

FACT SHEET ON MEDICATIONS

Atypical Neuroleptics

- ▶ **Target Symptoms:** irritability/agitation, aggression, self-injurious behaviors, (Risperidone and aripiprazole are the first line medications for aggression/irritability in children with ASD)
- ▶ **Side Effects:**
 - Typical neuroleptics (e.g., Haloperidol, Haldol): extrapyramidal symptoms (e.g., acute dystonia, tardive dyskinesia), dry mouth, constipation, sedation, neuroleptic malignant syndrome (fever, muscle rigidity, altered mental status, autonomic dysfunction)
 - Atypical neuroleptics: fewer extrapyramidal symptoms but weight gain, sedation, hyperglycemia, hyperlipidemia, prolactin elevation, rarely neuroleptic malignant syndrome. Weight gain is generally less for Aripiprazole (Abilify) than Risperidone (Risperdal)
- ▶ **Dose** for Atypical Neuroleptics:
 - Risperidone (Risperdal): .25mg – 2mg/dose, BID
 - Aripiprazole (Abilify): 1-15 mg once daily
 - Olanzapine (Zyprexa): 2.5-15 mg per day, typically divided BID
 - Quetiapine (Seroquel): 50-600 mg once daily
- ▶ **Monitor:**
 - Blood lipids, fasting glucose, BMI/weight, drug interactions

Stimulants

- ▶ **Target Symptoms:** hyperactivity, impulsivity, inattention
- ▶ **Side Effects:** irritability, agitation, decreased appetite, slow weight gain, headache, dysphoria, increased sleep latency
- ▶ **Dose:** (start low)
 - Methylphenidate (Ritalin): Initial, .3 mg/kg/dose (2.5-5 mg), twice daily
 - Maintenance, .3-1.0 mg/kg/day
 - Also several long acting preparations, e.g., Concerta, Metadate CD, Ritalin LA plus alternative formulations (Focalin) and alternate delivery methods (Daytrana patch)
 - D-Amphetamine (Dexedrine, Dextrostat): Initial, 2.5-5.0 mg once daily
 - Maintenance, 2.5-20 mg/dose, twice daily to TID, Maximum 40mg/day
 - D,L-Amphetamine salts (Adderall): .25mg/kg/day, twice daily
 - Also several long-acting preparations (e.g., Adderall XR) and alternative formulations (Vyvanse)
- ▶ **Monitor:**
 - Obtain EKG if personal history of heart disease or family history of arrhythmias

Fact Sheet on Medications

- Blood Pressure, Growth
- Contraindicated in glaucoma

Alpha 2A Adrenergic Agonists

- ▶ **Target Symptoms:** hyperactivity, impulsivity, aggression
- ▶ **Side Effects:** sedation, headache, nausea, hypotension (rare), rebound hypertension if medication is rapidly discontinued (dosage must be tapered before discontinuing)
- ▶ **Dose:**
 - Clonidine (Catapres): .025-.1 mg/dose, BID-TID
 - Guanfacine (Tenex): .5-1 mg/dose, BID
 - And a long-acting formulation (Intuniv: .05-.12 mg/kg/day, once daily)
- ▶ **Monitor:**
 - Blood Pressure

Strattera (atomoxetine): Selective norepinephrine reuptake inhibitor

- ▶ **Target Symptoms:** hyperactivity, impulsivity, inattention
- ▶ **Side Effects:** sedation, decreased appetite, nausea and vomiting, dizziness, syncope, mood swings, possible liver toxicity
- ▶ **Dose** (treatment effects not seen till several weeks after starting the medication):
 - 1.0-1.4 mg/kg/day, once daily
- ▶ **Monitor:**
 - BP. Growth, drug interactions, plus potential increased suicide risk similar to other anti-depressants
 - Contraindicated in narrow angle glaucoma

Selective Serotonin Reuptake Inhibitors (SSRI's)

- ▶ **Target Symptoms:** repetitive behaviors, anxiety, depression
- ▶ **Side Effects:** agitation, irritability, dis-inhibition, GI symptoms, headache, insomnia, tremor, sexual dysfunction. Review interaction with other medications, potential serotonin syndrome with overdose
- ▶ **Dose** (treatment effects not seen till several weeks after starting the medication): (start very low)
 - Prozac: 4-40 mg, once daily
 - Zoloft: 12.5-200 mg, once daily
 - Celexa: 10-40 mg, once daily
 - Luvox: 50-300 mg daily, given BID
 - Lexapro: 5-20 mg, once daily

▶ **Monitor**

- Interaction with other medications, Black Box warning on suicide risk
- Contraindicated if patient taking MAO inhibitor

Mood Stabilizers (challenging to use in children with ASD!)

▶ **Target Symptoms:** manic symptoms, aggression, bipolar disorder

▶ **Side Effects:**

- Valproic acid (Depakene): weight gain, GI symptoms, headaches, drowsiness, dizziness, insomnia, hair loss, potential for liver injury
- Other Anticonvulsants: GI symptoms, insomnia, coordination problems, weight loss with Topiramate (Topamax); rare serious side effects including Stevens Johnson syndrome with Carbamazepine (Tegretol) especially if Asian ancestry and Lamotigine (Lamictal), possible liver toxicity, bone marrow depression and increased suicidal risk with Carbamazepine (Tegretol)
- Lithium: potential for serious side effects (problems concentrating urine, excessive thirst, arrhythmias, ataxia) plus hypothyroidism, GI symptoms, tremor, sedation, blurred vision

▶ **Dose:**

- Valproic acid (Depakene): Initial, 10-15 mg/kg/24 hr, divided BID to TID
 - Maintenance, 30-60 mg/kg/24 hr, divided BID to TID
- Lithium: Initial for child, 15-60 mg/kg/24 hr, divided TID to QID
 - Adjust dose for therapeutic level, .6-1.5mEq/L

▶ **Monitor:**

- Drug interactions
- Valproic acid (Depakene) and Lithium require frequent blood draws for monitoring drug levels and potential side effects
- Valproic acid (Depakene) contraindicated if liver disease, Lithium contraindicated if severe cardiovascular or renal disease