I am a Registered Dietitian Nutritionist
UCI Health
Susan Samueli Integrative Health Institute

• UC Irvine Paul Merage School of Business Dean’s Advisory Board
• USC Leonard Davis School of Gerontology Board of Councilors
• Chapman University Crean College Advisory Council
• Development Executive Strategic Committee for Beckman Laser Institute
Balancing Blood Sugars
What Can Sugar Do?

Sherry Schulman
MBA, MS, RDN
We Are What We Eat
Hippocrates

• If we could give every individual the right amount of nourishment and exercise, not too little and not too much, we would have found the safest way to health.
Why Are We Always Hungry
AMERICAN SUGAR CONSUMPTION

Average American consumes 16.2 tsp added sugar daily (64 grams or 250 calories). This adds up to 152 lbs of sugar per year.

2015-2020 Dietary Guidelines recommend 10% or less total daily calories from added sugar. (12 teaspoons (48g) or less of added sugar per day).

AHA advises limit sugar to 36 grams/day for men and 25 grams per day for women.

2020-2025 Dietary Guidelines Advisory Committee recommended lowering to less than 6% daily calories from added sugar (about 7 teaspoons or 30g per day). However, there was no change to USDA guidelines.
What is Happening to Our Health

The Projected Diabetes Rate in the United States
Percentage of US Population with Diagnosed and Undiagnosed Cases

- 2015: 11.1%
- 2020: 13.0%
- 2025: 14.4%
- 2030: 15.3%

Source: Institute for Alternative Futures

Number of Americans with Chronic Diseases

- 1995: 118 millions
- 2000: 125 millions
- 2005: 133 millions
- 2010: 141 millions
- 2015: 149 millions
- 2020: 157 millions
- 2025: 164 millions
- 2030: 171 millions

Number of Americans with Chronic Diseases (millions)
HIDDEN SOURCES OF SUGAR

**Twinkies Snack Cakes**
- 1 Twinkie
  - Sugars, total: 18g
  - Calories, total: 145
  - Calories from sugar: 74
- 2 Twinkies (1 package)
  - Sugars, total: 37g
  - Calories, total: 280
  - Calories from sugar: 148

**Yoplait Yogurt, Strawberry**
- 6 oz Container
  - Sugars, total: 27g
  - Calories, total: 170
  - Calories from sugar: 108

39g  65g  108g
CONSIDER YOUR DRINK

Grande Vanilla Latte

250 Cal

3.5 g sugar

= 39,000 cal

= 58 ½ CUPS sugar

= 11 POUNDS
Money Spent on Processed Food

The graph shows the trend in million dollars spent on various categories of processed food from 2000 to 2016. Key categories include:

- Snack Foods
- Wine and Beer
- Processed Fruit
- Beverages, Non-Alcohol
- Pasta and Processed Cereals
- Breakfast Cereals and Other Products
- Frozen French Fries and Potato Products

The spending has significantly increased over the years, with the largest expenditure seen in 2016.
WHAT IS INFLAMMATION?
Why Does it Matter?

• Inflammation is the body’s natural response to an injury/infection.

• There are "pro" and "anti" inflammatory phases. Both are essential for healing.

• Sugar is one of the most pro-inflammatory foods we consume
Serum Markers to be Concerned With

- **High A1C:** If 6.5 and above you are considered diabetic
- **High Insulin levels:** Indication of insulin resistance
- **Fasting Blood Glucose:** should be under 99 mg/dL is normal
- **CRP:** commonly elevated in atherosclerosis and cancer

DOES DIET INFLUENCE INFLAMMATION?

CERTAIN FOODS CONTRIBUTE TO FREE RADICAL PRODUCTION IN THE BODY.

• Free radicals are reactive molecules that damage cells and are linked to chronic degenerative inflammatory disorders, cancer, and aging.

• Worst Offenders
  • Foods high in added sugar.
  • Meat cooked at high temperatures (grilled and charred).

• Worst Offenders
  • Foods high in saturated fat: fatty meat, poultry skin, butter/lard, cheese and cream.
  • Foods that contain partially or fully hydrogenated oils (trans-fats): pastries, fried foods, snack items.
  • Foods high in omega-6 fats (soybean oil, corn oil, cottonseed oil): dressings, sauces, restaurant food.
  • Foods treated with pesticides: EWG “Dirty Dozen” for guideline of when to buy organic.

SOME FOODS CONTRIBUTE TO ADVANCED GLYCATION END PRODUCTS (AGEs) IN THE BODY.

• Accumulation of AGEs accelerates the aging process in organs throughout the body.


INFLAMMATION: IS IT ALL BAD?

ACUTE INFLAMMATION
• Redness, heat, swelling, and pain.
• Important for healing.

CHRONIC INFLAMMATION
• Can go unnoticed for years and remain below pain threshold.
• Plays a role in 7 of the top 10 causes of mortality in the US.
  • Heart Disease
  • Stroke
  • Cancer
  • COPD
  • Alzheimer’s
  • Diabetes
  • Kidney Disorders

3 WAYS TO LOWER Blood Sugars WITH DIET

• Eat real food.

• Eat a mix of macronutrients (carbohydrates, protein, and fat).

• Build meals around colorful plants.
Consume a Rainbow Daily
BUILD MEALS AROUND COLORFUL PLANTS

• Eating a variety of colorful fruits and vegetables helps keep excessive inflammation at bay.

• Ounce per ounce, herbs and spices have some of the greatest antioxidant activities known. Cloves, ginger, rosemary, and turmeric have been shown to lower inflammation.

WHEN TO BUY ORGANIC: THE “DIRTY DOZEN”
TOP 12 FOODS WITH THE MOST PESTICIDE RESIDUES

1. Strawberries
2. Spinach
3. Kale
4. Nectarines
5. Apples
6. Grapes
7. Peaches
8. Cherries
9. Pears
10. Tomatoes
11. Celery
12. Potatoes

Environmental Working Group
Why We Need Prebiotics

• The major source of food for colon bacteria is prebiotics.
• Prebiotics are non-digestible carbohydrates contained in fruits, vegetables and whole grains.
• Neither the acidity in our stomach nor enzymes in our intestine break down fiber.
• The fiber pass through the digestive tract undigested for the bacteria to break down and utilized as nutrients in the colon.
Great Sources of Fiber

Food sources of fiber include whole wheat, bran, fresh or dried fruits, and vegetables.
Top 8 Fiber Filled Vegetables

2. Lentils  *Fiber:* 15.6 grams per cup, cooked.
4. Lima Beans  *Fiber:* 13.2 grams per cup, cooked.
5. Artichoke  *Fiber:* 10.3 grams per medium vegetable, cooked.
6. Peas  *Fiber:* 8.8 grams per cup, cooked.
7. Broccoli  *Fiber:* 5.1 grams per cup, boiled.
8. Brussels Sprouts  *Fiber:* 4.1 grams per cup, boiled.
Lentil, Broccoli, and Brussels Sprouts Trifecta
Top 8 Fiber Filled Fruits

• 1. Avocados  Fiber: 10.1 grams per cup
• 2. Asian Pears  Fiber: 9.9 grams per medium pear
• 3. Raspberry  Fiber: 8 grams of fiber per cup
• 4. Blackberry  Fiber: 7.6 grams of fiber per cup
• 5. Prunes  Fiber: 7.7 grams of fiber per cup
• 6. Coconut  Fiber: 7.2 grams per cup
• 7. Apple  Fiber: 3.3 grams per medium apple
• 8 Strawberries  Fiber: 3.3 grams per cup
11 Grams of Fiber
Fiber Filled Grains and Nuts

• **Wholesome Whole Grains**
  One of the easiest ways to up fiber intake is to focus on whole grains. A grain in nature is essentially the entire seed of the plant made up of the bran, germ, and endosperm.

• **Get on the Bran Wagon**
  One simple way to increase fiber intake is to power up on bran. Bran from many grains is very rich in dietary fiber.

• **7. Squirrel Away Nuts and Seeds**
  Go nuts to pack a fiber punch. One ounce of nuts and seeds can provide a hearty contribution to the day's fiber recommendation, along with a bonus of healthy fats, protein, and phytochemicals.
Institute of Medicine (IOM)

- Currently over ninety percent of all Americans’ intake of fiber is **WELL** below the daily recommended level.
- In 2005 fiber was identified as a **Public Health Concern**, this drew attention to the **lack** of consumption of a diet high in fiber, this remains a concern to this day.
- The IOM Recommend 25-38 grams of fiber per day, the average American consumes about 12 grams of fiber per day.
- It is a great policy on paper, but it is too vague just asking Americans to increase consumption of whole grain, fruits and vegetables. These limitations create barriers to following the 2020-2025 guidelines for fiber consumption.
Healthy Bacteria Blanket the Colon Cells
A Healthy Microbiome

• The colon is responsible for absorbing water, salt, and other nutrients from the body’s waste.
• In addition it produces vitamins K and B, carbon dioxide, and short chain fatty acids (SCFA)
• One preventative approach to increase systemic health is to have a healthy microbiome
• That means daily eating foods adding up to 25-30 grams of fiber and including a probiotic
We Can Alter the Microbiome

• The most important mechanism of prebiotics is their fermentation in the colon that results in changes to the microbial colony or microbiome

• Unlike the small intestine, the colon is made of smooth tissue lacking villi

• This smooth surface enables billion of bacteria to coat the colon and live in a healthy balance with the body
Essential Fatty Acids
We Must Get Our Omega 3s From Food

- What does essential mean?
- What do Omega 3s do?
- Do you have 3 servings of SMASH fish per week
EAT A MIX OF MACRONUTRIENTS

- Plant based proteins (beans, lentils, tofu) have an advantage over animal proteins in reducing inflammation.
- Whole grains reduce inflammatory marker levels within the body. They are also satiating due to their fiber.
- Flavonoids found in berries, dark leafy greens, and onions have also been found to reverse age-related declines in memory and learning.
- National Academy of Sciences recommends 1.1 grams of omega-3 per day for women and 1.6 grams of omega-3 per day for men.

Give your body the nutrition it needs with balanced meals.

PROTEIN
- 1-2 PALM SIZE PORTIONS
  - WILD SALMON: 3 ounces, 1716 mg
  - TUNA: 3 ounces, 1414 mg
  - FLAX SEED: 1 tbsp, 1597 mg
  - WHITE FISH: 3 ounces, 1365 mg
  - HEMP SEED: 1 tbsp, 1000 mg
  - WALNUT: 1/4 cup, 2664 mg
  - CHIA SEED: 1 tbsp, 2457 mg
  - ANCHOVY: 2 ounces, 950 mg

VEGETABLES
- 2-3 FIST SIZE PORTIONS
  - LEAFY GREENS
  - CRUCIFEROUS
  - ROOTS
  - AROMATICS
  - FRESH HERBS

WHOLE GRAINS + STARCHY VEG
- 1 CUPPED HAND SIZE PORTION
  - (SWEET) POTATO
  - BROWN RICE
  - QUINOA
  - OATS
  - PASTA
  - BREAD
  - SQUASH

FRUIT
- 1 THUMB SIZE PORTION
  - BERRIES
  - CITRUS
  - MELOS
  - TROPICAL
  - JUICED
  - FRESH OR DRIED

FLAVOR
- SALT
- DRIED HERBS
- MUSTARD
- VINEGAR
- SPICES

FAT
- AVOCADO
- NUTS/SEEDS
- OLIVES
- COCONUT
- COLD PRESS OIL
- BUTTER/CHEESE

UCI Health
EAT REAL FOOD.

• Look at the number and type of ingredients on the nutrition label.

• Real whole foods have short and simple to understand ingredients lists.
ACTION ITEMS

• Eat 2-3 servings of legumes this week: peas, beans, lentils, chickpeas, and peanuts.

• Eat 4 servings of fruit and 5 servings of vegetables daily.

• Add color to each meal with vegetables, herbs, or spices.

• Eat 1 serving of nuts each day: try walnuts!

• Make at least half your grains whole. There are a lot of great choices including corn, popcorn, brown or wild rice, baked corn tortillas, and quinoa amaranth, barley, brown rice, buckwheat, bulgur, cornmeal, farro, wheat berries, and quinoa.

• Eat 2 servings of fish this week.
Thought for the Day!

Thank you!

Your body is a temple, but only if you treat it as one. 
Astrid Alauda

Whole foods are Nutrient Dense foods for your Body.
Contact Information

UCI Health
Costa Mesa Office 714-424-9001
Newport Beach Office 949-386-5700
Depression – Prevention, Diagnosis and Treatment
UCI SSIHI / Be Well OC Integrative Health Conference

Robert M. McCarron, D.O.
Director of Education, Susan Samueli Integrative Health Institute
Assistant Dean, Continuing Medical Education
Department of Psychiatry
University of California, Irvine School of Medicine
Depression...Just What You Need To Know...

- What do you want to know???
- What is Depression?
- What is Bipolar Depression
- Prevention
- Treatment
Depression...

- Depression is extremely common with a lifetime prevalence of 20%.
- The leading cause of disability in the US for 15-44 y/o’s and is projected to be the 2nd cause of disability worldwide by 2030.
- The diagnosis of depression is missed about 50% of the time.

- IT CAN BE PREVENTED AND TREATED!!
Primary Care is the ‘De Facto’ Mental Health System

National Comorbidity Survey Replication
Provision of Behavioral Health Care: Setting of Service

Only ~ 1/10 see a psychiatrist

No Treatment 59%
Receiving Care 41%
General Medical 56%
MH Professional 44%

Wang P et al., Twelve-Month Use of Mental Health Services in the United States, Arch Gen Psychiatry, 62, June 2005
Recovery

- The majority of patients with depression will not recover spontaneously and without treatment within six months.
- Lack of recovery is associated with more severe symptoms and somatic symptoms.
- Partner with your provider!!

Education Is Prevention...
AMPS
Primary care psychiatric history

- Anxiety
  “Is anxiety or nervousness a problem for you?”

- Mood
  "Do you hear or see things that other people do not hear or see?"
  "Do you have thoughts that people are trying to follow, hurt, or spy on you?"

- Psychosis
  "Do you smoke cigarettes (yes/no)?"
  "How much alcohol do you use per day?"
  "Have you ever used cocaine, methamphetamines, heroin, marijuana, PCP, LSD, non-prescribed pain medications or other drugs? (yes/no)"

- Depression
  “Have you been feeling depressed, sad, or hopeless over the past two weeks?”

- Mania / hypomania
  “Have you ever felt the complete opposite of depressed, where friends and family were worried about you because you were too happy?”

  “Have you ever had excessive amounts of energy running through your body, to the point where you did not need to sleep for days?”

Primary Care Psychiatry 2nd Edition – McCarron, Xiong, et al.
Major Depressive Disorder (MDD)

- *Depressed mood OR loss of interest or pleasure (anhedonia)*
  - Minimum period of 2 weeks
  - Not due to normal bereavement

- PLUS four of the following symptoms:
  - Change in sleep patterns (sleeping more or less)
  - Change in appetite or weight (eating more or less)
  - Psychomotor agitation or retardation
  - Loss of energy, fatigue
  - Feelings of self-blame, worthlessness, guilt
  - Difficulty concentrating, indecisiveness
  - Thoughts of death or suicide

DSM 5
DEPRESSION DIAGNOSIS

- **S**leep - (too much or too little)
- **I**nterest – (diminished)
- **G**uilt – (feelings of worthlessness)
- **E**nergy – (loss of energy)
- **C**oncentration – (indecisive)
- **A**ppetite – (↑ or ↓ with 5% change over one month)
- **P**sychomotor retardation or agitation (observed by others)
- **S**uicide – (recurrent thoughts of death)
Patient Health Questionnaire (PHQ-9)

Nine-Symptom Depression Checklist

Name: ___________________________ Date: ___________________________

Over the last 2 weeks, how often have you been bothered by any of the following problems? (Please circle your answer.)

<table>
<thead>
<tr>
<th>Question</th>
<th>Not at All</th>
<th>Several Days</th>
<th>More than Half the Days</th>
<th>Nearly Every Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Little interest or pleasure in doing things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Feeling down, depressed, or hopeless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Trouble falling or staying asleep, or sleeping too much</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Feeling tired or having little energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Poor appetite or overeating</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Feeling sad about yourself—or that you are a failure or have let yourself or your family down</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Trouble concentrating on things, such as reading the newspaper or watching television</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>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</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Thoughts that you would be better off dead or of hurting yourself in some way</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Add Columns, ____________ ____________

Total Score: ____________

*Score is for healthcare provider

10. If you circled any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people? (Please circle your answer.)

<table>
<thead>
<tr>
<th>Not Difficult at All</th>
<th>Somewhat Difficult</th>
<th>Very Difficult</th>
<th>Extremely Difficult</th>
</tr>
</thead>
</table>

A score of: 0–4 is considered non-depressed; 5–9 mild depression; 10–14 moderate depression; 15–19 moderately severe depression; and 20–27 severe depression.
Defining the Spectrum...  
Building Blocks: **Manic Episode**

- Distinct period – abnormally
  - Expansive  OR
  - Irritable  OR
  - Elevated (euphoric)

- Duration of **one week or hospitalization**
Defining the Spectrum...
Building Blocks: **Manic Episode**

- Inflated self-esteem or grandiosity
- Decreased need for sleep
- More talkative than usual
- Racing thoughts or flight of ideas
- Distractibility
- Increased goal directed behavior or agitation
- Excessive involvement in pleasurable activities that have a high potential for unfavorable outcomes
- Significant social or occupational dysfunction
- Not due to medical condition or medication / drugs
  - Including anti-depressants or stimulants
4) List the different BIPOLAR disorders and how to differentiate between them
**TABLE 8.5 Side-Effects Profile of Antidepressant Classes**

<table>
<thead>
<tr>
<th></th>
<th>SEXUAL DYSFUNCTION/DECREASED LIBIDO</th>
<th>WEIGHT GAIN</th>
<th>SEDATION</th>
<th>HEART</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SSRIs</strong></td>
<td>+++</td>
<td>+&lt;sup&gt;a&lt;/sup&gt;</td>
<td>+/−&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0</td>
</tr>
<tr>
<td><strong>SNRIs</strong></td>
<td>+++</td>
<td>+/−</td>
<td>+/−</td>
<td>+ (↑ BP)</td>
</tr>
<tr>
<td>Mirtazapine</td>
<td>+</td>
<td>+++</td>
<td>++</td>
<td>+/−</td>
</tr>
<tr>
<td>Bupropion</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+/− (↑ BP)</td>
</tr>
</tbody>
</table>

BP, blood pressure; ECG, electrocardiogram, abnormalities; SSRIs, selective serotonin reuptake inhibitors; TCA, tricycle antidepressants.

<sup>a</sup> Paroxetine and fluvoxamine are more likely to cause sedation and weight gain.
<table>
<thead>
<tr>
<th>MEDICATION</th>
<th>INITIAL DOSE (mg/day)</th>
<th>THERAPEUTIC DOSE (mg/day)</th>
<th>PRACTICAL POINTERS FOR THE PCP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Selective serotonin reuptake inhibitors (SSRIs)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sertraline (Zoloft)</td>
<td>50</td>
<td>50-200</td>
<td>Serotonin and dopamine reuptake inhibition. Low drug interactions.</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>20</td>
<td>20-60</td>
<td>High anticholinergic and antihistamine.</td>
</tr>
<tr>
<td>Paroxetine CR (Paxil, Paxil CR)</td>
<td>12.5-20</td>
<td>25-75</td>
<td>Sedating, weight gain, and dry mouth. Short half-life. Drug interactions. Pregnancy–class D</td>
</tr>
<tr>
<td>Fluoxetine (Prozac)</td>
<td>20</td>
<td>20-60</td>
<td>Long half-life. Relatively inexpensive</td>
</tr>
<tr>
<td>Fluvoxamine (Luvox)</td>
<td>50</td>
<td>50-300</td>
<td>Rarely used owing to high side effect profile</td>
</tr>
<tr>
<td>Citalopram (Celexa)</td>
<td>20</td>
<td>20-40</td>
<td>Low risk for drug interactions.</td>
</tr>
<tr>
<td>Escitalopram (Lexapro)</td>
<td>10</td>
<td>10-20</td>
<td>Low risk for drug interactions.</td>
</tr>
</tbody>
</table>
### TABLE 8-4 First-Line Antidepressant Medications (SNRI’s)

<table>
<thead>
<tr>
<th>MEDICATION</th>
<th>INITIAL DOSE (mg/day)(^a)</th>
<th>THERAPEUTIC DOSE (mg/day)</th>
<th>PRACTICAL POINTERS FOR THE PCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serotonin norepinephrine reuptake inhibitors (SNRIs)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| **Venlafaxine XR** (Effexor XR)                  | 37.5                        | 75-300                    | • Serotonin & norepinephrine reuptake inhibition.  
  • Occasional adjunct chronic pain.  
  • Caution in those with HTN.  
  • Short half-life.  
  • Reduce dose with renal insufficiency. |
| **Desvenlafaxine** (Pristiq)                     | 50                          | 50-100                    | • Same as above (structurally similar to venlafaxine) |
| **Duloxetine** (Cymbalta)                        | 30                          | 30-60                     | • Dual action on serotonin and norepinephrine receptors.  
  • FDA approved for fibromyalgia, diabetic neuropathy, chronic musculoskeletal pain. |
<table>
<thead>
<tr>
<th>CLASS</th>
<th>INITIAL DOSE (mg/day)</th>
<th>THERAPEUTIC DOSE (mg/day)</th>
<th>PRACTICAL POINTERS FOR THE PCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bupropion SR (Wellbutrin SR)</td>
<td>100</td>
<td>300-400</td>
<td>See above.</td>
</tr>
<tr>
<td>Bupropion XL (Wellbutrin XL)</td>
<td>150</td>
<td>300-450</td>
<td>See above.</td>
</tr>
<tr>
<td>Mirtazapine (Remeron)</td>
<td>15</td>
<td>15-45</td>
<td>Increase central serotonin and norepinephrine activity (possibly through presynaptic a2-adrenergic receptor inhibition). Decreased frequency of sexual side effects. Increased sedation and sleepiness at mainly lower doses.</td>
</tr>
</tbody>
</table>
### Bipolar: Treatment

**INITIAL APPROACH**

Medication ± Psychotherapy

Secondary/co-occurring: treat medical/substance use simultaneously

Psychotherapy: see psychotherapy section for details

#### MEDICATION CHOICE

Choose by class, side effects, and contraindications

<table>
<thead>
<tr>
<th>Medication</th>
<th>Condition</th>
<th>Dose</th>
<th>Side Effects</th>
<th>Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamicantil 200 mg/day</td>
<td>Mania</td>
<td>Common side effects: nausea, vomiting, weight gain, dizziness, headache, tremor, increased appetite, dry mouth, constipation, insomnia, diaphoresis, sexual dysfunction, suicidal ideation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lithium 300-600 mg/day</td>
<td>Mania</td>
<td>Common side effects: nausea, vomiting, weight gain, dizziness, headache, tremor, increased appetite, dry mouth, constipation, insomnia, diaphoresis, sexual dysfunction, suicidal ideation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*OFF-label, evidence-based but no FDA indication*

**MEDICATION CHOICE**

Choose by class, side effects, and contraindications

<table>
<thead>
<tr>
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<th>Dose</th>
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<th>Contraindications</th>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

*OFF-label, evidence-based but no FDA indication*
Bipolar: Treatment

### MEDS BY CLASS

<table>
<thead>
<tr>
<th>1) Minor mood stabilizer</th>
<th>SIDE EFFECTS AND SAFETY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamotrigine 25-400 HS or div BID</td>
<td>No labs required for monitoring, but less effective for full mania</td>
</tr>
<tr>
<td>Oxcarbazepine* 300-1200 HS or div BID</td>
<td>Rare lethal rash (start at 25 mg for 2 weeks) Must restart titration if missed &gt;4 days</td>
</tr>
<tr>
<td>Lithium ER 300-1200 HS or div BID</td>
<td>Hyponatremia not uncommon</td>
</tr>
<tr>
<td>Divalproex ER 500-3000 HS or div BID</td>
<td>Pregnancy, breast feeding, arrhythmia, kidney disease</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2) Major mood stabilizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium ER 300-1200 HS or div BID</td>
</tr>
<tr>
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</tr>
</tbody>
</table>

Not discussed -- carbamazepine (Tegretal)

---

**BIPOLAR: TREATMENT**

**INITIAL APPROACH**

Medication + Psychotherapy

Secondary-care occurring: treat medical/substrate use simultaneously

Psychotherapy: see psychotherapy section for details

**MEDICATION CHOICE**

**MEDS BY CLASS**

<table>
<thead>
<tr>
<th>Minor mood stabilizer</th>
<th>SIDE EFFECTS AND SAFETY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lamotrigine 25-400 HS or div BID</td>
<td>Rare lethal rash (start at 25 mg for 2 weeks) Must restart titration if missed &gt;4 days</td>
</tr>
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<td>Oxcarbazepine* 300-1200 HS or div BID</td>
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</tr>
<tr>
<td>Divalproex ER 500-3000 HS or div BID</td>
<td>Most effective for mixed-features/rapid cycling</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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</tr>
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<tbody>
<tr>
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</tr>
</tbody>
</table>

**Common side effects:** fatigue, dry mouth, somnolent upset, increased appetite/weight gain, feeling foggyheaded (all), tremor, increased sensation, hypokalemia (L), muscle tenderness/stiffness (SGA)

*Off-label, evidence-based list no FDA indication*
# Bipolar: Treatment

## Initial Approach
- Medication + Psychotherapy
- Secondary/occurring: treat medical/substrate use simultaneously Psychotherapy: see psychotherapy section for details

## Medication Choice

<table>
<thead>
<tr>
<th>Medication Choice</th>
<th>3) SGA</th>
<th>4) Combination</th>
<th>5) Psych referral</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effectiveness</strong></td>
<td>Effective but frequent labs required</td>
<td>Most effective but most side effects/risks/labs</td>
<td>For psychotherapy, meds, or TMS/ECT</td>
</tr>
<tr>
<td><strong>Side Effects</strong></td>
<td>Most akathisia but least sedation/QT</td>
<td>Long titration, ▼ BP, and most sedation ER form titrates faster but ± formulary</td>
<td>Common side effects: fatigue, dry mouth, stomach upset, increased appetite/weight gain, feeling foggy-headed (all); tremor, increased urination, hypothyroidism (Li); muscle restlessness/stiffness (SGA)</td>
</tr>
<tr>
<td><strong>Dosage</strong></td>
<td>Aripiprazole 5-30 HS or daily</td>
<td>Olanzapine 5-20 HS</td>
<td>Common side effects: fatigue, dry mouth, somnolent, increased appetite/weight gain, feeling foggy-headed (all); tremor, increased urination, hypothyroidism (Li); muscle restlessness/stiffness (SGA)</td>
</tr>
</tbody>
</table>

### Not discussed -- many (FGA and non-generic SGAs)

- Olanzapine 5-20 HS: Most sedation/weight gain
- Quetiapine 50-800 HS or ER 300-800 HS: Long titration, ▼ BP, and most sedation ER form titrates faster but ± formulary
- Long QT (2nd worst in class)
- Lithium ER 300-1200 HS or ER 500-2000 mg: Most effective for manic/hypomanic episodes, pregnancy, breast feeding, arrhythmia, kidney disease
- Divalproex ER 500-2000 mg: Most effective for mixed/mixed/repeated rapid cycling
- Risperidone 1-6 HS: Most EPS/TD and ▲ prolactin
- Lurasidone 20-120 HS: Low weight gain and moderate sedation
- Ziprasidone 200-600 mg or ER 360-800 HS: Long titration, ▼ BP, and most sedation ER form titrates faster but ± formulary
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- Long QT (2nd worst in class)
Depression Treatment with CBT

“CHEMICAL IMBALANCE”
5HT, DA, NE

FEELINGS & SOMATIC COMPLAINTS

DYSFUNCTIONAL THINKING
(NEGATIVE AND INACCURATE!)
-ALL OR NONE THINKING
-OVERGENERALIZATION
-ARBITRARY INFERENC
-OTHER...
RECONSTRUCT dysfunctional thoughts...

<table>
<thead>
<tr>
<th>AUTOMATIC DYSFUNCTIONAL THOUGHTS</th>
<th>RECONSTRUCTED THOUGHTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Nobody likes me.”</td>
<td>“That can’t be true because my wife and kids love me.”</td>
</tr>
<tr>
<td>“I’m a failure at everything I do.”</td>
<td>“Maybe I’m just not good in this one area.”</td>
</tr>
<tr>
<td>“I will never amount to anything.”</td>
<td>“I already have a good job and I might get a promotion next year.”</td>
</tr>
<tr>
<td>“I will never feel normal again.”</td>
<td>“Depression can get better with medication and therapy.”</td>
</tr>
<tr>
<td>“I have always been depressed.”</td>
<td>“Not true- I was very happy when I got married and graduated from college!”</td>
</tr>
</tbody>
</table>
The Three R’s...for the patient

- **RECOGNIZE** automatic and negative thoughts
- **RECONSTRUCT** to more realistic thoughts
- **REPEAT** indefinitely!!

– Feeling Good, David Burns MD (first 80 pages)
QUESTIONS...?

Be Happy...Be Well...😊
ANXIETY DISORDERS:
JUST WHAT YOU NEED TO KNOW

JAESU HAN, MD
CLINICAL PROFESSOR
UC IRVINE, DEPARTMENTS OF PSYCHIATRY AND FAMILY MEDICINE
DISCLOSURES

• Nothing to disclose
OBJECTIVES

• What makes anxiety an anxiety "disorder?"

• What are the anxiety disorder?

• How do we manage anxiety disorders?
WHAT IS ANXIETY?

• **Mental** Ruminations / Worries about a future threat
• **Physical** symptoms (e.g. muscle tension, clammy hands...)
• Normal - “helps” us adapt
WHAT IS AN ANXIETY DISORDER?

• Provokes intense fear and worry, out of proportion to actual threat
• Maladaptive – interferes with social, educational / occupational functioning
• 6+ months
COMORBIDITY

- Major Depression
- Bipolar Disorder
- General Medical Disorders
- Substance Use Disorders
- Another Anxiety Disorder

Rodriguez 2004
### Epidemiology of Anxiety Disorders in U.S. Kessler 2012

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Lifetime Prev (%)</th>
<th>Gender Ratio (F : M)</th>
<th>Median age of onset (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Phobia (SP)</td>
<td>16</td>
<td>1.6 : 1</td>
<td>15</td>
</tr>
<tr>
<td>Social Anxiety Disorder (SAD)</td>
<td>11</td>
<td>1.4 : 1</td>
<td>15</td>
</tr>
<tr>
<td>Generalized Anxiety Disorder (GAD)</td>
<td>4.3</td>
<td>1.8 : 1</td>
<td>30</td>
</tr>
<tr>
<td>Panic Disorder (PD)</td>
<td>4</td>
<td>1.8 : 1</td>
<td>23</td>
</tr>
<tr>
<td>Agoraphobia (AG)</td>
<td>3</td>
<td>1.8 : 1</td>
<td>23</td>
</tr>
</tbody>
</table>
DSM-5 CRITERIA: SPECIFIC PHOBLIA

- **Marked** fear or anxiety about a **specific** object or situation
SPECIFIC PHOBIA

- Previously called “Simple Phobia”
- Up to 15% of population
- May develop after traumatic event

Eaton 2018
DSM-5 CRITERIA: SOCIAL ANXIETY DISORDER

- Marked fear / anxiety about acting in **humiliating or embarrassing** way in social situations.
DSM-5 CRITERIA: GENERALIZED ANXIETY DISORDER

- Excessive anxiety and worry, difficult to control, related to a number of different activities or events in multiple contexts, nearly daily basis
- 3 + of the following: restlessness, fatigue, poor concentration, irritability, muscle tension, sleep disturbance
- Variable age of onset (mean 30)
- Waxing/waning course
- Physical presentation very common
PANIC ATTACK

Abrupt onset of intense fear, peaks within minutes, 4+ of the following:
DSM-5 CRITERIA: PANIC DISORDER

- **Recurrent, unexpected** panic attacks followed by one or both of the following:
  - Persistent concern about more panic attacks or consequences of panic attacks
  - Maladaptive change in behavior
- 1+ month

- Waxing / waning course, often preceded by major stressor
DSM-5 CRITERIA: AGORAPHOBIA

Intense fear / anxiety in anticipation or entering 2+ situations where the person feels stuck, unable to escape or not able to get help:

Public transport, open or closed off areas, lines or crowds, alone outside the home.
**CAN THE ANXIETY BE FROM SOMETHING ELSE?**

<table>
<thead>
<tr>
<th>Medical condition</th>
<th>Medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Heart Arrhythmias</td>
<td>• Stimulants: amphetamines, methylphenidate</td>
</tr>
<tr>
<td>• Asthma / COPD</td>
<td>• Sympathomimetics: pseudoephedrine, beta agonists</td>
</tr>
<tr>
<td>• Hyperthyroidism</td>
<td>• Dopaminergics: amantadine, bromocriptine, levodopa</td>
</tr>
<tr>
<td>• Diabetes</td>
<td>• Oral or injected corticosteroids</td>
</tr>
<tr>
<td>• Anemia</td>
<td></td>
</tr>
<tr>
<td>• Seizure Disorder</td>
<td></td>
</tr>
<tr>
<td>• Substance Intox / Withdrawal</td>
<td></td>
</tr>
</tbody>
</table>
FACTORS LEADING TO ANXIETY

HEALTH HABITS
poor diet / sleep, caffeine, alcohol, lack of exercise

STRESSORS
medical issues, pain, social / work problems

GENETIC
family history of anxiety, childhood trauma

Anxious Thoughts + Physical Symptoms → Mood

Behavior
Avoidance of places and situations, isolation, other substance use
THE ANXIETY CYCLE

Trigger

THOUGHT: “If I feel palpitations, it means I’m having a heart attack”

MOOD: terror, fear

Racing heart, sweating, nausea, chest tightness.

MEDICATIONS

Underlying Assumptions

MEDICATIONS

TALK THERAPY

TALK THERAPY

“If I get on the freeway, I’ll get into an accident”

“if I say something, I’m going to sound dumb”

MOOD: more fear, terror

BEHAVIOR: substance use, avoidance, safety behavior

TALK THERAPY
MANAGEMENT

Education

- Explore factors leading to anxiety
- Collaborate on health habits and stress reduction
FACTORS LEADING TO ANXIETY

HEALTH HABITS
- Poor diet / sleep, caffeine, alcohol, lack of exercise

STRESSORS
- Medical issues, pain, social / work problems

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- Family history of anxiety, childhood trauma

Anxious Thoughts + Physical Symptoms → Mood
<table>
<thead>
<tr>
<th>Education</th>
<th>Medications</th>
<th>Talk Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Explore factors leading to anxiety</td>
<td>• Serotonergic Antidepressant</td>
<td>• Cognitive Behavioral Therapy (CBT)</td>
</tr>
<tr>
<td>• Collaborate on health habits and stress reduction</td>
<td>• Adjunctive Medications, selected cases</td>
<td>• Psychodynamic in some cases</td>
</tr>
<tr>
<td></td>
<td>SSRI</td>
<td>CBT</td>
</tr>
<tr>
<td>----------------</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>PD</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>GAD</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>SAD</td>
<td>++</td>
<td>++</td>
</tr>
<tr>
<td>SP</td>
<td>-</td>
<td>++</td>
</tr>
</tbody>
</table>

*a* Additional combined benefit.

*b* Especially if moderate to severe agoraphobia is present.

*c* If the exposure is infrequent and predictable.

CBT, cognitive behavioral therapy; GAD, generalized anxiety disorder; PD, panic disorder; SAD, social anxiety disorder; SP, specific phobia; SSRI, selective serotonin reuptake inhibitor.

++ , good evidence; +, some evidence; +/- , inadequate/mixed evidence; -, no evidence.
# CBT COMPONENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>Details</th>
</tr>
</thead>
</table>
| **Psychoeducation**        | • Explore Anxiety Cycle  
                           | • Goal is to approach and manage anxiety, not eliminate or avoid it    |
| **Relaxation Training**    | • Deep Breathing  
                           | • Progressive Muscle Relaxation                                        |
| **Cognitive Restructuring**| • Recognize underlying assumptions  
                           | • Develop action plans                                                 |
| **Behavior Therapy**       | • Gradual testing of anxiety provoking situations and develop new more  
                           |   adaptive underlying assumptions                                       |
THE ANXIETY CYCLE AND CBT

Trigger

MOOD: more fear, terror

THOUGHT: “If I feel palpitations, it means I’m having a heart attack”

BEHAVIOR: substance use, avoidance, safety behavior

“if I say something, I’m going to sound dumb”

“if I get on the freeway, I will get into an accident”

MOOD: terror, fear

Racing heart, sweating, nausea, chest tightness.

Behavioral Experiments: test ways of coping when negative assumptions occur

Behavioral Experiments: test the outcome of assumptions

10-20 weekly sessions
Initial increase in anxiety normal
# Medications with FDA Approval

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Comment</th>
<th>FDA Approval (anxiety disorders)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citalopram</td>
<td>Celexa</td>
<td>SSRI, delayed onset: first-line medication option but GI effects, sexual side effects can limit use in some patients</td>
<td>At least one is FDA approved for one of the following: GAD, PD, SAD</td>
</tr>
<tr>
<td>Escitalopram</td>
<td>Lexapro</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sertraline</td>
<td>Zoloft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>Prozac</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paroxetine</td>
<td>Paxil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Venlafaxine</td>
<td>Effexor XR</td>
<td>Serotonin Norepinephrine Reuptake Inhibitors (SNRI), delayed onset, more side effects vs SSRIs, helps with nerve pain</td>
<td>GAD, SAD</td>
</tr>
<tr>
<td>Duloxetine</td>
<td>Cymbalta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buspirone</td>
<td>Buspar</td>
<td>Serotonin Partial Agonist, delayed onset</td>
<td>GAD</td>
</tr>
<tr>
<td>Alprazolam</td>
<td>Xanax</td>
<td>Benzodiazepines: affects GABA, second-line due to cognitive, balance, sedative side effects, risk of dependence and respiratory depression, esp with opioids</td>
<td>GAD, PD</td>
</tr>
<tr>
<td>Lorazepam</td>
<td>Ativan</td>
<td></td>
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</tr>
<tr>
<td>Diazepam</td>
<td>Valium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clonazepam</td>
<td>Klonopin</td>
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COMMONLY USED OFF-LABEL MEDICATIONS

<table>
<thead>
<tr>
<th>Generic Name</th>
<th>Trade Name</th>
<th>Comment</th>
<th>Typical Off-label Use</th>
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<tbody>
<tr>
<td>Hydroxyzine</td>
<td>Vistaril, Atarax</td>
<td>Antihistamine</td>
<td>GAD</td>
</tr>
<tr>
<td>Propranolol</td>
<td>Inderal</td>
<td>Beta Blocker</td>
<td>Performance anxiety, SAD, PD</td>
</tr>
<tr>
<td>Gabapentin</td>
<td>Neurontin</td>
<td>GABA, agonist, used for nerve pain</td>
<td>GAD, PD</td>
</tr>
<tr>
<td>Pregabalin</td>
<td>Lyrica</td>
<td>GABA agonist, used for nerve pain</td>
<td>Approved in UK for GAD</td>
</tr>
</tbody>
</table>

**Nutraceuticals**
- Inositol, L-theanine, 5HTP, GABA, Tryptophan

**Botanicals**
- Lavender
PSYCHOTHERAPY VS MEDICATION
HOW DO YOU CHOOSE?

- Patient Preference / Readiness
- Availability of therapists / Transportation
- Previous medication trials
- Co-occurring conditions
- Severity
TAKE HOME POINTS

• Anxiety is not always bad: spectrum from healthy to maladaptive and disabling

• Best outcome: consider and address all factors and individualize management

• SSRI’s and CBT equally effective anxiety disorders
QUESTIONS?
Introduction to Mindfulness

Jessica Drew de Paz, Psy.D. (she/her)
Director of Mindfulness Programs
Mindfulness means paying attention in a particular way, on purpose, in the present moment non-judgmentally.

Jon Kabat-Zinn
Mind Full or Mindful?
A Wandering Mind is an Unhappy Mind

Stress Response
Fight, Flight or Freeze

1. Amygdala reacts to threat
2. Hypothalamus activates sympathetic nervous system, which releases adrenaline
3. Adrenal cortex releases cortisol (stress hormone) for continued alertness

- Dilation of pupils
- Fast breathing
- Heart pounding
- Tense muscles
- Slow digestion
- Sweating
Our Bodies Can Also Counter Stress
Feelings Chart

- Guilty
- Proud
- Confused
- Sad
- Lonely
- Afraid
- Happy
- Jealous
- Brave
- Mad
- Nervous
- Disappointed
- Frustrated
- Grateful
- Embarrassed
- Hopeful
Mindful Self-Compassion

Mindfulness Classes

- Mindfulness-Based Stress Reduction
- Mindful Eating
- Mindful Parenting
- Mindful Self-Compassion
- Yoga Therapy
- Nature Programs
- Teen Programs
Free Community Services

Mindful Meditation
M/W/F 12:00 – 12:25 pm  
Tu/Th 5:00 – 5:25 pm

Yoga for Wellbeing
M/W 5:30 – 6:30 pm
Tu/Th 9:00 – 10:00 am
Be Well OC brings together public and private sector partners, hospital systems, academic and faith-based institutions to build a transformational system of mental health care for all Orange County residents.
A community in action…

Be Well OC North Campus

Crisis Stabilization Units
1st floor

Recovery/Sobering Station
1st floor

Withdrawal Management
3rd floor

Crisis Residential
2nd floor

Substance Use Treatment Residential
3rd floor

Co-Occurring Residential
2nd floor
The Be Well Experience Guiding Principles

- Commitment to serve all community members regardless of payor status
- De-stigmatizing mental health: warm, welcoming, respectful – an exceptional experience
- Collaborative of public/private partners to provide new models of care
- A place that provides hope; a trusted support
- Supporting an integrated continuum of care and seamless connections to services
- Outdoor connectivity; nature as a vital part of health & wellness
Contact & Referral Info

Be Well Campus Main #:
949-749-2500

Direct Referrals:
Crisis Stabilization Units:
714-410-3500

Sobering/Recovery Station:
657-933-4101

OC Links Referral Line:
855-625-4657
Additional Resources

Any Behavioral Health Provider

Partner with your Provider – You are your biggest advocate

NAMI OC – namioc.org

UCI Psychiatry

• Outpatient
• Inpatient
• Partial Hospitalization
• Child, Adolescent and Adult care

SSIHI
Our Mission

Transform healthcare through the practice of integrative health/whole person health:

- Addressing Root Causes of Disease
- Lifestyle Modification
- Patient Empowerment
Strategic Pillars

- Discover
- Teach
- Heal
- Serve

UCI  Susan Samuele Integrative Health Institute
Team-based Integrative Health

- Specialist
- Behavioral Health
- Naturopathic Doctors
- Nutritionist
- Physical Therapy
- Acupuncture
- Massage
- Mindfulness
- Yoga
- Health Coach
- Patient
Inpatient and Outpatient Integrative Health
Clinical Services

Programs:
- Executive Health
- Integrative Breast Wellness
- Integrative Cardiology
- Integrative Children’s Health
- Integrative Dermatology
- Integrative Gastroenterology
- Integrative Pain
- Integrative Weight Management
- Concierge Primary Care
- Mind Brain Body Wellbeing
- Women’s Health

Treatments & Services:
- Acupuncture
- Biofeedback
- IV Infusion Therapy
- Mindfulness
- Massage Therapy
- Naturopathic Medicine
- Neuropsychology
- Nutritional Counseling
- Osteopathic Manipulation
- Physical Therapy
- Psychotherapy
- Tai Chi
- Yoga Therapy
Visit Our Website to Learn More
Thank You, Be Well and Happy Holidays...

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Thanks to all of you for joining us today!

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