



Student Medications Guide



Student Medications Guide

As an NEA Member, you spend a tremendous amount of time with your students. Many of these children require short- or long-term medication to help them through the day. While you probably aren't administering these medications, knowledge of what they do, how they work, and their effects on learning and behavior can help you understand the various special needs of your students.

Most prescription medications taken by school-age children are for chronic illnesses, including asthma and allergies, diabetes, psychiatric conditions and seizures.

Because many chronic medications are also taken outside of school hours, and because parents don't always share everything about their children, you may be left with lots of questions. Can changes in a student's behavior and school performance be explained by a change in medication? What is that student's EpiPen used for? How can you tell if a diabetic student's sugar level is dropping? What is Concerta and why would a student be taking it?

ASTHMA

About Asthma

Asthma is the leading serious chronic illness of children in the United States and one of the most common causes of school absenteeism. According to the American College of Allergy, Asthma and Immunology (ACAAI), an estimated 6.7 million school-age children (plus 1.4 million children under age 5) had asthma in 2007; many others are thought to be undiagnosed. Asthma is a disease in which the airways become inflamed, and can lead to minor coughing or wheezing, or to serious flare-ups that critically interfere with breathing.

A child does not have to wheeze to have asthma. Instead, the child may have a frequent cough, especially at night or during exertion, and may have recurrent episodes of bronchitis.

Common Medications

Asthmatics often are prescribed long-term control medications that help lessen the frequency and severity of episodes over time, along with a quick-relief “rescue” medicine that can control the immediate symptoms of an asthma attack.

Long-Term Asthma Medications

Names: triamcinolone (Azmacort), budesoide (Pulmicort), fluticasone (Flovent), flunisolide (Aerob id), beclomethasone (Qvar), montelukast (Singulair)

Type: inhaled, via a small hand-held device called a pressurized metered dose inhaler, or through a nebulizer

Overview: These preventive medicines help control asthma on a long-term basis. They’re taken daily, or seasonally if asthma symptoms worsen at certain times of the year. Some of the inhaled corticosteroids have been associated with slightly slower growth in children, but unlike oral corticosteroids such as prednisone, the inhaled corticosteroids are considered low risk for long-term side effects. They may cause mouth or throat irritation and oral yeast infections, however.

Also good to know: These medications help keep asthma under control, meaning children experience minimal or no symptoms, few or no asthma flare-ups, no limitations on physical activities or exercise, and minimal use of “rescue” inhalers.

In the classroom: Bronchodilators side effects include nervousness, increased heart rate, restlessness and insomnia. Teachers who have students taking corticosteroids or bronchodilators may notice that those students make more frequent water requests, since the medications may cause dry mouth.

Quick-Acting Asthma Medications

Names: albuterol (Ventolin, Proventil), levalbuterol (Xopenex), ipratropium (Atrovent)

Type: inhaled, via a small hand-held inhaler, or through a nebulizer

Overview: These so-called “rescue” inhalers, used during asthma attacks, open the airways quickly by relaxing the tightened muscles. If they’re not effective, oral and intravenous corticosteroids (Methylprednisolone, Prednisone) sometimes are used.

Also good to know: The National Association of School Nurses encourages asthmatic students to actively participate in the self-management of their condition and in the self-administration of rescue inhalers. The organization says the self-administration should be evaluated on a case-by-case basis with parent, physician, student and school nurse involvement, to make sure the student has the knowledge and skill to safely possess and use a rescue inhaler in the school setting. Younger children may not be able to self-manage their asthma.

In the classroom: Some students taking these medications, especially those on albuterol, may have a tendency to become hyperactive.

ALLERGIES

About Allergies

As many as 50 million Americans suffer from allergies, diseases of the immune system which are grouped by the kind of trigger, the time of year or where the symptoms appear on the body. There are indoor or outdoor allergies (also called “hay fever,” “seasonal,” “perennial” or “nasal” allergies), food and drug allergies, latex allergies, insect allergies, skin allergies and eye allergies. The ACAAI says up to 40% of children battle allergic rhinitis and that on any given day, 10,000 children miss school because of it. In addition, an estimated 3.0 million school-aged children battle food allergies of some sort.

The academy reports that allergic diseases are the sixth leading cause of chronic disease in the United States, and the third most common among children under age 18.

Common Medications

Antihistamines and decongestants, available over-the-counter and by prescription, are the most common medicines for allergies, but there are a variety of other medications students may take.

In addition, many other allergy medicines are available over-the-counter.

Antihistamines

Names: loratidine (Claritin), fexofenadine (Allegra), cetirizine (Zyrtec), levocetirizine (Xyzal), desloratadine (Clarinex)

Type: tablet or liquid

Overview: Antihistamines help relieve rashes and hives, sneezing, itching, and runny noses by blocking the action of histamine, the inflammatory chemical released by the immune system during an allergic reaction. Some of the first-generation antihistamines, including diphenhydramine (Benadryl) which is contained in many over-the-counter preparations, may cause drowsiness. In addition, some oral antihistamines (Allegra-D and Zyrtec-D) also contain a decongestant, but these are not typically taken on an ongoing basis for children.

Also good to know: Antihistamines also come in eyedrops, including naphazoline (Albalon and others), emedastine (Emadine) and olopatadine (Patanol and others). Since the drops may reduce itching, redness and swelling for only a few hours, they might be used several times a day. Side effects include red or watery eyes, headache, and a mild stinging or burning sensation. Contact lenses should not be worn during treatment.

In the classroom: Many students take antihistamines with no noticeable side effects, but some students taking some of these medications may complain of a dry mouth or become drowsy.

Decongestants

Names: pseudoephedrine (Semprex-D, Bromfed-DM, Corphed and others)

Type: tablet or liquid

Overview: Decongestants reduce stuffiness by shrinking swollen membranes in the nose. They may also be part of an antihistamine combination in drugs such as Allegra-D or Zyrtec-D.

Also good to know: Parents may administer these drugs, though their use is not supported by the American Academy of Pediatrics. Side effects can include lightheadedness, insomnia, nervousness and an increased or irregular heart rate.

In the classroom: Students may take a decongestant with no noticeable side effects, but some students may have a dry mouth or become drowsy.

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Leukotriene modifiers

Names: montelukast (Singulair), zafirlukast (Accolate)

Type: tablet

Overview: Leukotrienes are one of the chemicals the body releases during an allergic reaction. Leukotriene modifiers are a new class of medicine that reduce and prevent swelling inside the airways, stopping mucus from forming and lessening the muscle tightening around the airways.

Also good to know: Often prescribed along with other allergy medicines, leukotriene modifiers are a maintenance drug that must be taken even when not experiencing symptoms. They may have to be taken for several weeks before they work, and they don't work for everyone.

In the classroom: Students taking leukotriene modifiers may complain of headache, stomach upset and general flu-like symptoms.

Injections

Name: immunotherapy, also known as "allergy shots"

Type: injections given in a doctor's office, once or twice a week for several months, and then tapered down

Overview: The patient receives increasingly higher doses of an allergen over time, which helps them become less sensitive to that allergen.

Also good to know: Allergy shots are useful when a person cannot avoid their allergens, and when medication is not effective. Allergy shots can be helpful for some people with hay fever, certain animal allergies and insect stings, but they usually don't work for allergies to food, drugs or feathers.

In the classroom: A teacher may notice a child who got allergy shots early in the day complaining of soreness at the site of the injection.

For students who have shots scheduled later in the day, teachers should be mindful that they not engage in vigorous activity prior to the appointment since that increases blood flow to the tissues, which promotes faster release of antigens into the bloodstream.

Emergency medication

Name: epinephrine (EpiPen, EpiPen Jr., Twinject)

Type: self-administered injector

Overview: Anaphylaxis is a life-threatening allergic response to triggers that could include food, medications, insect venom or latex. People with a history of allergies or asthma are at increased risk for anaphylaxis. Extreme difficulty in breathing and a precipitous drop in blood pressure are symptoms. Epinephrine can be life-saving; it quickly alleviates bronchospasms and reduces the dilation of blood vessels.

Also good to know: Symptoms of an anaphylactic reaction include swelling of the throat, swelling of the tongue, constricted breathing and/or a sudden outbreak of hives.

In the classroom: Students with life-threatening allergies usually are instructed to carry their EpiPens in a backpack or fanny pack so they're always immediately accessible. If a student in your classroom suffers a reaction and uses her EpiPen, she should be escorted to the health office immediately for an ambulance ride to the hospital. The EpiPen medication may lead to an increased heart rate or palpitations, sweating, nausea and/or breathing difficulty.

DIABETES

About Diabetes

Type 1 diabetes, also known as “juvenile diabetes,” remains more common than type 2 diabetes among children, even though a growing number of children are being diagnosed with type 2. The increase in the prevalence of type 2 diabetes coincides with an increase in the prevalence of childhood obesity.

Children with type 2 have varying levels of impaired glucose tolerance; their bodies don’t process insulin properly. They may or may not need insulin and/or metformin or one of its brand name varieties.

Type 1 is characterized by the inability of the pancreas to secrete adequate amounts of insulin, and medication is required.

Common Medications

Because lifestyle changes (including diet, exercise and weight loss) usually are not enough to control their diabetes, many children with type 2 diabetes require medication, and often more than one kind.

Insulin

Trade names: More than 20 types of insulin products are available, each with a different time of onset and duration of action. Some of the more common trade names include Humalog, Novolog, Levemir, Lantus, Apidra and Humulin. A generic is not available.

Type: injection or pump

Overview: Insulin allows the body to process glucose. Without it, hyperglycemia (high blood sugar) can develop. Symptoms of hyperglycemia progress from excessive urination, dehydration, nausea and abdominal pain, to vomiting, deep breathing and decreased consciousness. If left untreated, it can quickly progress to unconsciousness and even death.

Also good to know: Some children use insulin pumps, which mimic the body’s insulin production. Others may take a combination of fast- and slow-acting insulin injections throughout the day.

In the classroom: Most diabetic students drink water almost constantly and are likely to carry a water bottle with them. Insulin does not have side effects, but teachers should be aware of the symptoms of low and high blood sugar so they can keep an eye on insulin-dependent students.

Low blood sugar symptoms: trembling, clammy skin, anxiety or irritability, sweating, dizziness or lightheadedness, and heart palpitations

High blood sugar symptoms: fatigue, thirst, increased urination, vision changes, moodiness or decreased ability to concentrate, and numbness or tingling of the hands or feet

Metformin

Trade names: The generic drug, metformin, is available in a variety of medications, including Metaglip, Glucophage, Janumet, Avandamet, Prandimet, Actoplus Met, Glucopha, Glumetza, Fortamet, Glucovance.

Type: tablet or oral solution

Overview: These medications prevent the body from making too much glucose. To be effective, the amount of metformin taken has to be balanced against the amount and type of food eaten and energy expended. Since diet and exercise levels vary, children with diabetes are taught to test their blood glucose before meals, at bedtime and whenever they suspect a drop in blood sugar. Infections and stress can also affect sugar levels.

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Low blood sugar, or hypoglycemia, is usually mild and can be treated quickly and easily by eating or drinking a small amount of glucose-rich food. If left untreated, hypoglycemia can get worse and cause confusion, clumsiness or fainting. Severe hypoglycemia can lead to seizures, coma and even death.

Also good to know: Since metformin can cause some gastrointestinal side effects, most students will take it in the middle or at the end of a meal.

In the classroom: Most diabetic students drink water almost constantly and are likely to carry a water bottle with them. Metformin has relatively few side effects, but teachers should be aware of the symptoms of low and high blood sugar so they can keep an eye on their diabetic students.

Low blood sugar symptoms: trembling, clammy skin, anxiety or irritability, sweating, dizziness or lightheadedness and heart palpitations.

High blood sugar symptoms: fatigue, thirst, increased urination, vision changes, moodiness or decreased ability to concentrate, and numbness or tingling of the hands or feet.

PSYCHIATRIC MEDICATIONS

About Child/Adolescent Psychiatric Disorders

Psychiatric disorders make up some of the most common chronic conditions among school-age children. An increasing number of new and different medications are being used by children and adolescents to reduce or eliminate troubling symptoms and improve daily functioning.

From 3%-8% of children and adolescents are estimated to have been diagnosed with the neurological condition known as attention deficit/hyperactivity disorder (ADHD), which makes it hard to sit still or concentrate on important tasks. Boys (9.5%) are more likely than girls (5.9%) to be diagnosed as ADHD.

An estimated 5% of adolescents have a major depressive disorder, which can cause significant problems in mood, thinking and behavior.

There are other anxiety or mood disorders for which children are medicated.

Common Medications

Most psychiatric medication is very well tolerated. Many of the newer medications are taken once a day. They have designations of SR (sustained release), ER or XR (extended release), CR (controlled release) or LA (long acting).

ADHD medications

Names: Stimulants include dextroamphetamine (Dexedrine, Adderall) and methylphenidate (Ritalin, Focalin, Metadate, Concerta, Daytrana). Non-stimulants include atomoxetine (Strattera).

Type: tablets, capsules or transdermal patch

Overview: ADHD drugs primarily target the region of the brain associated with attention, decision-making and an individual's expression of personality. Without control, many children with ADHD have frequent, severe problems that interfere with their ability to lead normal lives.

Also good to know: ADHD medications, especially dextroamphetamine, can cause children to lose weight by suppressing their appetite. Some children with ADHD may also take an antidepressant for their symptoms.

In the classroom: Teachers play an important role in the treatment of students with ADHD, providing periodic feedback to the parents and/or physician. The side effect teachers may notice—in addition to positive improvements in a student's behavior—is drowsiness. Academic accommodation is often necessary to help students achieve in the classroom.

Antidepressants

Names: fluoxetine (Prozac, Sarafem), sertraline (Zoloft), paroxetine (Paxil), fluvoxamine (Luvox), imipramine (Tofranil), nortriptyline (Pamelor)

Type: tablets

Overview: Each class of antidepressant works differently, but they generally allow the body more access to and use of the neurotransmitters responsible for mood.

In some children and adolescents with depression, a new antidepressant prescription may increase their susceptibility to suicide. Antidepressant medications carry warnings for caregivers to monitor for suicidal ideation.

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Also good to know: The medications are prescribed for more than depression. They may be useful for treating phobias, panic attacks and other anxiety disorders, bedwetting, eating disorders, obsessive-compulsive disorder, personality disorders, post-traumatic stress disorder and attention deficit/hyperactivity disorder.

In the classroom: Parents don't always share with the teacher that their child is taking an antidepressant, but the medications are generally well-tolerated. Teachers may notice positive changes in the student's behavior. Antidepressants can alleviate sulking and grouching and other moody behaviors that can interfere with school.

Antipsychotics

Names: haloperidol (Haldol), thioridazine (Mellaril), clozapine (Fazaclo, Clozaril), risperidone (Risperdal), quetiapine (Seroquel), olanzapine (Symbyax, Zyprexa), ziprasidone (Geodon), aripiprazole (Abilify)

Type: tablets, some injectibles

Overview: Scientists don't entirely understand how antipsychotics work, but they know they influence how information is transmitted between individual brain cells. The medications have proven useful in controlling delusions and hallucinations, improving disorganized thinking and reducing aggression.

Also good to know: Students with muscle twitches, tics, or verbal outbursts typical of Tourette's Syndrome may take antipsychotics, and the medications may be prescribed to treat severe anxiety or to reduce very aggressive behavior.

In the classroom: Students who take antipsychotics are likely to require special education, including speech and language therapy, and occupational and physical therapy. Antipsychotics generally produce positive behavioral changes in these students, though some medications can blunt emotions and cause drowsiness.

Mood stabilizers

Names: lithium (Lithium carbonate, Lithobid, Eskalith), sodium divalproex/valproic acid (Depakote, Depakene), carbamazepine (Tegretol)

Type: capsules, tablets

Overview: These medications alter the levels of neurotransmitters and how they interact with nerves in the brain. They help with impulse control, mediate aggressive behavior and stabilize mood swings in bipolar disorder.

Also good to know: Bipolar disorder is also called manic-depression. It's characterized by persistent states of extreme elation or agitation accompanied by high energy (mania), and persistent states of extreme sadness or irritability accompanied by low energy (depression).

In the classroom: Parents don't always share with the teacher that their child is taking a mood stabilizer, but these medications are generally well-tolerated. The only side effects teachers are liable to notice are positive changes in the student's behavior.

Anti-anxiety medications

Names: diazepam (Valium, Diastat), buspirone (BuSpar), fluoxetine (Prozac, Sarafem)

Type: tablets, injectibles

Overview: Anti-anxiety medications have sedative effects.

Also good to know: Sometimes anxiety disorders may appear with eating disorders or substance abuse problems. The medications are also used to treat specific phobias.

In the classroom: As with mood stabilizers and antidepressants, parents may not share with teachers that their children are taking anti-anxiety medications, but the medications are generally well-tolerated. Teachers should know that children with untreated anxiety disorders are more likely to perform poorly in school, have less developed social skills, and be susceptible to substance abuse.

SEIZURE DISORDERS

About Seizure Disorders

Seizures may occur because of a high fever, severe head injury or lack of oxygen, but they can also be a symptom of a neurological condition known as epilepsy. Seizures are brief disturbances in the normal electrical functions of the brain that can affect a person's consciousness, bodily movements or sensations. They can be "partial" seizures, focused in one area of the brain, or they can involve nerve cells throughout the body in "generalized" seizures.

An estimated 300,000 American children under age 14 struggle with epilepsy, which can be controlled with medications. Some children may outgrow epilepsy; for others it presents a lifelong challenge.

Children with seizure disorders usually are placed on anti-seizure medications. If those don't work or cause too many bad side effects, the child could undergo surgery to remove the seizure-producing areas of the brain. The child may also be on a ketogenic diet, high in fats and low in carbohydrates, to make the body burn fat for energy instead of glucose.

Common Medications

The mainstay of therapy for seizure disorders is anti-convulsant (also known as anti-seizure) medications, which work by calming hyperactivity in the brain. Some of the drugs are also used to prevent migraines or for treatment of bipolar disorder.

Because of differences in the way children and adults process medications, the Epilepsy Foundation says it takes a relatively larger dose of a drug to control seizures in the average child than in the average adult. In addition, especially during puberty, the chemistry of a child's body changes as they grow and anti-seizure medications often have to be adjusted.

Anticonvulsants

Names: carbamazepine (Tegretol), valproic acid (Depakote, Stavzor), clonazepam (Klonopin), phenytoin (Dilantin), gabapentin (Neurontin)

Type: tablets, liquid

Overview: Drugs in this class can cause serious problems if taken with other drugs, even aspirin.

Also good to know: How to provide first aid to a student having a seizure:

1. Don't hold the person down or try to stop his movements.
2. Stay calm and take note of how long the seizure lasts.
3. Clear the area around the person of anything hard or sharp.
4. Try to turn him onto one side, to keep the airway clear.
5. Do not try to force the mouth open; a person having a seizure cannot swallow his tongue.
6. Put something flat and soft, like a folded jacket, under the head.
7. Reassure the student as the seizure comes to an end.

In the classroom: If students are required to take medication three or more times a day, they very likely will have to take it at school. Side effects that a teacher may notice include dizziness and drowsiness.