

# Geriatric Depression and Anxiety

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# Objectives

- Discuss the acetylcholine theory and how it impacts decisions and expected therapy outcomes in depression and anxiety treatment in older adults.
- List 3 ways you could identify the symptoms of depression in the complex geriatric patient with multiple chronic conditions.
- Describe one of the dangers of over-treating anxiety, especially regarding length of drug therapy, and the impact it could have on your elderly patient.

# Disclaimers

- #1: I have no conflicts of interest.
- #2: Some of the drugs I will discuss today will be recommended for off label use.
- #3: I tend to use whatever (generic or trade) drug name is easiest for me say.



# The Aging Brain

- There are many changes in the brain as we age.
  - Structural changes: Thinning of the cortex, loss of neurons and circuits, loss of overall volume
  - Chemical changes: Loss of neurotransmitters
  - Neuropsychological changes: Loss of orientation, attention, memory

# Prescribing Principles in the Elderly



# Beers Criteria

- ◎ Originally created by Dr. Mark H. Beers, a geriatrician with 12 experts (geriatricians, psychiatrists, pharmacists).
  - ◎ Initially published in 1991 for nursing home residents, then revised in 1997 and 2003 to include elders in all healthcare settings.
- ◎ It is a list of potentially inappropriate medications (PIM) that should be used with caution in older persons.



# Beers Criteria, Revised 2012

- ◎ AGS was asked to update the Beers group findings.
  - › A review panel was used, which included many experts from different disciplines
    - Not just physicians
  - › Peer groups were given the panel's findings for comment and review
  - › The American College of Physicians Grading System was used to evaluate the literature
    - Grade based on quality of evidence/research

# Beers Criteria, 2012

- Drug Classes to Avoid:
  - **Anticholinergics**
  - Alpha blockers
  - Amiodarone
  - Spirolactone
  - Sulfanylureas
  - Reglan
  - SSI
  - Megace

- Meds that should be used with caution:
  - ASA: no evidence of benefit >80 for prevention of cardiac events
  - **Psychotropics**





# Anticholinergic Burden (ACB)

- As people age, the Central Nervous System (CNS) is sensitive to adverse anticholinergic effects. This is due to:
  - The significant decrease in cholinergic neurons/receptors in the brain.
  - The reduction in hepatic metabolism and decreased renal excretion of medications.
  - The increase in blood-brain barrier permeability.

# ACB: The research

- There is a dose relationship with ACB and the risk of developing dementia (Gray et al., JAMA, 2015). This will occur even with using low doses of the medications. The risk was using the drugs long term.
- Longitudinal British Study (Fox et al., JAGS, 2011) reported:
  - For every anticholinergic drug taken, there is an increase in the risk of cognitive decline by 46% over 6 years
  - For every one point increase in the ACB score, the MMSE score declined by 0.33 over 2 years.
  - For every one point increase in the ACB score, there was a 26% increase in the risk of death.

# ACB Scale

ACB Score 1 = Possible Anticholinergic Effects	ACB Score 2 = Definite Anticholinergic Effects	ACB Score 3 = Definite Anticholinergic Effects
Alprazolam	Amantadine	Amitriptylline
Atenolol	Belladonna	Brompheniramine
Captopril	Cyclobenzaprine	Chlorpheniramine
Codeine	Cyproheptadine	Clomipramine
Diazepam	Carbamazepine	Clozapine
Digoxin	Loxapine	Dimenhydrinate
Furosemide	Meperidine	Diphenhydramine
Prednisone	Molindone	Hydroxyzine
Nifedipine	Oxcarbazine	Paroxetine
Warfarin	Pimozide	Promethazine

Table. ACB Scoring of Select Drugs<sup>a</sup>

- See more at: <http://www.pharmacytimes.com/publications/issue/2012/April2012/The-Anticholinergic-Cognitive-Burden-#sthash.41DFSscl.dpuf>



# Depression



# Depression: A significant issue

- Depressed older adults use health services at high rates, engage in poor health behaviors, and are more disabled.
- Depression is more common in people who have chronic illnesses and whose function becomes limited.
- Older adults have the highest rates of suicide of any age group, particularly with older men.
- Some estimates of the prevalence of MDD in older adults:
  - Community dwelling: 1% to about 5%
  - At home, but need caregiving: 13.5%
  - Hospitalized: 11.5%
  - General population: 10%

# What causes depression?

- Genetic susceptibility (30-40%)
- Psychosocial stress (60-70%): Altered stress hormone secretion
  - Chronic illness
- Neurotransmitter depletion: either due to a loss of synaptic concentration or a receptor issue
  - Serotonin
  - Norepinephrine
  - Dopamine
  - Monoamine oxidase



# MDD: Criteria for Diagnosis

- DSM V (May 2013): No change for MDD
  - Depressed mood and/or anhedonia (at least one)
  - At least 4 of these symptoms
    - Change in appetite
    - Change in sleep pattern
    - Change in psychomotor activity
    - Fatigue, loss of energy
    - Feelings of worthlessness or guilt
    - Diminished ability to think, concentrate, or make decisions
    - Recurrent thoughts of death, suicide
  - Symptoms cause distress or impairment in functioning
  - Symptoms not caused by medical condition or substance
- DSM V also added:
  - 3 manic symptoms is depression with “mixed features”
  - Bereavement vs depression is now based on clinician’s judgement

# Screening for Depression

- GDS: Geriatric Depression Scale:
  - Good:
    - Easy to give (yes/no format)
    - Available in 25 languages
    - Developed for elderly specifically
    - Proven reliable in research
  - Bad:
    - There are no questions about suicide
    - Does not measure depression symptom severity
- PHQ-9: Patient Health Questionnaire
  - Based on DSM criteria
  - Rates severity of symptoms
  - Available in multiple languages
  - Pfizer owns copyright, but makes it available for clinicians to use at no cost.



# Screening Tools: GDS

- Choose the best answer for how you have felt over the past week:
- 1. Are you basically satisfied with your life? *YES / NO*
- 2. Have you dropped many of your activities and interests? *YES / NO*
- 3. Do you feel that your life is empty? *YES / NO*
- 4. Do you often get bored? *YES / NO*
- 5. Are you in good spirits most of the time? *YES / NO*
- 6. Are you afraid that something bad is going to happen to you? *YES / NO*
- 7. Do you feel happy most of the time? *YES / NO*
- 8. Do you often feel helpless? *YES / NO*
- 9. Do you prefer to stay at home, rather than going out and doing new things? *YES / NO*
- 10. Do you feel you have more problems with memory than most? *YES / NO*
- 11. Do you think it is wonderful to be alive now? *YES / NO*
- 12. Do you feel pretty worthless the way you are now? *YES / NO*
- 13. Do you feel full of energy? *YES / NO*
- 14. Do you feel that your situation is hopeless? *YES / NO*
- 15. Do you think that most people are better off than you are? *YES / NO*
- Answers indicating depression are in bold; score one point for each bolded answer. A score of 0 to 5 is normal
  - A score > 5 suggests depression
  - A score ≥ 10 is almost always indicative of depression



# PHQ-9 and PHQ-2

PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)				
Over the <u>last 2 weeks</u> , how often have you been bothered by any of the following problems? (Use "✓" to indicate your answer)				
	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead or of hurting yourself in some way	0	1	2	3

For office copies: 0 + \_\_\_\_\_ + \_\_\_\_\_ + \_\_\_\_\_ = Total Score: \_\_\_\_\_

If you checked off <u>any</u> problems, how <u>difficult</u> have these problems made it for you to do your work, take care of things at home, or get along with other people?				
Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult	
0	1	2	3	

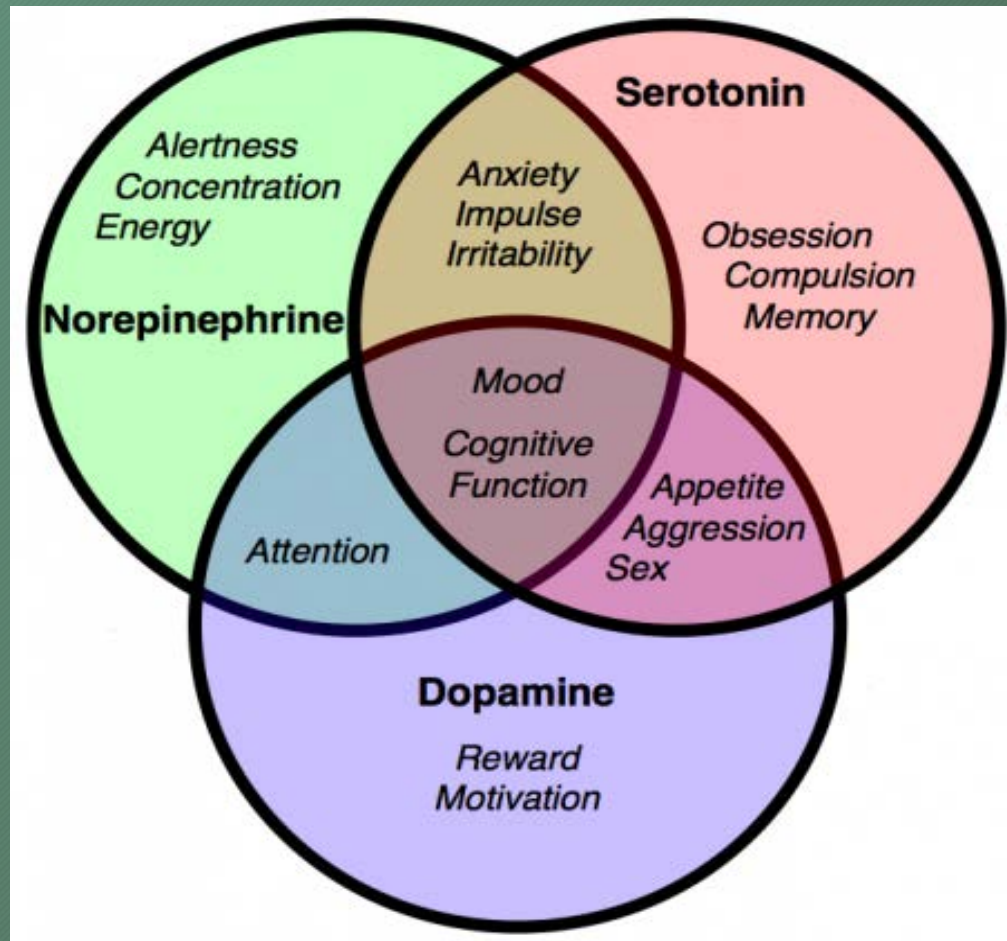
Developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues, with an educational grant from Pfizer Inc. No permission required to reproduce, translate, display or distribute.

- The PHQ-2 is the first 2 items of the PHQ-9
  - Little interest in doing things
  - Feeling down or hopeless
- It is a screen for depression; patients who screen positive should be further evaluated.
- The PHQ-2 has been validated in 3 studies (Gilbody, Richards, Brealey, and Hewitt, 2007).

# Differential Diagnosis of MDD

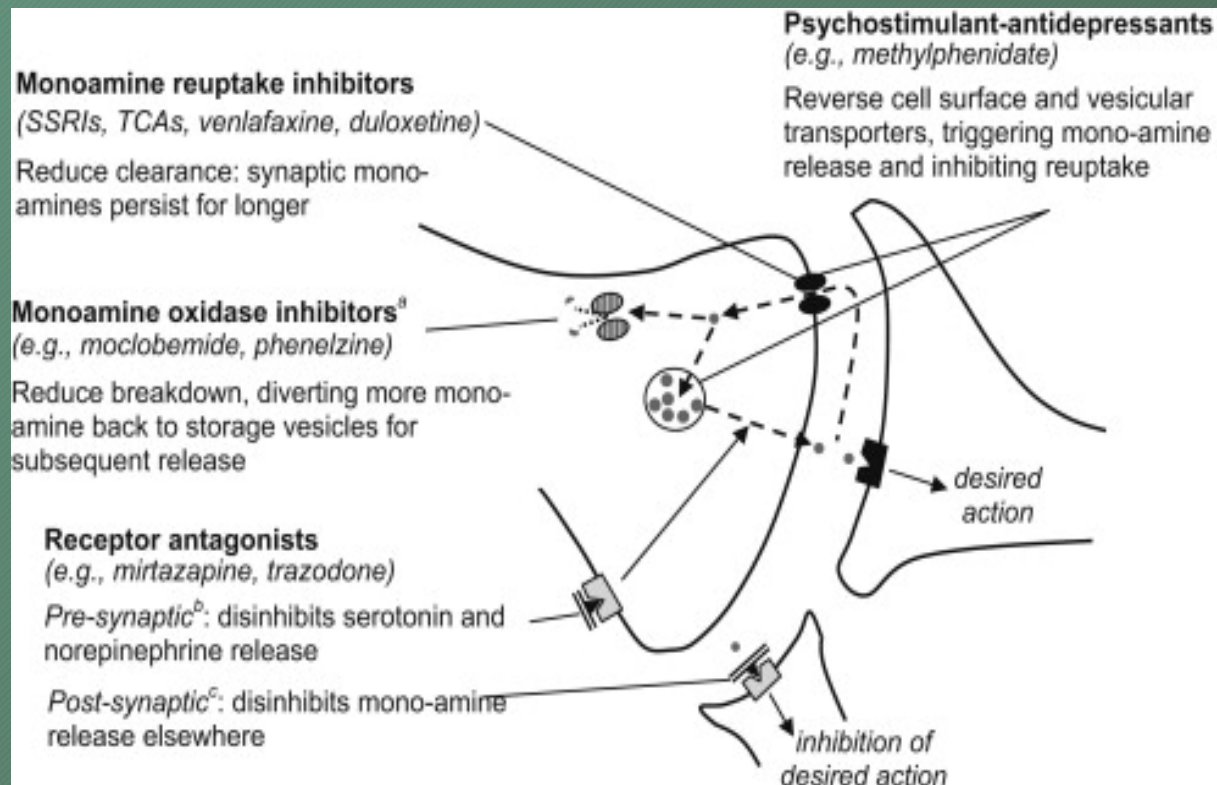
- Medication side effects/ adverse events
- Hypoactive delirium
- Hypothyroidism
- Severe medical illness:
  - Cancer
  - Severe infection
  - Cardiovascular disease
- Substance abuse: ETOH, marijuana

# Neurotransmitters





# Mechanisms of Action for Antidepressants



# Serotonin

- Mood: Feelings of well being and happiness
- Appetite
  - Serotonin is found naturally in plants, seeds, fungi
  - Derived from tryptophan: 90% regulates the intestines, rest goes to the platelets and the CNS
  - Diets high in carbs causes the body to release insulin, which stimulates serotonin
- Sleep



# Treatment of MDD: SSRI's

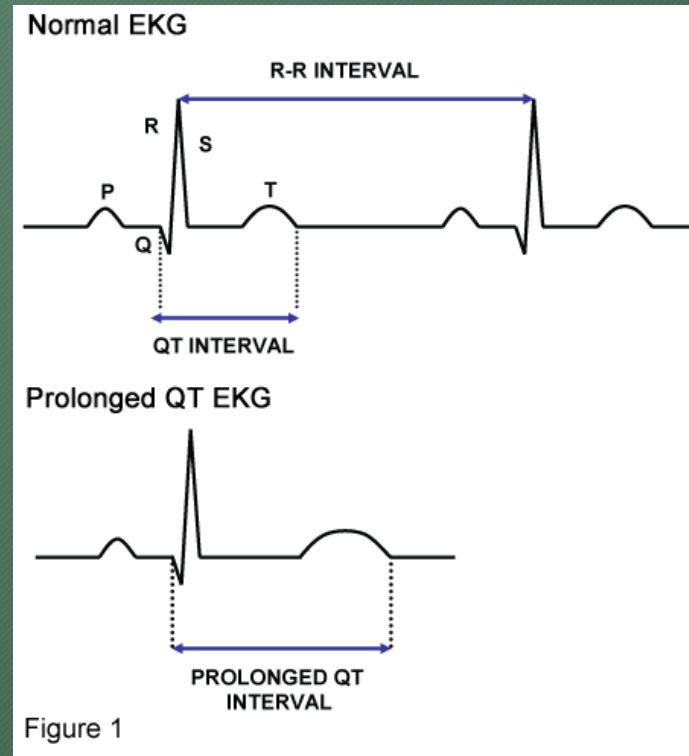
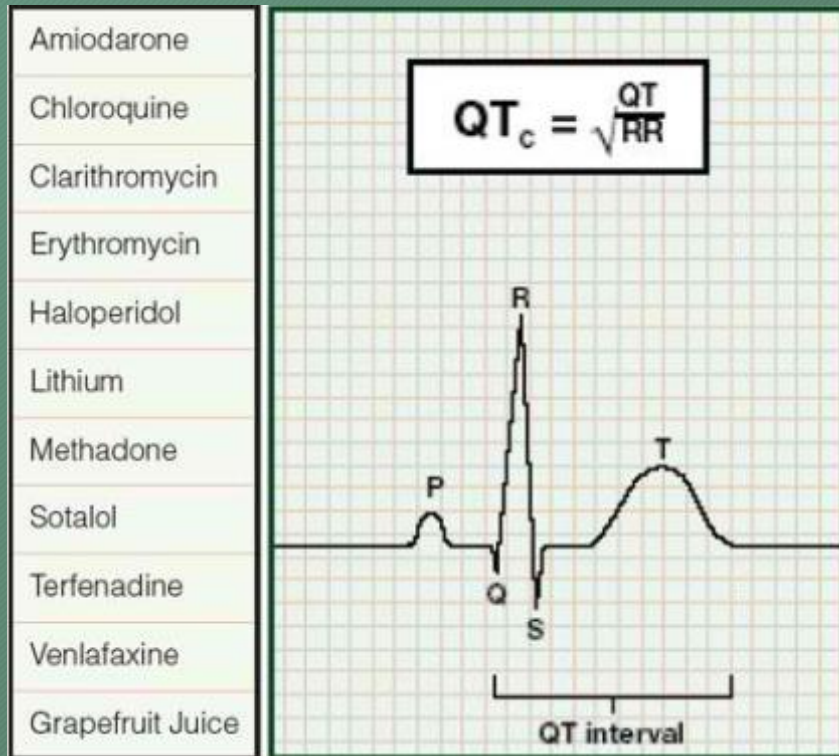
- Drugs: Citalopram (Celexa), Sertraline (Zoloft), Paroxetine (Paxil), Fluoxetine (Prozac), Escitalopram (Lexapro), Fluvoxamine (Luvox)
- Mechanism of Action: Work by inhibiting reuptake of Serotonin in the synaptic cleft (decrease NE, decrease D)
- Adverse events:
  - QT prolongation: Citalopram, Escitalopram
  - Sexual dysfunction
  - Increase risk of fracture: Falls or change in bones?
    - Risk is greater than with steroids or PPIs (2013 study)
  - Akathisia (restlessness)
  - Insomnia/drowsiness
  - Weight gain/ loss
  - HA, dry mouth, nausea/vomiting, diarrhea



# QT prolongation...

- QT interval: Measure of the time between the start of the Q wave and the end of the T wave on the EKG waveform.
  - Represents electrical depolarization and repolarization of the ventricles.
- Prolonged intervals increases the risk for ventricular arrhythmias, such as Torsade's de Pointes. It is also a risk factor for sudden death.
  - Risks: female, family hx of sudden cardiac death, class III antiarrhythmic drugs
- Definitions of normal QT vary: equal to or less than 0.40 s ( $\leq 400$  ms) to 0.44s ( $\leq 440$ ms).
  - "Borderline QTc" in males: 431-450 ms, and in females: 451-470 ms
  - "Abnormal" QTc" in males: above 450 ms, and in females: above 470 ms
  - $>500$  or a change of  $>60$  ms if on SSRI: STOP drug and get a cardiology referral

# Examples of QT prolongation



# Also for serotonin stimulation....

- Drugs: Trazadone (Desyrel) and Nefaxodone (Serzone)
- Mechanism of Action: (SARI) Serotonin Antagonist Reuptake Inhibitor, which is like a SSRI
- Side effects:
  - HA, dizzy, nausea
  - PRIAPISM (epi)
  - Less cardiac symptoms than the TCA's
  - Useful with anxiety (panic) and insomnia



# Serotonin problems

- Serotonin Toxicity: Usually caused by too many drugs on board (MAOI & SSRI together, for example)
  - Symptoms: Agitation, restlessness, D/N/V, tachycardia, hallucinations, overactive reflexes, spasm, tremor, ataxia, fever
- Serotonin Withdrawal: Abrupt stoppage or insufficient taper
  - Flu like symptoms, N/V/D/HA, confusion, tremor, vertigo, imbalance
  - Can last 1-4 weeks

# Norepinephrine



- Vigilance, alertness, concentration
- Fight or flight: Works with epinephrine to increase HR, increase glucose, increase brain O<sub>2</sub>
  - Up to 70% of NE is lost in Alzheimer's dementia

# Treatment of MDD: SNRI

- Common SNRIs: Venlafaxine (Effexor), Duloxetine (Cymbalta), Desvenlafaxine (Pristiq)
- Mechanism of Action
  - Inhibit the reuptake of serotonin and norepinephrine
- Adverse effects
  - GI disturbances, CNS stimulation, sexual dysfunction
  - Tremor, tachycardia, sweating, increased BP (dose related)
  - Hepatic irritation (Duloxetine)
  - Sexual: decreased libido, anorgasmia



# Treatment of MDD: Others

- Mirtazapine (Remeron)
  - Mechanism of Action: Non-adrenergic, specific serotonin receptor (NASSA): tetracyclic antidepressant
  - Adverse effects: Somnolence, mania, seizures, increased appetite (weight gain), constipation, confusion, tremor, dry mouth
  - Onset of action: rapid (1-2 weeks)
- Bupropion (Wellbutrin)
  - Mechanism of Action: NE, D (NeDRI)
  - Adverse effects: agitation, hallucinations, mania, dry mouth, HA, nausea, dizziness, constipation, anorexia (weight loss), urinary frequency, SEIZURE
  - Avoid in patients with history of liver disease

# Dopamine

- Reward motivated behavior
- Analgesic
  - Addictive drugs increase dopamine
  - Diseases with dopamine issues: Parkinson's, Fibromyalgia, ADHD, RLS, migraine
  - Psychiatric illness: Schizophrenia alters dopamine





# MDD: MAOI's

- Monoamine removes NE, S, and some D from brain. MAOI's prevent this from happening.
  - Examples: Isocarboxid, Phenezine, Selegiline (Ensam patch)
- Adverse effects: Dry mouth, N/D/constipation, dizziness, hypotension, sleepiness/insomnia
- Used for: Atypical depression, Parkinson's disease
  - Dietary interactions: The "cheese effect": foods containing tyramine can cause hypertensive crisis
  - Drug interactions: St. John's wort, psych drugs
  - Taper slowly



# Treatment of MDD: TCAs

- Common TCAs: Amitriptyline, desipramine, nortriptyline, clomipramine, doxepin, imipramine
- Mechanism of Action: Serotonin & norepinephrine inhibition: like SNRI's
  - $\alpha_1$  adrenergic, histamine & muscarinic cholinergic receptor blockade
    - Potent antihistamines
    - Anticholinergic
    - Inhibit sodium and calcium: like  $\text{Ca}^{2+}$  channel blockers (OD is cardiotoxic), so decrease contractility to improve blood flow
  - No dopamine activity
- Indications: chronic pain (opioid system activity?), atypical depression, migraine prophylaxis
- Adverse effects: SSRI & SNRI associated, cardiovascular, sedation/weight gain, very anticholinergic, some QT (especially with other drugs)

# How do you choose a good antidepressant?

- Patient's history of response to antidepressants (efficacy, side effects)
- Response of first degree relative
- Adverse effect profiles
- Potential for drug-drug and drug-disease state interactions
- Co-morbid psychiatric conditions
- Cost

**TABLE 1**  
**SEDATING/ACTIVATING ANTIDEPRESSANTS<sup>13</sup>**

**Sedating Antidepressants**

Amitriptyline (Elavil)

Doxepin (Sinequan)

Mirtazapine (Remeron)

Nefazodone (Serzone)

Trazodone (Desyrel)

Trimiprimine (Surmontil)

**Activating Antidepressants**

Bupropion (Wellbutrin)

Monoamine oxidase inhibitors

Protryptiline (Vivactil)

Selective serotonin reuptake inhibitors

Venlafaxine (Effexor)



# A COMPARISON OF DEPRESSION MEDICATIONS

		Anti-colinergic	Sleepy	Insomnia/Agitation	Orthostatic Hypotension	QT	GI	Weight Gain	Sexual	Approx. cost per month	Comments
SSRI	Citalopram/ Escitalopram (Celexa/Lexapro)	0	0	1+	1+	1+	1+	1+	3+	\$4 \$20	Escitalopram (Lexapro) is the S isomer of citalopram. Citalopram is cheaper.
	Fluoxetine (Prozac)	0	0	2+	1+	1+	1+	1+	3+	\$4	Has the longest half-life. Therefore, caution with using in elderly
	Paroxetine (Paxil)	1+	1+	1+	2+	1+	1+	2+	4+	\$4	Shortest half-life. <b>Pregnancy class D</b>
	Sertraline (Zoloft)	0	0	2+	1+	1+	2+	1+	3+	\$10	Has many other indications besides depression such as panic disorder
DOPAMINE NOREPINEPHRINE REUPTAKE INHIBITOR	Bupropion (Wellbutrin)	0	0	2+	0	1+	1+	0	0	\$30	Frequently used as adjunct to SSRIs for depression. Also used for tobacco cessation. Can decrease seizure threshold
SNRI	Venlafaxine ER (Effexor XR)	0	0	2+	0	1+	2+	0	3+	\$19	May increase blood pressure
SEROTONIN MODULATOR	Trazodone	0	4+	0	1+ or 3+	1+ or 2+	1+ or 3+	1+ or 2+	1+	\$4	Often used off-label for treating insomnia. Doses for treating insomnia are much lower.
NORADRENERGIC AND SPECIFIC SEROTONERGIC ANTIDEPRESSANT	Mirtazapine (Remeron)	1+	4+	0	0	1+	0	4+	1+	\$15	May be reasonable to start on undernourished patients
TCA	Amitriptyline (Elavil)	4+	4+	0	3+	3+	1+	4+	3+	\$4	Lethal in overdose. Also used for treating migraines and chronic pain.

# Response to antidepressant therapy



- Most drugs have a response rate of about 60%
- One class no better than others
- Dual action antidepressants (TCAs, SNRIs) may be more effective than those with single action, but you may also get more side effects.
- Time frame:
  - 2-4 weeks to see partial response in emotional symptoms
  - 6-8 weeks for full effect

# BPAD: Bipolar Disorder Diagnosis

- Mania: Elevated, irritable, expansive mood/energy (DSM V change) x 1 week
  - Hypomania: < 1 week (not severe enough to affect function)
- 3 of the following:
  - Inflated self esteem/grandiosity
  - Less need for sleep
  - Talkative
  - Flight of ideas
  - Distractibility
  - Psychomotor agitation or increased goal directed activity
  - Risky behaviors
- 90% of patients who have had one episode will relapse
- Peak onset: Mid-teens to mid twenties, but can happen at any age
- Hypomania: “mixed features”



# MDD vs. BPAD

- Insomnia: Have you ever had periods of time when you didn't need to sleep?
- Money issues:
  - Overbuying
  - Gambling
- Hypersexual: Infidelities?
- Feeling energetic: mania feels GREAT!
- Substance abuse: cocaine, amphetamines, hallucinogens, antidepressants

# Treatment of BPAD: Lithium

- First line agent in the treatment of BPAD
- Anti-manic efficacy: prevents manic relapse
  - Less effective on depressive symptom
  - Less effective with rapid cycling disorders
- Mechanism of action: Not well understood.
- Adverse effects: GI upset, tremor, polyuria, hypothyroidism, acne, alopecia, weight gain, metallic taste, EKG changes, dehydration, polyuria, confusion
- Black box warning: Monitor drug levels
- Renal excretion
  - Caution in elders

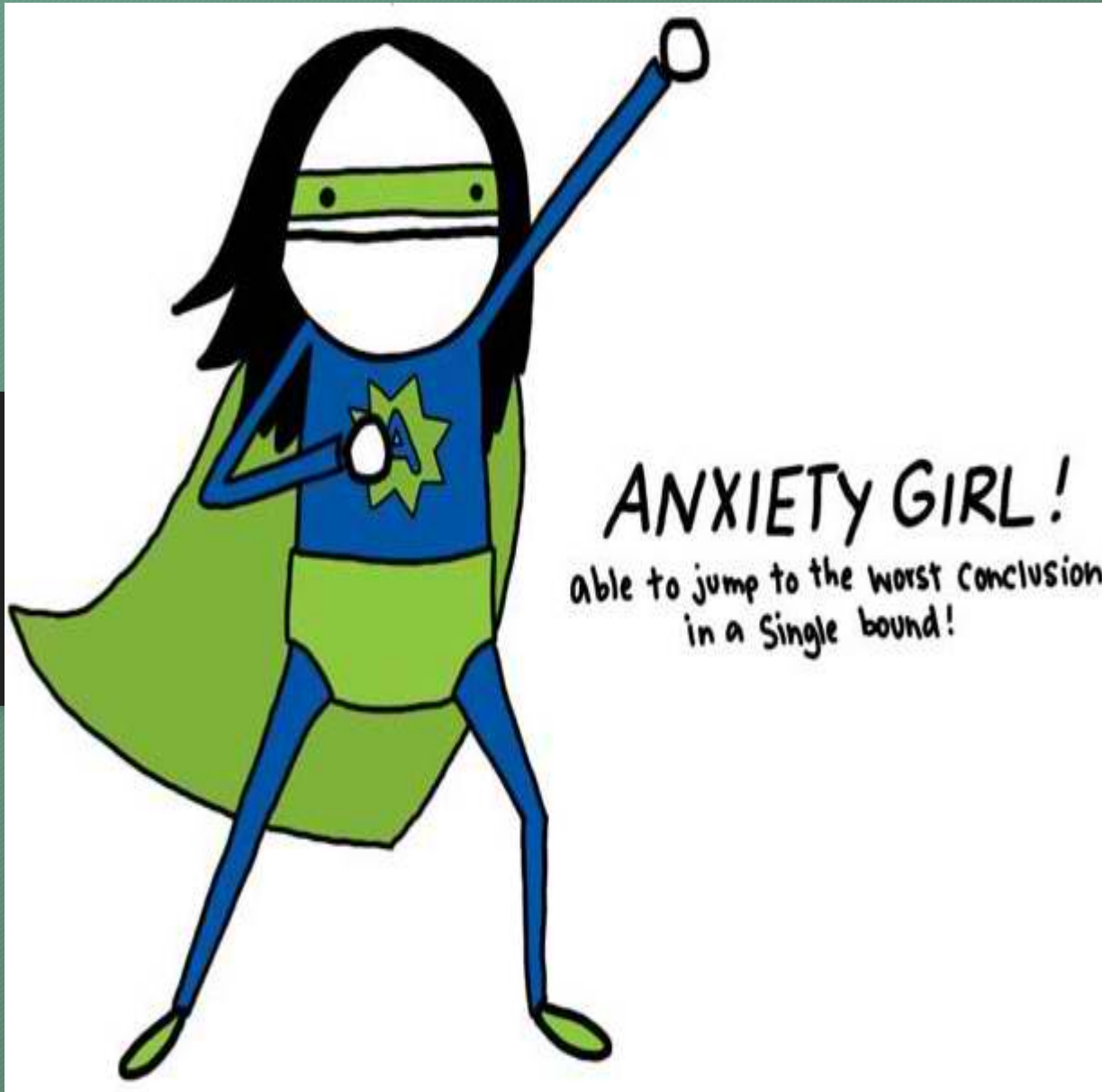
# Treatment of BPAD: Anticonvulsants

- Ex: Lamotrigine (Lamictal), Carbamazepine (Tegretol), Valproic acid (Depakote), Oxcarbazepine
- Used as mood stabilizers
- Mechanism of action: Enhances gamma-aminobutyric acid (GABA), decrease glutamate at NMDA receptors
- Adverse effects:
  - Lamotrigine: Serious rash (BBW), & dizzy, N/V/Abd pain, ataxia, anxiety, dry mouth
  - Carbamazepine: Aplastic anemia, agranulocytosis, liver enzymes, & etc.
  - Valproic acid: Hepatotoxicity/pancreatitis & etc.
  - Oxcarbazepine: Cognitive dysfunction, anxiety, gait changes



# Treatment of BPAD: Antipsychotics

- These are used often for short term management of mania and psychosis
  - Improve episodes quickly
- Help stabilize moods
  - They may be used as long-term treatment for people who don't tolerate or respond to lithium/anticonvulsants
- Mechanism of Action: Unknown
- Side effects: Blurred vision, dry mouth, drowsiness, muscle spasms or tremors, weight gain



Anxiety

# Limbic System (General Adaption System)

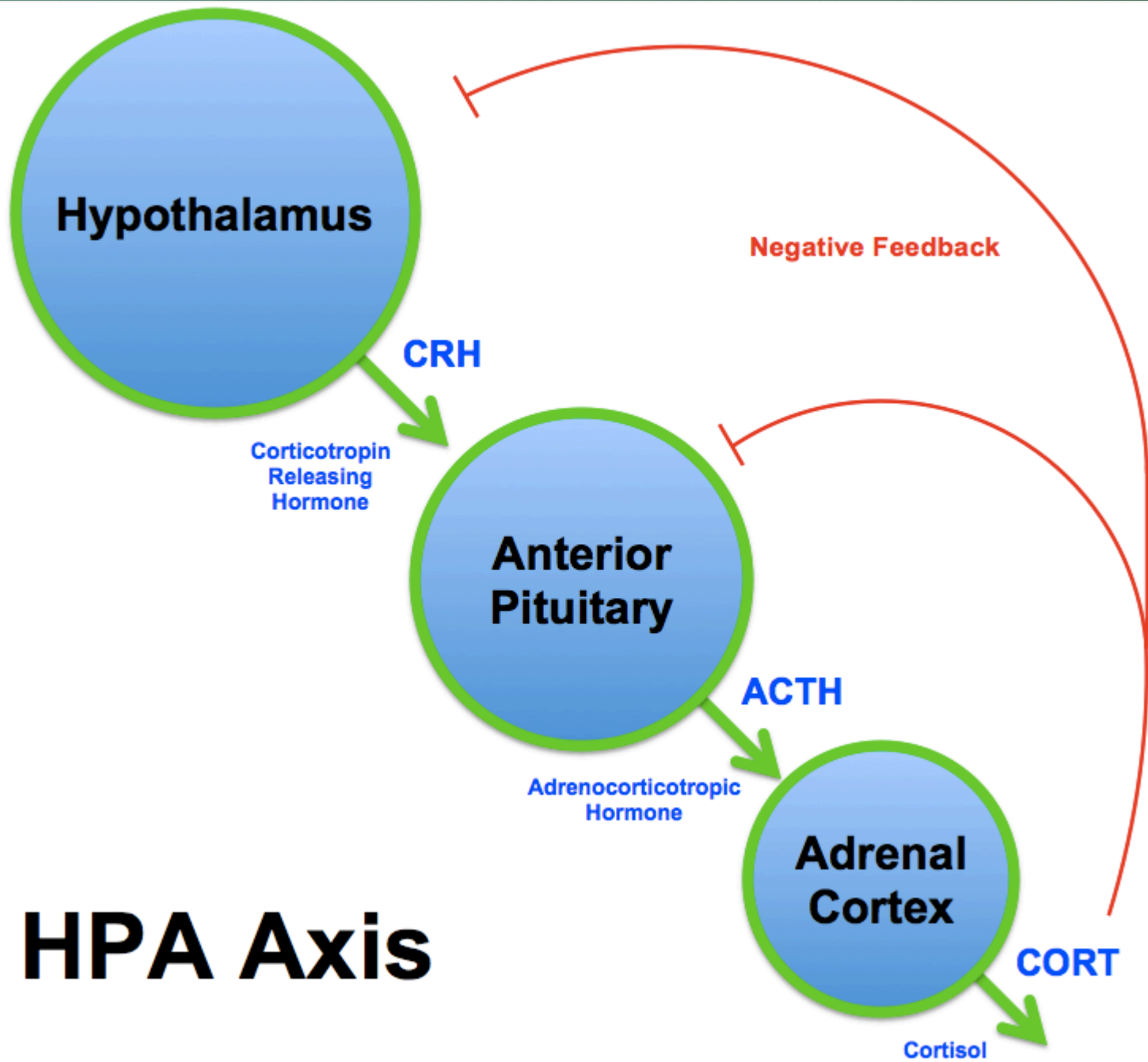
- Normal physiologic response to a stressor (physical, mental, illness)
- Fight or flight response
- Regulated by the sympathetic nervous system
  - Adrenal cortex secretes cortisol (hydrocortisone)
    - Increases HR, breathing, sweat, glucose, impairs pain/immune system
  - Hypothalamus also stimulates NE and Serotonin release.



# Limbic System

- When this system does not shut down, it produces anxiety/panic symptoms
  - Decreased immune response
  - Impaired glucose tolerance
  - Increased HR, breathing
  - Decreases blood flow to “non-essential” organs
  - Sweating





# HPA Axis

# Geriatric Anxiety Disorders

- Anxiety disorders are the most common psychiatric disorders throughout the lifespan
- Anxiety disorders are also more prevalent than other psychiatric disorders in the geriatric population.
  - Prevalence among older adults is about 5.5% in persons greater than 65 years of age
  - More common than major depressive disorder
  - Many older adults will report symptoms of anxiety, but these are not sufficient to diagnose them with an anxiety disorder (up to 13%).



# Geriatric Anxiety Disorders: Background

- 90% of presentations of late-life anxiety are caused by generalized anxiety disorder (GAD) or a specific phobia.
  - GAD comprises at least 50% of those cases among older adults with anxiety.
- The outlying 10% of anxiety disorders are accounted for by:
  - Obsessive-compulsive disorder (OCD)
  - Post-traumatic stress disorder (PTSD)
  - Panic disorders

# Geriatric Anxiety Disorders

- Panic disorder and obsessive compulsive disorder are more likely to appear among older adults who have dementia.
  - Panic may present with somatic physical symptoms.
- PTSD is likely to develop in older adults following a traumatic event, just like younger patients.
  - Keep in mind Holocaust and the World War II survivors are at risk, and can be retriggered from any traumatic event (bereavement, diminished health, or retirement), or in a dementia, when short-term memory loss leads to increased rumination about past traumas.
  - Falls can cause PTSD, keeping people from recovering or participating in rehab.

# Why are older adults at risk for anxiety?

- Increasing frailty
- Medical illness
- Personal losses
- Lack of social supports
- Polypharmacy
- Presence of another psychiatric illness (depression)
- Dementia



# Why should we care about Geriatric Anxiety Disorders?

- Anxiety disorders result in:
  - Increased depression
  - Decreased quality of life
  - Greater physical disability
  - Poor quality of life
  - Increased comorbidity
  - Increased use of health services
- Annual U.S. health care costs due to late-life anxiety disorders in 1990 was estimated to be \$42.3 billion.

# DSM V Criteria for GAD

- 3 or more of the following 6 symptoms:
  - Restlessness
  - Fatigue
  - Difficulty concentrating, mind going “blank”
  - Irritability
  - Muscle tension
  - Sleep disturbance
- These symptoms must cause clinically significant distress or impairment in daily functioning

# Manifestations of Geriatric Anxiety in Dementia

- Individuals with dementia who have anxiety often show their emotions indirectly through physical manifestations:
  - Tension
  - Restlessness
  - Fidgeting
  - Agitation
  - Sleep disturbance
  - Hand wringing
  - Worried appearance



# DSM V Criteria for Panic Attacks

- A discrete period of intense fear or discomfort, where at least 4 of the following symptoms are present:
  - Palpitations or pounding heart
  - Sweating
  - Trembling/shaking
  - SOB
  - Choking
  - Chest pain
  - Nausea or abdominal pain
  - Dizzy/lightheaded/faint
  - Feeling detached
  - Losing control
  - Fear of dying
  - Tingling sensations
  - Chills or hot flashes

# DSM V Criteria for Phobias: The APA divides phobias into three major types:

- **Social phobia:** Fear of being embarrassed in public. People with a social phobia are generally reluctant to perform tasks such as eating or talking in front of others.
- **Agoraphobia:** Fear of being in a situation that would be difficult or embarrassing to escape, or where help would not be available if a panic attack were to occur. For many sufferers, agoraphobia develops into a fear of crowds, a fear of being alone, and eventually, a fear of leaving home.





# Phobias

## THE NATION'S TOP TEN PHOBIAS

- 1 Arachnophobia – spiders
- 2 Social phobia – social or public situations
- 3 Aerophobia – flying
- 4 Agoraphobia – open or public spaces
- 5 Claustrophobia – enclosed spaces
- 6 Emetophobia – vomiting
- 7 Acrophobia (vertigo) – heights
- 8 Cancerphobia – developing cancer
- 9 Brontophobia – thunderstorms
- 10 Necrophobia – death (your own and others')



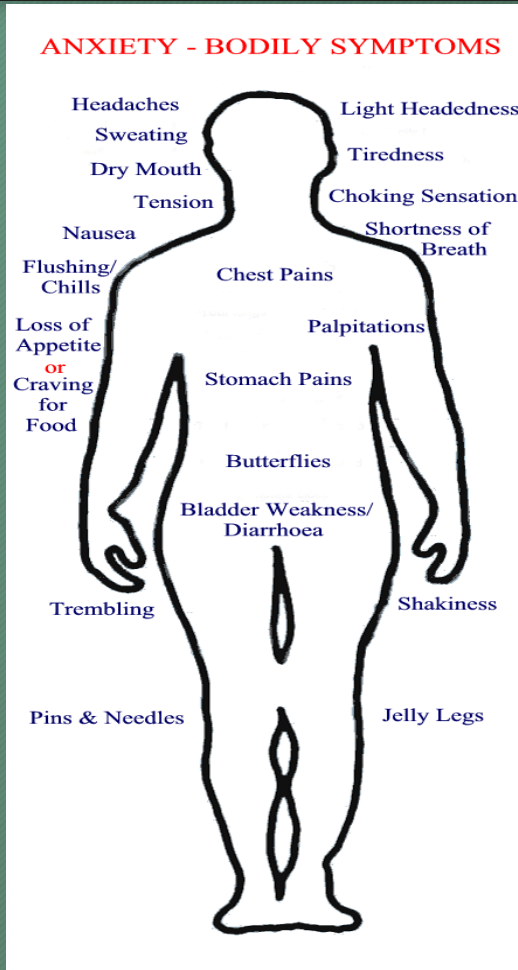
- **Specific phobia:** Fear of a specified object or situation. If the feared object or situation is common, a specific phobia may become life-limiting. Specific phobias can be divided into four major categories:
  - **Animals:** Dogs, spiders, snakes
  - **Medical:** Blood, dentists, needles
  - **Natural Environment:** Storms, water, or other natural objects
  - **Situational:** Heights, driving, elevators



# New things to note with DSM V...

- A person no longer has to recognize that their anxiety is excessive or unreasonable in order to receive one of these diagnoses.
  - Older individuals often attribute phobias to aging changes.
  - Anxiety must be out of proportion to the actual danger the situation poses.
- New categories:
  - Agoraphobia is its own category.
  - OCD is no longer in the category of Anxiety Disorders.
  - PTSD is now in its own category (Trauma/Stressor related disorders)
  - These symptoms must also last at least 6 months for all ages.
    - This change was made to help minimize over-diagnosis of occasional fears.

# Medical Diseases associated with Anxiety



- Cardiovascular: AFIB, CHF, Angina, Syncope
- Respiratory: COPD, PE, Hypoxia, Asthma
- Endocrine: Thyroid, Hypoglycemia, Calcium disorders
- Neurologic: Parkinson's, Seizures, MS
- Drugs: ETOH withdrawal, Chronic pain syndromes



# Assessment of Anxiety Disorders

## Beck Inventory

- Self report tool that reviews the physical symptoms of anxiety and phobia
- Scales symptoms as mild to severe
- Rates symptoms over a 30 day time period.

## GAI

- 20 item self-report measure used to indicate anxiety levels in the elderly.
- Specially designed for use with older adult populations.
- Available free of charge for academic purposes (research and teaching), and for a fee to other users



# Assessment for Anxiety

- GADSS
  - This tool assesses for Generalized Anxiety Disorder (GAD) in the elderly.
  - Valid measure of GAD symptom severity in older adults.
- Generalized Anxiety Disorder 7-item (GAD-7) scale
- Over the last 2 weeks, how often have you been bothered by the following problems? (0= not at all, 3= daily)
  - 1. Feeling nervous, anxious, or on edge
  - 2. Not being able to stop or control worrying
  - 3. Worrying too much about different things
  - 4. Trouble relaxing
  - 5. Being so restless that it's hard to sit still
  - 6. Becoming easily annoyed or irritable
  - 7. Feeling afraid as if something awful might happen

Source: Spitzer RL, Kroenke K, Williams JBW, Lowe B. A brief measure for assessing generalized anxiety

### Beck Anxiety Inventory

Below is a list of common symptoms of anxiety. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

	Not At All	Mildly but it didn't bother me much.	Moderately - it wasn't pleasant at times	Severely – it bothered me a lot
Numbness or tingling	0	1	2	3
Feeling hot	0	1	2	3
Wobbliness in legs	0	1	2	3
Unable to relax	0	1	2	3
Fear of worst happening	0	1	2	3
Dizzy or lightheaded	0	1	2	3
Heart pounding/racing	0	1	2	3
Unsteady	0	1	2	3
Terrified or afraid	0	1	2	3
Nervous	0	1	2	3
Feeling of choking	0	1	2	3
Hands trembling	0	1	2	3
Shaky / unsteady	0	1	2	3
Fear of losing control	0	1	2	3
Difficulty in breathing	0	1	2	3
Fear of dying	0	1	2	3
Scared	0	1	2	3
Indigestion	0	1	2	3
Faint / lightheaded	0	1	2	3
Face flushed	0	1	2	3
Hot/cold sweats	0	1	2	3
<b>Column Sum</b>				

**Scoring** - Sum each column. Then sum the column totals to achieve a grand score. Write that score here \_\_\_\_\_.

#### Interpretation

A grand sum between **0 – 21** indicates very low anxiety. That is usually a good thing. However, it is possible that you might be unrealistic in either your assessment which would be denial or that you have learned to “mask” the symptoms commonly associated with anxiety. Too little “anxiety” could indicate that you are detached from yourself, others, or your environment.

A grand sum between **22 – 35** indicates moderate anxiety. Your body is trying to tell you something. Look for patterns as to when and why you experience the symptoms described above. For example, if it occurs prior to public speaking and your job requires a lot of presentations you may want to find ways to calm yourself before speaking or let others do some of the presentations. You may have some conflict issues that need to be resolved. Clearly, it is not “panic” time but you want to find ways to manage the stress you feel.

A grand sum that **exceeds 36** is a potential cause for concern. Again, look for patterns or times when you tend to feel the symptoms you have circled. Persistent and high anxiety is not a sign of personal weakness or failure. It is, however, something that needs to be proactively treated or there could be significant impacts to you mentally and physically. You may want to consult a counselor if the feelings persist.



# First line treatment of Anxiety: Use Antidepressants

- SSRI's
- SNRI's
- Mirtazapine
- Other categories to consider:
  - TCA's
  - MAOI's





# SSRIs

- Most drugs in this class have indications for anxiety:
  - Sertraline(Zoloft): OCD, panic, PTSD, Soc AD
  - Paroxetine (Paxil): panic
  - Fluoxetine (Prozac): OCD, panic
  - Escitalopram (Lexapro): GAD
- *Citalopram (Celexa) does not have an indication for anxiety disorder.*
- Zoloft was found to be superior to CBT on a study for “worry symptoms” (Schuurmans et al, 2006)
- Some prospective controlled trials with older adults support the use of SSRIs for late-life GAD (JAMA, 2009).
- There is good evidence for the use of Citalopram (Celexa) to treat anxiety in Alzheimer's dementia

# SNRIs

- Venlafaxine (Effexor): GAD, panic, SocAD
- Duloxetine (Cymbalta): GAD
- Newer ones: Khedezla, Fetzima, and Desvenlafaxine (Pristiq)
  - Great for chronic pain
- One meta-analysis of five controlled trials (136 subjects, 47 controls) supports the use of the SNRIs (venlafaxine) for treating late-life GAD.

# Other Antidepressants....

- Mirtazapine (Remeron)
  - Good for sleep
  - Helps increase appetite
    - Weight gain
  - Anti-emetic properties
- MAOIs
  - Many food/drug interactions.
- TCA's: Imipramine (panic, GAD), Clomipramine (OCD): drug of choice for OCD
  - Lots of SE: constipation, dry mouth, dysrhythmias, orthostatic hypotension



# Trazadone (Desyrel)

- SARI: Serotonin antagonist
  - Anxiolytic properties
    - GAD study showed anxiolytic properties were comparable to Valium at 3-8 weeks (less effective at weeks 1-2)
    - Anxiety often causes sleep disturbances. If you help people to sleep, they often will have less anxiety.
      - Increases deep sleep
  - Has a half life of 8 hours

# Adjunct treatment option of Anxiety Disorders: Benzodiazepines (BZD)

- Benzodiazepines shown to cause multiple adverse side effects in elderly.
  - Beers' List (2012): Falls, Cognitive alteration, Highly addictive
- The BZDs to treat anxiety disorders include:
  - Clonazepam (Klonopin), which is used for social phobia and GAD
  - Lorazepam (Ativan), which is used for panic disorder
  - Alprazolam (Xanax), which is used for panic disorder and GAD.
- If benzodiazepines are used, they should be used for a short term at regular intervals rather than as needed, to avoid psychological dependence and withdrawal anxiety between doses.
  - People can build a tolerance to BZDs if they are taken over a long period of time
    - Will need higher and higher doses to get the same effect.
    - Some people become dependent on them.
  - If people suddenly stop taking BZDs, they may get withdrawal symptoms (anxiety)
    - Taper off slowly

# BZD

- Short acting: Aprazolam (Half life 6-26 hours)
- Medium acting: Lorazepam & Temazepam (10-20 hrs)
- Long acting: Clonazepam (25-50 hrs), Diazepam (20-100 hrs)





# BZD

- There have been many recent reports about BZD making memory and cognition worse, increasing falls, & impairing driving in elders.
- A recent study (Olfson et al., 2014) showed the highest use of BZD was in the elderly, compared to other age groups (8.7% of those aged over 65, where it was 2.6% in 18 to 30 year olds).
  - Also, there were more long-term prescriptions, meaning more than 120 days of supply for elders (31% for the over 65 vs 14.7% for 18-30)
  - Higher use of BZDs for women (2x more than men), with 1 out of 10 older women receiving them

# Treatment of Geriatric Anxiety Disorders: Other options

- Mood stabilizers: If there is a suspicion of BPAD
- Hydroxyzine: Antihistamine, antagonizes H1 receptors. Anticholinergic!
- Anticonvulsants:
  - Topamax (topiramate): One study showed success with PTSD resistant to other medications.
  - Gabapentin (Neurontin)
- Antipsychotics
- HTN meds
  - Clonidine: Helps block the nonadrenergic effects of anxiety (tachycardia, sweating, tremor): Often used in setting of detox from ETOH, barbiturates, BZDs
  - B blockers: Blocks excess norepinephrine at B receptors, which lessens anxiety
  - Propranolol and Atenolol: Were a common treatment for SocAD in the past
- Buspirone (Buspar): is an anti-anxiety medication used to treat GAD. Binds to S and D receptors.
  - Takes at least two weeks to start working.
  - Side effects: Dizzy, drowsy, N, insomnia, confusion, abd pain



# Gabapentin (Neurontin)

- Neurontin should be an ideal agent for anxiety.
  - It is structurally similar to GABA, which is the main inhibitory neurotransmitter in the CNS.
  - BZDs and ETOH exert their primary action by stimulating GABA receptors.
  - No drug-drug interactions.
  - Not addictive.
- The research: 2 randomized controlled studies (both were funded by a drug company)
  - Social phobia: Neurontin-treated patients had a 32% response rate, significantly higher than the 14% placebo response rate.
    - But, the typical response rate is 50% or more (with SSRIs and BZDs)
  - For panic disorder, the study showed no difference at all versus placebo



# Antipsychotics

- Antipsychotics are sometimes used for anxiety.
  - These drugs lessen the effect of dopamine, which helps control your muscle movements, thoughts, and emotions.
  - Therefore, they have lots of side effects (TD, Parkinsonism, Falls).
- **Black box warning of increased risk of death.**
- Can help if there are delusional thoughts contributing to anxiety.

# Geriatric Anxiety Treatment

- If you suspect a component of dementia contributing to anxiety:
  - Cholinesterase inhibitors: Aricept or Exelon
  - Memantine (Namenda)
    - Studies have shown that a ChEI and Namenda together improve symptoms of anxiety with patients who have Alzheimer's dementia.
- Avoid stimulants, like methylphenidate (Ritalin), which may worsen anxiety symptoms.
- Watch caffeine intake, as this can worsen anxiety symptoms
  - Coffee, tea, chocolate, energy drinks



# Non-Pharmacologic Therapies

- Exercise: Research on anxiety and exercise shows that the psychological and physical benefits of exercise can also help reduce anxiety and improve mood.
- Meditation: Helps to stop negative thoughts, reduce your heart rate, reduce sweating, itching, and agitation, ease nausea, relieve insomnia, and confront fears.
- Omega 3: Caviar/mackerel/salmon: Help improve the communication between the different neurotransmitters in our brain cells, ensuring that the right information is sent and received.
  - Studies conducted with regards to using omega 3 to treat Parkinson's disease and Alzheimer's have found that large quantities of omega 3 in the system helps to neutralize neurotoxins that may disrupt the normal functioning of the dopamine system. By eliminating these toxins, the dopamine system is able to function normally, decreasing anxiety attacks.
- SAM-e (S-adenosylmethionine): Naturally occurs in the cells of plants and animals (not an herb). As we age, we produce less SAM-e, so replacing it with a supplement can theoretically treat clinical depression
- St. John's Wort: Data suggests it helps depression. But, for anxiety disorder, the patients who took the medicine didn't improve any more than patients who took a placebo. Furthermore, it has numerous serious drug interactions.



# More Herbal Therapies

- Kava root: From the South Pacific has some studies showing that it helps mild to moderate anxiety.
  - In human studies, kava has performed as well as BZDs (Valium, Xanax), but without negative effects.
- Passionflower: Has sedative, anxiolytic, and antispasmodic effects.
  - Numerous studies support sedative and anxiolytic effects.
- Lemon Balm: Can enhance sleep.
  - Study with healthy volunteers showed that giving lemon balm for a week improved mood, and boosted both calmness and alertness.
- Valerian: Helps with sleep.
  - The 2006 Cochrane Database of Systematic Reviews concludes that there is insufficient evidence to demonstrate valerian's efficacy.

# Cognitive Behavioral Therapy

- CBT has been shown in studies to help:
  - Improve sleep
  - Lessen anxiety (especially phobias)
  - Improve depression

The end...

Any questions?