



## Depression: An Overview

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## The Fourth Opinion

A Case Study

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## Question #1

- What were some challenging aspects of this patient's presentation?

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## Depression: What is it?

- Chronic illness requiring long term treatment
- “related to the normal emotions of sadness and bereavement, but it does not remit when the external cause of these emotions dissipates, and it is disproportionate to their cause.”<sup>1</sup>

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## Clinical Diagnosis of Major Depressive Episode

- 5 or more of the following nearly every day for 2 weeks
  - Depressed mood
  - Diminished interest or pleasure in all or nearly all activities
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  - Psychomotor agitation or retardation
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  - Diminished concentration or indecisiveness
  - Thoughts of death, suicidal ideation (with or without a plan)



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## Scope of the Problem

- One of the most common health conditions in the world
  - 4.4% of the total overall disease burden (similar to heart disease and diarrheal illness)<sup>2</sup>
- Prevalence in the United States is 5.4-8.9 percent.<sup>4</sup>
- Lifetime incidence in the United States<sup>1</sup>
  - 12% in men
  - 20% in women

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## Scope of the Problem

- Up to 10% of adults aged 65 and older seen in primary care settings have clinically significant depression. <sup>4</sup>
- 10-30% of persons with major depressive disorder recover incompletely and have persistent symptoms.<sup>4</sup>

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## Question #2

- What percentage of people with depression in the United States receive treatment for the their illness?
  
- Answer: 50%

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## Question #3

- Why do you think that is?
  
- Answer: multifactorial
  - Access to medical care
  - Cost of treatment
  - STIGMA

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## The Stigma

- “stigma” Latin for tattoo indicating slave or criminal status
- Infamy, disgrace, or reproach
- Historically, depression has been viewed as the result of...
  - Flawed character or weakness
  - Demonic possession
  - Bad parenting
- Likely a significant contributor to the fact that many people do not seek treatment

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## The Effect on Co-morbidities

- People with diabetes, epilepsy, or ischemic heart disease with concomitant major depression have poorer outcomes than do those without depression.
- Risk of death from suicide, accidents, heart disease, respiratory disorders and stroke is higher among the depressed
- Effective treatment of depression may reduce mortality or improve the outcome after acute MI or stroke and lower the risk of suicide

Mann, J.J. N Engl J Med 353:17

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## Question #4

- If depression is bad for your heart, is it also bad for your brain? Can depression cause dementia?

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## Elderly & Depression



- Often present with "atypical" symptoms
  - May not endorse depressed mood
  - May be more likely to exhibit
    - Sleep disturbance
    - Cognitive impairment (pseudo-dementia)
      - Attention, concentration, short term memory
    - Loss of function
    - Weight loss/anorexia

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## Post-Partum Depression

- Common problem after pregnancy
  - 13% of pregnant women & new mothers experience depression
- Significant overlap between symptoms caused by normal changes during and after pregnancy with depression symptoms



<http://www.womenshealth.gov/>

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## Post-partum Depression

- May be triggered by rapid hormonal changes after pregnancy
  - Similar to peri-menstrual hormonal changes, but on a much larger scale
  - Estrogen and progesterone levels return to normal 24 hours after childbirth!
  - Thyroid hormone levels may also drop

<http://www.womenshealth.gov/>

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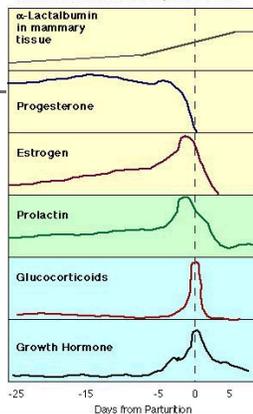
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Changes in concentrations of  $\alpha$ -lactalbumin and hormones associated with lactogenesis in cows.




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## Postpartum Depression

- The following confer ↑ risk
  - Personal history of depression/mental illness
  - Family history of depression/mental illness
  - Poor social/family support
  - Anxiety or negative feelings about pregnancy
  - Problems with previous pregnancy or birth
  - Marriage/financial problems
  - Stressful life events
  - Young age
  - Substance abuse

<http://www.womenshealth.gov/>

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## Question#5

- Do you remember this story?



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## Postpartum Depression

- Postpartum Blues
  - Milder
  - Usually resolve in days to weeks
  - No treatment required
- Postpartum Psychosis
  - Hallucinations
  - Delusions
  - Rapid mood swings
  - Thoughts or attempts to harm self or baby



<http://www.womenshealth.gov/>

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## Question #6

- Think about adolescence. How might depression present differently in that age group?

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## Adolescent Depression

- Not always characterized by sadness
  - Irritability
  - Boredom
  - Inability to experience pleasure
  - Complaints of physical problems (i.e. headaches, etc)
  - Poor school performance
  - Tendency to bully others



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## Adolescent Depression

- Risk factors
  - Having parents with depression
  - Early negative experiences
    - Abuse
    - Neglect
    - Exposure to stress (i.e. physical illness)
- Feeling alienated from parents is a strong risk factor for depression

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## Question #7

- How might gender differences play a role in how you elicit a history of depression?

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## Men & Depression

- Different way of experiencing depression as compared to women
- Different coping mechanisms as compared to women



<http://www.nlm.nih.gov/>

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## Men & Depression

- May be more willing to acknowledge:
  - Fatigue
  - Irritability
  - Loss of interest in work and hobbies
  - Sleep disturbances
- May be less willing to acknowledge:
  - Sadness
  - Worthlessness
  - Guilt

<http://www.nlm.nih.gov/>

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## Men & Depression

- "I'd drink and I'd just get numb. I'd get numb to try to numb my head. I mean, we're talking many, many beers to get to that state where you could shut your head off, but then you wake up the next day and it's still there. Because you have to deal with it, it doesn't just go away. It isn't a two hour movie and then at the end it goes 'The End' and you press off. I mean it's a twenty four hour a day movie and you're thinking there is no end. It's horrible."
- -Patrick McCathern, First Sergeant, U.S. Air Force, Retired

<http://www.nimh.nih.gov/>

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## Men & Depression

- Other expressions of depression
  - Substance abuse
  - Compulsivity at work
  - Reckless behavior
  - Violent or abusive behavior
- All of the above may mask underlying depression

<http://www.nimh.nih.gov/>

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## Men & Depression

- "When I was feeling depressed I was very reckless with my life. I didn't care about how I drove. I didn't care about walking across the street carefully. I didn't care about dangerous parts of the city. I wouldn't be affected by any kinds of warnings on travel or places to go. I didn't care. I didn't care whether I lived or died and so I was going to do whatever I wanted whenever I wanted. And when you take those kinds of chances, you have a greater likelihood of dying."
- -Bill Maruyama, Lawyer

<http://www.nimh.nih.gov/>

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## Question #8

- True or false?
  - Physicians are less likely to commit suicide than other members of the public.

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## Suicide & Depression

- Women are more likely to attempt suicide
- Men are more likely to complete suicide
  - > 4x as many men compared to women die by suicide in the US each year
  - More lethal methods
- Physicians are more likely to commit suicide than members of the public.<sup>9</sup>
- Exception: women physicians are just as likely to commit suicide as male physicians.<sup>9</sup>

<http://www.nimh.nih.gov/>

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## Bringing It Home



- Medical students are more prone to depression than their non-medical peers
  - Although rate of depression among students entering medical school is similar to that among other people of similar ages, the prevalence increases disproportionately over the course of medical school
  - 25% of 1<sup>st</sup> and 2<sup>nd</sup> year medical students surveyed at UCSF were depressed

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## Bringing It Home



- Symptoms of depression in medical students can be difficult to distinguish from the effects of stress inherent in student life
- The emotional toll of caring for others and initial encounters with illness and death can be overwhelming for the medical student

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## Bringing It Home



- Pressures of 3<sup>rd</sup> and 4<sup>th</sup> year
  - More time in the hospital
  - Less time with family and friends
  - Constantly changing attendings & residents
  - More sleep deprivation
    - "SAD": seasonal affective disorder
    - Always in the dark
    - Circadian rhythms

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## Physician Heal Thyself?

- Ability to recognize depression in others but not in yourself
- "I'm the doctor, so I have to be well..."
- Stigma and fear of disclosure
  - Weakness and instability?
  - What about the deans letter?

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## Question #9

- Which neurotransmitters have been implicated in the pathophysiology of depression?

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## Pathophysiology

- Neurotransmitter Abnormalities
  - Deficiencies
    - Serotonin, norepinephrine, dopamine
  - Overactivities
    - Acetylcholine, corticotropin releasing factor, and substance P
- No specific genetic abnormality has been identified
  - Heritability for twins is about 37%

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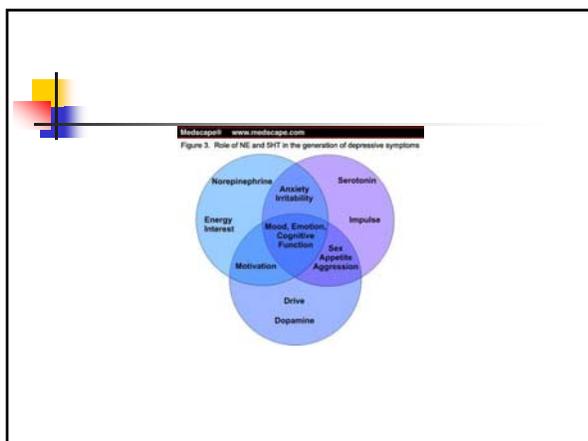
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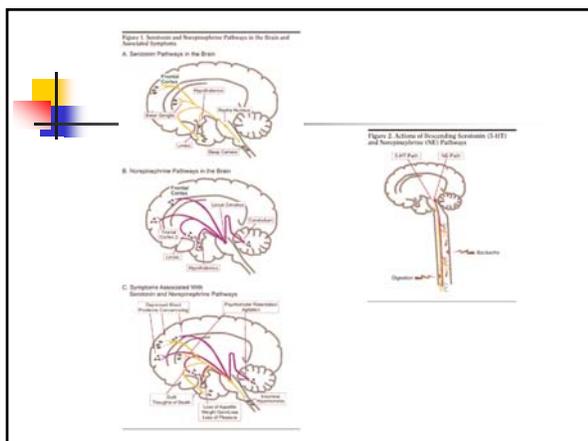
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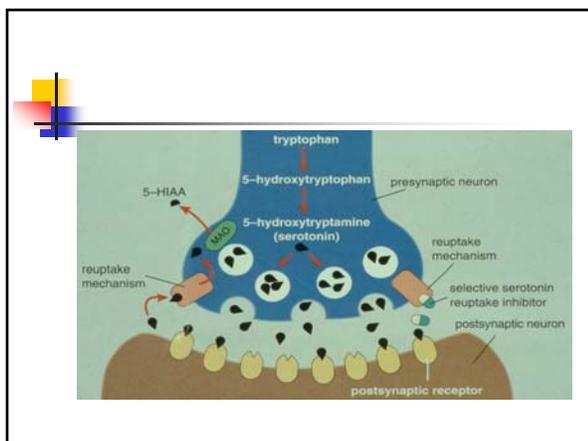
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## Treatment

- NRI's
  - Norepinephrine re-uptake inhibitors
  - Tricyclic antidepressants (Nortriptyline, desipramine, amitriptyline)
- SSRI's
  - Selective serotonin re-uptake inhibitors
  - Fluoxetine (Prozac), paroxetine (Paxil), citalopram (Celexa), sertraline (Zoloft)

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## Treatment

- SNRI's
  - Serotonin-norepinephrine re-uptake inhibitors
    - Venlafaxine (Effexor), duloxetine (Cymbalta)
    - Indications for treating chronic pain and neuropathy
  - Norepinephrine-dopamine re-uptake inhibitor
    - Bupropion (Wellbutrin)

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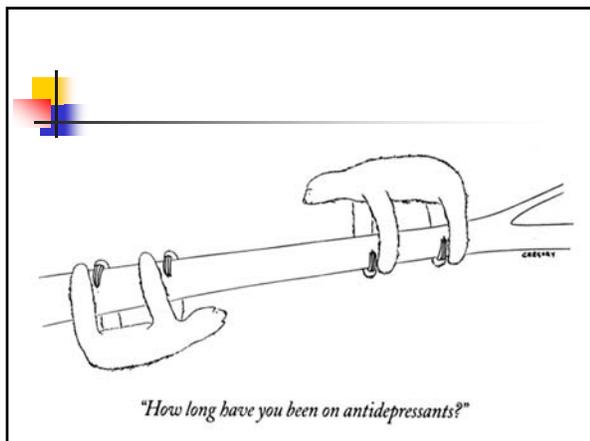
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### Final Remarks: Helpful Mnemonic

- "SIG-E-CAPS"
  - Sadness
  - Loss of Interest
  - Feeling of Guilt
  - Low Energy
  - Poor Concentration
  - Change in Appetite
  - Psychemotor retardation or agitation
  - Sleep disturbance

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### Final Remarks

- Be aware of generational and gender differences in depression
- Consider life events
- Ask about symptoms
  - Be clever: "Are you happy?"
  - Variations throughout the day?
- Pay attention to behavior/body language/substance abuse
- If suicidal thoughts are present, contract for safety and assess risk (i.e. access to guns etc)

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Many Thanks...

Dr. Rafael Triana

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