

Sleep Disorders Mimicking Epileptic Seizures



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Seizure

- Characteristics
 - Episodic, paroxysmal
 - Abnormal behavior, altered levels of consciousness
- Conditions that mimics seizures
 - Syncope, movement disorders, pseudoseizures
 - **sleep disorders...**

Sleep disorders mimicking epileptic seizures

- Rhythmic movement disorders
 - nocturnal head banging, body rocking, and head rolling
- Parasomnia
 - Sleep walking, night terrors, and confusional arousals
 - non-REM sleep arousal disorders are common,
- Sleep starts
 - sudden jerking movement upon falling asleep, often accompanied by a subjective sensation of falling

Cataplexy (Narcolepsy)

- Narcolepsy - paroxysmal attacks of irrepressible daytime sleep which is sometimes associated with transient loss of muscle tone (cataplexy).
- An EEG shows that the recurrent sleep attacks consist of REM sleep.
- cataplexy

Parasomnia

Defines by ICSD-2

=> Undesirable physical events or experiences that occur during entry into sleep, within sleep or during arousals from sleep

Parasomnia

Parasomnia classification of DSM-IV-TR and ICSD-2

ICSD-2		
Disorders of arousal (from NREM sleep)	Parasomnias usually associated with REM sleep	Other parasomnias
DSM-IV-TR • Sleepwalking • Sleep terrors • Confusional arousals	• Nightmare disorder • REM-sleep behavior disorder • Recurrent isolated sleep paralysis	• Parasomnia not otherwise specified/unspecified* • Sleep related dissociative disorders • Sleep enuresis • Sleep related groaning (catathrenia) • Exploding head syndrome • Sleep related hallucinations • Sleep related eating disorder

Common Sleep Related Events

Characteristic	NREM Parasomnias	REM Behavior Disorder	Nocturnal seizures	Psychogenic events
Time of occurrence	First third of night, during NREM sleep	During REM sleep	Anytime	Anytime
Memory of event	Usually none	Dream recall	Usually none	None
Stereotypical movements	No	No	Yes	No
PSG Findings	Arousals from NREM, usually delta sleep	Excessive chin and limb EMG tone during REM sleep	Usually epileptiform activity	Occur from awake or drowsy state

Nocturnal Frontal Lobe Epilepsy vs. NREM Parasomnia

	NFLE	NREM PARASOMNIA
Age at onset (yr ± SD)	14 ± 10 (infancy to adolescence)	<10
Ictal EEG	NREM-N2 Normal ictal EEG 44% Normal interictal EEG 51%	NREM sleep Stage N3 in children
Movement semiology	Violent, Stereotypical	Complex, nonstereotypical
Family history of episodes	39%	62-96%
Episode duration	2 sec-3 min	15 sec-30 min
Clinical course	Increased frequency	Tend to resolve
Triggering factors	None in 78%	Sleep deprivation, alcohol, febrile illness
Episode onset after sleep onset	Any time	First third of night in children

Adapted from Provini F, Plazzi G, Tinuper P, et al: Nocturnal frontal lobe epilepsy. Brain 1999;122:1017-1031.

Non-REM Sleep Arousal Disorders

The following features:

- (1) they usually (but not always) arise from NREM 3 sleep, and therefore occur preferentially in the first 2 hours of the sleep cycle
- (2) they are more common in childhood
- (3) a positive family history, suggesting a genetic component
- (4) These disorders overlap and include as a common feature, a typical duration of a few to 30 minutes

Confusional arousals

- sudden arousal with disorientation, confusion, agitation, and some semipurposeful motor activity
- difficult to arouse, appear confused and disoriented, vocalization with coherent speech is common
- Episodes last a few to several minutes.

Sleep Terrors (Night terrors)

- Common in boys 5-7 yr of age.
- The child screams and appears frightened with dilated pupils, tachycardia, and hyperventilation.
- Little or no verbalization.
- Sleep follows in a few minutes.

