
3. Up to 10% of adults are affected as well.

Sleep-walking Clinical features

1. The patient may exhibit complex and automatic behaviours (e.g. wandering without purpose, attempting to dress or undress).
2. These episodes tend to occur in the initial stages of sleep, usually 15-120 minutes after individuals fall asleep.
3. Individuals are usually able to get back to bed and continue on with their sleep after the event has taken place.
4. They usually do not recall the exact incidents that happen. If they become awake during episode, they appear to be disorientated and confused.

Sleep-walking Treatment

1. Supportive therapy, sleep hygiene, psychoeducation and reassurance are useful.
2. Protective measures such as locking doors and windows or installation of metal bars or frames at window to prevent individuals from accidents (e.g. fall from height).
3. Antidepressants such as imipramine and paroxetine are useful.

Sleep terrors or night terrors

Epidemiology:

Sleep terrors affect an estimated 3% of children and 1% of adults. It is more common in the male gender.

Clinical features:

1. Characterized as the sudden waking up during sleep with loud terrified screaming.
2. Other physiological changes include tachycardia, diaphoresis and mydriasis.
3. Each episode is estimated to last for around 10-15 minutes.
4. Similar to sleep-walking, if the individual is awakened during sleep terror, he or she would be confused and disorientated.
5. The patient is usually unable to recollect in events in details.

Sleep terrors or night terrors

Management:

Supportive therapy

sleep hygiene

psychoeducation

reassurance are useful.

Nightmares

Def

A nightmare is defined as an awakening from REM sleep to full consciousness with detailed dream recall ability.

Epidemiology:

It is common especially among children, between the ages of 5 to 6 years old.

Management:

No specific treatment is usually required for such disorders. Agents that help to suppress REM sleep, such as tricyclic drugs and SSRIs can be used.

Tools in sleep disorders

1-Polysomnography

Polysomnography is the continuous recording of the biophysiological changes that occur during sleep.

2-Multiple Sleep Latency Test

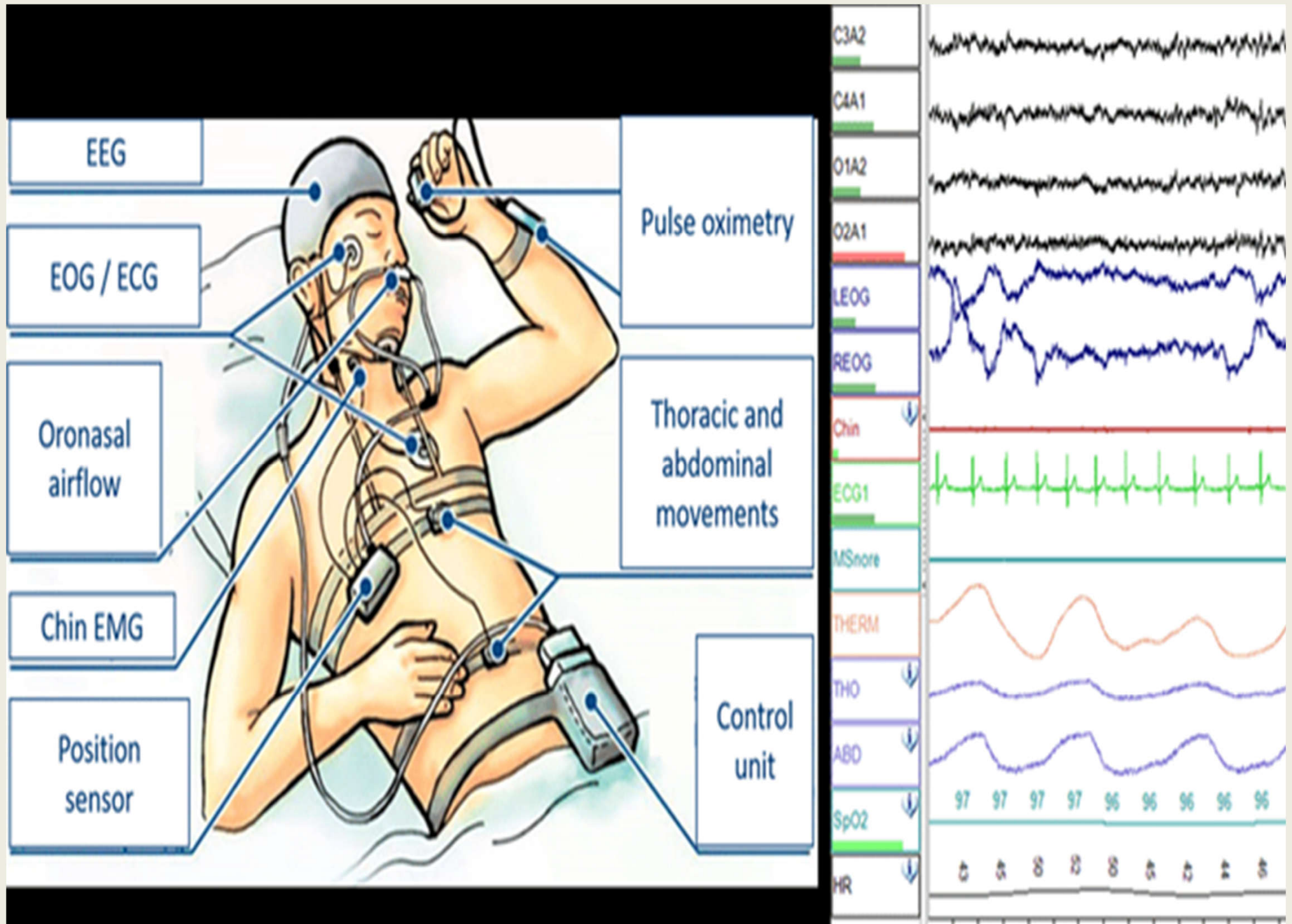
The multiple sleep latency test (MSLT) is indicated for diagnosing narcolepsy.

3-An actigraphy

is a device that measures and records movement.

4-Psychometry

Polysomnography



Thank you