PSYCHOPHARMACOLOGY (CHILDREN AND ADULTS)

ADHD

- Six percent of children, four percent of adults.
- NIH (J. Rappaport, M.D.) noted kids with ADHD have a thinner cerebral cortex. Kids without ADHD have a thicker cerebral cortex. Children "growing out of" ADHD (1/3) demonstrate cortical thickening. Those treated with stimulant medication, who continue to experience ADHD also demonstrate cortical thickening.
- Three stimulant medication categories: Ritalin (e.g. Concerta), Dexedrine (e.g. Vyvanse or Adderall XR), Focalin (Focalin XR).
- Non-stimulant treatment options: Guanfacine (e.g. Tenex, Intuniv), Clonidine (e.g. Kapvay), Atomoxetine (Strattera).
- One stimulant medication trial offers a 70 percent treatment response; if not effective, 1/2 of remaining non-responders usually respond to another stimulant medication.
- Intuniv is less sedating than Kapvay.
- Guanfacine is less sedating and longer lasting than Clonidine.
- Intuniv/Kapvay is effective for impulsivity and motor restlessness though somewhat less helpful for attention and focus.
- Intuniv/Kapvay does not have any impact on appetite or growth and may also decrease tics.
- Stimulants may increase tics though tics may also wax and wane with time and if minor would not necessarily prevent the use of stimulant medication.
- Stimulant medication may decrease appetite and result in a slowed progression of growth. End point height may be 1/2 to 1 inch less than in those not treated with stimulant medication.
- Two-thirds of those with ADHD have a co-diagnosis (e.g. Anxiety, depression, learning difficulties, or behavioral concerns).
- Strattera tends to have a less robust response than other treatment options.
- Strattera should be taken with food and may cause headache, stomach upset and sleepiness.
- Omega-3 fatty acids offer limited benefit.
- Sleep disorders (sleep apnea, restless leg/periodic limb movements in sleep, delayed sleep phase, inadequate amount of sleep) may result in symptoms which appear similar to ADHD the next day.
- DSM-5 allows for diagnosis with symptom onset by age twelve (instead of age seven-DSM-IV).

DEPRESSION

- DSM-5: Dysthymia has been replaced by Persistent Depressive Disorder.

- One in five women and one in seven men will experience major depression in a lifetime.
- Twelve percent of teens exhibit depression.
- If a parent experiences depression, this may impact on the treatment outcome of a child treated for depression.
- FDA approved treatment options for pediatric depression include Prozac (age eight for depression, age seven for OCD) and Lexapro (age twelve and above). Zoloft and Celexa have also been shown to be effective in treating children/teens.
- If two trials of an SSRI are not fully effective, an alternative may include an SNRI (Effexor XR, Cymbalta).
- Sixty percent of teens/adults respond to a first antidepressant medication.
- TADS (treatment of adolescent depression study) showed best response with medication and cognitive behavioral therapy (70 percent).
- TORDIA (treatment of resistant depression in adolescent study) demonstrated the benefit of a second SSRI as well as a change to an SNRI if needed.
- In addition, it demonstrated added benefit of CBT (cognitive behavioral therapy).
- Newer antidepressants include Pristiq, Viibryd, Brintellix, and Fetzima.
- RTMS (repetitive transcranial magnetic stimulant) generally for adults is no more effective than a second antidepressant medication trial.
- Exercise is helpful in reducing depressive symptoms.
- Cognitive behavioral therapy strategies include challenging negative thoughts, making use of relaxation strategies and allow for the assistance of a family member to practice and review such strategies.
- DBT (dialectic behavior therapy) may assist in reducing self injurious behavior (UCLA Safety Program – Joan Asarnow, Ph.D.).
- Antidepressants may also be augmented by both non-medical as well as medical approaches (for example, SSRI plus Wellbutrin or SNRI plus Remeron).
- Anxiety is often seen and may be treated with depression.
- Ruling out a history of mania or hypomania will have a significant impact on medication choices.

ANXIETY

- New categories for DSM-5 include trauma/PTSD related, OCD and related disorders, as well as stress related anxiety disorders.
- Different forms of anxiety are often seen together.
- Inattention may be linked to excessive worry often seen in generalized anxiety and not ADHD.
- Possible SSRI side effects: A (Activation), B (Bipolar switching), C (Celebration).
- CBT (cognitive behavioral therapy) is a good first-line approach to treat anxiety.
- CBT Plus SSRI (serotonin selective reuptake inhibitor) is often very effective to treat anxiety which does not respond to CBT alone.
- SSRIs may be augmented/boosted with BuSpar.
- OCD and Social Anxiety Disorder generally require higher dose SSRI.

- SNRI (serotonin norepinephrine reuptake inhibitor-type medication (for example, Effexor or Cymbalta) may also be very effective as a second-line treatment in reducing anxiety.
- Cognitive behavioral therapy strategies include diaphragmatic breathing (breathe in from the nose and out from the mouth like blowing out a candle), challenging excessive worries (cognitive restructuring), gradual exposure to feared situations and as a result, desensitization to these triggers; in children, these strategies may be practiced with a parent.
- Different forms of anxiety may often be seen together (for example, Generalized Anxiety Disorder, Separation Anxiety Disorder, Social Anxiety Disorder).
- Children with selective mutism are at greater risk of developing Social Anxiety Disorder later.
- Children with Separation Anxiety Disorder are at greater risk of developing Panic Disorder later.
- Eight to ten percent of children have an anxiety disturbance. Onset is usually between ages six and twelve.
- “Midline” physical complaints are often seen with anxiety (headache, gagging, shortness of breath, chest pain, stomach upset, bowel and bladder concerns).
- SSRIs approved for anxiety include Zoloft (age six and above), Prozac (age seven and above), Luvox (age eight and above), and Lexapro (age twelve and above for depression and used for anxiety).
- POTS (pediatric OCD treatment study) demonstrated good response to CBT and best response with CBT and SSRI.
- CAMS (child/adolescent anxiety multimodal study) – also demonstrated benefit of CBT with SSRI for best result.
- Repetitive hair-pulling or skin-picking responds to HRT (habit reversal training) and possibly NAC (n-acetyl cysteine).

PEDIATRIC MOOD DYSREGULATION (VERSUS BIPOLAR DISORDER)

- DSM-5 diagnosis of Disruptive Mood Dysregulation Disorder (DMDD) incorporates features of severe mood dysregulation and Oppositional Defiant Disorder.
- When followed over time, children with DMDD who grow up tend to develop anxiety or depression.
- DMDD may potentially be treated with an SSRI which is not the first-line treatment in Bipolar Disorder.
- Bipolar Disorder requires periods of mania lasting for seven days often including a decreased need for sleep and periods of euphoria which would be a significant change from baseline behavior.
- Lithium is very effective for mania and hypomania though lab work must be monitored.
- Lamictal is helpful for bipolar, depressed phase but dose must be adjusted slowly and carefully upward to minimize risk of rash.
- Depakote may contribute to PCO (polycystic ovarian disease) in females.

- Second generation antipsychotics (SGA) are very effective in treating Bipolar Disorder though close monitoring is necessary to minimize side effects (weight gain, increased lipids, and blood sugar).
- Use of Risperdal may increase prolactin and may result in breast growth. Abilify does not have this effect.

SLEEP DISORDERS

- Insomnia strategies include sleep hygiene, sleep restriction, and relaxation.
- Sleep hygiene: use bedroom for sleep/intimate relations only, turn clock away, maintain same sleep time/wake time, avoid caffeine/alcohol, avoid naps.
- Sleep restriction: attempt to restrict time in bed for sleep time only. In adults, may leave the room and return back to bed only when sleepy but maintaining the same wake time.
- Relaxation includes diaphragmatic breathing while lying in bed. May also schedule "worry time" in the early evening so that worries upon falling asleep may be reserved for this time the next day.
- Amount of sleep needed: elementary school – ten to twelve hours, middle school – nine to ten hours, high school – eight to nine hours.
- Delayed sleep phase is a tendency to fall asleep late and a preference to arise late the next day often seen in teens. Treatment include having lights out for the appropriate amount of time based on age and use of melatonin, 1 mg at 6 p.m. to shift the sleep phase earlier.
- Night terrors may be addressed with "planned awakenings," awakening the child 15 minutes prior to the anticipated time of the night terror over a period of a week to break the cycle.
- Overnight sleep study will assist in evaluating sleep apnea (snoring with pauses in breathing), periodic limb movements in sleep, and narcolepsy.
- Sleep apnea may present with next day fatigue, depression, irritability, difficulty concentrating, and behavioral concerns.
- PLMS (periodic limb movements in sleep) may present with next day fatigue, inattention, and restless legs.
- Behavioral strategies are best for insomnia.
- Sleep apnea may be treated with weight loss, dental appliance, tonsillectomy, or CPAP (continuous positive airway pressure).
- In children who leave their room in order to go to their parents' room, use of "visit Mom/Dad passes" used for two brief (five minute) intervals may reassure a child and be accompanied with a reward the next day if passes are used properly.

AUTISM SPECTRUM DISORDER

- Target behaviors responding to medical treatment include ADHD, OCD, and outbursts/aggression.
- Medication should be started at very low dose and adjusted carefully as those with ASD often have more side effects and fewer benefits than others with medication.

- ADHD options include stimulant and non-stimulant options. Stimulant medications may address inattention, impulsivity, and hyperactivity. Intuniv, as a non-stimulant, may decrease hyperactivity, impulsivity, with modest benefit for attention. Strattera is less effective though may help one in five children.
- SSRI type medication may be helpful for OCD type symptoms. Such medication may also cause activation/agitation.
- Risperdal and Abilify may decrease outbursts and agitation but great care should be given to monitoring possible weight gain, increased lipids, and blood sugar.
- NAC (n-acetyl cysteine) may decrease hair-pulling or skin-picking.
- Melatonin (1 mg) may assist with sleep.