MODULE 3
How to Administer Medication

• Introduction: top common errors
• 5 Rights
• Identifying “as needed” conditions
• Universal/standard precautions
• Preparing to administer medication
• Medication administration procedure
• Communicating with the child
Module 3

How to Administer Medication

• Introduction: most common errors
• 5 Rights
• Identifying “as needed” conditions
• Universal/standard precautions
• Preparing to administer medication
• Medication administration procedure
• Communicating with the child

Introduction: Common Errors in Medication Administration

7,000 children per year require emergency department visits for medication problems

• Common errors
  – Took medication twice
  – Wrong medication
  – Incorrect dose
  – Missed dose
• Common causes
  – Not understanding medication label
  – Not understanding how to give medication
  – Poor communication between parents/guardians and health care professional

Most Common Medication Errors

• Errors are most commonly made with analgesics, which is the class of medication which includes Tylenol® (acetaminophen) and Motrin® (ibuprofen)
• Reasons for errors include:
  – These medications are given frequently
  – There are many different concentrations (infant drops, children’s liquids, etc)
  – They are often mixed with other medications in cough and cold preparations
  – Dosing charts are unique to the type and form of the medication
Special Note: Acetaminophen Dosing
• In May, 2011, a move to one standard concentration (160 mg/5 ml) of liquid acetaminophen medicine for infants and children was announced
• Up until that time, there were mainly two concentrations:
  – 80 mg/0.8 ml (Infant Concentrated Drops) and
  – 160 mg/5 ml (Children's Liquid Suspension or Syrup)
• Old concentrations (80mg/0.8 ml) of infant acetaminophen may still be available in some homes and child care settings
  – These will expire and should be discarded at that time

The “5 Rights”
• Right child
• Right medication
• Right dose
• Right time
• Right route

Right Child
• Check the name on the medication label and the child’s name
• If any question arises, check a second identifier such as date of birth
Right Medication
• Read the label to make sure you have the correct medication
• Check to see:
  – Medication is in the original labeled container
  – Expiration date is not exceeded
• Especially important for children who are taking more than 1 medication

Right Dose
• Check dose on label and authorization form
• Use proper measuring device
• Check measuring device carefully

Right Time
• Check the permission form to match the time with the label
• Check that medication is being given within 30 minutes before or after prescribed time
• Look at the clock and note the time
• The right time includes both time and date
• In an emergency, “now” is the right time to give medication
Right Route

- Check the label and Authorization to Give Medicine form
- How is the medication to be given?

“As Needed” Conditions

- Some medication, such as emergency medication, only need to be given “as needed”
- Health care professionals and other prescribers should not write “as needed” or “prn” without more specific instructions
  - Example of acceptable, specific instructions: albuterol – 2 puffs as needed for wheezing, increased cough, or breathing difficulty
- OTC medication for pain and fever should be kept to a minimum and should be as specific as possible
- The order should state the maximum number of times the dose can be repeated before seeking further medical care

Standard Precautions in Child Care Settings

Standard Precautions

- The term for the infection control measures that all health and child care providers should follow in order to protect themselves from infectious diseases and to prevent the spread of infectious diseases to those in their care
- Sometimes called universal precautions
Standard Precautions in Child Care Settings

What Do They Consist Of?
- Handwashing
  - Handwashing with soap and water should be done before medication administration
  - An individual towel should be available for each handwashing
  - Hand sanitizers (alcohol based rubs) should be limited to times when soap and water are not available
  - Hand sanitizers should be kept out of reach of children and their use should be supervised
- Disposable gloves
- Proper disposal of materials
- Environmental sanitation

Group Activity: Prepare to Administer Medication to Nick
- List the steps to prepare to give medication to Nick

Steps
- Wash hands
- Prepare work area
- Take out the medication
- Check the label and the items on the forms to see that they match
- Get proper measuring device
- Check the time
Medication Administration Procedure: Prepare the Medication

- Find appropriate measuring device
- Measure the amount on the label
- Change the form of the medication ONLY if label states for you to do so:
  - Crushed or powdered medication
  - Sprinkles
  - Mix with food

Medication and Food

- It is usually best not to mix medication with food, but it may be necessary
- Ask the prescriber or pharmacist before mixing medication with food or liquid
- If medication is mixed with food or liquid, ALL of it must be taken
- Give the child something to drink immediately afterward to help with the taste

Medication Administration Procedure: Prepare the Child

- Communicate with the child
- Explain the procedure to the child
  - Never call medication “candy”
- Wash the child’s hands, if appropriate
- Position the child
Prepare the Child: Infants

- Support the infant’s head
- Hold the baby semi-upright
  - An infant seat may be used
- Keep the infant’s arms and hands away from her face
- Gently press the chin to open the mouth
- Rock the baby before and after
- Syringe or dropper:
  - Position on one side of the mouth along the gum
  - Squirt slowly to allow time to swallow
- Special dosing nipples work best when the baby is hungry
- Give oral medication before feeding unless instructed otherwise

Prepare the Child: Toddlers

- Ask parents what techniques they use
- Give toddlers some control, like sitting or standing, but do not give veto power over taking the medication
- Be honest about bad taste and allow the child to drink afterwards
- Use age-appropriate language to explain what you are doing
- Maintain an attitude that you expect cooperation
- Thank the child for their cooperation and praise them

Prepare the Child: Older Children

- Explain why we take medication and why they help us to get better
- Use the opportunity to teach about time, body parts, health, and illness
- Involving the child in the process helps to prepare him to take his own medication as he gets older
- Books that talk about medication are helpful to read with the child
Module 3

Medication Administration Procedure

- Check 5 rights: child, medication, dose, time, and route
  - Note any special instructions
- Take the medication from the container
  - Prepare the medication
- Check the label again
- Give the medication
  - Never give more or less, accuracy is very important

Medication Administration Procedure: Finishing Up

- Praise the child
- Check the label again
- Return the medication to storage immediately
  - Never leave medication unattended
- Record the medication, date, time, dose, route, and your signature on the Medication Log
- Clean the measuring device
- Wash your hands
- Observe the child for side effects

After Giving Medication

- Allow the child the opportunity to express his or her feelings
- Acknowledge that some medication is difficult to take
- Encourage the child that next time will be easier
- Offer to spend time with the child
**Medication Administration Curriculum - Module 3**

**Oral Medication Video:**
How to Give Oral Medication

**Measuring Oral Medication**
- Oral Measuring Devices
  - Dropper
  - Syringes: ½ tsp or less is most accurately measured with syringe or similar device
  - Dosing spoon
  - Medication cup
- No kitchen teaspoons!

**Topical Medication Video:**
How to Give Topical Medication
Topical Medication

- Skin creams, ointments, patches
- Eye drops, ointments
- Ear drops
Inhaled Medication

- Nasal sprays and drops
- Metered dose inhalers and nebulizers
# 5 Rights of Medication Administration — Rationale and Considerations

<table>
<thead>
<tr>
<th>Right Thing to Do</th>
<th>Rationale and Issues to Consider</th>
</tr>
</thead>
</table>
| **1. Right Child** | - Determine who is authorized to give medication and that this person knows the children who are to receive the medication by sight and name so that mix-ups are less likely to occur.  

- Check the name on the medication label to be sure that the name on the label is the name of the child to receive the medication. Giving the medication to a child who is not supposed to receive it could cause a bad reaction for the child who receives the medication and a missed dose for the child who should receive the medication.  

- If the child can talk, ask the child to say his or her name. Confirm the identity of the child with the child's picture and with another person if possible. Avoiding a mix-up requires care and diligence. |
| **2. Right Medication** | - A medication intended for someone else or for some other purpose may be the wrong strength and might cause side effects.  

- Parents might deliberately give medication intended for another family member to the child care provider to treat symptoms that the parent thinks the child will benefit from the medication. Parents might inadvertently bring another family member's medication to the child care provider instead of the right medication.  

- Compare the instructions on the label to the instructions the parent wrote with the written permission to give the medication to be sure they are the same.  

- Read the label when receiving the medication from the parent and check it against the safety precautions list; read it again when taking the medication from the storage place in the child care facility; read it again when measuring out the medication.  

- Check that the instruction is correct each time and that the instruction is still current. Sometimes the child’s health care professional changes a medication before the course ends and parents may forget to tell the child care provider about the change. |
3. Right Dose

- This course gives some detail about oral medications, and mentions other types of medications. To be sure you know how to measure the right dose of any type of medication, you need specific training for the ones you give.

- Parents should provide an accurate measuring device with the medication. Before the device is reused, it should be washed in a dishwasher or by hand using a dishwashing technique to remove any residue of old medication and for sanitation. If a dose-measuring device is supplied by the child care provider, traces of medication that remain in the device could cause an allergic reaction for another child who uses the device at another time.

- Measuring oral medications requires use of measuring devices that accurately hold the right amount of medication. Common eating utensils (teaspoons and tablespoons) do not accurately measure medications. Cooking measures or medication measuring devices must be used.
  - Milliliter (ml) = cubic centimeter (cc)
  - 5 cc or ml = 1 filled cooking measure teaspoon
  - Read the level of medication in a cup or measuring device at eye level, preferably with the bottom of the device on a flat surface. Make the lower edge of the measured liquid (meniscus) reach the correctly labeled line on the measuring device.
  - Other devices to measure liquid medications include oral syringes, marked measuring medication cups, dosing spoons with an attached measuring tube to hold the liquid until the child takes the medication, dropper that comes with the medication intended to be used with that medication that is marked with a line to show where in the dropper to bring up the liquid, medication measuring nipple device for infants.

- Tablets come as a chewable type or a type that must be swallowed.
  - Chewable tablets must be chewed completely. Those that are not chewable should not be chewed or crushed unless the child’s health care professional gives that instruction.
  - Tablets that are scored may be cut in half with a pill cutter or a thin, sharp paring knife. The tablet should be split in 2 by the pharmacist or parent.
  - Tablets that are not scored may not be cut because the medication may not be evenly distributed in the tablet.

- Capsules are generally to be swallowed. Those that may be opened and sprinkled into a small amount of food are specifically labeled as such. No others may be opened.
### 4. Right Time

- Spacing of doses determines the level of the medication that remains in the place where it is needed. Giving the medication at the wrong time can make the level too high or too low at one time or another, producing side effects or inadequate treatment.

- Aim to give medication within a window of 30 minutes before, or 30 minutes after it is due.

- Check with the parent daily to see when the last dose was given to be sure when the next dose is due. (Verify that there has been no change of plan at this time also.) Check the medication record to see that the note about when the dose is due is correct, and record the dose when it has been given. Parents and other staff must be clear about when the next dose after the one you are giving is due.

- Check to see if the medication should be given before food or with food. Food slows absorption of medication and may interfere with complete absorption into the body. Medications that must be given without food should be given at least 1 hour before eating to be fully absorbed before food enters the stomach.

- Doses that must be given multiple times each day should be as evenly spaced during the child’s waking hours as possible.

- Whenever possible, see if the child’s health care professional can choose a schedule for giving the medication that minimizes the giving of medication while the child is in child care. The child can have medications that can be given as 2 doses a day at home in the morning and when the child gets home at the end of the day.
5. Right Route and Procedure

- Medications are designed for the specific opening and surface of the body where they are to be used. Using them in a different place may injure body tissues and may not work.

- Locations where medications are designed to enter the body:
  - Mouth (oral liquids/drops, tablets, capsules)
  - Eye (ophthalmic drops and ointments)
  - Ear (otic drops)
  - Nose (nasal drops and sprays)
  - Airway (inhaled aerosols and powders)
  - Rectum (rectal — usually suppositories)
  - Skin (lotions, creams, ointments)
  - Through the skin (injected, usually with a needle and syringe)

- Always wash your hands before and after giving any medication. If the child will touch the medication, have the child wash too.

- Never mix medication in a baby bottle, in water, or juice unless the instructions to do so come from the child’s health care professional. Even then, keep the volume small (1 teaspoon to 1 tablespoon) to be sure the child will get all of the dose of the medication.

- Pour liquid medication from the side opposite the label so the label stays readable if medication drips down the side of the bottle.

- Be careful not to pour too much; don’t pour any liquid medication back into the bottle.

- Hold infants in a cradle position to administer medication. Allow a toddler to sit up in a chair.

- A syringe adapter device is available that fits on the medication bottle to make removing liquids from a bottle into an oral syringe easier. Using an oral syringe with an infant helps to prevent spilling of the medication.

- If you use an oral syringe, hold the child so the child’s mouth is facing up. Put the tip of the syringe in the space between the cheek and the back of the mouth where the upper and lower gums meet, letting off small amounts of the medication while the child swallows each little squirt.

- If the child doesn’t get all the medication (spits it out, spills it, or vomits some of it), do not give another does unless the child’s health care professional says to do so.
### Oral Medication: Liquid

1. Wash hands and child’s hands.
2. Position the child.
   a. Infants — Hold in the cradle position.
   b. Toddlers — Allow to sit up in a high chair.
3. Choose proper measuring device.

<table>
<thead>
<tr>
<th>Dropper –</th>
<th>Syringe –</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Withdraw the correct dosage amount of medicine.</td>
<td>a. Place the tip of the syringe into the liquid and pull back the plunger.</td>
</tr>
<tr>
<td>b. Place the dropper into the side of the mouth.</td>
<td>b. Read the amount of liquid at the bottom of the semicircle at the top of the liquid.</td>
</tr>
<tr>
<td>c. Squeeze the dropper.</td>
<td>c. Avoid air bubbles by keeping the tip below the level of the liquid.</td>
</tr>
<tr>
<td>d. Give a small amount at a time.</td>
<td>d. Slowly squirt very small amounts toward the back and sides of the child’s mouth.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nipple –</th>
<th>Medicine Cup –</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Place an empty bottle nipple in the child’s mouth.</td>
<td>a. Pour medication from the side opposite the label so the label stays readable, in case medicine drips down the side of the bottle.</td>
</tr>
<tr>
<td>b. Measure the drug in nipple.</td>
<td>b. Give a small amount at a time.</td>
</tr>
<tr>
<td>c. Allow the child to suck the nipple.</td>
<td>c. If not all is taken from the cup pour a little water to rinse the drug from the sides of the cup.</td>
</tr>
<tr>
<td>d. Give a small amount at a time.</td>
<td></td>
</tr>
</tbody>
</table>

4. Stroke the side of the neck to stimulate swallowing.
5. Always follow with a bottle or drink. (This rinses the child’s mouth to remove any of the sweetened drug from the gums and teeth.)
6. Wash hands and document medication administration.

Adapted from © 2006 UNC-CH/MCH and NC DHHS/DCD
Oral Medication: Tablets/capsules

1. Wash hands and child’s hands.
2. Pour tablets or capsules into a medicine cup, the lid of the bottle, or a small paper cup or paper towel.
3. For toddlers: Tell child to pick up the medicine themselves and put it in his or her mouth.
4. For infants: Cut, crush, sprinkle, or mix medicine (ONLY if directed to do so). Avoid cutting tablets. Ask parent/guardian to do this. Mix medicine with 1 teaspoon of liquid or soft food like applesauce or pudding, if approved by a health care professional.
5. If you have to put medicine directly into a child’s mouth, you may want to put on disposable gloves so you do not transfer germs. Hand washing before and after is sufficient, however. Dispose of the gloves, if used, after each use.
6. Wash hands and document medication administration.

<table>
<thead>
<tr>
<th>CUT</th>
<th>CRUSH</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Cut" /></td>
<td><img src="image2.png" alt="Crush" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SPRINKLE</th>
<th>MIX</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Sprinkle" /></td>
<td><img src="image4.png" alt="Mix" /></td>
</tr>
</tbody>
</table>
Topical Medication: Creams

1. Wash your hands.
2. Put on gloves.
3. Expose the area to be treated.
4. Clean the skin of debris including crusts or old medicine.
   a. Wet a washcloth or paper towel with warm water and place this over the area to be cleaned.
   b. Wait about 1 minute.
   c. Gently wipe the area.
   d. If you cannot remove the crusting rewet the cloth. They try to gently remove the crust or old medicine. Continue until all crusts or old medicine is removed.
   e. If using cloths, launder before using again.
5. Discard any soiled items and gloves.
6. Wash hands.
7. Open the container and place the lid or cap upside down to prevent contamination of the inside surface.
8. Use gloved hands or a tongue blade, gauze or cotton tipped applicator to apply the medicine.
9. Cover one end of the applicator with medicine from the tube or jar. (This step is not necessary with lotions.)
10. Apply the cream or ointment to affected area with applicator in smooth strokes.
11. Use a new applicator each time you remove medicine from the container to prevent contamination.
12. Use a small amount to cover the area and rub onto the skin.
13. If instructions state to cover the affected area, then place the medicine on the dressing, then cover the area with the dressing.
14. Wash hands and document medication administration.
**Eye Medication**

1. Wash your hands.

2. Clean child’s eyes.
   a. Put on gloves.
   b. Use a different area of the washcloth for each eye. Gently wipe the eye from the nose side outward with the washcloth.
   c. If the eye has crusted material around it, wet a washcloth with warm water and place this over the eye.
   d. Wait about 1 minute.
   e. Gently wipe the eye from the nose side outward with the washcloth.
   f. Place it on the eye and wait again.
   g. If you cannot remove the crusting rewet the washcloth. Then try to gently remove the crusted drainage. Continue until all of the crusting is removed.
   h. If both eyes need cleaning, use separate cloths for each eye. Launder the cloths before using again.
   i. Remove and discard gloves.
   j. Wash hands.

3. Position the child.
   a. Lay down child on his/her back on a flat surface.
   b. If the child will not lie still place the child on her back, head between your legs, and arms under your legs.
   c. If needed, gently cross your lower legs over the child’s legs to keep him/her from moving.
   d. Place a pillow under the child’s shoulders or a rolled up towel under his neck so that his head is tilted back.
   e. Ask the child to tilt his/her head back and up.

---

Adapted from © 2006 UNC-CH/MCH and NC DHHS/DCD
4. Apply eye ointment or eye drops.

<table>
<thead>
<tr>
<th>Eye Drops</th>
<th>Eye Ointment</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Bring refrigerated meds to room temperature. Rub the medicine bottle between the palms of your hands to warm the drops.</td>
<td>a. Tell the child to look up and to the other side. The eye ointment should flow away from the child’s nose.</td>
</tr>
<tr>
<td>b. Shake if label instructs you to do so.</td>
<td>b. Place the wrist of the hand you will be using to give ointment on the child’s forehead.</td>
</tr>
<tr>
<td>c. Tell the child to look up and to the other side. The eye drops should flow away from the child’s nose.</td>
<td>c. Pull down slightly and gently on the skin below the eye, just above the cheekbone.</td>
</tr>
<tr>
<td>d. Place the wrist of the hand you will be using to give drops on the child’s forehead.</td>
<td>d. Bring the tube close (within 1 inch) of the eye.</td>
</tr>
<tr>
<td>e. Bring the dropper close (within 1 inch) of the eye.</td>
<td>e. Apply a thin line of ointment along the lower eyelid.</td>
</tr>
<tr>
<td>f. Drop medicine in the lower eyelid away from the tear ducts, which are located in the lower inner corner of the eye.</td>
<td>f. Rotate the tube when you reach the edge of the outer eye, this will help detach the ointment from the tube.</td>
</tr>
</tbody>
</table>

5. Ask the child to close or blink his/her eyes for a minute to allow the eye drops or ointment to be dispersed throughout the eye.

6. Wipe excess medication or tearing with a clean tissue.

7. Rinse the dropper with water OR wipe the tip of the ointment tube with a clean tissue.

8. Replace the dropper to the bottle OR the cap on the tube immediately after each use.

9. Wash hands and document medication administration.

Adapted from © 2006 UNC-CH/MCH and NC DHHS/DCD
Ear Medication: Ear Drops

1. Wash hands and child’s hands.

2. Rub the medicine bottle between the palms of your hands or place in warm water to warm the drops.

3. Feel a drop to make sure drops aren’t too hot or too cold.

4. Ask the child to lie down or sit with the affected ear facing up.

5. Observe for any discharge (thick yellow or green substance), pus (cloudy), or blood. (If there is any, do not give medicine and report to parent/guardian.)

6. If there is drainage (clear liquid) remove it with a clean tissue or cotton tipped applicator. Do NOT clean any more than the outer ear.

7. Place the wrist of the hand you will be using to give medicine on the cheek or head.

8. Place the dropper/nozzle above the child’s ear canal.

<table>
<thead>
<tr>
<th>For children UNDER 3 years of age:</th>
<th>For children OVER 3 years of age:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Gently pull the outer flap of the affected ear DOWNWARD and backward to straighten the ear canal.</td>
<td>a. Gently pull the outer flap of the affected ear UPWARD and backward to straighten the ear canal.</td>
</tr>
<tr>
<td>b. Look for ear canal to open.</td>
<td>b. Look for ear canal to open.</td>
</tr>
</tbody>
</table>

Hand and dropper position for children 3 years old and younger with earlobe pulled down and back.

Hand and dropper position for children older than 3 years, with earlobe pulled up and back.
9. Squeeze the dropper slowly and firmly to release the appropriate amount of medicine on the side of the ear canal.

10. Ask the child to remain lying down for about 1-2 minutes so the medicine will be absorbed.

11. Gently rub the skin in front of the ear to help the drug flow to the inside of the ear.

12. Place a cotton ball in the child’s affected ear to avoid leakage of the medicine. Replace the cotton ball each time the medicine is given. Avoid inserting q-tips® into the ear.

13. Rinse the dropper tip in water after each use before capping or returning it to the bottle.

14. Replace the cap immediately after each use.

15. Wash hands and document medication administration.

Rubbing ear to help drug flow to inside of ear.
Nasal Medication

1. Wash hands and child’s hands.
2. Remove any mucous from the nose with a clean tissue.
   a. Put on gloves.
   b. Ask the child to blow his/her nose.
   c. If the nose has crusted material around it, wet a washcloth or paper towel with warm water and place this around the nose.
   d. Wait 1 minute.
   e. Gently wipe the nose with the washcloth or paper towel.
   f. If you cannot remove the crusting, rewet the cloth and again place it around the nose. Continue using the warm, moist washcloth and gently wiping until all of the crusting is removed.
   g. If using cloths, launder before using it again
3. Position the child.

<table>
<thead>
<tr>
<th>Nasal Drops</th>
<th>Nasal Sprays</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Ask the child to lie down on his back.</td>
<td>a. Ask the child to stand up and hold his/her head straight up and close mouth.</td>
</tr>
<tr>
<td>b. Ask the child to tilt his/her head back slightly.</td>
<td>b. Tell child to hold one nostril shut.</td>
</tr>
<tr>
<td>c. Place a pillow or rolled-up towel under the child’s shoulders or let the head hang over the side of a bed or your lap.</td>
<td></td>
</tr>
<tr>
<td>o If the child will not lie still you hold the child by sitting on a flat surface, such as the floor or bed.</td>
<td></td>
</tr>
<tr>
<td>o Place the child on her back with her head between your legs and her arms under your legs.</td>
<td></td>
</tr>
<tr>
<td>o If needed, gently cross your lower legs over the child’s legs to keep her from moving.</td>
<td></td>
</tr>
</tbody>
</table>

Correct position of child’s head and neck for giving nose drops.

Continued
4. Give medicine one side at a time.
5. Insert the tip of the nozzle into one of the child’s nostrils.
6. Squeeze slowly and firmly to release the appropriate amount of medicine.
7. Insert the tip of the nozzle into the child’s other nostril.
8. Squeeze slowly and firmly to release the appropriate amount of medicine.
9. Ask the child to remain lying down for about 1-2 minutes so the medicine will be absorbed. (NASAL DROPS ONLY)
10. Rinse the nozzle tip in water or wipe it with a clean tissue after each use before returning it to the bottle.
11. Replace the cap on the bottle immediately after each use.
12. Remove and discard gloves.
13. Wash hands and document medication administration.

---

**Note: For nasal drops only**

Before administering medications, use a bulb syringe to remove mucous.

a. Squeeze the bulb.

b. Put the tip gently into child’s nostril.

c. Let go aspirating mucous from the nose.

d. Be careful because overuse of this tool can be irritating.

e. Clean the bulb syringe properly.
The Food and Drug Administration (FDA) is urging consumers to carefully read the labels of liquid acetaminophen marketed for infants to avoid giving the wrong dose to their children.

A less concentrated form of the popular medication is arriving on store shelves, and giving the wrong dose of acetaminophen can cause the medication to be ineffective if too little is given or cause serious side effects and, possibly, death if too much is given.

In an attempt to reduce the confusion over different strengths that have been blamed for past overdoses, some manufacturers are voluntarily offering only the less concentrated version for all children.

Until now, liquid acetaminophen marketed for infants has only been available in a stronger concentration that doesn’t require giving the infants as much liquid with each dose.

But right now both concentrations of liquid acetaminophen are in circulation. Before giving the medication, parents and caregivers need to know whether they have the less concentrated version or the older, more concentrated medication. FDA is concerned that infants could be given too much or too little of the medicine if the different concentrations of acetaminophen are confused.

“Be very careful when you’re giving your infant acetaminophen” says Carol Holquist, director of FDA’s Division of Medical Error Prevention and Analysis.

Here’s what the agency wants parents and caregivers to do:

1. Read the Drug Facts label on the package very carefully to identify the concentration of the liquid acetaminophen, the correct dosage, and the directions for use.
2. Do not depend on a banner proclaiming that the product is “new.” Some medicines with the old concentration also have this headline on their packaging.
3. Use only the dosing device provided with the purchased product in order to correctly measure the right amount of liquid acetaminophen.
4. Consult your pediatrician before giving this medication and make sure you’re both talking about the same concentration.

Overdosing Has Been a Risk

An April 2011 report from FDA’s Center for Drug Evaluation and Research (CDER) found that confusion caused by the different concentrations of liquid acetaminophen for infants and children was leading to overdoses that made infants seriously ill, with some dying from liver failure.

So to avoid dosing errors, some manufacturers voluntarily changed the liquid acetaminophen marketed for infants from 80 mg per 0.8 mL or 80 mg per 1 mL to be the same concentration as the liquid acetaminophen marketed for children—160 mg per 5 mL. This less concentrated liquid acetaminophen marketed for infants now has new dosing directions and...
may have a new dosing device in the box, such as an oral syringe.
But this is a voluntary change and some of the older, stronger concentrations of acetaminophen marketed for infants are still available and may remain available.
"There is still some on store shelves; there is still some in homes; and there is still some in distribution," says Holquist.

**Why does this pose a danger?**
If a pediatrician prescribes a 5 mL dose of the less concentrated liquid acetaminophen, but the parents administer a 5 mL dose of the more concentrated liquid acetaminophen, the child can receive a potentially fatal overdose during the course of therapy, Holquist explains.
Conversely, if a physician prescribes a dose based on the more concentrated liquid acetaminophen and the less concentrated medication is used, the child might not receive enough medication to fight a fever, she says.

FDA has issued a Drug Safety Communication (www.fda.gov/Drugs/DrugSafety/ucm284741.htm) with more information for consumers about how to avoid confusion and potential dosing errors with the different concentrations of liquid acetaminophen.

**What Should You Do?**
Adding to the confusion is the fact that the box and the bottle may look much the same for both old and new versions of the medication, Holquist says.
Read the Drug Facts label to tell the difference between the two liquid acetaminophen products:
• Look for the "Active ingredient" section of the Drug Facts label usually printed on the back of an over-the-counter medication package.
• If the package says "160 mg per 5 mL" or "160 mg (in each 5 mL)", then this is the less concentrated liquid acetaminophen. This medication should come with an oral syringe to help you measure the dose.
• If the package says "80 mg per 0.8 mL" or "80 mg per 1 mL," then this is the more concentrated liquid acetaminophen. This product may come with a dropper.

If the dosing instructions provided by your healthcare provider differ from what is on the label, check with a healthcare professional before administering the medication. Do not rely on dosing information provided from other sources such as the Internet, old dosing charts, or family members.

It is important to understand that there is no dosing amount specified for children younger than 2 years of age. If you have an infant or child younger than 2 years old, always check with your healthcare provider for dosing instructions.

Acetaminophen is marketed for infants under brand names such as Little Fevers Infant Fever/Pain Reliever, Pedia Care Fever Reducer Pain Reliever and Triaminic Infants’ Syrup Fever Reducer Pain Reliever. There are also store brands on the shelves.

"Be very careful when you’re giving your infant acetaminophen.”

Find this and other Consumer Updates at www.fda.gov/ForConsumers/ConsumerUpdates

Sign up for free e-mail subscriptions at www.fda.gov/consumer/consumerenews.html