Elizabeth Reeve, M.D., is a board-certified child and adolescent psychiatrist who sees children and adolescents who have developmental disabilities at Gillette Children’s Specialty Healthcare.

She has extensive teaching and research experience in pediatric psycho-pharmacology. She graduated from the University of Minnesota Medical School in Minneapolis, Minn., completed an internship at the Veteran’s Administration Medical Center in Minneapolis, and completed a residency and fellowship internship at the Veteran’s Administration Medical Center in Minneapolis. Elizabeth Reeve, M.D.

A Pediatric Perspective focuses on specialized topics in pediatrics, orthopaedics, neurology and rehabilitation medicine.

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Using Psychotropic Medications to Treat Patients Who Have Disabilities by Elizabeth Reeve, M.D.

Primary-care providers have an important role to play in treating behavioral disorder symptoms in children who have disabilities. Nationally, there is a shortage of child psychiatrists, especially those who work with special needs populations, and Minnesota and the surrounding region are no exception. As a result, there is a greater likelihood that primary-care providers will be asked to treat patients who have behavioral disorders.

The following guidelines for using psychotropic drugs will enable providers to better meet the needs of patients in their practice. This article also discusses the ways in which children who have disabilities might respond to such medications. Although patients who have developmental disabilities can display a range of behavioral issues, this article focuses on four specific types:

• Symptoms of hyperactivity and attention deficit hyperactivity disorder (ADHD)
• Obsessive-compulsive behaviors
• Explosive and aggressive behaviors
• Sleep disturbances

The following recommendations emphasize behavior management in lieu of pinpointing specific mental health diagnoses.

Weight loss—In less fragile patients, weight loss might not be a serious issue. Because patients who have developmental disabilities might already be on restricted diets or use nasogastric tubes, weight loss for them might be a greater concern. In addition, when patients are immobile and difficult to weigh, weight loss can be overlooked, resulting in significant weight loss before others notice it.

Tics—Patients with neurological impairments might be more likely to develop tics when given stimulants. Usually the tics are mild (e.g., an eye blink), do not affect function and will not progress in a more significant tic.

Considerations When Prescribing Psychotropic Drugs

Keep in mind that many psychotropic medications have Food and Drug Administration (FDA) black box warnings, and frequently the uses recommended in this article are considered off-label—a point you might need to explain to parents. In addition, insurers sometimes allow payment only for narrowly defined uses. For example, insurers might deny payment for a stimulant if a child has an autism diagnosis, even though that child might also have symptoms of hyperactivity and ADHD.

Full-Time RadiologistJoins Gillette Staff

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when the medication is withdrawn. The presence of tics before starting stimulants does not contraindicate using this class of medications. Monitor the tic before and after the medication is started. Discontinue stimulants only if the tic is clinically worse after starting the medication and causes dyskinesia.

Caecal effects – Another important concern associated with stimulants is that of sudden caecal death. However, a study of accidental deaths in the UK monitoring stimulants showed that the risk of death from sudden caecal death is no greater than the risk of death from other causes in people with a history of arthritism in themselves or in a first degree relative, or even in people who have family history suggestive of a receive baseline EKG before starting stimulants medications.

Recommended Practices for Prescribing Stimulants
There are generally no efficacy differences among the various stimulants, although most stimulants are better for the class of drug than another. Duration of the formulations vary, as do the rates of onset of effect and duration of effect. Unlike antidepressants or other medications, which must build up in the system, stimulants begin working with the first dose. Consequently, a three-to-four day trial is sufficient, and doses can be increased quickly.

In addition, stimulants are last-acting and leave the system quickly. As a result, children might resume ADHD behaviors when the drug wears off. Ask parents for corroborating evidence of the drug’s effect/look of effect before changing or discontinuing it.

Before prescribing a stimulant, review growth records and get baseline measurements. After prescribing, check weight and height every three months, more often as clinically indicated (e.g., if concerns such as a significantly decreased appetite are evident).

Obtain an endocrinology consultation for patients who are not growing at a normal rate. When weight is not increasing, growth is generally recoverable. Although the rate of height growth may not increase, growth continues and does not reoccur lost height. Document and discuss changes with the patient’s family.

Prescribing Nonstimulants
Atomoxetine (Strattera; guanfacine (Intuniv, Tenex); short-acting clonidine) are all effective in treating ADHD (Eluteur), tricyclics and modafinil (Provigil) are non- stimulant medications that can be used to treat ADHD. The group only atomoxetine is FDA-approved to treat ADHD.

All nonstimulant medications must be given at regular times every day, and they take several weeks to build up to a therapeutic serum level and become effective. They cannot be stopped and started easily, as stimulant medications can. Nonstimulants might require invasive procedures, such as blood levels or EKGs.

Treating Obsessive and Receptive Behaviors
Children on the autism spectrum and those who have other developmental disabilities may exhibit a number of repetitive obsessive-compulsive or receptive behaviors. With classic obsessive-compulsive disorder (OCD), children are typically unwanted and annoying to the patient by. Patients, with special needs might find comfort in their repetitive behaviors, even when they may have a negative impact. For OCD/Type behaviors, select serotonin reuptake inhibitors (SSRIs) like fluoxetine (Prozac) or paroxetine (Paxil), can be good options.

For children or adolescents who perform self-injurious behaviors, such as self-filling or pain-pulling, try SSRI s first. If the medication is not helpful, although this is beneficial for the patient. Unlike antidepressants or other medications, which must build up in the system, stimulants begin working with the first dose. Consequently, a three-to-four day trial is sufficient, and doses can be increased quickly.

Serotonin syndrome and its resulting trembling, fever and chills can distress patients, particularly if they are not relieved. The primary management is symptoms of the conditions to avoid further administration. Provide care support. The use of 5-HT blockers, such as cyproheptadine and chlorpromazine, can be considered but is rarely necessary.

Recommended Practices for Prescribing SSRIs
Although there are no efficacy differences among the various SSRIs, patients might respond better to one formulation than another. Choose several SSRIs, understand their strengths and limitations, and get comfortable with prescribing them. If they are not helpful, select an alternative with a different mode of action. For OCD/Type behaviors, select serotonin reuptake inhibitors (SSRIs) like fluoxetine (Prozac) or paroxetine (Paxil), can be good options.

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Cardiac effects – Another important concern associated with stimulants is that of sudden cardiac death. However, a study published in Pediatrics in 2009 found that the risk of both death and the data do not warrant a change in the use of stimulants. The balance of risks to benefits still favors medicating patients with stimulants. Patients with a known or witnessed alteration of cardiac rhythm or a history of arrhythmia in themselves or a first degree relative, or with a history of cardiac abnormality in family history, must receive a baseline EKG before starting stimulant medications.

Recommended Practices for Prescribing Stimulants

There is generally no efficacy difference among the various stimulant medications. While they all appear to work better than class of drug than another. Duration of the formulations vary significantly even for the same type of stimulant in the same patient. Unlike antidepressant or other medications, which must build up in the systemic circulation, stimulant stimulants begin working with the first dose. Consequently, a three- to four-day trial is sufficient, and doses can be increased quickly.

In addition, stimulants are last-acting and leave the system quickly. As a result, children might resume ADHD behaviors when the medication wears off. Ask parents for corroborating evidence of the drug’s effect/ lack of effect before changing or discontinuing it.

Before prescribing a stimulant, review growth records and get baseline measurements. After prescribing, check weight and blood pressure every 3 to 6 weeks, more often as clinically indicated (e.g., if concerns such as a significantly decreased appetite are evident).

Obtain an endomyocardial consultation for patients who are obese or have a history of less than average height and weight. Weight is generally recoverable. Although the rate of height growth is usually greater than normal in children who are treated with stimulants, it may be relevant in older children. More challenging side effects include agitation or restlessness, increased bleeding times, elevated 0X risk of hypertension, and serotonin syndrome.

From 20 to 25 percent of patients report restlessness or agitation as a result of taking stimulants. Restlessness is especially prominent before meals, which can increase the risk of obesity. When children do not eat, they cannot simply burn off their excess energy. In younger patients, restlessness might be expressed as inappropriate inattentiveness and also as a person’s persistent weight gain, touching, tapping or hitting. This side effect might mimic Tourette’s syndrome.

SRIs can cause increased bleeding times. Recent literature suggests the drugs might be associated with decreased bone mineral density, so the risk of osteoporosis increases with long-term use.

Serotonin syndrome and its resulting tremor, leaping and chills can distress patients, particularly if they are novices. The primary management involves the medication, do not provide support care. The use of 5HT blockers, such as cyproheptadine and chlorpromazine, can be considered but is rarely necessary.

Recommended Practices for Prescribing SRIs

Although there are no efficacy differences among the various SRIs, patients might respond better to one formulation than another. Choose several SRIs, understand their strengths and limitations, and get comfortable with prescribing them. If they have a problem with one, switch to another. For OCD-type behavior, select serotonin reuptake inhibitors (SSRIs) such as paroxetine (Paxil) or fluoxetine (Prozac), (Fluoxetine) (Paxil) can be good options.

For children or adolescents who perform self-injurious behaviors, such as self-biting or hair-pulling, try SRIs first. If the medication does not work, the child may be prescribed another medication. Unlike antidepressants or other medications, which must build up in the systemic circulation, stimulant stimulants begin working with the first dose. Consequently, a three- to four-day trial is sufficient, and doses can be increased quickly.

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Cardiac effects—Another important concern associated with stimulants is that of sudden cardiac death. However, a study on the association between stimulants and cardiac events in 2020 found that the risk of death and the low data do not warrant a change in the use of stimulants. The balance of risks to benefits still favors medication. Patients with a history of cardiac abnormalities such as a history of arrhythmia in themselves or a first-degree relative, or who have been family history cases who receive a baseline EKG before starting stimulant medications.

Recommended Practices for Prescribing Stimulants
There is generally no efficacy difference among the various stimulant medications available. Although patients may experience adverse effects, titrating up slowly, obtaining an EKG before starting, and stimulating stimulants begin working with the first dose. Consequently, a three- to four-day trial is sufficient, and doses can be increased quickly.

In addition, stimulants are last-acting and leave the system quickly. As a result, children might resume ADHD behaviors when the drug wears off. Ask patients for corroborating evidence of the drug’s effect/look of effect before changing or discontinuing it.

Before prescribing a stimulant, review recent growth records and get baseline measurements. After prescribing, check weight and blood pressure at each return visit, more often as clinically indicated (e.g., if concerns such as a significantly decreased appetite are evident).

Obtain an endomycology consultation for patients who are underweight or fail to increase in height and weight. Growth is generally recoverable. Although the rate of height growth and body weight may be slow, these parameters may be relevant in older children. More challenging side effects include agitation or restlessness, increased bleeding times, elevated risk of seizures, and serotonin syndrome.

From 20 to 25 percent of patients report restlessness or agitation as a result of taking stimulants. Restlessness is especially problematic in children who have not previously been treated, because they cannot simply turn off their excess energy. In younger patients, restlessness might be expressed as inappropriate behavior or a decrease in performance at home and at school.

Hyperactivity and impulsivity are also common. In children, these might be associated with decreased bone mineral density, so the risk of osteoporosis increases with long-term use.

Serotonin syndrome and its resulting tremor, fever, and chills can distress patients, particularly if they are nonverbal. The primary symptoms to monitor are elevated heart rate, provide support care. The use of 5-HT blockers, such as cyproheptadine and chlorpromazine, can be considered but is rarely necessary.

Recommended Practices for Prescribing SSRI
Although there are no efficacy differences among the various SSRIs, patients might respond better to one formulation than another. Choose several SSRIs, understand their strengths and limitations, and get comfortable with prescribing them. If the patient tries one formulation and does not respond, discontinue the medication and give another patient to a psychiatrist. Keep in mind that abrupt withdrawal of a SSRI in patients with depression (Major Depressive Disorder [MDD]) may precipitate a condition known as flu-like symptoms that last for several days. If the patient discontinues the drug abruptly and has withdrawn symptoms, rest rate the medication and taper off more gradually.

Treating Aggressive or Explosive Behaviors
For aggressive, explosive, and impulsive behavior, try targeting medications. The older drugs include haloperidol (Haldol), thioridazine (Mellaril) and prochlorperazine (Compazine); the newer antidepressant medications include aripiprazole (Abilify), quetiapine (Serentil) and risperidone (Risperdal).

Potential Side Effects
Although antidepressant drugs can be effective in addressing aggressive behaviors, all can have significant side effects, such as weight gain, increased risk of diabetes, lipid abnormalities and increased blood pressure levels. Although tardive dyskinesia is associated with all of the newer antidepressants, the older antidepressants more often with risperidone and olanzapine.

Weight gain—Some patients gain 20 to 30 pounds while taking antidepressants. In addition to contributing to low self-esteem, weight gain may create difficulties between independence and dependence for friends. A patient who self-medicates with alcohol or other drugs might develop substance abuse.

Hypertension and diabetes also are associated with increased weight. Elevated glucose is associated with anti- psychotic medications even if they do not gain weight, so it is important to monitor glucose levels.

Increases in cholesterol and triglycerides can be dramatic, with or without weight gain. It is vital to get a baseline fasting lipid panel as well as a fasting glucose and HbA1c. Then check levels at six-month intervals.

All antidepressants have dopamine antagonism, so they can increase prolactin levels. Estrogen increases prolactin responsiveness, so women can have greater increases in prolactin levels than men. Prolactin’s effect on FSH and LH levels can contribute to anovulation, stimulate lactation and decrease libido. In males, increased prolactin can cause sexual dysfunction. Monitor patients for such side effects if the effects are intolerable, resolve, abrupt discontinuation might result.

Recommended Practices for Prescribing Antidepressants
When choosing an antidepressant drug, keep these guidelines in mind:

• Consider choosing drugs such as aripiprazole, which may have fewer somatic effects.
• Avoid giving quetiapine (Zyprexa) because it has a high risk of weight gain, which may contribute to decreased appetite and can help with sleep issues.
• Avoid olanzapine (Zyprexa) because of its side effect profile. It has a greater risk for sudden death than the other medications.
• Always get baseline glucose and fasting weight and lipid levels. Calculate BMI. Repeat laboratory tests within three months of starting the drug and then every six months, even if the patient does not gain weight.
• Use these dosing guidelines: Aripiprazole—2.5 mg to 30 mg, in dosing Sertraline—25 mg to 200 mg, in dosing Risperidone—0.125 mg to 3 mg bid.

Treating Sleep Disturbances
Not all children with ADHD have developmental disabilities might have sleep disturbances. Consider and assess medication use with sleep in mind. Children and adolescents transfer to the school, their community, family environment and sleep hygiene issues. When sleep problems do arise, research has shown that sleep loss is a neurodegenerative disease. Sleep is critical to the treatment issues, it is important to treat the sleep issues. Chronic sleep deprivation can lead to significant behavioral changes, including decreased memory and cognition, irritability and aggression.

To address sleep issues, begin with over-the-counter sleep aids such as Benadryl. Consider consulting a psychiatrist. When the patient is under 18 and under treatment, consider clonidine (Catapres), an antihypertensive. Clonidine is most useful in patients who have trouble falling asleep, and whose parents are able to monitor them closely (maybe give in low doses (0.1 to 0.2 mg) at bedtime to induce sleep. It is short-acting and avoids daytime sleepiness. Dexamfetamine (Desyrel) or mirtazapine (Remeron), both antidepressants, may be more useful for children who have trouble falling asleep and maintaining sleep. Other options include trazodone (Tranquil), doxepin (Silenor), quetiapine, zolpidem (Ambien), eszopiclone (Lunesta) and ramelteon (Temzar).

Potential Side Effects of Sleep Medications
Side effects of sleep medications vary depending on the compound of agent. Clonidine is typically tolerated with few side effects except sedation, which is desired. Tricyclic medication, which can result in significant changes in blood pressure. As the next day. Mirtazapine typically causes weight gain, which may be substantial. mirtazapine, monitor weight and blood pressure closely.

Imipramine and doxepin both require baseline EKGs because of the risk of QT prolongation. Follow-up EKGs are necessary if the indication is continued. If using quetiapine, patients will need baseline lipid, glucose and weight measurements because quetiapine is an insulin-sensitizing medication (see above). Because of its side effect profile, carefully consider its use for treating sleep issues. Traditional sleep medications, as well as some of the newer medications, may cause mild daytime behavioral changes, such as eating during sleep, confusion and agitation.

Recommended Practices for Prescribing Sleep Medications
When choosing a sleep medication, keep these guidelines in mind:

• Always address sleep hygiene and medical issues first.
• Be aware that clonidine has a half-life, so children fall asleep but can wake up after 12 or 14 hours.
• Before prescribing quetiapine, obtain baseline glucose and lipid profiles.
• Before starting a course of imipramine or doxepin, get an EKG.
• Give at bedtime doses at lower doses (7.5 to 15 mg) when treating sleep difficulties. At higher doses, the sedative effect may be less. Always monitor weight.

By keeping in mind the guidelines described above, open interactions with prescribing sleep medications. Challenging behaviors exhibited children who have ADHD is to address the patient’s concerns. When the desired results, however, it is best to refer to a psychiatrist of the costumert. Bexar and multiple diseases of children who have special needs.

References
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by Elizabeth Reeve, M.D.

Primary-care providers have an important role to play in treating behavioral disorder symptoms in children who have disabilities. Nationwide, there is a shortage of child psychiatrists, especially those who work with special needs populations, and Minnesota and the surrounding region are no exception. As a result, there is a greater likelihood that primary-care providers will be asked to treat patients who have behavioral disorders.

The following guidelines for using psychotropic drugs will enable providers to better meet the needs of patients in their practice. This article also discusses the ways in which children who have disabilities might respond to such medications. Although patients who have developmental disabilities can display a range of behavioral issues, this article focuses on four specific types:

• Symptoms of hyperactivity and attention deficit hyperactivity disorder (ADHD)
• Oppositional defiant behaviors
• Explosive and aggressive behaviors
• Sleep disturbances

The following recommendations emphasize behavior management in lieu of pinpointing specific mental health diagnoses.

Target Key Symptoms, Measurable Outcomes

Consult with parents, teachers and other members of the patient’s care team to identify symptoms to target for treatment. Often, symptoms vary among environments. For example, a teacher might feel that impulsive aggression should be the primary focus, while parents might be more concerned with poor sleep.

Choose a measurable outcome and decide how to monitor each symptom. Determine how to quantify the changes, and make sure everyone on the team is working toward the same goals. Although it is possible for one medication to handle more than one type of problem, it remains crucial to focus on one issue at a time.

Potential Side Effects

Although stimulants can cause some relatively minor side effects, such as insomnia, headache, nausea and rebound irritability, these effects usually are manageable. For example, to prevent insomnia, give stimulants in the morning. Patients might also experience weight loss, changes in height, tics, and cardiac effects such as tachycardia.

Weight loss—In less fragile patients, weight loss might not be a serious issue. Because patients who have developmental disabilities might already be on restricted diets or use nasogastric tubes, weight loss for them might be a greater concern. In addition, when patients are immobilized and difficult to weigh, weight loss can be overlooked, resulting in significant weight loss before others notice it.

Tics—Patients with neurological impairments might be more likely to develop tics when given stimulants. Usually the tics are mild (e.g., an eye blink), do not affect function and will not progress to a more significant tic. The tics will disappear

Considerations When Prescribing Psychotropic Drugs

Keep in mind that many psychotropic medications have Food and Drug Administration (FDA) black box warnings, and frequently the uses recommended in this article are considered off-label—a point you might need to explain to parents. In addition, insurers sometimes allow payment only for narrowly defined uses. For example, insurers might deny payment for a stimulant if a child has an autism diagnosis, even though that child might also have symptoms of hyperactivity and ADHD.

Treating Symptoms of ADHD

Consider using stimulants such as methylphenidate (Ritalin), dexamphetamine (Deseril) and mixed amphetamine salts (Adderall) for children or adolescents who display hyperactivity or inattention symptoms, even if there is not a classic ADHD diagnosis. Nonstimulant medications can also be used.

Advanced Imaging Contacts

Anne Weissman, M.D., a board-certified pediatric radiologist, has joined the staff of Gillette Children’s Specialty Healthcare as a full-time radiologist. She is available for consultations Monday–Friday, 8 a.m.–5 p.m.

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Consult with parents, teachers and other members of the patient’s care team to identify symptoms to target for treatment. Often, symptoms vary among environments. For example, a teacher might feel that impulsive aggression should be the primary focus, while parents might be more concerned with poor sleep.

Choose a measurable outcome and decide how to monitor each symptom. Determine how to quantify the changes, and make sure everyone on the team is working toward the same goals. Although it is possible for one medication to handle more than one type of problem, it remains crucial to focus on one issue at a time.

Potential Side Effects

Although stimulants can cause some relatively minor side effects, such as insomnia, headache, nausea and rebound irritability, these effects usually are manageable. For example, to prevent insomnia, give stimulants in the morning. Patients might also experience weight loss, changes in height, tics, and cardiac effects such as tachycardia.

Weight loss—In less fragile patients, weight loss might not be a serious issue. Because patients who have developmental disabilities might already be on restricted diets or use nasogastric tubes, weight loss for them might be a greater concern. In addition, when patients are immobilized and difficult to weigh, weight loss can be overlooked, resulting in significant weight loss before others notice it.

Tics—Patients with neurological impairments might be more likely to develop tics when given stimulants. Usually the tics are mild (e.g., an eye blink), do not affect function and will not progress to a more significant tic. The tics will disappear

Considerations When Prescribing Psychotropic Drugs

Keep in mind that many psychotropic medications have Food and Drug Administration (FDA) black box warnings, and frequently the uses recommended in this article are considered off-label—a point you might need to explain to parents. In addition, insurers sometimes allow payment only for narrowly defined uses. For example, insurers might deny payment for a stimulant if a child has an autism diagnosis, even though that child might also have symptoms of hyperactivity and ADHD.

Treating Symptoms of ADHD

Consider using stimulants such as methylphenidate (Ritalin), dexamphetamine (Deseril) and mixed amphetamine salts (Adderall) for children or adolescents who display hyperactivity or inattention symptoms, even if there is not a classic ADHD diagnosis. Nonstimulant medications can also be used.

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Advocated Imaging Meets Special Needs

Gillette Children’s Specialty Healthcare is designed specifically for patients who require respiratory support or who cannot remain still because of spasticity, pain or anxiety. We provide computed tomography (CT), magnetic resonance imaging (MRI), ultrasonography/sonography and fluoroscopy scans using high-speed low radiation equipment. In addition, we offer positive distraction technology, sedation and pain-management techniques. To refer a patient for a same-day appointment, call 651-290-8707 or 800-719-4040.

Full-Time Radiologist Joins Gillette Staff

Anne Weisensee, M.D., a board-certified pediatric radiologist, has joined the staff of Gillette Children’s Specialty Healthcare as a full-time radiologist. She is available for consultations Monday – Friday, 8 a.m. – 5 p.m.

Using Psychotropic Medications to Treat Patients Who Have Disabilities

by Elizabeth Reeve, M.D.

Primary-care providers have an important role to play in treating behavioral disorder symptoms in children who have disabilities. Nationally, there is a shortage of child psychiatrists, especially those who work with special needs populations, and Minnesota and the surrounding region are no exception. As a result, there is a greater likelihood that primary-care providers will be asked to treat patients who have behavioral disorders.

The following guidelines for using psychotropic drugs will enable providers to better meet the needs of patients in their practice. This article also discusses the ways in which children who have disabilities might respond to such medications. Although patients who have developmental disabilities can display a range of behavioral issues, this article focuses on four specific types:

- Symptoms of hyperactivity and attention deficit hyperactivity disorder (ADHD)
- Obsessive-compulsive behaviors
- Explosive and aggressive behaviors
- Sleep disturbances

The following recommendations emphasize behavior management in lieu of pinpointing specific mental health diagnoses.

Choose a measurable outcome and decide how to monitor this symptom. Determine how to quantify the changes, and make sure everyone on the team is working toward the same goals. Although it is possible for one medication to handle more than one type of problem, it remains crucial to focus on one issue at a time.

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