

When You Have a Sick Child





It's not uncommon for a visit to your doctor's office to end with a written prescription for medications. Those little pieces of paper are extremely important for you, your child and your pharmacist. They provide the exact medication directions for the pharmacist to dispense, and for you to administer, in order to properly treat your child's signs and symptoms. The speedy control of disease requires that your child take all the doses at the proper intervals of time. This requires the child's compliance which you know is NOT an easy thing. Yet for your child, being almost 100% compliant is almost as critical as the medicine itself.

NON-COMPLIANCE LEADS TO

- Persistent symptoms
- Need for additional doctor visits or even hospitalizations
- Worsening of condition
- Need for additional medications
- Increased healthcare costs
- Development of drug-resistant organisms in cases of infectious diseases

HOW IMPORTANT IS IT FOR YOUR CHILD TO TAKE ALL THE MEDICINE?

Skipping doses or forgetting to take medications or ending a drug regimen early are serious matters. In fact, not finishing a complete treatment program or not following directions from your pediatrician and/or pharmacist can be harmful to your child's health.

COMPLIANCE

Compliance means taking the right amount of a drug at the right time for the total length of days of treatment.



In order for a drug to be effective it must circulate in the blood system to the ailing tissues. Some drugs require only one dose per day and persist in the body for 24 hours. Others, however, are destroyed or excreted by the body, and require more frequent dosing. For children taking liquid medications, compliance can be particularly difficult to achieve when medications are bitter, sour or foul-smelling. In fact, The American Academy of Pediatrics estimates that compliance in chil-

dren is as low as 53%, meaning that children frequently fail to take medications properly. Therefore drugs are not made available in the body to combat the disease.

When getting a prescription it is important to know if it is going to taste bad. Ask your doctor if other children experience problems taking the medicine. He or she might recommend taking the prescribed medication with food or drink, but this too can have its consequences.

MIXING FOOD WITH MEDICINE

One common trick to hiding the taste of medicine is mixing the medication with food or a drink. But did you know that many medications interact negatively with food and/or drink?

Most recently, this concern was documented by Pharmacy Times in an issue related to food & drug interaction. There are many ways that food and drink can affect a drug's activity on the body. Such nutritional mixtures can interfere with medication absorption in the gastrointestinal tract and result in lower drug concentrations in the blood system.

FACTS & STATS

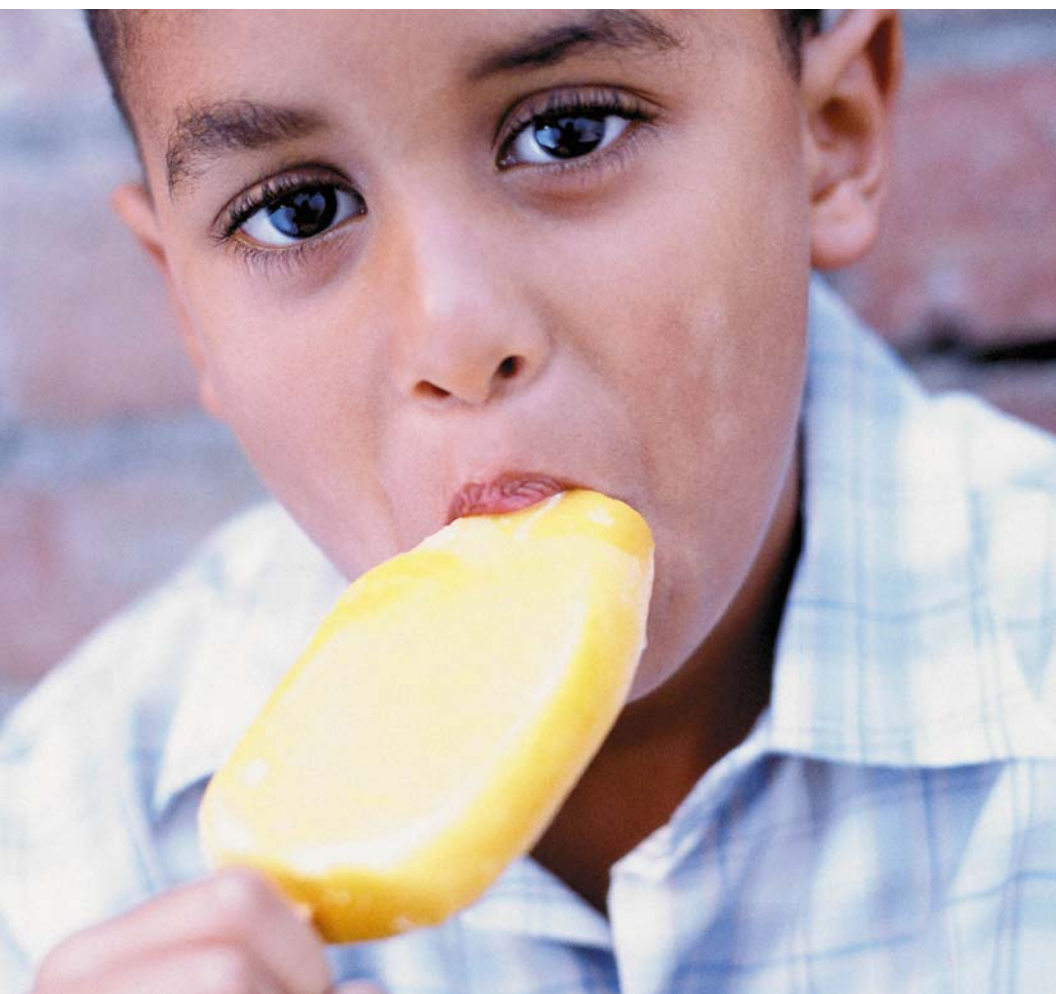
- Non-compliance causes 125,000 deaths annually in the US and is the cause of up to 1/4 of hospital admissions.
- About 50% of the 2 billion prescriptions filled each year are not taken correctly.
- On average, 1/3 of patients take all their medicine, 1/3 take some and 1/3 never even get their prescription filled.
- If a child experiences negative effects from a drug (nausea, vomiting, diarrhea, poor taste), they are less likely to take the drug and their parents/caregivers are less likely to administer it.



On the other hand, some of these interactions can increase drug absorption and interfere with the body's breakdown of the medication causing inappropriately high blood concentrations of medication. These last two can increase blood concentrations of the drug in the body sometimes as much as 2-3 times! See our Negative Food & Drug

Interactions Table for some important guidelines to keep in mind. Remember, having too much or not enough of a drug's effects is NEVER a good thing.

Unless specifically directed by the doctor, medicines should be taken with water and not with other possibly interfering liquids.



NEGATIVE FOOD & DRUG INTERACTIONS

NOT ENOUGH DRUG ACTIVITY 

TOO MUCH DRUG ACTIVITY 

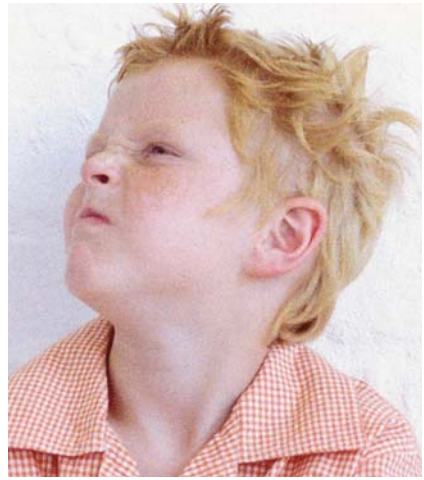
MEDICATION		FOODS TO AVOID
<p>ANTIBIOTICS & ACID-LABILE DRUGS: <i>penicillin, amoxicilllin/potassium clavulanate, methenamine, tetracycline, levofloxacin (Augmentin, Hiprex, Sumycin, Mandelamine)</i></p>		<p>Acidic liquids and dairy products. E.g. grapefruit juice, orange juice, tomato juice, lemonade, milk, cheese, yogurt, ice cream.</p> <p>RESULT: </p>
<p>ANTICOAGULANTS: <i>warfarin (Coumadin, Sofarin)</i></p>		<p>Foods high in vitamin K. E.g. broccoli, spinach, kale, turnip greens, cauliflower and brussel sprouts.</p> <p>RESULT: </p>
<p>BRONCHODILATORS: <i>theophylline, albuterol and epinephrine (Accubron, Duraphyl, Theovent, Proventil, Ventolin, EpiPen, Susphrine)</i></p>		<p>Food and beverages that contain caffeine. E.g. chocolate, colas, coffee and tea.</p> <p>RESULT: </p>
<p>DIURETICS: <i>furosemide, triamterene, hydrochlorothiazide (Lasix, Dyrenium, Dyazide, Maxzide)</i></p>		<p>Potassium-rich foods. E.g. bananas, oranges, green leafy vegetables.</p> <p>RESULT: </p>
<p>ANTIFUNGALS: <i>fluconazole, griseofulvin, ketoconazole, itraconazole (Diflucan, Fulvicin, Gris-PEG, Grisactin, Nizoral, Sporanox)</i></p>		<p>Dairy products. E.g. milk, cheese, yogurt, ice cream.</p> <p>RESULT: </p>
<p>QUINOLONES: <i>ciprofloxacin, levofloxacin, ofloxacin, trovafloxacin (Cipro, Levaquin, Floxin, Trovan)</i></p>		<p>Iron rich foods and dairy products. E.g. milk, cheese, yogurt, ice cream, certain vitamins & minerals.</p> <p>RESULT: </p>

THE PSYCHOLOGY AND PHYSIOLOGY OF MEDICINE TIME

Until a child is around 8 years old, swallowing pills can be challenging. This is often due to the smaller structure of a child's esophagus. Therefore, children under the age of 8 are typically prescribed liquid medications. While liquids are easier to administer, getting the child to swallow it is a whole different story. The leading reasons for this are:

Children have a much greater number of taste buds than adults. These taste buds regenerate every two weeks. As with many of the senses, taste becomes altered as a function of aging process, which explains why most children find certain flavors to be too 'strong' when adults do not. Children, and infants in particular, are most sensitive to bitter and sweet tastes, making them less likely to swallow bitter-tasting medications and also more prone to liking sweeter, fruity flavors.

The active ingredients in medications often taste bitter and/or have a pungent smell. Masking the taste of medication can often be difficult simply because the innate flavor is so overpowering.



Struggling with or forcing a child to take a medication adds additional strain to the already unpleasant state of feeling sick. It can also predispose children to believe that all medications, regardless of taste or smell, are unpleasant, giving them a negative impression of their treatment. Like most of us, children will resist unpleasant experiences.

Not surprisingly, children embrace pleasant experiences including pleasant tastes. Studies have shown that allowing a child to play an active role in choosing the flavor of their medication makes him/her more compliant to drug regimens. Showing a child that they have the capability to modify the flavor of a medication to a flavor of their liking grants them some authority in their treatment.

YUCKY 21

Certain medications just taste worse than others. Many of them have extremely strong, pungent smells, bitter tastes and sour after-tastes. These can be particularly difficult to administer to children, so be sure to consult your physician or pharmacist on the best ways to administer these medications. Here are some of the most difficult medications:



1	<i>Airet, Proventil, Ventolin, Volmax (Liquid Albuterol)</i>
2	<i>Augmentin Suspension (Amoxicillin Clavulanate)</i>
3	<i>Bactrim Suspension (Trimethoprim/Sulfamethoxazole)</i>
4	<i>Biaxin Suspension (Clarithromycin)</i>
5	<i>Ceftin (Kefurox, Zinacef) Suspension (Cefuroxime)</i>
6	<i>C-Lexin, Cefanex, Keflex, Keftab Suspension (Cephalexin)</i>
7	<i>Claritin Syrup (Loratadine)</i>
8	<i>Cleocin Suspension (Clindamycin)</i>
9	<i>Eryzole, Ilosone Sulfa, Sulfimycin Liquid (Erythromycin)</i>
10	<i>Furadantin Suspension (Nitrofurantoin)</i>
11	<i>Fulvicin, Grifulvin, Gris-PEG, Grisactin Suspension (Griseofulvin)</i>
12	<i>Any Iron Liquid</i>
13	<i>Pediazole Suspension (Erythromycin)</i>
14	<i>Barbita, Luminal, Solfoton Elixir (Phenobarbital)</i>
15	<i>Prelone Syrup (Prednisolone)</i>
16	<i>Robitussin (or any product containing guaifenesin)</i>
17	<i>Tylenol with Codeine Elixir (Acetaminophen with Codeine Phosphate)</i>
18	<i>Any Liquid Vitamin</i>
19	<i>Vantin Suspension (Cefpodoxime Proxetil)</i>
20	<i>Zantac (Ranitidine)</i>
21	<i>Zithromax Suspension (Azithromycin)</i>



BAD-TASTING MEDICINE? THERE IS A SOLUTION!

Unpleasant tasting medications can result in particularly poor compliance in children. The addition of a safe pharmaceutical flavoring to medicine can greatly improve your child's sensations of taste and smell, leading to acceptance and therefore compliance. In fact, studies show that proper flavoring can increase compliance in children from 53% to over 90%. Simply ask your pharmacist to "FLAVORx" your child's medication. The process is scientifically-proven, safe and effective. Unlike the addition of

BUT IT SAYS, "TASTES GREAT"

Sometimes the pharmacist will tell you that the medication is already flavored. Believe it or not, he or she is correct. All medications DO come flavored, however many manufacturers fail to completely mask bitter tastes. You should ask your pediatrician if taste could pose a problem for your child, or ask your pharmacist if your child can taste the medicine. If your child does not like the existing taste, have it flavored at your pharmacy. Keep in mind that you and your pharmacist don't have as keen a sense of taste as your little one.

food or drink, FLAVORx flavoring available at the pharmacy will not adversely affect a medicine's properties at all. Studies show:

For children, taste may be the only motivation to take a medication and complete a full treatment program. Improved taste of a medication can improve therapy adherence, leading to improved clinical and economic outcomes (medica-

tions taken because of flavoring are far less expensive than continued disease processes or hospitalization).

Oftentimes a parent's frustration with giving a bad tasting medication will cause them to stop treatment as soon as the symptoms go away, thus not giving the full course. This can result in resistant micro-organisms in infectious diseases and may cause the child to become sick again.

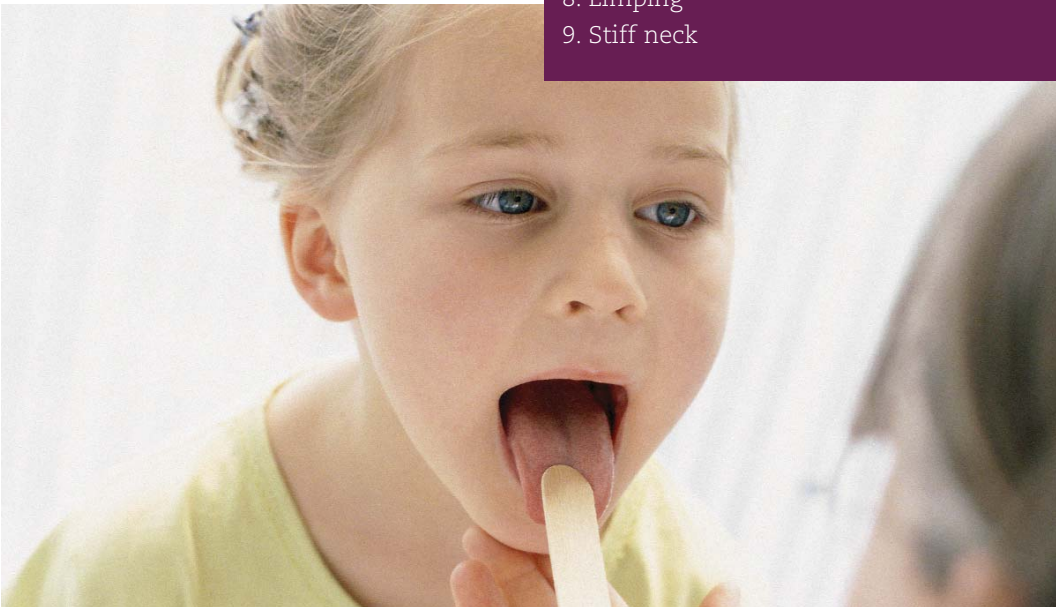
The addition of flavoring has been shown to save money by reducing the number of wasted/spit out doses and increasing compliance. On average, the patient 'quality of life' score improves from 3.5 to 8 after the addition of flavoring.

IS IT TIME TO CALL THE DOCTOR?

As a parent, you know that anytime your child has even the slightest signs or symptoms suggestive of disease you're alarmed. So when are you being too cautious, and when is it time to call the doctor?

9 SYMPTOMS YOU SHOULDN'T IGNORE

1. Vomiting
2. Dehydration
3. Fever (higher than 100.4 F)
4. Abdominal Pain
5. Difficulty Breathing
6. Bloody Stool
7. Abnormally Tired or Confused
8. Limping
9. Stiff neck



COMMON CHILDHOOD ILLNESSES

Most parents can't help but feel anxious when their child is sick. It may be comforting to realize that many common ailments, while persistent, are easily treated with a combination of medicine and rest.

ILLNESS	SYMPTOMS	TREATMENT
STOMACH VIRUS & ABDOMINAL INFECTIONS	Upset stomach, stomach cramps and pains, vomiting, diarrhea.	Plenty of fluids to prevent dehydration. Antibiotics and/or antispasmodics may be prescribed.
EAR INFECTION	Mild to severe- earache, hearing difficulties, fever, nausea, vomiting, dizziness.	Visit the doctor to assess symptoms. Antibiotics may be prescribed.
BRONCHITIS	Deep cough (may cough up mucus), wheezing, headache, chills, fever, tightness of the chest, difficulty breathing.	Plenty of fluids, vaporizer to add fluid to the air, rest and possible use of over-the-counter medications. Antibiotics may be prescribed.
COLDS & FLU	Fever, headache, aches and pains, runny nose, sneezing, cough, exhaustion, chest discomfort.	If fever reaches over 100 F (as with the flu), contact your pediatrician. Use of over-the-counter medications (cough suppressants, fever-reducing medications and decongestants) to treat symptoms.
STREP THROAT	Yellow or green nasal discharge, fever, difficulty swallowing, swollen glands.	Visit the doctor to assess symptoms. More than likely a throat culture will be taken and an antibiotic will be prescribed.

It is important to remember to take all the medicine as prescribed. You can improve treatment adherence by having medicine flavored at your local pharmacy. This will result in improved outcomes, less treatment failure and recurring symptoms, and inevitably leads to better economic outcomes by decreasing office visits, avoiding time missed from work, and decreasing overall healthcare costs.

HOW DO I KNOW IF I HAVE A COLD OR THE FLU?



	FLU	COLD
FEVER OR CHILLS	☹☹☹	☹
HEADACHE	☹☹☹	
ACHES AND PAINS	☹☹☹	☹
TIRED OR WEAK	☹☹☹☹	☹
RUNNY, STUFFY NOSE	☹☹	☹☹☹☹
SNEEZING	☹☹	☹☹☹☹
SORE THROAT	☹☹	☹☹☹☹
COUGH	☹☹☹☹	☹
EXTREME EXHAUSTION	☹☹☹☹	
CHEST DISCOMFORT	☹☹☹	☹

- ☹☹☹☹ Usual and Severe
- ☹☹☹ Frequent, may become severe
- ☹☹ Moderate
- ☹ Mild

