Disclosures

- I have not financial or commercial disclosures
- I will talk about several off label uses of medications throughout this presentation (the nature of child and adolescent psychiatry)

Outline

• General Principles
• Diagnosis, evaluation, treatments for:
  • ADHD
  • Depression
  • Anxiety
• Suicide and self injury
• Resources
• Q & A

General principles

• Lack of RCTs
• Anecdotal, case series, open trials
• FDA regulates advertising only after approval, not prescribing
• "Most drugs lack pediatric labeling ("unapproved," "off-label")"
• Inform family – consent is an ongoing process
• Differences in pharmacodynamics / pharmacokinetics
  • More rapid absorption – higher peak levels
  • More water and less fat – different volume of distribution
  • GFR matured at 1 year
  • Larger liver relative to body size – larger doses per kg or divided doses
  • Less protein binding – greater proportion of drug active
• Start low, go slow, and go all the way

Background

• “Minimal brain damage”
• “Minimal brain dysfunction”
• “Hyperkinetic syndrome”
• “Hyperactivity”
• “ADD”

ADHD

Outline:

- General Principles
- Diagnosis, evaluation, treatments for:
  - ADHD
  - Depression
  - Anxiety
- Suicide and self injury
- Resources
- Q & A
Background

- DSM-5
  - Moved to the new neurodevelopmental disorders section
  - New subtypes:
    - Combined
    - Predominantly inattentive
    - Predominantly hyperactive / impulsive

DSM-5 Criteria

- A. A persistent pattern of inattention and / or hyperactivity-impulsivity that interferes with functioning or development, as characterized by (1) and / or (2):

1. Inattention: > 6 (only > 5 for ≥17 years) of the following symptoms for > 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic / occupational activities:
   - A. Poor attention to details, makes careless mistakes
   - B. Difficulty with sustained attention
   - C. Does not listen when spoken to directly
   - D. Failure to follow through on instructions or tasks
   - E. Difficulty organizing tasks and activities
   - F. Avoids, dislikes, or is reluctant to engage in task that require sustained effort
   - G. Loses things necessary for tasks and activities
   - H. Easily distracted by extraneous thoughts or stimuli
   - I. Forgetful in daily activities

2. Hyperactivity: > 6 (only > 5 for ≥17 years) of the following symptoms for > 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic / occupational activities:
   - A. Fidgets with or taps hands or feet, squirms in seat
   - B. Leaves seat in situations where remaining in seat is expected
   - C. Runs about or climbs in situations where it is inappropriate
   - D. Unable to play or engage in leisure activities quietly
   - E. “On the go,” “driven by a motor”
   - F. Talks excessively
   - G. Blurs out answers to questions, finishes sentences
   - H. Difficulty waiting turn
   - I. Interrupts or intrudes on others

- B. Several symptoms present <12 years
- C. Present in two or more settings
- D. Symptoms clearly interfere
- E. Symptoms do not occur exclusively during the course of a psychotic disorder and are not better explained by another mental disorder

Epidemiology

- Similar rates worldwide (where studies have been done)
- DSM-5: 5%
- Community surveys:

<table>
<thead>
<tr>
<th></th>
<th>Children</th>
<th>Adolescents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls</td>
<td>8%</td>
<td>6%</td>
</tr>
<tr>
<td>Boys</td>
<td>17%</td>
<td>11%</td>
</tr>
</tbody>
</table>

- Psychiatric outpatient: 30-50%
- Psychiatric inpatient: 40-70%
- Girls are underdiagnosed and undertreated
Comorbidity

- Very common:
  - 50% with ODD / CD (rare for studies to just be ADHD)
  - 33% with anxiety / mood disorder

Etiology

- Neurobiological features
  - Global maturational delay of cerebral cortex
    - Reduced volumes on scans (not diagnostic)
  - Immature prefrontal cortex
  - Norepinephrine, dopamine, and serotonin implicated

- Genetics
  - 75-80% heritability
  - Polygenic
  - Mood disorders, conduct disorder / antisocial personality disorder, and substance use disorders are common in ADHD families

Course and prognosis

- High activity level, impulsivity, low frustration tolerance, and oppositional behaviors are common in children less than 3 years
- Hyperactive type – presents earlier
- Inattentive type – presents later
- 30-50% of clinically diagnosed children continue to have ADHD as an adult

Evaluation

- Clinical diagnosis
- Complete family, medical, and obstetric history
- Guided studies only
- Neuropsychological testing
- Data from multiple environments (home, school, etc.)
- Waiting room > exam room
- Standardized scales
  - Vanderbilt (parents and teachers)
  - SNAP-IV
  - ADHD Rating Scale-5

<table>
<thead>
<tr>
<th>Common Medical Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prenatal</strong></td>
</tr>
<tr>
<td>Young mother</td>
</tr>
<tr>
<td>Poor maternal health</td>
</tr>
<tr>
<td>Maternal/cigarette or alcohol use</td>
</tr>
<tr>
<td><strong>Perinatal</strong></td>
</tr>
<tr>
<td>Prematurity</td>
</tr>
<tr>
<td>Intrauterine growth retardation</td>
</tr>
<tr>
<td><strong>Infancy</strong></td>
</tr>
<tr>
<td>Malnutrition</td>
</tr>
<tr>
<td><strong>Toxicity</strong></td>
</tr>
<tr>
<td>Lead exposure</td>
</tr>
<tr>
<td><strong>Genetic disorders</strong></td>
</tr>
<tr>
<td>Fragile X</td>
</tr>
<tr>
<td>Glucose-6-phosphate dehydrogenase deficiency</td>
</tr>
<tr>
<td>Generalized resistance to thyroid hormone</td>
</tr>
<tr>
<td>Phenylketonuria</td>
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<tr>
<td><strong>Brain injury</strong></td>
</tr>
<tr>
<td>Trauma</td>
</tr>
<tr>
<td>Infection</td>
</tr>
</tbody>
</table>
Treatment

• Parent education / psychoeducation
  • Number of resources to recommend (see appendix)
  • Goal is to help parents manage child’s environment
    • Consistent routines and structure
    • Reduce excessive stimulation
    • Averting predictable opportunity for misbehavior
    • Design and implementation of behavior modification strategies
• School
  • Build relationship with teacher
  • Individualized Education Program (IEP) or 504 plan
    • If push back from schools, connect family with an educational advocate

• Medications
  • Most children will have a positive response to one or more medications (hard to predict which ones)
  • Most require treatment up to and through adolescents
• General algorithm
  • 1st line: psychostimulants – methylphenidate (MPH) > amphetamine (AMP)
  • 2nd line: norepinephrine reuptake inhibitors (atomoxetine)
  • 3rd line: alpha-2-adrenergic agonists (guanfacine and clonidine)
  • 4th line: other antidepressants (bupropion)
  • Comorbid depression and anxiety: SSRI
  • Comorbid aggression that does not respond to behavioral interventions: atypical antipsychotics (aripiprazole, risperidone, etc.)

• Psychostimulants
  • MPH: Methylphenidate / dexmethylphenidate
    • Inhibit dopamine transporter and norepinephrine reuptake
  • AMP: Dextroamphetamine / amphetamine mixed salts / dextroxamphetamine
    • Inhibit dopamine transporter, norepinephrine reuptake, and release dopamine

• NIMH Multimodal Treatment of ADHD (MTA) study
  • Groups: MPH, behavioral therapy (BT), BT + MPH, treatment as usual
  • MPH > BT
  • MPH + BT > BT
  • MPH, MPH + BT, BT > treatment as usual
Treatment

• Dosing psychostimulants
  • Body weight is a rough guide
  • MPH = ½ AMP
  • Immediate release (IR) first for very young patients or those who are “sensitive” to medications, otherwise start extended release (ER)
  • IR onset ~30 minutes, duration ~3-4 hours (BID-TID dosing)
  • ER onset ~30 minutes, duration ~6-10 hours (QD-BID dosing)
  • If using ER, often add IR in the afternoon (~1/2 morning dose to start)
  • Ex: Concerta 36 mg in the morning and 10 mg Ritalin in the afternoon (1-4 PM)
  • Drug holidays when possible (weekends, breaks, summer)

• Common approach for uncomplicated cases
  • Start Concerta 18 mg daily (for very young patients start Ritalin 2.5 mg BID-TID)
  • Increase by 18 mg if ineffective and no side effects (27-36 is a reasonable range, rare to use 54 or 72 mg)
  • If poor coverage in the afternoon or clear rebound symptoms, add Ritalin
  • Adjust afternoon dose to protect sleep, melatonin is a good first line
  • If Concerta fails, switch to Focalin and follow similar schedule
  • Usually switch to AMP after 2 failures of MPH

• Adverse effects of psychostimulants
  • Rare but serious
    • Exacerbation of tics (worse with AMP)
    • Depression
    • Growth retardation (controversial / ADHD phenotype?)
    • Tachyarrythmia / Hyperertension
    • Psychosis
    • Raynaud's phenomenon
    • Priapism

• Atomoxetine
  • Blocks reuptake of norepinephrine
  • ½ respond in RTCs
  • Good for inattentive type and those with comorbid anxiety
  • Good for those concerned with substance use or diversion

Monitoring psychostimulants
  • HR/BP (every visit)
  • Wt/Ht (baseline, during titration, and Q3-4months / every visit)
  • EKG in those with known arrhythmias or structural heart problem and / or family history of sudden cardiac death or arrhythmias
  • Naturalistic studies show no increase in cardiac risk

Adverse effects of psychostimulants
  • Common
    • Anorexia (allow eating when hungry even if late at night)
    • Wt loss or slow wt gain (worse with AMP)
    • Irritability (worse with AMP)
    • Abdominal pain (give with food)
    • Headaches
    • Affect instability / Over activity / Irritability (particularly during rebound)
**Treatment**

- **Dosing atomoxetine**
  - Start 0.3 mg/kg/day (QD or divided doses)
  - Increase every few weeks with goal of 1.2 mg/kg/day (max 1.4 mg/kg/day)
  - Can be combined with stimulants
  - No need to taper

- **Adverse effects of Atomoxetine**
  - FDA Black Box Warnings:
    - Extremely rare but severe liver injury
    - Increased hostility, aggression, and suicidal ideation
  - Generally mild: sedation, decreased appetite, nausea, abdominal pain, and dizziness
  - Slight increase in HR and BP – no effect on QTc

**Treatment**

- **Alpha-2-adrenergic agonists (clonidine, guanfacine)**
  - Supported by RTC, though less effective than psychostimulants
  - Often used in combination with psychostimulants
  - Frequently used to address sleep issues in ADHD

- **Dosing alpha-2-adrenergic agonists (clonidine, guanfacine)**
  - Guanfacine IR
    - Start 0.1 mg/day QD-TID
    - Increase by 0.1 mg Q3-4 days (Max: 4 mg/day)
  - Guanfacine ER
    - Start 1 mg/day
    - Increase by 1 mg Q3-4 days (Max: 6 mg/day (up to 8 in adolescents))
  - Clonidine IR
    - Start 0.05 mg/day QHS until tolerated and switch to TID-QID (Max: 0.3 mg/day)
    - Increase by 0.05 mg Q2-4 weeks
  - Clonidine ER (not 1:1 with IR)
    - Start 0.1 mg QHS until tolerated and switch to BID (Max: 0.4 mg/day)
    - Increase by 0.1 mg Q1 week
  - Clonidine transdermal
    - 4-5 days in children (7 days in adults)

**Treatment**

- **Monitoring alpha-2-adrenergic agonists**
  - CV history (contraindicated in syncope, bradycardia, heart block)
  - EKG in select cases
  - Stop gradually to avoid rebound tachycardia and hypertension

**Treatment**

- **Adverse effects of alpha-2-adrenergic agonists**
  - Common: sedation and headache
  - Serious: hypotension, bradycardia, rebound hypertension, rebound tachycardia
Unestablished treatments

- Little to no evidence for the following:
  - Feingold diet and other elimination diets
  - Computer-based cognitive training
  - Neurofeedback / biofeedback
  - Sensory integrative training
  - Optometric vision training
  - Chiropractic manipulation
  - Metronome therapy
  - Herbal regimens
  - Homeopathy
  - Massage
  - Acupuncture

Depression

Background

- Common features of child and adolescent depression (not the same as adults)
  - Irritability
  - Boredom
  - Declining school performance
  - Withdrawal
  - Somatic symptoms (headaches and GI complaints)
  - Sleep difficulty
  - Conduct problems

Epidemiology

- Prepubertal prevalence: 1-3% (1F:1M)
- Adolescent prevalence: 7-11% (3F:1M)
- Adolescent lifetime prevalence: 20-25%
- Spokane County
  - 32.8% of adolescents reported depression in 2016 (significant increase from 2010)
  - Risk factors: increased age, female, American Indian, low maternal education

Course and prognosis

- Mean age of onset 14-9 years
- Onset <12 years: poor functioning, increased suicide attempts, more lifetime depression, psychiatric comorbidity
- Duration: 3-6 months in community vs. 5-8 months in community referred samples
- 20% with persistent depression >2 years in both community and clinical samples
- High rates of recurrence: 40% at 2 years, 72% at 5 years
- 10-20% will develop bipolar disorder
- 15 year follow up of childhood onset depression: 4% completed suicide
- 15 year follow up of adolescent onset depression: 8% completed suicide
- Comorbidity is the norm (high rates of anxiety, ODD, ADHD, etc.)

DSM-5 Criteria

- A. ≥5 of the following for ≥2 weeks, represents a change from previous functioning; at least one of the symptoms: depressed mood or loss of interest and pleasure
  - 1. Depressed / irritable mood most of the day, nearly every day
  - 2. Decreased interests or pleasure in activities
  - 3. Change in appetite / weight loss
  - 4. Insomnia or hypersomnia
  - 5. Psychomotor agitation / retardation
  - 6. Fatigue
  - 7. Worthlessness / guilt
  - 8. Poor concentration / indecisiveness
  - 9. Recurrent thoughts of death
### DSM-5 Criteria

- B. Cause clinically significant distress or impairment
- C. Not attributable to substances or medications
- D. Not better explained by another psychiatric disorder
- E. No history of mania / hypomania

### Evaluation

- Focus on PHQ-9A in primary care
- Order of questions are different
- Ages 12-18
- Score of 11: sensitivity (89.5%) and specificity (77.5%)
  - 5-10: mild
  - 11-14: moderate
  - 15-19: moderately severe
  - >20: severe

### Treatment Overview

- Mild: family psychoeducation, supportive counseling / problem solving, case management
- Moderate: SSRI (fluoxetine 1st line) or CBT / IPT (choice based on availability of treatment and family preference)
- Severe: SSRI (fluoxetine 1st line) + CBT / IPT
- Nonresponse: change SSRI → change to SNRI → ECT

### Antidepressants for Depression

<table>
<thead>
<tr>
<th>Medication</th>
<th>Starting Dose</th>
<th>Titration / (Max Dose)</th>
<th>FDA CAP indications</th>
<th>RCT Evidence</th>
<th>Pearls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluoxetine</td>
<td>10 mg</td>
<td>10 - 20 mg q2 - 4 weeks (60 mg)</td>
<td>OCD</td>
<td>Yes</td>
<td>Long life, minimal AEs</td>
</tr>
<tr>
<td>Escitalopram</td>
<td>5 mg</td>
<td>5 - 10 mg q2 - 4 weeks (20 mg)</td>
<td>OCD</td>
<td>Yes</td>
<td>Preferred over citalopram</td>
</tr>
<tr>
<td>Citalopram</td>
<td>10 mg</td>
<td>10 - 20 mg q2 - 4 weeks (60 mg)</td>
<td>OCD</td>
<td>Yes</td>
<td>Limited drug interactions</td>
</tr>
<tr>
<td>Sertraline</td>
<td>25 mg</td>
<td>25 - 50 mg q2 - 4 weeks (200 mg)</td>
<td>OCD</td>
<td>No</td>
<td>Limited drug interactions</td>
</tr>
<tr>
<td>Fluvoxamine</td>
<td>25 mg</td>
<td>25 - 50 mg q2 - 4 weeks (200 mg)</td>
<td>OCD</td>
<td>Yes</td>
<td>Often overlooked</td>
</tr>
<tr>
<td>Buproprion</td>
<td>150 mg</td>
<td>150 mg q2 - 4 weeks (450 mg)</td>
<td>OCD</td>
<td>No</td>
<td>Third line for ADHD</td>
</tr>
<tr>
<td>Venlafaxine</td>
<td>37.5 mg</td>
<td>37.5 - 75 mg q2 - 4 weeks (225 mg)</td>
<td>OCD</td>
<td>Yes</td>
<td>Discontinuation symptoms</td>
</tr>
</tbody>
</table>

### Antidepressants for Depression

- SSRI are superior to placebo (60% vs. 49%) (NNT=9, NNH=100)
- 1st line: Fluoxetine
  - Most evidence
  - 2016 Lancet meta-analysis suggests that only fluoxetine is statistically significant over placebo
  - Long half life allows for missed doses without major issues
  - Little in controlled studies
- 2nd line: everything else
- After 2 failed SSRIs, switch to a SNRI
- Little to no evidence for TCAs or MAOIs

### Antidepressants for Depression

- Predictors of poor response
  - Severity and chronicity of depression
  - Hopelessness
  - St and Non-suicidal self injury (NSSI)
  - Family / interpersonal conflict
  - Functional impairment
  - History of abuse
Treatment of Adolescents with Depression (TADS)
- N=439 (12-17 year olds) with MDD, 12 weeks blinded, 24 weeks unblinded
- 4 groups: Fluoxetine vs. CBT vs. fluoxetine + CBT vs. placebo
- Mean final fluoxetine dose: 30 mg
- Rates of response (CDRS-R score) at 12 weeks
  - SI improved the most with fluoxetine + CBT
  - Suicidal events at 36 weeks: fluoxetine 14.7% > fluoxetine + CBT 8.4% > CBT 6.3%
- Take away
  - Fluoxetine + CBT or fluoxetine alone is best
  - Adding CBT improves safety of medications
  - Combined treatment is superior

Treatment of Resistant Depression in Adolescents (TORDIA)
- N=334 (12-18 year olds) with MDD that had not responded to SSRI at 2 months, 12 weeks blinded, 12 weeks unblended
- 4 groups: 2nd SSRI vs. 2nd SSRI + CBT vs. venlafaxine vs. venlafaxine + CBT
- Rates of response (% change in CDRS-R) at 12 weeks
  - More adverse events with venlafaxine
  - Increased BP and pulse
  - More self-harm in those with high SI to start
- Take away
  - If first SSRI failed switch to 2nd SSRI as efficacious as switching to venlafaxine
  - New med + CBT best

Background
- Common normal fears

<table>
<thead>
<tr>
<th>Age</th>
<th>Fear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth to 6 months</td>
<td>Loss of physical support, loud noises, rapidly approaching objects</td>
</tr>
<tr>
<td>7-12 months</td>
<td>Strangers</td>
</tr>
<tr>
<td>1-5 year</td>
<td>Loud noises, storms, animals, the dark, separation</td>
</tr>
<tr>
<td>6-12 years</td>
<td>Bodily injury / violence, burglars, being in trouble, failure / rejection</td>
</tr>
<tr>
<td>12-18 years</td>
<td>Tests, low social competence, social evaluation, embarrassment, psychological abnormality</td>
</tr>
</tbody>
</table>

Anxiety

<table>
<thead>
<tr>
<th>Anxiety Disorder</th>
<th>Childhood prevalence</th>
<th>Adolescent prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separation anxiety</td>
<td>2-5%</td>
<td>9%</td>
</tr>
<tr>
<td>Social anxiety</td>
<td>2-5%</td>
<td>9%</td>
</tr>
<tr>
<td>Panic disorder</td>
<td>1-2%</td>
<td>2-4%</td>
</tr>
<tr>
<td>GAD</td>
<td>2%</td>
<td>3%</td>
</tr>
</tbody>
</table>

DSM-5 Criteria
- A. Excessive anxiety and worry (out of proportion), occurring more days than not for ≥6 months, about a number of events and activities
- B. Difficult to control worry
- C. Associated with ≥3 of the following
  - 1. Restlessness or feeling on edge
  - 2. Easily fatigued
  - 3. Difficulty concentration / mind going blank
  - 4. Irritability
  - 5. Muscle tension
  - 6. Sleep disturbances
**DSM-5 Criteria**

- D. Symptoms cause clinical distress and or impairment
- E. Not attributable to medications or medical conditions
- F. Not better explained by another mental health disorder

**Comorbidity**

- The norm (80% have an additional diagnosis)
  - 50% have >2 anxiety disorders
  - 30% have depression
  - 20% have ADHD

**Course and prognosis**

- Low rates of full remission
- Early onset: increased severity of symptoms, impairment, other diagnoses across the lifespan

**Evaluation**

- Focus on SCARED (less evidence for GAD-10)
  - 41 item self-report (shorter version available)
  - Ages 9-17
  - Sensitivity (71%) and specificity (67%)

- Individual response scores summed and scored for the following diagnostic domains
  - Anxiety disorder, Panic Disorder or Significant Somatic Symptoms, GAD, Separation Anxiety Disorder, Social Anxiety Disorder, Significant School Avoidance

**Antidepressants for Anxiety**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Starting Dose</th>
<th>Titrating Dose</th>
<th>FDA CAP Indications</th>
<th>RCT Evidence</th>
<th>Pearls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duloxetine (Cymbalta)</td>
<td>30 mg</td>
<td>30 mg q2-4 weeks (120 mg)</td>
<td>GAD (&gt;7 yrs)</td>
<td>Yes</td>
<td>Discontinuation symptoms</td>
</tr>
<tr>
<td>Sertraline (Zoloft)</td>
<td>25 mg</td>
<td>25-50 mg q2-4 weeks (200 mg)</td>
<td>OCD (&gt;6 yrs)</td>
<td>Yes</td>
<td>Longer half-life</td>
</tr>
<tr>
<td>Fluoxetine (Prozac)</td>
<td>10 mg</td>
<td>10-20 mg q2-4 weeks (80 mg)</td>
<td>OCD (&gt;7 yrs), MDD (&gt;8 yrs)</td>
<td>Yes</td>
<td>Often first line for CAP anxiety</td>
</tr>
<tr>
<td>Fluvoxamine (Luvox)</td>
<td>25 mg</td>
<td>25-50 mg q2-4 weeks (200 mg)</td>
<td>OCD (&gt;8 yrs)</td>
<td>Yes</td>
<td>Often overlooked</td>
</tr>
<tr>
<td>Clomipramine (Anafranil)</td>
<td>25 mg</td>
<td>25-50 mg q2-4 weeks (200 mg)</td>
<td>OCD (&gt;10 yrs), MDD (&gt;12 yrs)</td>
<td>Yes</td>
<td>Give with food &amp; divide doses to start</td>
</tr>
<tr>
<td>Venlafaxine XR (Effexor XR)</td>
<td>37.5 mg</td>
<td>37.5-75 mg q2-4 weeks (225 mg)</td>
<td>OCD, MDD, Panic Disorder</td>
<td>Yes</td>
<td>Discontinuation symptoms</td>
</tr>
<tr>
<td>Escitalopram (Lexapro)</td>
<td>5 mg</td>
<td>5-10 mg q2-4 weeks (20 mg)</td>
<td>MDD (&gt;12 yrs)</td>
<td>No</td>
<td>Preferred over citalopram</td>
</tr>
<tr>
<td>Citalopram (Celexa)</td>
<td>10 mg</td>
<td>10-20 mg q2-4 weeks (40 mg)</td>
<td>None</td>
<td>Yes</td>
<td>Limited drug interactions</td>
</tr>
<tr>
<td>Venlafaxine (Effexor)</td>
<td>75 mg</td>
<td>75-150 mg q2-4 weeks (750 mg)</td>
<td>None</td>
<td>Yes</td>
<td>Limited drug interactions</td>
</tr>
</tbody>
</table>

**Treatment**

- Mild: CBT, family psychoeducation, other evidence based modality
- Moderate: CBT or SSRIs (choice based on availability of treatment and family preference)
- Severe: SSRIs + CBT
Other Medications for Anxiety

• Mirtazapine: no controlled trials
• Buspirone: 2 negative RCTs in CAP
• Benzodiazepines: no efficacy in RCTs in CAP, used sparingly in cases of severe anxiety and OCD while waiting for antidepressant to take effect
• Beta-blockers: no RCTs but often used for performance anxiety
• Antihistamines: no RCTs in CAP, commonly used for sleep and anticipatory anxiety

Antidepressants for Anxiety

SSRIs are superior to placebo (60% vs. 49%) (NNT=9, NNH=100)

1st line: Fluoxetine
• Most evidence
• 2016 Lancet meta-analysis suggests that only fluoxetine is statistically significant over placebo
• Long T½ allows for missed doses without major issues
• Little SI in controlled studies

2nd line: everything else
• After 2 failed SSRIs, switch to a SNRI
• Little to no evidence for TCAs or MAOIs

Antidepressants for Anxiety

• Predictors of poor response
  • Severity and chronicity of depression
  • Hopelessness
  • SI and non-suicidal self injury (NSSI)
  • Family / interpersonal conflict
  • Functional impairment
  • History of abuse

Child / Adolescent Anxiety Multimodal Study (CAMS)

- N=488 (7-17 year olds) with SAD, GAD, SP, 12 weeks blinded
- 4 groups: Sertraline vs. CBT vs. sertraline + CBT vs. placebo
- Average sertraline dose: 125-150 mg
- Rates of response (Pediatric Anxiety Rating Scale) at 12 weeks

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sertraline (54.5%)</td>
<td></td>
</tr>
<tr>
<td>CBT (56.7%)</td>
<td></td>
</tr>
<tr>
<td>Sertraline + CBT (80.7%)</td>
<td></td>
</tr>
<tr>
<td>Placebo (23.7%)</td>
<td></td>
</tr>
</tbody>
</table>

- SI sertraline = SI placebo, no suicide attempts
- Take away
  - CBT and sertraline both work well
  - Combined treatment is superior

Pediatric OCD Treatment Study (POTS)

- N=112 (7-17 year olds) with OCD, 12 weeks blinded
- 4 groups: Sertraline vs. CBT vs. sertraline + CBT vs. placebo
- Rates of response (CY-BOCS) at 12 weeks

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rate</th>
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<tbody>
<tr>
<td>Sertraline (21.4%)</td>
<td></td>
</tr>
<tr>
<td>CBT (39.3%)</td>
<td></td>
</tr>
<tr>
<td>Sertraline + CBT (55.6%)</td>
<td></td>
</tr>
<tr>
<td>Placebo (3.6%)</td>
<td></td>
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</tbody>
</table>

- SI sertraline = SI placebo, no suicide attempts
- Take away
  - CBT alone is better than sertraline alone
  - Combined treatment is superior

Suicide and Self Injury
Epidemiology
- Survey of US High School students, in the past 12 months
  - 13.8% Seriously considered suicide (20% in Spokane County)
  - 10.9% made a suicide plan (15% in Spokane County)
  - 6.3% attempted suicide
  - 1.9% required medical attention for an attempt

- Suicide in Spokane County and Eastern WA
  - For all ages, suicide was the 8th leading cause of death in 2014 (significant increase from 2011, higher than WA and US average)
  - For 15-44 year olds, suicide was the 2nd leading cause of death
  - Suicide rate (15-24 year olds): 10.3 per 100,000
  - Attempted suicide rate (15-24 year olds): 83.32 per 100,000
  - Attempted suicide rate (<15 year olds): 19.39 per 1000,000

- 15% of US teens self harm
- 50% of episodes are planned over an hour in advance, 75% occur at home
- Reasons for self injury
  - Affect regulation
  - Self punishment
  - Interpersonal influences
  - Anti-dissociation
  - Anti-suicide
  - Sensation seeking
  - Reinforce interpersonal boundaries

SSRIs and Suicide
- FDA Black Box Warning came out in 2004, based on 24 studies
  - 2% SI on placebo and 4% SI on antidepressants, no difference in suicidal attempts or completion
  - Recent and more nuanced meta-analyses suggest risk closer to 1%
  - 14% increase in US youth suicide following release of Black Box Warning
  - *NNT for depression likely increased given strong placebo response

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>NNT</th>
<th>NNH</th>
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<tbody>
<tr>
<td>Depression</td>
<td>10*</td>
<td>112</td>
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<tr>
<td>Anxiety</td>
<td>3</td>
<td>143</td>
</tr>
<tr>
<td>OCD</td>
<td>6</td>
<td>200</td>
</tr>
</tbody>
</table>

Websites
- American Academy of Child and Adolescent Psychiatry
  - http://www.aacap.org
- Facts for Families
- Resource Centers
- Medication guides for parents
  - http://www.parentsmedguide.org
  - ADHD Parents Medication Guide
  - Parents’ Medication Guide for Bipolar Disorder in Children and Adolescents
  - The Use of Medication in Treating Childhood and Adolescent Depression: Information for Patients and Families
**Websites**

- Anxiety and Depression Association of America
  - http://www.adaa.org
- Bright Futures
  - http://www.brightfutures.org
- CHADD (Children and Adults with ADHD), The National Resource Center on ADHD
  - http://www.chadd.org
- NAMI (National Alliance on Mental Illness)
  - http://www.nami.org
- Zero to Three
  - http://www.zerotothree.org

**Books**

**Anxiety**

- If your adolescent has an anxiety disorder: an essential resource for parents. Foa 2006.
- Keys to parenting your anxious child. Manassis 1996.
- Talking back to OCD. March 2007.

**ADHD**

- Making the system work for your child with ADHD. Jensen 2004.

**Depression and Bipolar disorder**

- If your adolescent has depression or bipolar disorder: an essential resource for parents. Evans 2005.

**Psychiatric medications**

- Straight talk about psychiatric medications for kids. Wilens 2016.
Thank you.

Additional questions, comments, or to request slides
erik.loraas@providence.org