Disclosure

- Some medication use described in this talk will be off-label
- FDA approved medications for the conditions and ages discussed will be noted
Objectives

• Discuss common childhood psychiatric disorders (ADHD, anxiety, depression, and autism)
• Review AACAP practice parameters of these conditions
• Gain familiarity with their screening and assessment including use of rating scales
• Awareness of treatment modalities

Case Example 1

Tommy is a 6-year-old boy in the 1st grade. He was kicked out of preschool due to his “disruptive behavior.” In kindergarten, his teacher reported that he was in constant motion, refusing to stay seated during circle time and fidgety at his desk. This year he interrupts the teacher, runs out of the room, sloppily rushes through his classwork making lots of mistakes, and pushes other kids while standing in line to go to lunch. He often gets into trouble for playing rough during recess. Other kids avoid being around him.
Case Example 2

Sally is a 12 year girl in the 7th grade. She has always been a “good student.” Teachers like her, and she has several close friends. She has had increased difficulty keeping up with assignments in her multiple subjects since starting middle school. She particularly struggles with Math. She frequently comes to class unprepared, forgetting to bring in necessary supplies, and turning in her homework late. In the classroom, her teachers note that she sometimes appears confused and other times like she is daydreaming. Her parents are concerned that she may have low self-esteem.

Case Example 3

John is 16 year old in the 10th grade. He repeated the 1st grade because he “wasn’t as mature” as his peers. Dad states he was just like John when he was his age. John has always struggled academically and behaviorally in school, getting poor grades and frequent detentions for getting into fights or talking back to his teachers. He has started skipping classes, and his parents worry that he may be using drugs. He does not complete his chores around the house. His parents are tired of arguing with him.
What is ADHD?

• One of the most common health disorders, affecting approximately 5-10% of children in the U.S. per the American Psychiatric Association (APA).
• Core symptoms of hyperactivity-impulsivity and/or inattention are excessive and problematic.
• Symptoms occur in multiple settings (not just at home or school).

ADHD

• Collateral information is important - getting reports from teachers and reviewing report cards.
• Symptoms are not better attributed to by another medical or psychiatric condition.
• It frequently co-occurs with other conditions - so inquire, screen, refer for evaluation, and monitor progress!
ADHD

• Cause is likely multifactorial - genetic and environmental.
• There is no lab test or scan to diagnose condition - it is a clinical diagnosis.
• Frequently there is positive family history of ADHD/ADD.

ADHD

• It is 2-3 times more common in boys than girls.
• Boys are frequently diagnosed earlier because their behavior is more disruptive. Girls may not be identified until middle school due to the predominant inattention symptoms.
• Approximately 50% of kids with ADHD have symptoms into adolescence and adulthood.
ADHD

- Early recognition and treatment are important.
- Undiagnosed and untreated, the prognosis is poor - with the child having problems academically, emotionally, behaviorally, and socially.
- Can cause a lot of family stress.

ADHD

- Compared with the general population, individuals with untreated ADHD have higher rates of divorce, job loss, driving infractions, and cigarette/drug abuse.
- Goals of treatment are to reduce symptoms and aid functioning.
- Treatment includes medication, therapy, family support, educational assistance, or a combination of these interventions.
Summary of DSM-IV TR
ADHD Criteria

• Presentation:
  – Inattention symptoms
  - Hyperactivity-impulsivity symptoms
  - Sets of symptoms
• Onset: symptoms present prior to 7 yrs old
• Chronicity: greater than 6 months of disturbance (persistent)
• Domains affected: cross situational (home, work, school)
• Functioning: clear evidence of impairment

ADHD Subtypes

• ADHD, combined type
• ADHD, predominantly hyperactive-impulsive type
• ADHD, predominantly inattentive type
ADHD

• Screening for ADHD should be part of every patient’s Mental Health Assessment regardless of the chief complaint.
  - Any difficulties with inattention, hyperactivity, impulsivity?
  - Do symptoms cause problems at home and/or school?
  - Parents and teachers are often better reporters of ADHD symptoms than the child.
  - Talking with the child helps assess whether something else is going on (ie bullying, sadness, abuse, worries)
  - How is the child doing in school? Grades? Detentions?
  - Kids with ADHD tend to have more difficulties during unstructured times (ie recess, lunch, or bus)

Rating Scales

• [http://www2.massgeneral.org/schoolpsychiatry/](http://www2.massgeneral.org/schoolpsychiatry/)
  - Can google “school psychiatry.org” and find it.
  - Free resource with information for clinicians, parents, and teachers about the various disorders discussed today.
  - There is a section on rating scales for essentially all of child psych disorders - some scales are free, some have to be ordered.
• Rating scales
  – do not diagnose a condition
  – help inform us when additional evaluation is needed
  – help track progress over the course of treatment.
• For ADHD, consider the Vanderbilt parent and teacher forms.
Table of All Screening Tools & Rating Scales

Please read Before You Decide to learn about the purpose and scope of the screening tools and rating scales provided below.

How to Use this Table:
The screening tools and rating scales in the table below can be used to help measure a young patient's mental health symptoms and/or measure progress after interventions are put in place at school or at home.

For each screening tool or rating scale, the table indicates the age range for the instrument, who completes the instrument, the number of items in the instrument and how long it takes to complete, and whether free access is available.

To help you decide whether a screening tool or rating scale might be appropriate to use with respect to a particular child, you can select on the screen the age level and the tool or scale. The two tables provide more detailed information about the tool or scale.

Cautions:

Please keep in mind the following cautions:

- Use of the screening tools and rating scales does not produce a diagnosis. Rather, the tools and scales provide useful information about mental health and behavioral concerns that may be worthy of further consideration and not as a basis for a diagnosis or for intervention.
- A particular "score" does not mean that a child has a particular disorder. These screening tools and rating scales are only one component of an evaluation.

VANDERBILT ADHD DIAGNOSTIC PARENT RATING SCALE

Child’s Name: __________________________  Today’s Date: __________________________
Date of Birth: __________________________ Age: __________________________
Grade: __________________________

Circle the number on the scale that corresponds to how you would rate your child’s behavior.

0 = Never  1 = Occasionally  2 = Often  3 = Very Often

1. Does not pay attention to details or makes careless mistakes, for example homework
2. Has difficulty attending to what needs to be done
3. Does not seem to listen when spoken to directly
4. Does not follow through when given directions and fails to finish things
5. Has difficulty organizing tasks and activities
6. Avoids, dislikes, or does not want to start tasks that require ongoing mental effort
7. Loses things needed for tasks or activities (assignments, pencils, books)
8. Is easily distracted by noises or other things
9. Is forgetful in daily activities
10. Fidgets with hands or foot or squirms in seat
11. Leaves seat when he is suppose to stay in his seat
12. Runs about or climbs too much when he is suppose to stay seated
13. Has difficulty playing or starting quiet games
14. Is “on the go” or often acts as if “driven by a motor”
Things to consider in the assessment

Personal history:

- Exposure to nicotine, alcohol, or other toxins in-utero
- Perinatal hypoxemia, perinatal stress, low birth weight
- Early deprivation
- Exposure to lead
- History of head trauma
- Developmental delays - particularly important in assessing preschoolers
- ED visits or medical hospitalizations
- Trauma/abuse/neglect
- Current medication use
- Hearing and vision
- Co-morbid medical, psychiatric, or academic conditions
- Recent change or stressors
Comorbidities with ADHD

Common comorbid conditions to consider:
- Oppositional defiant disorder
- Conduct disorder
- Substance abuse disorder
- Learning disability*
- Language disorder*
- Mood disorder (depression, bipolar d/o)
- Anxiety disorder
- Tic disorder
- Adjustment disorder

Again, rating scales can be useful in screening these conditions.

ADHD

- Family history - often positive for ADHD/ADD in parent or siblings, making treatment more challenging.
  - Parent may forget appointments or forget to bring in necessary paperwork (rating scales, report cards).
- Medical history -
  - Cardiac problems
  - Neurologic problems
  - Current medication, use of OTC or alternative meds
  - Obtain baseline BP, pulse, weight, and height
- Chart weight and height on growth chart as these are important to monitor over course of treatment.
  http://www.cdc.gov/growthcharts/clinical_charts.htm
ADHD

Medical conditions that mimic ADHD symptoms:
• Traumatic brain injury
• Encephalopathies
• Malnutrition
• Sleep apnea
• Ear infections and hearing impairment
• Visual impairment
• Hyperthyroidism
• Lead exposure
• Food or environmental allergies

ADHD

More conditions that may mimic ADHD symptoms:
• Anemia
• Asthma
• Fetal alcohol syndrome or exposure in-utero to other toxic agents
• Seizure disorder (absence or temporal lobe)
• Substance intoxication or withdrawal
• Depression or other mood disorder
• Autism
• Anxiety disorder
ADHD

• If the patient’s medical history is unremarkable, no labs or other tests are necessary.
• Psychoeducational testing is warranted if the history suggests low cognitive ability or low academic achievement.
• Could have a language disorder, poor motor coordination, and/or specific learning disability (math, reading, written expression).
• Look for comorbidities as they are the rule, not the exception!

Treatment Planning

• **Psychoeducation about ADHD**
  – Parental resources for education and support
  – Home, school, lifestyle accommodations
  – Schoolpsychiatry.org website is useful for this!
• **Medication**
  – Does not cure ADHD.
  – Controls symptoms on the day that the pills are taken
  – A thorough physical exam should be done before starting medication.
  – Complete Side Effect Monitoring Uniform Report Form (SMURF) at baseline and over course of treatment.
    • Available at schoolpsychiatry.org
• **Psychosocial treatments**
 Treatment Options

- MTA study established that medication treatment is more effective than behavioral treatment.

- Behavior therapy may be recommended
  - For preschool kids
  - Those with mild symptoms/minimal impairment
  - Diagnosis is uncertain
  - Parents do not consent to use of medication
  - History of adverse reaction to medication
  - Differences in what is seen at home and school
Medication

- Stimulant vs. non-stimulant
  - MPH, AMP, DEX
  - Strattera, Intuniv, Clonidine XR
- Long-acting vs. short-acting
- Initial medication choice should be FDA approved.
- If ineffective, the diagnosis should be reviewed.
  - Consider behavioral therapy and/or use non-FDA approved ADHD medications:
    - Wellbutrin, Tenex, Clonidine, Provigil, combo tx

Stimulants

Methylphenidate (MPH): FDA approved for kids ages 6+

- **Mechanism of action**: promotes release of stored dopamine from presynaptic vesicles and blocks the return of dopamine into presynaptic nerve endings
- **Formulations**:
  - Short-acting 3-4 hrs
    - Ritalin, Focalin, Methylin
  - Intermediate-acting 4-8 hrs
    - Ritalin SR, Metadate ER, Methylin ER, Ritalin LA, MetadateCD
  - Long-acting 8-12 hrs
    - Concerta, Daytrana (patch), Focalin XR
Stimulants (cont)

Amphetamines (AMP and DEX): short and intermediate-acting formulations are FDA approved for kids ages 3+; others are for kids ages 6+

- **Mechanism of action:** blocks dopamine reuptake and appears to promote the release of newly synthesized dopamine
- **Formulations:**
  - Short-acting 3-5 hrs
    - Ex - Dextrostat, Dexedrine
  - Intermediate-acting 4-8 hrs
    - Ex - Adderall, Dexamphetamine spansules
  - Long-acting 8-12 hrs
    - Ex - Adderall XR, Vyvanse

Contraindications

- Use of MAO inhibitors within 14 days
- Prior sensitivity to stimulant
- Glaucoma
- Symptomatic cardiovascular disease
- Hyperthyroidism
- Moderate to severe hypertension
Caution

- Patients with seizure disorders - stimulants can theoretically lower seizure threshold
- Patients with history of drug abuse or a member of the household with history of drug abuse
- Patients with motor tics or family history of Tourette’s Disorder
- Patients with significant anxiety
- Not to be used in patients with an active psychotic disorder

Side Effects of Medication

While on the medication, patients must be monitored. Recommend use of SMURF.

For stimulants:
- **Activation**: Insomnia, Irritability, Anxiety, Psychosis, Tics, Aggression
- **CV**: Tachycardia, Hypertension
- **GI**: Decreased appetite, Stomachaches
- Weight loss
- Growth retardation
- Headaches
- Seizures
Strategies for Side Effects

- Exacerbation of Tics:
  - Observe, reduce dose, d/c and try another stimulant or another class of medication
- Irritability or Dysphoria:
  - Decrease dose, d/c and try another stimulant, is there an underlying mood d/o?
- Behavioral Rebound:
  - Use sustained-release stimulant medication, add low dose immediate release in afternoon
- Sleep Problems:
  - Sleep hygiene; lower dose; reduce or d/c afternoon dose; move the administration time earlier; no caffeine; low dose clonidine, trazodone, antihistamine, or melatonin at night

Other ADHD Medications

Strattera (Atomoxetine)
- FDA approved ages 6+
- Dosed 0.5 mg/kg/day (initially) - 1.4 (max) mg/kg/day (or 100 mg/day), given 1-2 times/day
- Mechanism of Action: NE reuptake inhibitor
- Used for
  - uncomplicated ADHD
  - refractory ADHD
  - comorbid ADHD with tic d/o, anxiety d/o, and/or substance use d/o
  - intolerable side effects to stimulant
Other ADHD Meds (cont)

**Strattera (Atomoxetine):**
- Side effects: GI distress, headache, decreased appetite, nausea/vomiting, dizziness, tiredness, mood swings or irritability
- FDA warning of severe liver disease.
  - Routine monitoring of LFTs is not required
- FDA warning regarding suicidal thinking
  - Discuss with child/parent, monitor esp 1st few months of tx
- Takes 3-6 weeks for effect

Other ADHD Meds (cont)

**Tenex (Guanfacine)** - alpha-2 adrenergic agonist
- Short-acting: dose BID, starting 0.5mg, gradual titration
- Long-acting (Intuniv):
  - FDA approved for ages 6-17yo
  - Dosed starting at 1mg/day, qday, up to 4mg
- May be preferred by families who do not want to use stimulants or if there are substance use concerns
- Side effects: sedation, dizziness, hypotension, headache, bradycardia, syncope, fatigue, constipation
- Check pulse and BP prior to initiating tx, following dose increases, and periodically during tx
- Need to taper upon d/c
Other ADHD Meds (cont)

Catapres (Clonidine) - alpha 2 adrenergic agonist
  • Short acting - dosed 0.05mg initially, up to 0.2mg TID
    - comes in tab and patch
  • Long-acting (Clonidine XR, Kapvay)
    - FDA approved for kids 6-17yo
    - for use alone or as add-on to stimulant med
    - dosed 0.1-0.4mg daily in BID doses
  • Side effects - sedation, hypotension, bradycardia, syncope, headaches, depression, rebound hypertension
  • Need to taper upon d/c
  • Both Clonidine and Tenex may be useful for kids with ADHD and comorbid ODD, aggression, insomnia, tics, or emotional dysregulation.

Other ADHD Med (cont)

Bupropion (Wellbutrin)
  - No FDA approval in kids
  - Side effects: insomnia, loss of appetite, seizure

Tricyclic Antidepressants (Nortriptyline, Imipramine, Desipramine)
  - most studied non-FDA approved med for ADHD tx
  - EKGs at baseline and dose increases, plasma levels
  - Side effects: dry mouth, sedation, constipation, vision changes, tachycardia

Provigil (Modafinil)
  - May help with motivation
  - Side effect: Stevens-Johnson syndrome, insomnia, headache, decreased appetite
Treatment Outcomes

- If functioning normalizes at home and school, then sole medication management is satisfactory.
- If response is not as robust to medication alone, the child has comorbid disorders, or the child is experiencing family/life stressors, then psychosocial treatment (in addition to medication) is helpful.

Psychosocial interventions

- Individual therapy - behavioral or CBT
- Social skills training
- Parent management training
- Family therapy
- School accommodations, IEP (Individual Education Plan), tutoring, 1:1 aide support
Treatment Outcomes

- Treatment should continue as long as symptoms are present and cause impairment in functioning.
- Need to monitor height and weight, at least 1-2 times/year. Track on growth chart.
  - There are concerns with stimulants and growth.
- The frequency and duration of follow-up needs to be individualized depending on:
  - severity of ADHD symptoms
  - presence of comorbid conditions
  - response to treatment
  - degree of impairment in home/school/social functioning.
- If uncomplicated, follow-up 2-4 times/year

When to stop medication?
- Symptom-free for a year
- No dose adjustments despite growth
- No problems noted when dose skipped
- Compensatory attentional abilities observed during drug holidays
- Beginning of the school year is usually not a good time to “test” need for medication. Wait until school routine is established, then discontinue and monitor for any decline. If so, one can return to taking medication.
Stimulants and Growth


- Small, but statistically significant, reduction in rates of height and weight gain in kids.
- Magnitude of the reduction appears dose-related, and growth rates increase once meds are stopped.
- All stimulants show associations of similar magnitude.
- Effect may diminish with prolonged use.
  - Impact appears to be greater in children than adolescents.

What do you do?

- Inform parents and child about the potential for growth delays and weigh this possibility against no treatment (risks vs. benefits)
- Monitor growth via charting to identify concerns early on.
- There is no specific guideline on when a growth deficit should trigger change in treatment.
Case Example 4

13yo girl in the 7th grade who was diagnosed with ADHD and dyslexia in the 3rd grade. She had taken Concerta for several years, however, there was poor weight gain and concern that she was falling off her growth trajectory.

Informed consent obtained to switch to a non-stimulant, Strattera. After a month, both patient and parents were in agreement that the Strattera was ineffective and resulting in irritability and fatigue. She "quit" eating, and her mother was tired of nagging her about eating.

Denies worries or moodiness (other than when taking Strattera).

Has exercise-induced asthma and seasonal allergies. Takes Albuterol MDI prn and Claritin. No history of head trauma.

Weight is 64.9 pounds, Height 57.6 inches, BMI 13.8, pulse 97/minute and BP 104/62

Case Example (continued)

Mom is not concerned about patient’s weight as Mom was skinny growing up too. There are no obvious body image concerns expressed by patient.

Patient’s ADHD symptoms started in 1st grade with difficulties staying on task and remaining in her seat. She receives learning support and tutoring. She gets mostly Bs in her subjects. She has friends and gets along with others.

Her parents divorced, and she witnessed domestic violence between her birth parents. She currently lives with Mom, stepdad, and brother.

She has moved 3 times, most recently 1 year ago.

Family psychiatric history is notable for depression, substance abuse, learning disabilities, and ADHD.
What could you do?

Consider:
- timing of doses/meals
- change to nonstimulant (risks of switching vs. risk of growth delays)
- Drug holidays (pros/cons)
- Nutrition consult – food diary, education, Pediasure/snacks
- Cyproheptadine?
- Psychoeducation of the parents
- Individual and/or family therapy
- Medical evacuation for comprehensive assessment
  - Thorough physical exam by pediatrician
  - Referral to pediatric endocrinologist
  - Evaluation of psychiatric or medical comorbidities
CV Risks

Stimulants

• Increase blood pressure (BP) and pulse. This is usually insignificant, but it may be problematic for some.

• Controversy -
  • Do stimulant medications put kids at risk for sudden cardiac death?
  • Should kids get EKGs before starting stimulants?

CV Risks

• No clear link to sudden cardiac death (SCD)

• From www.fda.gov website
  • Rate of sudden death in general pediatric population 1.3-8.5 per 100,000 patient-years, citing NEJM Review article (Liberthson 1996)
  • Reported rate of sudden death in treated ADHD kids (MPH, DEX/AMP, strattera) 0.2-0.5 per 100,000 patient-years

• FDA Warning Label: “should not be used in patients with known structural cardiac abnormalities, cardiomyopathy, serious heart rhythm abnormalities, coronary artery disease, or other serious heart problems.”
When starting stimulant medication

- Mandatory
  - Screen thoroughly (patient and family cardiac histories)
  - Do physical exam (abnormal heart murmur, hypertension, arrhythmia, signs of Marfan’s Syndrome)
  - Get baseline BP and pulse.
  - If positive history or findings, then EKG, ECHO, and referral to pediatric cardiologist are in order first.

At follow-up appointments, obtain BP and pulse.
- Inquire about cardiac symptoms such as dizziness, fainting, exercise intolerance, chest pain, shortness of breath, palpitations.

ADHD Resources

- American Academy of Child & Adolescent Psychiatry (www.aacap.org)
- Child and Adults with ADHD - CHADD (www.chadd.org)
- The Attention Deficit Information Support Network, Inc. (www.addinfonetwork.com)
- Attention Deficit Disorder Association (www.add.org)
Case example 5

Suzie is a 9 year old girl in the 4th grade. She is shy and does not like to speak out in class. She tends to stand off by herself at recess. She frequently has stomachaches at school and requests to go to the nurse’s office. She sleeps in her parents’ bed, otherwise she has difficulty falling asleep. She has tantrums at home when things do not go her way. She has asked to stay at home on school days. The family moved 1 year ago, and she is having difficulties making friends.

Anxiety Disorders

- One of the most common child psychiatric conditions, but they often go undetected and untreated.
- Prevalence rates: 6-20%
- More common in girls
- Fear and worry are common, but if they do not subside and impair functioning, they can become disorders.
- Common presentation: worries, somatic complaints (headaches, stomachaches), crying, inattention, irritability, tantrums, difficulty sleeping.
Anxiety Disorders

- Early identification and treatment may lessen their impact on the child’s academic and social functioning.
- At risk of developing other anxiety disorders, depression, and substance abuse.
- Biological risk factors:
  - genetics - anxious parents tend to have anxious kids
  - child temperament
- Environmental risk factors:
  - parent-child interactions
  - parental anxiety

Anxiety Disorders

- Screening is recommended as part of the mental health assessment.
- Kids may be more aware of their inner distress, and parents/teachers may tend to underestimate the impact of anxiety.
  - Are you a worrywort? What are you fearful of?
  - Do you worry more than your friends?
  - Do you have a lot of aches and pains?
  - Do you worry about what’s going to happen to you, your parents, your friends?
Types of Anxiety Disorders

- Separation Anxiety Disorder (SAD)
  - Excessive fear of being separated from caregiver
- Generalized Anxiety Disorder (GAD)
  - Excessive anxiety about multiple things
- Social phobia
  - Anxiety in social settings
- Specific phobia
  - Fear of a specific object or situation

Types of Anxiety Disorder (continued)

- Panic Disorder with and without agoraphobia
  - Unexpected, brief intense anxiety episodes without trigger
- Acute Stress Disorder
- Post-traumatic Stress Disorder
  - Anxiety following exposure to traumatic event
- Obsessive-Compulsive Disorders
  - Anxiety from disturbing thoughts alleviated by repetitive behaviors
Assessment

Evaluation includes:

- Determine normal vs. excessive worries
- Presence of stressors or trauma
- Consider possible psychiatric/medical co-morbidities
- Home and school environments
- Presence of suicidal or homicidal ideation
- Document presence or absence of physical symptoms using the SMURF prior to initiating medication

- Rating scales are useful, particularly the SCARED (found on schoolpsychiatry.org) to assess presence and treatment response.

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**Screen for Child Anxiety Related Disorders (SCARED)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Not True or Rarely True</th>
<th>Slightly True or Sometimes True</th>
<th>Very True or Almost True</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel that almost everything is dangerous.</td>
<td>[ ]</td>
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<tr>
<td>2. I get trouble when I am alone.</td>
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<tr>
<td>3. I don't like to be with people and have to be alone.</td>
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<tr>
<td>4. I feel sad.</td>
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<tr>
<td>5. I worry about what might happen in the future.</td>
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<tr>
<td>6. I frequently have nightmares.</td>
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<tr>
<td>7. I have a stomach ache.</td>
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<tr>
<td>8. I sometimes think other children are fond of me.</td>
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<tr>
<td>9. I feel nervous with people I don't know well.</td>
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<tr>
<td>10. I got the wrong thing or asked the wrong question.</td>
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<tr>
<td>11. I worry too much about things that other children do not worry about.</td>
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<tr>
<td>12. I worry about things that happen outside of school.</td>
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<tr>
<td>13. I worry about getting a nervous stomach.</td>
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<tr>
<td>14. I worry about being a good student.</td>
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<tr>
<td>15. I worry about going to school.</td>
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<tr>
<td>16. I worry about things that happen to my family.</td>
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<tr>
<td>17. I worry about things that happen to my friends.</td>
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<tr>
<td>18. I cry easily.</td>
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<tr>
<td>19. I feel washed out.</td>
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<tr>
<td>20. I have nightmares about things that happen to me.</td>
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</tr>
</tbody>
</table>
Assessment

Psychiatric conditions that can present with anxiety-like symptoms:
- ADHD
- psychotic disorders
- pervasive developmental disorders
- learning disabilities
- bipolar disorder
- depression

Assessment

Physical conditions that may present with anxiety-like symptoms:
- hyperthyroidism
- caffeinism
- migraine
- asthma
- seizure disorder
- lead intoxication
- hypoglycemia
- pheochromocytoma
- CNS disorder (delirium, brain tumor)
- cardiac arrhythmia
- prescription drugs (antiasthmatics, steroids, SSRIs, antipsychotics, sympathomimetics)
General Management

Do not forget to screen, evaluate, and treat any co-morbid conditions

- Depression – careful monitoring of suicide risk
- Bipolar affective d/o
- ADHD – approx 1/3 of kids with ADHD have anxiety d/o
- Substance abuse
- Oppositional defiant d/o
- Learning d/o
- Language d/o

They affect functioning and treatment outcome.

Symptoms may overlap leading to mis- or under-diagnosis of co-morbidity.

General Management

- Psychoeducation of parent and child
- Consultation with teacher (with permission)
  - see schoolpsychiatry.org website
- Therapy
  - individual, group, and/or family
- Medication - not usually 1st line treatment
- What to do depends on child and family factors
  - Age and developmental level of child, stressors, risk factors, family functioning, parent and child preferences, severity of symptoms, impairment of functioning, co-morbid conditions
Treatment Planning

• For those with mild symptoms, consider therapy first
  • Exposure-based CBT has most empirical support.
  • In CBT, the child learns to recognize anxiety and how to utilize coping skills, then practices the skills in anxiety-provoking situations.
• For those with severe symptoms, with co-morbid conditions, or those who partially respond to therapy, consider addition of medication.

Family Interventions

• Improve parent-child relationships
• Strengthen family problem-solving
• Reduce parental anxiety
• Examine attachment and parent-child interactional style
Medication

SSRIs should be considered in anxious kids.
  - If symptoms are moderate or severe
  - There is partial response to therapy
  - Child is unable to participate in therapy

Short-term efficacy of SSRIs demonstrated for selective mutism, GAD, social phobia, and separation anxiety disorder

FDA black-box warning regarding antidepressant use and increased risk of suicidal thinking and behavior

FDA Black Box Warning

- 03: Concerns arose after a report was released of Paxil being ineffective in treating youth with depression and linked to increased suicidality.
- 10/04: FDA issued “black box” warning on all pediatric antidepressants based on analyses of 24 pediatric antidepressant trials (4400 pts).
  - Increased risk of suicidality during the first few months of treatment (4% vs. 2% placebo)
  - No suicides
- 2/05: FDA made clarification to its black box labeling
  - Antidepressants increased the risk of suicidal thinking and behavior (suicidality) in short-term studies.
- 06: Advisory committee to FDA recommended warning be extended to young adults up to 25yo.
FDA Approved Meds for Anxiety in Kids

- **Zoloft** - approved for OCD in kids 6-17yo
- **Prozac** - approved for OCD in kids 7-17yo
- **Luvox** - approved for OCD in kids 7-17yo
- **Anafranil** - approved for OCD in kids 10-17yo
- No drug has been approved by the FDA for tx of non-OCD anxiety disorders in kids.

**Medication**

- Informed consent is the 1st step: discussion of risks/benefits and alternatives
- Variables to consider include age, weight, puberty status, neurologic status, and family history of drug response.
- Those with developmental delays may be more sensitive to side effects
- No indication for lab test prior to or during treatment
- Predicting common side effects may help compliance
- No empirical evidence that a particular SSRI is more effective than another for tx of anxiety disorder.
SSRI Side Effects

• Common and often mild/dose dependent
  – GI upset (stomachache, diarrhea, nausea)
  – Decreased appetite
  – Headache
  – Restlessness
  – Insomnia/sedation
  – Fatigue
  – Sweating
  – Tremor
• Suicidality
• Activation/agitation – 3-8% of kids
• Bipolar Switching
• Bleeding
• Serotonin Syndrome

Other Medications

• Venlafaxine (Effexor)
  • Monitor BP
  • Side effects: headache, nausea, insomnia, hypertension
• Tricyclic antidepressants (Imipramine, Clomipramine)
  • Need for closer monitoring and greater medical risk with overdose
• Buspirone (Buspar)
  • well tolerated
  • Side effects: lightheadedness, headache, dyspepsia
• Benzodiazepines - no efficacy demonstrated in controlled childhood anxiety d/o trials
  • Side effects: sedation, disinhibition, cognitive impairment
Maintenance/Monitoring

- Before and throughout treatment, careful attention paid to safety, either in person or via phone.
- FDA
  - weekly visits during the 1st 4 wks
  - biweekly during 2nd and 3rd 4 wks after initiating antidep tx
- APA and AACAP
  - individualized monitoring that is “frequent and regular”.
- Continue for 6-12 months after clinical response. Certain factors suggest need for longer-term maintenance treatment.
- Gradual tapering and discontinuation should be timed appropriately.

Outcome

Predictors of poorer outcome
- Older age
- Co-morbidities
- Increased symptom severity
- Parental psychopathology
- Problematic family functioning
Case Example 6

Jackie is a 16yo 11th grader who moved to post 1 year ago. She has had difficulties making new friends, and she misses her “old” friends and boyfriend back in VA. She does not like her new school despite getting good grades. She reports crying spells, irritability, social withdrawal, excessive sleep, and finding it “harder to put on a happy face.” She has been more argumentative with her parents, yet her parents minimized what is going on, thinking she was adjusting to the move. She has lived at 4 previous overseas posts.

Case Example 6 (continued)

She had thoughts that she wished she had never been born and that she would be better off dead. Upon news that her boyfriend in VA broke up with her, she took an overdose of medication. She was reluctant to tell her parents what she had done. She had never tried to hurt herself before, yet she was tired of her “aggressive and negative thinking.”
Case Example 7

Matt is a 14 year old 9th grader with history of anxiety since elementary school. He has friends, is involved in activities, and does well in school.

He developed depressive symptoms (difficulty initiating sleep, hopelessness, decreased appetite, helplessness, depressed mood) over the past several months including recent suicidal ideation. He was found asleep one morning by his Dad with a suicide note, beer bottles, and some knives nearby. He admitted trying to kill himself because he was a “failure and not living up to [his] family’s expectations.”

No concerns for substance misuse other than this incident.

Family history of a paternal grandfather with “bipolar tendencies.”

Depressive Disorders

• Prevalence rate of up to 2% in children and 4-8% in adolescents
• Before puberty, equal in boys and girls; after puberty, more common in girls
• High rates of co-morbid psychiatric disorders
• Relapse and recurrence rates from 34-75%
Depressive Disorders

- Pediatric depression leads to long-term consequences with school and work performance, substance abuse, suicide attempts, legal difficulties, etc.
- There may be more behavioral and physical complaints than emotional.

Screening

- Early identification and effective treatment may reduce risk of negative outcomes.
- Screen all kids for depressive symptoms
  - Sad mood, irritability, boredom?
  - Are these symptoms present most of the time?
  - Do they affect the kid’s functioning?
  - Are they in excess of what one would expect for that age?
- Use a rating scale
Depressive Symptoms

In kids, one sees

- mood lability
- irritability
- low frustration tolerance
- temper tantrums
- somatic complaints
- social withdrawal
- not playful, even complaints of boredom

- Kids have less melancholic symptoms, delusions, and suicide attempts than adults.
- Talk of suicide or not wanting to be alive is difficult to interpret, so it must be taken seriously and brought immediately to medical attention.
Risk Factors

Combination of genetic and environmental factors:

- familial loading – kids with depressed parents are 3 times more likely to develop a Major Depressive Disorder than kids without depressed parents.
- stressors (losses, abuse, moves)
- child’s coping abilities
- presence of other psychiatric and medical conditions

Course

- Median duration of a major depressive episode for clinically referred kids is 8 months
- Recurrences can persist throughout life
- 20-40% will develop bipolar disorder
Major Depressive Disorder (MDD)

For diagnosis,
- At least 2 weeks
- At least 5 symptoms, including persistent change in mood (either depressed or irritable) or loss of interest AND
  - Sleep: increased or decreased
  - Guilt or low self-esteem
  - Energy: decreased
  - Concentration: decreased
  - Appetite: increased or decreased
  - Psychomotor agitation or retardation
  - Suicidal ideation or attempt

Major Depressive Disorder (MDD)

For diagnosis,
- These symptoms are a change from previous functioning and produce impairment in functioning
- These symptoms are not attributable solely to substance abuse, use of medications, other psychiatric illness, bereavement, or medical illness.
Types of Depression

- Major Depressive Disorder (MDD)
- Psychotic depression
- Atypical depression
- Seasonal affective disorder
- Bipolar Affective Disorder, depressed
- Dysthymic disorder

Co-morbidities

40-90% of youths with depressive disorders have other psychiatric conditions such as

- Anxiety disorders
- Disruptive behavior disorders (ADHD, CD, ODD)
- Substance use disorders
Conditions that mimic depressive symptoms

Medical
- Hypothyroidism
- Mononucleosis
- Anemia
- Some cancers
- Autoimmune diseases
- Premenstrual dysphoric disorder
- Chronic fatigue syndrome
- Medications (stimulants, corticosteroids, contraceptives)

Psychiatric:
- Anxiety
- Dysthymia
- ADHD
- Oppositional Defiant Disorder
- Pervasive Developmental Disorder
- Substance abuse
- Bereavement
- Adjustment disorder
Assessment

- Interview patient, parents, and obtain information from collateral sources (ie teachers, if permission given)
- Explore possible co-morbid psychiatric or medical conditions.
- Explore presence of manic or hypomanic symptoms
  - Decreased need for sleep
  - Elated self-esteem
  - Increased distractibility and irritability
  - Increased energy level
  - Increased talkativeness
  - Severe mood changes
  - Excessive involvement in pleasurable and/or high risk activities

Assessment

- May be useful to have patient complete a mood timeline or chart
- No labs or imaging studies are available to make diagnosis
- Presence of suicidal or homicidal ideation
- Access to lethal means (firearms)
Uni- vs. Bi-polar Depression

Most kids present to treatment with their first episode of depression so it is difficult to know whether the episode is from a Major Depressive Disorder (MDD) or a Bipolar Affective Disorder (BPAD), depressed type.

In BPAD, depression alternates with periods of high energy and irritability/euphoria.

Risk factors include:
- strong family history of BPAD
- psychosis
- history of medication-induced mania or hypomania

Important to explore history and distinguish disorder before initiating treatment, as treatment could worsen the condition.

Young Mania Rating Scale
Level of Care

Dependent on:
- Child’s level of functioning
- Safety of self and others
- Parents’ comfort and ability to manage

Based on:
- Severity of child’s symptoms
- Presence of suicidal or homicidal ideation
- Psychosis
- Substance use
- Agitation
- Treatment compliance
- Parental psychopathology
- Living environment
Suicide

16% of high school students think about suicide. 3-8% show suicidal behaviors. Depressed kids are more likely to think about suicide and attempt it than other kids. Although not all suicidal children have depression, untreated depression increases risk of suicide.

From “The Use of Medication in Treating Childhood and Adolescent Depression: Information for Patients and Families” prepared by the APA and AACAP in consultation with a National Coalition of Concerned Parents, Providers, and Professional Associations

Suicide

Risk of suicidal behavior increases with
- history of attempts
- co-morbid psychiatric disorders
- impulsive and aggressive behaviors
- availability of lethal agents - be sure to ask about access to firearms
- exposure to negative events (trauma, abuse)
- family history of suicidal behavior
Suicidal behavior

• Important to evaluate for suicidal thoughts and behaviors at initial and subsequent assessments
• Assess current severity and most severe point in this episode and lifetime
• Differentiate suicidal from self-harm behaviors

Suicidal behavior

• Evaluate risk
• Protective factors
  • Religious belief, concern not to hurt family
• Rating scale available
• Important to restrict access to lethal agents
Treatment

Choice of treatment dependent on

• Child’s age and cognitive development
• Severity and type of depression
• Chronicity
• Comorbid conditions
• Family history of response to treatment
• Living environment
• Availability of expertise in medication and therapy
• Patient and parent preferences
• Cultural issues
Treatment

• Psychoeducation
  - Discuss causes, symptoms, course of illness, treatment options of depression including discussion about risks/benefits with/without treatment
    – Depression is an illness with genetic and environmental etiologies, not a manipulation or weakness.
    – Parents need guidance
    – Seems to improve adherence to treatment

Treatment (continued)

• Therapy:
  • Individual
    • Supportive - listening, problem solving, maintaining hope
      • May be all that is needed for kids with mild depression
    • Cognitive-Behavioral – most evidence to support
    • Interpersonal – most evidence to support
    • Group
  • Family - important to work with both the patient and parents
    • Parents are usually more motivated for treatment
    • Parents are more observant of behaviors and symptoms
    • Parents can monitor progress and call if worsening symptoms
For a child with mild depressive symptoms
• no significant impairment of functioning
• no suicidal ideation or psychosis
Would be reasonable to provide psychoeducation, support, and assist in problem-solving family and school issues
Expect to observe response after 4-6 weeks of supportive therapy

• Medications
  • For moderate to severe depression
  • Either alone or in combination with therapy
    • Kids may be too agitated, psychotic, unmotivated, or tired to participate in therapy
    • Depressed patients treated with SSRIs have a relatively good response rate (40-70%), but the placebo response rate is also high (30-60%).
Medications

• SSRIs
  • Prozac
    • FDA approved for treatment of depression in kids 8yo+
  • Lexapro
    • FDA approved for depressed kids 12-17yo
  • Zoloft
  • Celexa
  • Paxil
  • Luvox

Medications (continued)

• TCAs
  • not considered first-line treatment
• Venlafaxine (Effexor)
• Bupropion (Wellbutrin)
• Mirtazapine (Remeron)
• Duloxetine (Cymbalta)
• Nefazodone (Serzone)
• Atypical antipsychotics (Abilify, Seroquel, Geodon)
  • not approved by the FDA for treatment of depression in kids
  • not considered first-line treatment
Controversy re: antidepressants and suicidality

• NNH: 112 and NNT: 10
  Nearly 11 times more depressed patients may respond favorably to antidepressants than may spontaneously report suicidality.

• Risk/benefit ratio for SSRI use in pediatric depression appears favorable with careful monitoring

Medication Monitoring

• All patients receiving medication need to be carefully monitored for suicidal thoughts, behaviors, and other side effects:
  • Akathisia
  • Irritability
  • Withdrawal
  • Agitation
  • Sleep disruption
  • Induction of mania or mixed state

• Particularly monitor kids that are at increased risk of suicide or have family history of bipolar disorder
Treatment (continued)

- Medication treatment should be continued for 6-12 months.
- Rate of relapse is high, particularly if treatment if discontinued.
- Trial off medication should be considered during a low-stress period, ie during summer when not moving.
- Some patients with recurrent episodes will require maintenance treatment.

Treatment (continued)

- School involvement
  - With child's/parent's permission, it is helpful for school to know what child is struggling with.
  - Be aware of confidentiality
  - Child may benefit from accommodations regarding schedule or workload.
  - Is there a comorbid condition? ADHD or LD
  - School psychiatry.org is a great resource!
Outcome

- Goal is to restore function.
- Important to evaluate adherence to treatment regimen, presence of side effects, and patient/parent’s assessment of the treatment’s effectiveness.
- Suicidality, homicidality, and somatic complaints should be evaluated at baseline and throughout treatment.

Outcome

Poorer outcome is associated with
- Greater symptom severity, chronicity, or recurrences
- Comorbidity
- Family problems
- Low socioeconomic status
- Exposure to ongoing negative events
- Presence of refractory depressive symptoms
- Negative cognitive style
- Hopelessness
- Family history of mood disorders
Case Example 8

Michael is a 2 year 4 month old boy with “limited language” and lack of interaction with others except when he wants something from his parent. He does not engage with younger sister or other children when they come to the house. He tantrums several times a day with no known precipitant and has difficulty settling for sleep. He bites his hand but does not break the skin. No head banging or other self-injurious behaviors. He is a picky eater.

Previous well child check-ups note “normal growth and development.” He was born full-term without pre-, peri-, or postnatal complications. Apgars 9/9. He is not toilet trained. No known medical problems, history of head injury, seizure activity, or ear infections.

Weight is 25%, height 25%, and head circumference 75%

No reported family history of language disorder, learning disorder, or autism

On the M-CHAT, 6 critical items are positive.

Autism Spectrum Disorders (ASDs)

- Includes
  - Autistic Disorder
  - Asperger’s Disorder
  - Pervasive Developmental Disorder Not Otherwise Specified
  - Childhood Disintegrative Disorder

- Characteristics:
  - Impaired socialization
  - Impaired verbal and nonverbal communication
  - Restricted and repetitive patterns of behavior
ASDs

- Average age at diagnosis of autism - 6 yo
- Most parents feel something is wrong by 18 months and seek medical attention at 2 yo
- When they seek medical attention:
  - Less than 10% diagnosed
  - 10% told to return if ongoing concerns or that child would "outgrow" it.
  - Others referred to another professional
    - 40% given formal diagnosis
    - 25% reassured, "don't worry"
    - 25% referred to another professional

ASD

- Postnatal Period
  - Institute of Medicine found no evidence of a causal association between MMR vaccine and autism
  - There is no evidence that children with autism have increased mercury concentrations or environmental exposures
Early signs

- Lack of or delay in development of spoken language
- Repetitive use of language and/or motor mannerisms
- Little or no eye contact
- Lack of interest in peer relationships
- Lack of spontaneous or make-believe play
- Persistent fixation on parts of objects

Other Behavioral Indicators

- Adherence to routine
- Laughing or crying for no reason
- Isolative
- Tantrums and low frustration tolerance
- Uncomfortable with physical contact
- Over-sensitivity or under-sensitivity to stimuli
- No real fears of danger
- Non-responsive to verbal instruction
- Physical over-activity or under-activity
- Obsessive attachment to particular objects
- Impaired fine and gross motor skills
Regression

- Approx 25% of children with ASDs begin to say words but then stop speaking.
- Often occurs between ages of 15 and 24 months.
- May include loss of gestural communication and social skills or combination of both.
- Can be gradual or sudden.
- May be superimposed on developmental delays or atypical development.
- Well-documented hallmark of ASDs.

Routine Developmental Screening

- American Academy of Pediatrics (AAP) stresses the importance that this be done at every well-child visit.
  - Ages and Stages Questionnaire (ASQ)
  - BRIGANCE Screens
  - Child Development Inventories (CDIs)
  - Parents’ Evaluations of Developmental Status (PEDS)
Screening

From Child Neurology Society practice parameter on screening and diagnosis of autism -

The following are "red flags"/absolute indications for immediate evaluation:

- No babbling or pointing or other gestures by 12 months
- No single words by 16 months
- No 2-word spontaneous (not echolalic) phrases by 24 months
- Loss of language or social skills at any age.
Screening Instruments

- Identifying children with autism and initiating intensive, early intervention results in improved outcomes for most young children with autism.
- [www.firstsigns.org](http://www.firstsigns.org)
- Measures designed specifically for early detection of ASDs in young kids:
  - Checklist for Autism in Toddlers (CHAT) - no cost
  - Modified Checklist for Autism in Toddlers (M-CHAT) - no cost
  - PDD Screening Test-II Primary Care

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**M-CHAT**

Please fill out the following about how your child usually is. Please try to answer every question. If the behavior is rare (e.g., you’ve seen it once or twice), please answer as if the child does not do it.

1. Does your child enjoy being swung, bounced on your knee, etc.?  
   - Yes  
   - No
2. Does your child take an interest in other children?  
   - Yes  
   - No
3. Does your child like climbing on things, such as up stairs?  
   - Yes  
   - No
4. Does your child enjoy playing peek-a-boo with adults?  
   - Yes  
   - No
5. Does your child ever pretend, for example, to talk on the phone or take care of a doll or pretend other things?  
   - Yes  
   - No
6. Does your child ever use his/her index finger to point, to ask for something?  
   - Yes  
   - No
7. Does your child ever use his/her index finger to point, to indicate interest in something?  
   - Yes  
   - No
8. Can your child play properly with small toys (e.g., cars or blocks) without just mouthing, tossing, or dropping them?  
   - Yes  
   - No
9. Does your child ever bring objects over to you (parents) to show you something?  
   - Yes  
   - No
10. Does your child look you in the eye for more than a second or two?  
    - Yes  
    - No
11. Does your child ever seem over-sensitive to noise (e.g., plugging ears)?  
    - Yes  
    - No
12. Does your child smile in response to your face or your smile?  
    - Yes  
    - No
13. Does your child imitate you? (e.g., you make a face will your child imitate it?)  
    - Yes  
    - No
14. Does your child respond to his/her name when you call?  
    - Yes  
    - No
15. If you point at a toy across the room, does your child look at it?  
    - Yes  
    - No
16. Does your child walk?  
    - Yes  
    - No
17. Does your child look at things you are looking at?  
    - Yes  
    - No
18. Does your child make unusual finger movements near his/her face?  
    - Yes  
    - No
19. Does your child try to attract your attention to his/her own activity?  
    - Yes  
    - No
20. Have you ever wondered if your child is deaf?  
    - Yes  
    - No
21. Does your child understand what people say?  
    - Yes  
    - No
22. Does your child sometimes stare at nothing or wander with no purpose?  
    - Yes  
    - No
23. Does your child look at your face to check your reaction when faced with something unfamiliar?  
    - Yes  
    - No

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Screening Instruments

M-CHAT (Robins, Fein, & Barton, 1999):
• If 2 or more critical items are failed OR any 3 items are failed, the child should be evaluated in more depth or referred to a specialist.

• Critical questions are:
  – does your child take an interest in other children?
  – does your child ever use his index finger to point, to indicate interest in something?
  – does your child ever bring objects over to you to show you something?
  – does your child imitate you?
  – does your child respond to his name when you call?
  – if you point at a toy across the room, does your child look at it?

Level One: Routine Developmental Surveillance by all providers at every well-child visit
Absolute indications for Immediate Evaluation:
– No babbling, pointing or other gesture by 12 months
– No single words by 16 months
– No 2 word spontaneous (not echolalic) phrases by 24 months
– Any loss of ANY language or social skills at ANY age

Lab Investigation: Formal audiological assessment, Lead screen if pica present
Specifically screen for Autism: CHAT, Autism Screening Questionnaire
PASS Refer to Level Two prn
FAIL Rescreen at next visit

Refer to Early Intervention or Local school district
Proceed to Level Two


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Comprehensive Evaluation

- Should include:
  - Health, developmental, and behavioral histories
  - Physical exam (dysmorphic features?)
  - Developmental and/or psychometric evaluation (speech/language, audiology, cognitive, occupational therapy, behavioral)
  - Determination of the presence of a DSM-IV-TR diagnosis
  - Assessment of the parents’ knowledge of ASDs, coping skills, and available resources
  - Lab investigation to search for a known etiology or coexisting condition guided by information obtained from history and physical exam

Prognosis

- Depends on many factors and usually cannot be predicted during early childhood, especially in children <3yo
- Important early predictors:
  - joint attention skills
  - functional play skills
  - cognitive abilities
  - severity of ASD symptoms
- Recent studies
  - Most kids diagnosed with ASD retain their diagnosis at 9yo
  - Many, especially those with PDD NOS improve and a minority have optimal outcomes (normal IQ and function well in mainstream classrooms without an aide) - still with residual clinical signs.
Prognosis

• Poorer outcomes associated with
  – Lack of joint attn by 4yo
  – Lack of functional speech by 5yo
  – Intellectual disability (MR)
  – Seizures (esp with onset during adolescence)
  – Comorbid medical (tuberous sclerosis) or psychiatric (schizophrenia) disorders and severe autistic symptoms.

Goals of Treatment

• Maximize the child’s functional independence and quality of life by
  – Minimizing core ASD symptoms
  – Facilitating development and learning
  – Promoting socialization
  – Reducing maladaptive behaviors
  – Educating and supporting parents
Medical Management

- Seizures - prevalence ranges 11-39%
- GI problems - constipation, diarrhea
- Sleep disturbances
  - family distress
  - obstructive sleep apnea
  - GERD
  - Medication Treatment Options: melatonin, antihistamines, alpha-2 agonists, trazodone, Remeron, benzodiazepines
- Challenging behaviors – rule out medical causes and environmental factors

Pharmacotherapy

- Hyperactivity and Inattention
  - Stimulants
  - Strattera
  - Alpha-2 adrenergic agonists - Tenex/Clonidine
- Interfering Repetitive Behaviors
  - Clomipramine
  - SSRIs
- Anxiety/Depression
  - SSRIs
  - Effexor, Cymbalta, Remeron
Pharmacotherapy

- Irritability and aggression
  - Typical/atypical antipsychotics
    - Risperdal - FDA approved for aggression in autism for kids 5-16yo
    - Abilify - FDA approved for autism plus aggression for kids 6-17yo
  - Monitoring
    - EKG at baseline if cardiovascular risk
    - Fasting glucose and lipids at baseline and every 3-6 months
    - Weight, height, BP, pulse
    - Menstrual functioning
    - Movement scales like the AIMS (Abnormal Involuntary Movement Scales)
  - Treat until behavior and symptoms improve, then dose may be lowered for maintenance treatment

Complementary and Alternative Medicine

Use is common in kids with ASD

- Non-biological:
  - Auditory integration training
  - Behavioral optometry
  - Craniosacral manipulation
  - Music therapy
- Biological:
  - Immunoregulatory interventions
  - Detoxification therapies
  - Gastrointestinal treatments
  - Dietary supplement regimens
Psychosocial and Educational Interventions

- No single approach is the best for all individuals
- Most commonly studied treatment: Applied Behavior Analysis (ABA).
- TEACCH - “structured teaching”
- Speech/language therapy

Psychosocial and Educational Interventions

- Occupational and Sensory Integration Therapy
- Social skills - social stories, affect training
- Family support - education, anticipatory guidance, training, assisting with resources/advocacy, providing emotional support, referral for counseling
Questions?

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References

References

- AACAP’s “Practice Parameter for the Assessment and Treatment of Children and Adolescents with Attention-Deficit/Hyperactivity Disorder,” [www.aacap.org](http://www.aacap.org)
- AACAP’s “Practice Parameter for the Assessment and Treatment of Children and Adolescents with Anxiety Disorders,” [www.aacap.org](http://www.aacap.org)
- AACAP - “Anxiety Disorders Resources Center,” [www.aacap.org](http://www.aacap.org)
- AACAP’s “Practice Parameter for the Assessment and Treatment of Children and Adolescents with Depressive Disorders,” [www.aacap.org](http://www.aacap.org)
- “The Use of Medication in Treating Childhood and Adolescent Depression: Information for Patients and Families” prepared by the APA and AACAP in consultation with a National Coalition of Concerned Parents, Providers, and Professional Associations, [www.aacap.org](http://www.aacap.org)
- AACAP’s “Practice Parameter for the Assessment and Treatment of Children, Adolescents, and Adults with Autism and Other Pervasive Developmental Disorders,” [www.aacap.org](http://www.aacap.org)
- “Milestone Moments,” [www.cdc.gov/milestones](http://www.cdc.gov/milestones)