

# SAFE Medicine®

Protect Yourself from Medication Errors



**Special Back to School Issue**

## Will your child need to take medicine at school? Prepare for the new school year to reduce the risk of errors

Parents should be able to assume that the schools their children attend have a full-time nurse on site every day, but many do not. While the American Academy of Pediatrics (AAP)<sup>1</sup> and the National Association of School Nurses (NASN)<sup>2</sup> call for every school to have at least one full-time registered nurse on site all day, little has been done to make this a reality. Currently, only half of American schools have a full-time nurse on site every day.<sup>3,4</sup> Thirty percent of schools have a part-time nurse, and nearly 20% do not have a school nurse at all.<sup>3,4</sup> As schools contend with tight budgets, some nurses have been laid off, and many have been asked to cover multiple schools within the same school district.

School nurses are well positioned to support the health and learning of students. In addition to providing direct care, they play an important role in explaining any health problems to the school team, carrying out doctors' orders in the school setting, and recommending student-specific accommodations in the classroom.<sup>2</sup> Not having a school nurse available means that a child may not receive needed medical treatment.<sup>5</sup> Chronic health conditions, which affect 1 in every 4 students,<sup>2,3</sup> may go untreated during the school day. Emotional, behavioral, or mental health problems, which affect 1 in every 5 children,<sup>6</sup> may not be recognized and managed supportively. Children with mental health problems and chronic health conditions are at risk for high absentee rates, low classroom participation, bullying, disruptive behaviors, poor grades, dropping out of school, and below average performance on standardized tests.<sup>2</sup> Also, for more than 3.8 million uninsured American children, school nurses may be the only access they have to healthcare.<sup>3,7</sup>

Safe and correct administration of medicines during school hours is also challenging without a full-time registered nurse. Every day, nearly 13 million (6% of) children receive medicines while in school,<sup>8</sup> mostly to treat chronic conditions such as asthma, epilepsy, depression, diabetes, cystic fibrosis, autism, allergies, congenital heart disease, and attention deficit hyperactivity disorder (ADHD). The most common medicines given to children during school hours are over-the-counter (OTC) medicines, asthma medicines, pain relievers, anti-seizure medicines, and medicines used to treat ADHD.<sup>9</sup>

About three-quarters of children who depend on medicines during school receive them not from school nurses but from unlicensed personnel who have no medical training—principals, gym teachers, counselors, secretaries, and aides who normally monitor the playground.<sup>5,9</sup> Errors are three times more likely when unlicensed personnel administer medicines rather than school nurses.<sup>9</sup> So you can understand why many school nurses are uncomfortable asking unlicensed personnel to deal with complex treatments like giving an **insulin** injection, giving a liquid medicine

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## check it out

To help avoid mistakes, follow these suggestions if your child takes medicine that may need to be given during school hours.

### Preparing for the School Year

✓ Ask your child's doctor if there are ways to avoid taking doses during the school day. Some medicines have a long-acting form that can be taken before and/or after school.

✓ If prescription or over-the-counter (OTC) medicines must be taken during school hours, ask your child's doctor to include the following instructions for each medicine:<sup>13</sup>

- Date of the order
- Name of the child
- Reason for the medicine
- Name of the medicine
- Dose
- How often to give the medicine (for "as needed," be specific, such as "every 4 hours for headache")
- How it is given (e.g., by mouth)
- How long to give the medicine
- Possible side effects
- Special instructions (e.g., "take with food")
- Whether or not the medicine may be self-administered by the child

✓ Provide your child's doctor with the school nurse's contact information and allow the doctor to share information with the school nurse about your child's health.

✓ Ask your pharmacist to divide your child's medicine into 2 bottles, each with its own label, so one can be provided to the school and one can be kept at home.

### Questions to Ask School Officials at the Beginning of the School Year

✓ Who will be giving medicine to your child?  
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through a stomach tube, administering an emergency injection of **epinephrine (EpiPen, Adrenalin)** to treat a serious allergic reaction, or helping an asthmatic child use an inhaler when struggling to breathe. Unlicensed personnel may also be worried about taking on the responsibility of giving students medicine.

The most common types of mistakes when giving students medicines during school hours include:<sup>5,10-12</sup>

- Missed doses, especially when students do not show up in the nurse's office for the medicine at the scheduled time and they are mistakenly thought to be absent
- Dosing errors, especially double doses and overdoses
- Giving the wrong medicine to the wrong student, especially for medicines or students with look-alike names
- Giving a medicine without the parent's permission and/or a doctor's authorization
- Failing to administer an emergency medicine in a timely manner
- Failing to document giving a medicine
- Failing to notice or check for signs and symptoms requiring further medical evaluation

Numerous examples of medicine errors in schools are described below.

*An eighth-grade student with ADHD was suddenly not responding to his **methylphenidate (Ritalin)**. **Methylphenidate** is a powerful stimulant that affects the chemicals in the brain and nerves that contribute to hyperactivity. The student began to develop new symptoms and ended up in the emergency department (ED), unconscious. The school nurse had not been available during the prior week. In her absence, the school secretary was giving children their medicine. For 3 days, the secretary accidentally gave the student another student's **methadone**, a powerful opioid pain medicine with serious side effects. The medicines had been kept in envelopes with only the generic names, **methylphenidate** and **methadone**, handwritten on the outside, not the name of the student. Since both medicines start with m-e-t-h and are taken in similar doses, the medicine was mixed up by the school secretary.*

*A school secretary did not require a child to wash his hands before diabetes testing. This resulted in an abnormally high and incorrect blood sugar level because the child had jelly on the finger that was used to test the blood. The child received too much **insulin** and experienced signs of very low blood sugar which can be life-threatening.*

*A 10-year-old girl with asthma and food allergies arrived at school short of breath. Her sister ran to the office to get help. A plan detailing emergency treatment was available at the school. There was also a supply of the girl's asthma medicine, a rescue inhaler in case of an asthma attack, and an **epinephrine** injector for an allergic reaction. The nurse only worked at that school a few days a week, and, sadly, that day wasn't one of them. Filling in were a lunch server and playground supervisor with no formal medical training. The rescue inhaler was never given to the child, nor was the emergency injection of **epinephrine**. When the child finally collapsed, 911 was called. Sadly, the child died from an acute asthma attack before the paramedics arrived.*

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Find out if a registered nurse is on duty every day, and if not, who will be giving medicine to your child.

- ✓ Can students carry and take their own medicine? Asthma rescue inhaler? Insulin pen? Pain medicine?
- ✓ What types of emergency medicines are kept in the school for any student? **Epinephrine** autoinjectors for allergic reactions? **Narcan (naloxone)** for opioid overdoses?
- ✓ How will your child have immediate access to emergency medicines?<sup>13</sup>
- ✓ Does the school require your written permission for personnel to administer emergency medicine to your child?
- ✓ How will your child's medicine be stored? Ask to see the refrigerator if your child's medicine requires refrigeration.
- ✓ Can you come to the school to give the medicine to your child? How would these arrangements be made? Who do you call if you cannot come to the school?
- ✓ How will the school make sure children arrive at the school health office at the designated time to take their medicine?

**Preparing Your Child**

- ✓ Provide older children with basic information about the medicines they take. Make sure they know the name of each medicine, the dose, when and how it should be taken, why it is taken, side effects, and whether any food or beverages should be restricted.
- ✓ Be sure younger children know how they will get from their classroom to the school health office to take their medicine. Be sure older children know when to arrive at the school health office for their medicine, where it is located, and how to get there.
- ✓ Encourage your child to question anything that doesn't seem right. Tell your child to call (or ask the person giving them the medicine to call) a parent if they think it is not right.

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A child died after having a seizure at home and hitting his head. In the weeks before his death, the child had missed nearly half of his regular doses of anti-seizure medicine because the office staff filling in for the school's part-time nurse had not called the child into the office to give him his medicine.

A kindergarten student wearing a **Daytrana (methylphenidate)** patch to treat ADHD removed his patch and said to another student, "Would you like to wear my special Band-Aid?" He then applied the patch to the other student, which remained on for several hours before school staff became aware. No harm occurred to the child, although it's likely that some of the medicine was absorbed from the patch.

A mother brought her 11-year-old child to the ED to be checked after a school nurse realized that the child had received the wrong medicine at school. A teacher's aide had given the child **methadone**, a powerful opioid pain medicine, rather than **methylphenidate**, which is used to treat ADHD. Apparently, a pharmacist had misread the latest prescription for **methylphenidate** as **methadone**. The medicine was brought to the school without the parent noticing the error. The teacher's aide also did not notice the mistake and gave the child **methadone** every day for a month. A school nurse found the error while going through each child's medicine list at the end of the month. The child had also been to the ED the prior week with symptoms of nausea and loss of appetite.

During a school field day at a local park, a middle school student suffered a serious asthma attack. The child's teacher realized she had forgotten to bring his asthma rescue inhaler to the park. Several parents offered to go to the school down the road to get the child's inhaler but were denied permission. About 10 minutes later, the teacher decided to give the child another student's prescription asthma rescue inhaler, which was a different medicine than prescribed for the child. Fortunately, the child recovered and was not harmed, although he was left alone on a distant bench in the park after receiving the other child's medicine.

A school nurse told a student to give herself 4 units of **Novolog (insulin aspart)** subcutaneously using an **insulin** pen. However, 3 units of **Novolog** was the correct amount to cover a high blood sugar level between her breakfast and lunch. The nurse had mixed up the directions for how much **Novolog** to give between meals (3 units) with the amount to give just before lunch (4 units). The nurse quickly realized her mistake. She gave the student an appropriate amount of fruit juice and reported the mistake to the child's doctor and parent. Throughout the day, the nurse checked the child's blood sugar level to make sure it was not too low.

A teen student received the first two doses of the **human papillomavirus (HPV) vaccine (Gardasil 9)** from both the school nurse and a school-based health center. There was no communication between the school nurse and the school-based health center, so neither knew that the other had given the student the same two doses of the **HPV vaccine**. The Centers for Disease Control and Prevention (CDC) was called, and no side effects of the double dose were expected.

A school nurse accidentally gave **methylphenidate** to the wrong 7-year-old child. The nurse contacted the child's parents later that day and told them she had confused him with a boy who has a similar name. Normally, the nurse double-checked each child's identity with a photograph attached to the prescription information. But the

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- ✓ Teach children to never share their medicine with others (including medicine patches) and to only take medicine from an authorized adult.

**Bringing Medicines to the School**

- ✓ Complete any required school forms. Provide as much information as possible, including allergies and how your child prefers to take the medicine.
- ✓ Provide written consent regarding who can give medicine to your child during school.
- ✓ Provide authorization (if required) for the school to contact the child's doctor.
- ✓ Check all prescription medicines to be sure they were filled properly before bringing them to the school.
- ✓ Bring all medicines to the school in the original labeled container from the pharmacy, doctor, or pharmaceutical company (e.g., no envelopes, baggies). Be sure the label includes the following information:<sup>13</sup>
  - Child's name
  - Name of the medicine
  - Strength of a liquid medicine (e.g., 5 mg/mL)
  - Dose of medicine to be given
  - Time and how often to give it
  - Route of administration
  - Name of doctor ordering the medicine
  - Expiration date
  - How long it should be given (e.g., during the school year, for 1 week)

- ✓ Make a note of the expiration date of the medicine so it can be replaced if needed during the school year.

- ✓ Have an adult bring the medicine to the school and hand it directly to the school nurse or school official.<sup>13</sup>

- ✓ If providing the school with medicine devices like an asthma inhaler, an **epinephrine** autoinjector, or an **insulin** pen, don't assume school personnel know how to use it. Write out the instructions and go over them with personnel who will be giving the medicine.

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child and nurse were in a different building due to a special school program. The child questioned why he had to take a pill. However, the child's question did not cause concern about a possible mistake. The nurse realized the mistake after returning to the nurse's office. Poison control was called, and the student was watched closely for the rest of the school day.

There are also many examples of medicine errors made by doctors and pharmacists which were picked up by school nurses. For example, a school nurse discovered that a physician had prescribed too high of a dose of **lithium** for a teen student with bipolar disorder when the teen became very sluggish at school. Another school nurse noticed that a pharmacy had dispensed the wrong strength of an **epinephrine** autoinjector pen (**EpiPen** 0.3 mg/0.3 mL) for a student who was prescribed an **EpiPen Jr** (**epinephrine** 0.15 mg/0.3 mL) to use at school if he had a serious allergic reaction to peanuts.

There are steps that parents can take to help keep children safe when medicine must be taken during school hours. To prepare for the new school year, see the **check it out!** column to the right, starting on **page 1**, for recommendations.

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✓ Provide a picture of your child to keep with any medicine that must be administered.

✓ If your child needs medicine for a chronic condition, provide the school with any medical action plans that have been created for the child (e.g., an asthma plan that specifies when to use inhalers, [www.ismp.org/ext/73](http://www.ismp.org/ext/73)).

✓ Let the school nurse or school personnel know if your child will be wearing a medicine patch or using a medicine pump (e.g., **insulin** pump) during school hours, even if the medicine is not administered by them.

✓ Let the nurse or school personnel know if you will be coming to the school to give your child the medicine.

✓ Ask to be notified if your child does not show up for any scheduled medicine, refuses to take it, or shows symptoms related to their condition or the medicine they are taking.

✓ Make sure any changes in a medicine, dose, or frequency are communicated immediately and directly to the school nurse or school official. If the medicine is stopped, or at the end of the school year, pick up any unused medicine.

**Field Trips**

✓ Ask your child's doctor if your child's medicine can be taken at an alternate time on the day of a field trip. If not, or if your child must carry an emergency medicine, make arrangements with the school for the medicine to be transported, stored, and given to your child during the trip.<sup>13</sup>

**Follow Up**

✓ On a regular basis, ask your child if there are any problems with getting to the school health office or getting their medicine. If you have any questions, call the school nurse or other school official.

✓ If your child's school does not have a full-time registered nurse onsite every day, attend parent teacher association (PTA) and school board meetings to advocate for a school nurse.