

***Brain rhythms and sleep  
(Paradiso)***

EEG

- sum of signals or individual signals?
- do large/small signals imply sync/desync activity?

- contrast the type of signals seen when active and relaxed in terms of frequency and amplitude

- list the four types of rhythms seen from high to low frequency. Which “state of being” does each correspond to?

EPILEPSY

- sync or desync activity?

- what is the cause in most cases?

- what is used to treat it? What is their mechanism of action (give at least two examples)

## SEIZURES

- two broad categories:  
what distinguishes them?

- generalized tonic-clonic  
seizure

1. define “tonic” and  
“clonic”

2. what happens to  
consciousness?

- partial simple seizures:  
what happens to  
consciousness?

- partial complex seizures:  
1. what often precedes the  
seizure?

2. which lobe is most often  
affected?

3. what happens to  
consciousness?

## SLEEP

- what happens to sleep  
deprived animals? Humans?

- briefly describe fatal  
familial insomnia

- compare and contrast REM and nonREM sleep:  
1. which accounts for most of sleep?  
2. which accounts for most dreaming?  
3. muscle tone/movement?  
4. which nervous system dominates?

- a typical night's sleep:  
1. describe the stages of sleep in order  
2. does the percentage of REM/Slow-wave sleep decrease or increase overnight?

- which area mostly responsible for controlling wakefulness? What happens if you lesion it?

- what happens to ACh, NE, and 5-HT during awake state, slow-wave sleep, and REM sleep?

- briefly describe night terrors, REM sleep disorder, and narcolepsy

***Mental Illness (Stein)***

Is there a stigma on mental illness in this country?

**ANXIETY DISORDERS**

- Name some specific disorders

- What are the symptoms and characteristics?

- What are some treatments? Are they immediate or delayed?

**MOOD DISORDERS**

- Name the two major ones

- What are the symptoms and characteristics?

- What are the causes and contributing factors?

- Name three classes of drugs that can treat major depression. What does each drug do mechanistically?

- Name a drug that can stabilize mood for people with bipolar disorders.

- What is a very effective *second line* of treatment for mood disorders?

## SCHIZOPHRENIA

Compare, contrast, and identify positive and negative symptoms.

What is a test of cognition and working memory that we discussed?

What are some neurological findings found at the onset of this disorder?

What are some causes and contributing factors?	
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