Learning Objectives

- Medications used for common mental health diagnosis
- Understanding and managing sleep concerns
- Understand common side effects and how to manage them
- Importance of medication compliance and safety

ATTENTION DEFICIT-HYPERACTIVITY DISORDER (ADHD)

- One of the most common childhood psychiatric conditions
- 8 – 12% worldwide prevalence
- More common in boys
- ADHD is not something a child will outgrow
- 84% of children with ADHD have comorbid disorders
ADHD Symptoms

- Impulsivity, blurting out, interrupting
- Inattention, easily distracted, daydreaming
- Fidgety, restlessness, always on the go
- Generally disorganized, but can focus on some things for longer periods

What do these symptoms lead to

- If attention cannot be held, the child is not learning
- If impulsivity is not managed, the child cannot become organized and learn
- Fewer academic successes
- Decreased confidence
- Increased risk taking behaviors

Medications used in ADHD

- Medications are proven to work
- There is a lot of confusion (long acting, short acting) around medications.
- Basically two groups of medications
  - Stimulants
  - Non-Stimulants
- All other medications are used to treat side effects of these meds or other co-existing symptoms (aggression, depression etc)
### Medications used in ADHD

<table>
<thead>
<tr>
<th>Stimulants (methylphenidate)</th>
<th>Stimulants (amphetamine)</th>
<th>Non-stimulant (atomoxetine)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ritalin</td>
<td>Dexedrine</td>
<td>Strattera</td>
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<tr>
<td>Concerta</td>
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<tr>
<td>Biphentin</td>
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<td>Adderall</td>
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</table>

### Other Medications used in ADHD

<table>
<thead>
<tr>
<th>Antidepressant (NDRI)</th>
<th>Antidepressant (Tricyclic)</th>
<th>Adrenergic</th>
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<tbody>
<tr>
<td>Wellbutrin</td>
<td>Imipramine</td>
<td>Clonidine</td>
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</table>

### Common Side Effects

**Stimulants (eg: Ritalin, Dexedrine)**
- Decrease appetite
- Weight loss
- Insomnia
- Headache

**Non-Stimulant (eg: Strattera)**
- Sedation
- Stomach upset
- Decrease appetite
- Headache
Common Side Effects

Wellbutrin
- mild insomnia
- loss of appetite

Imipramine
- dry mouth
- sedation
- constipation

Clonidine
- sedation
- dizziness
- decrease blood pressure

Augmentation strategies in ADHD

- Determine if diagnosis is correct
- Determine if patient is compliant with therapy
- Ensure dosage prescribed is therapeutic
- Consider trying the alternate stimulant if the first one was ineffective.

ANXIETY DISORDERS AND DEPRESSION

- Is not just bad moods and occasional sadness, nor simple worrying
- Depression occurs in 2-8% of all children and adolescents
- Anxiety occurs in 6-20% of children and adolescents
- Relapse for depression is common
Depression symptoms

- Feeling sad, mood swings, irritability, anger
- Sleep and appetite changes
- Social withdrawal, loss of interest in activities
- Decreased concentration
- Suicidal ideations or ‘not wanting to be here’
- Somatic complaints
- Separation anxiety
- Weight changes

Anxiety symptoms

- Frequent prolonged worry that is intense and uncontrollable may also be combined with a sense of perfectionism
- Frequent self-doubts and worries
- Pessimistic demeanor, avoidant and shy
- Complaints of stomach ache, headache, dizziness
- Constant state of fright, fight, or flight reaction
- Children may show these symptoms before signs of depression

Medications used in depression and anxiety

<table>
<thead>
<tr>
<th>SSRI's</th>
<th>NDRI</th>
<th>SNRI</th>
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</thead>
<tbody>
<tr>
<td>Prozac (fluoxetine)</td>
<td>Wellbutrin (bupropion)</td>
<td>Effexor (venlafaxine)</td>
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<tr>
<td>Luvox (fluvoxamine)</td>
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<tr>
<td>Zoloft (sertraline)</td>
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<tr>
<td>Celexa (citalopram)</td>
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<tr>
<td>Paxil* (paroxetine)</td>
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</table>
# Common Side Effects

Most are well tolerated and side effects are often short-term

- Sleep changes (tiredness or insomnia)
- Headaches
- Appetite changes
- Dry mouth
- Restlessness
- Upset stomach

These are general side effects and the most common ones. There are other side effects that are specific to each drug.

# The question everyone asks: Suicide risk!

Health Canada in 2004 issued a warning for suicide risk.

Suicide risk is often present within the diagnosis of depression.

Suicide risk needs to be regularly assessed for all patients throughout treatment with or without medication.

# In summary

- SSRI’s are first choice for depression and anxiety
- Suicide risk is minimal but should be monitored throughout treatment
- Need to reassure parents that treatment (drug and non drug) is the best option
- Educate parents to monitor for mood changes and be aware of the risks
Bipolar Disorder

- Affects approximately 1% of children and adolescents
- Both male and female can be affected
- More boys present with early symptoms (before age 13)
- Can exist with other psychiatric conditions

Symptoms of Bipolar

- Impulsivity and distractibility
- Irritability and anger outbursts
- Poor mood control; ‘on edge’
- Depression or easily agitated
- Quick fluctuating of depressive and euphoric (happy) moods
- Euphoria, grandiosity, speeded thinking and speech, increased impulsivity

Medications used in Bipolar Disorder

<table>
<thead>
<tr>
<th>Mood Stabilizers</th>
<th>Anti-psychotics</th>
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<tbody>
<tr>
<td>Tegretol (carbamazepine)</td>
<td>Risperidol (risperidone)</td>
</tr>
<tr>
<td>Epival (valproex)</td>
<td>Seroquel (quetiapine)</td>
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<tr>
<td>Lithium (lithium carbonate)</td>
<td>Zyprexa (olanzapine)</td>
</tr>
</tbody>
</table>
### Common Side Effects

**Mood Stabilizers**
- Nausea
- Sedation
- Stomach upset
- **Regular blood work required for liver function and ‘therapeutic’ drug levels**

**Antipsychotics**
- Sedation
- Increased appetite and weight gain (can be fast)
- Dry mouth
- Dizziness

### In Summary
- Diagnosis is difficult
- Multimodal approach best
- Combinations of medications may be used to manage symptoms
- Side effects must be considered
- Dietary consult may be needed for those kids at high risk for metabolic disorder (increase weight, diabetes, high cholesterol)

### INSOMNIA
- Difficulty falling asleep and/or maintaining sleep, including early morning awakenings (adult definition)
- Pediatric insomnia may be defined as “difficulty initiating or maintaining sleep that is viewed as a problem by the child or caregiver”
- Can be short term (related to a stressful event) or long term
- Symptom rather than a sleep disorder
- Cause can be medical or behavioral
What happens without proper sleep?
- May increase rates of developing anxiety and depression
- Often results in distress for children and families
- Difficulty regulating emotions
- Inability to function at school, home, and social settings
- Adolescents may turn to ‘substances’ to manage sleep

Evaluation of pediatric sleep disorders
- Importance of differentiating between a sleep disorder and other medical or psychological problems
- Pediatric sleep evaluation – many components
- Many different types of sleep disorders – however for the purpose of this presentation we will focus on insomnia

Non-pharmacological treatment of insomnia
- First step is to rule out any medical or psychological problems
- Sleep hygiene
- Behavioral treatment
  - relaxation
  - sleep restriction
  - stimulus control
Pharmacological treatment

- Challenges:
  - Lack of information (studies) and guidelines for treatment of insomnia in children and adolescents
  - No "ideal" hypnotic
  - Prescribing habits usually based on adult experiences
  - Medication should not be considered first-line treatment
  - If medications are used they should only be used short term

General recommendations for use of medications

- Medications use should be short term (not first line)
- Adolescents should be screened for pregnancy, alcohol and drug use
- Sleep hygiene should always be optimized
- Screen for concurrent use of non prescription sleep medication
- Medication selection should be appropriate for the presenting complaint and should be monitored for efficacy and side effects

Medications used for treatment of child and adolescent insomnia

<table>
<thead>
<tr>
<th>Prescription Medication</th>
<th>Herbal Medication</th>
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<tbody>
<tr>
<td>Diphenhydramine (Benadryl)*</td>
<td>Melatonin</td>
</tr>
<tr>
<td>Benzodiazepines (BZDP)</td>
<td>Chamomile</td>
</tr>
<tr>
<td>Clonidine</td>
<td>Valerian root</td>
</tr>
<tr>
<td>Trazodone</td>
<td>Lavendar</td>
</tr>
<tr>
<td>Zopiclone (Imovane)</td>
<td>Hops</td>
</tr>
</tbody>
</table>
Summary

- Good sleep hygiene is always first line therapy
- Importance of differentiating between a sleep disorder and other medical or psychological problems
- Medication should not be considered first-line treatment and if medications are used it should only be short term
- Lack of data and guidelines available for children and adolescents

Medication Safety

- Do NOT abruptly stop taking medications
- Do NOT increase or decrease your dosage
- Do NOT double your dosage to make up for a missed dose
- Discuss any concerns with your doctor
- Do NOT share medications with anyone!
- Keep medications in a safe location – and NOT in the bathroom
- Be aware of interactions with other medications including herbal remedies
- Take note of the amount of medication remaining in the bottle

Improving compliance

- Education
- Importance of the internet (both positive and negative)
- Form a therapeutic alliance with parents and patients
- Avoid unrealistic expectations - medications will not work over night
- Involving parents and patients in treatment decisions
Improving compliance

- Simplify therapy
- Avoid using other medications to treat side effects (try reducing doses first)
- Long acting formulations improve compliance
- Minimize the negative aspects of drug therapy

Websites

- www.caddra.ca (Canadian ADHD resource alliance)
- www.amhba.ca (Alberta mental health board)
- www.mooddisorderscanada.ca (mood disorders society of Canada)
- www.aacap.org (American academy of child and adolescent psychiatry)
- www.aap.org (American academy of pediatrics)
- www.adaa.org (Anxiety disorders association of America)
- www.cmha.ca (Canadian mental health)
- www.mooddisorderscanada.ca (mood disorders society of Canada)
- www.autism-society.org (Autism society of America)
- www.bpkids.org (Child and adolescent bipolar foundation)
- www.nimh.nih.gov (National institute of mental health)

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