

OTC Medicines

Deciding what you need

“American medicine cabinets contain a growing choice of nonprescription, over-the-counter (OTC) medicines to treat an expanding range of ailments. OTC medicines often do more than relieve aches, pains, and itches. Some can prevent diseases like tooth decay, cure diseases like athlete’s foot and, with a doctor’s guidance, help manage recurring conditions like vaginal yeast infection, migraine, and minor pain in arthritis.”¹

Scroll down or click on the links below to decide what you need to treat your family and have stored in your medicine cabinet.*

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*Mention of brand names is in no way an endorsement of any particular product. Brand names are used within this document to help you identify common products.



This document is meant for educational purposes only and is not intended to replace the advice of your doctor or other health care provider.

Pain Relievers

Two classes of commonly used drugs are effective in reducing fevers and relieving minor aches and pain:²

- acetaminophen (e.g., Tylenol, Tempra) and
- non-steroidal anti-inflammatory drugs (NSAIDs), which include aspirin (e.g., Bayer, Bufferin, Ecotrin), ibuprofen (e.g., Advil, Motrin), and naproxen (e.g., Aleve).³

There are also combination products, which include both classes of pain relievers, such as the acetaminophen, aspirin, caffeine combination that is found in Excedrin.³

Note: Aspirin and/or aspirin-containing products (which come from the *salicylate* family) should never be given to children or teenagers because it puts them at risk for a serious disease that can affect the brain and liver known, as [Reye's Syndrome](#).⁴ Check the Drug Facts label of medications for those containing aspirin.



Some medicine labels may refer to aspirin as salicylate or salicylic acid,⁵ which you may find in unexpected places like muscle ache creams (methyl salicylate)⁶ for your athletes or in some anti-diarrheals like [Pepto Bismol](#)³ as well as in combination medicines that treat more than one symptom, like Excedrin.³ Be sure to read labels carefully. Aspirin is also used for purposes beyond pain relief to prevent or reduce the risk for stroke, heart attack, and other coronary conditions, as well as rheumatic conditions. Never take aspirin for these purposes without direct dosage prescription and supervision of a doctor. For more on aspirin for these purposes, see the [Aspirin: Questions and Answers](#) and [Safe Daily Use of Aspirin](#) articles from the U.S. Food and Drug Administration (FDA).

“Aspirin and NSAIDs relieve pain by stopping the production of prostaglandins, which are natural chemicals in the body. Prostaglandins irritate nerve endings, triggering the sensation of pain.”⁷

It is not completely understood how acetaminophen relieves pain and reduces fever. “We do know that unlike aspirin and NSAIDs (which work in the skin, muscles and joints), acetaminophen blocks painful sensation in the brain and the spinal cord.”⁷

Should I take pain relievers?

Taking these pain relievers is generally considered safe; however, taking too much of the active ingredient in acetaminophen can lead to [liver damage](#). The risk for liver damage increases if you drink three or more alcoholic drinks while using acetaminophen-containing medicines.⁸

For some individuals, NSAIDs can cause stomach bleeding. Although it is rare for these events to occur when using OTC doses for short periods of time, some people develop bleeding. You have an increased risk if you:

- are over age 60,
- take prescription blood thinners,
- drink three or more alcoholic drinks a day,
- have previous stomach ulcers,
- take steroid medicines or take other NSAID medicines,
- have other bleeding problems, or
- have a previous history of stomach bleeding.

If you have any of these factors, talk with your doctor before using NSAIDs.^{8,9} NSAIDs can also cause damage to the kidneys (although the damage is usually reversible if you stop taking the medicine).

The risk of kidney damage may increase in:

- people who are over 60;
- people who have high blood pressure, heart disease, or pre-existing kidney disease; and
- people who are taking a diuretic.⁸

Antihistamines

“Antihistamines work by blocking the receptors that trigger itching, nasal irritation, sneezing, and mucus production.”⁷ Therefore, they can help you feel better when you have a runny nose, itchy eyes or sneezing due to allergies. They can also relieve itching from chickenpox or insect bites, as well as control hives or other allergic reactions.¹⁰ Sometimes they are used to help relieve symptoms of the common cold, such as sneezing and runny nose.¹¹ Two types of OTC antihistamines are available:

- First-generation OTC antihistamines^{12, 13}
 - brompheniramine (e.g., Dimetapp Cold & Allergy Elixir, Bromphen, Dimetane, Nasahist, Robitussin Allergy & Cold Liquid)
 - chlorpheniramine (e.g., Chlor-Trimeton, Singlet)
 - clemastine (e.g., Allerhist, Tavist)
 - dimenhydrinate (e.g., Dramamine original)
 - diphenhydramine (e.g., Benadryl, Nytol, Somnex)
 - Doxylamine (e.g., Vicks Nyquil, Alka-Seltzer Plus Night-time Cold Medicine)
- Second-generation OTC antihistamines^{12, 13}
 - Loratadine (e.g., Alavert, Claritin).

“Note: Both types of antihistamines often are mixed with other drugs, such as pain relievers or

decongestants. Many of the brand names [listed] above are for these combination medicines, which are meant to treat many symptoms at once.”¹²

“First-generation antihistamines can make you feel very sleepy. This can affect your ability to drive or operate machines. It can also make it hard for you to think clearly. Antihistamines can cause your mouth and eyes to feel dry. Second-generation antihistamines are not as likely to cause these side effects.”¹²

Should I take antihistamines?

“Talk to your doctor before using a first-generation antihistamine if you have any of the following health problems:

- glaucoma;
- trouble urinating (from an enlarged prostate gland);
- breathing problems, such as asthma, emphysema, or chronic bronchitis;
- thyroid disease;
- heart disease; or
- high blood pressure.

Before taking a second-generation antihistamine, tell your doctor if you’ve ever had kidney or liver disease.”¹²



Decongestants

“Decongestants work by narrowing blood vessels in the lining of the nose. This reduces how much blood flows through the area so that swollen tissue inside the nose shrinks and air can pass through more easily. Decongestants can help relieve a stopped-up nose caused by a cold, or the flu (influenza), sinusitis, or allergies.”¹⁴

Decongestants come in oral form and decongestant nasal sprays:

- Oral decongestants: pseudoephedrine (e.g., Sudafed) and phenylephrine (e.g., Sudafed PE)
- Decongestant nasal sprays: oxymetazoline (e.g., Afrin, Neo-Synephrine, Sinex) and phenylephrine (Neo-Synephrine, Sinex). “Note: Decongestant nasal sprays may work more quickly but have a rebound effect if you use them more than 3-5 days. They are best for short-lived colds and not for persistent allergies.”³

“Until recently, pseudoephedrine has been the more commonly used decongestant and the main active ingredient in many popular nonprescription cold and allergy medications. Unfortunately, pseudoephedrine is also a key ingredient in the production of methamphetamine, a highly addictive illegal stimulant. In an effort to combat methamphetamine production, federal law has recently required that all nonprescription medications containing pseudoephedrine be taken off drugstore shelves and be stored behind the counter in the pharmacy. To purchase these medications, you must go to the pharmacy, show some form of government-issued identification, and sign a logbook.”¹⁵

Some drug companies have reformulated these products replacing pseudoephedrine with phenylephrine. Many times, the label has not changed, so it is important to make the distinction as a consumer – knowing that those containing pseudoephedrine would have to be purchased from the pharmacy (though they do not require a prescription) and those containing phenylephrine are simply available on the store shelves. There is also some controversy as to whether phenylephrine is as effective as pseudoephedrine.^{16, 17, 18} Consult your doctor or pharmacist about which product he recommends for your symptoms.

Should I take a decongestant?

Because decongestants produce a narrowing of the blood vessels, this effect may also increase blood pressure in patients who have high blood pressure.¹¹ “If you have any of the conditions below, talk to your doctor before taking a decongestant:

- heart disease,
- high blood pressure,
- kidney disease,
- glaucoma,
- thyroid disease,
- diabetes,
- trouble urinating from an enlarged prostate gland.”¹⁴



Cough Medicines

Cough medicines are grouped into two types:

- antitussives (cough suppressants), which act directly on the cough center in the brain to block the cough reflex; and
- expectorants, which work by loosening or thinning the mucus or phlegm in the lungs and make coughing more productive to clear the mucus from the airway.^{7, 11}

The most common cough suppressant medicine is dextromethorphan, which can be found in products like Delsym, Drixoral, Robitussin DM, Simply Cough, and Vicks 44.^{3, 7}

Guaifenesin is the *only* expectorant used in OTC products such as Mucinex, Robitussin.^{3, 7, 19}

Should I treat a cough?

“Most of the time, a cough doesn’t require treatment. It will go away on its own. Cough medicines may be helpful if your cough is caused by a cold or the flu (influenza). Some types of cough should not be treated with cough medicines because the cough is helping to keep the lungs clear so you can breathe. Examples include cough from smoking, emphysema, asthma, or chronic bronchitis.”¹⁹

Recently, attention has focused on the potential harmful effects of cough and cold medicines among children.

“Because of reports of unintentional overdoses of cough and cold medications and links between these medications and infant deaths, a number of national pediatric experts

petitioned the U.S. Food and Drug Administration (FDA) to advise that these medications not be



used in children aged less than 6 years. The FDA’s Nonprescription Drugs Committee and Pediatric Advisory Committee have since unanimously recommended that these agents not be used in children aged less than 2 years and by majority vote that they not be used in children aged less than 6 years based on lack of evidence of effectiveness and increased risk of harm.

The Consumer Healthcare Products Association, which represents manufacturers of OTC medications, has issued a voluntary market recall of OTC cough and cold medications labeled for use in infants but has also issued a position statement that cautioned against the recommendation to make cough and cold medications unavailable to children aged 2 to 6 years. The FDA has not yet ruled on these issues.”²⁰

As a complete consensus has not been fully reached, the modified product labels of OTC cough and cold medicines to date state, “do not use in children under 4 years of age.”²¹ (Note that the old products may not have been removed from the store shelves, and many of the products may currently state, “do not use in children under 2 years of age.”²¹) Concerning combination cough and cold medicines, the U.S. National Library of Medicine’s [Home Pharmacy](#) document recommends “avoid combination cough and cold preparations in children under age 6 because they have sometimes caused over-sedation and death. Above all, be sure that the medications you use do not contain the same ingredients, which could lead to an overdose.”³

Obviously, some controversy still exists concerning the safety and effectiveness of cough and cold medications in children ages 4-6 years.²² DO NOT give OTC cough and cold medicine to a baby or child under 4 years of age. Using these medicines in very young children might cause serious or possibly life-threatening side effects. When considering use in older children, “understand that using OTC cough and cold medicines does not cure the cold or cough. These medicines only treat your child’s symptoms, such as runny nose, congestion, fever, and aches. They do not shorten the length of time your child is sick.”²¹ Consider [non-medicine options](#) to relieve your young child’s symptoms, as well as your own. Talk with your doctor about his/her recommendations.

Stomach and Intestinal Problem Medicines

Four of the most common symptoms for which you may want stomach or intestinal medications are:

- diarrhea,
- constipation,
- heartburn, and
- nausea/vomiting.

Antidiarrheals

Antidiarrheals are medicines that treat diarrhea. There are two types of antidiarrheals available OTC.

- Loperamide (e.g., Imodium) works by slowing down the speed of fluids moving through your bowels.^{3, 23}
- Bismuth subsalicylate (e.g., Kaopectate, Pepto-Bismol) works by balancing the way fluid moves through your bowels. It also binds toxins (poisons) from bacteria so that they are not harmful and helps kill germs.^{3, 23}

Should I treat diarrhea?

Most of the time, diarrhea doesn't require treatment. Most often, it lasts only a couple of days whether you treat it or not. Sometimes medicine can help you feel better, especially if you also have cramping. However, don't use loperamide if you have bloody or black stools, which may be signs of a more serious problem; talk to your doctor. Also, don't give bismuth subsalicylate to children who may have the flu or chickenpox because they will have a higher risk of Reye's Syndrome.²³



Laxatives

Laxatives treat constipation. There are five different kinds of laxatives:

- Bulk-forming laxatives (e.g., Metamucil, Citrucel²⁴) add bulk and water to your stools. The larger stools help trigger the bowel to contract and move the stools out. You must use bulk-forming laxatives

daily for them to work. Start slowly, and drink plenty of fluids. Gradually increase how much you use to reduce the chance of having any side effects.

- Lubricant laxatives work by coating the surface of the stools. This helps the stools to hold in water so they move out of the body more easily. Glycerin suppositories lubricate the inside of the anus (the outside opening to the intestine) to make it easier to pass hard stools.
- Stool softeners help mix fluid into stools to soften them. This makes stools easier to pass out of the body.
- Saline laxatives draw fluid into the bowel from nearby tissue. This softens stools and helps the bowel move them out.
- Stimulant laxatives (e.g., Ex-lax, Senokot²⁵) are the harshest laxatives. They cause the bowel to squeeze or contract to move the stools out. Stimulant laxatives should generally be used only when your doctor recommends them, such as if you're preparing for a bowel exam or if you've just had surgery and shouldn't strain to have a bowel movement.²⁶

Should I use laxatives/treat constipation?

"Most of the time, constipation doesn't require treatment with laxatives. It will go away on its own or if you make changes in your diet and other habits. For example, you can treat constipation by eating enough fiber, drinking enough fluids, and getting enough exercise."²⁶ "Just because laxatives are available without a prescription doesn't mean that they're without risk. Laxative use can be dangerous if constipation is caused by a serious condition, such as appendicitis or a bowel obstruction. If you frequently use certain laxatives over a period of weeks or months, they can decrease your colon's natural ability to contract and actually worsen constipation. In severe cases, overuse of laxatives can damage nerves, muscles, and tissues of your large intestine."²⁵ Don't use laxatives in children under age 6 or if you are pregnant unless under the specific direction of a doctor.²⁵

"Talk to your doctor before using laxatives if you have the following:

- kidney disease;
- heart disease or high blood pressure;
- stomach pain, nausea, vomiting, or rectal bleeding.

Call your doctor if you're taking laxatives and have these symptoms:

- bloody stools or
- constipation doesn't improve after a week of laxative use.

If you're dependent on laxatives, ask your doctor for advice on how to gradually withdraw from them and restore your colon's natural ability to contract."²⁵

Antacids or Acid Reducers

Antacids or acid reducers can relieve heartburn.

"**Antacids** neutralize excess stomach acid to relieve heartburn, sour stomach, acid indigestion, and stomach upset. They are also occasionally prescribed to help relieve the pain of ulcers. Some antacids also contain simethicone, an ingredient that helps eliminate excess gas.

Examples of antacids include Tums, Rolaids, and Maalox.

You should take antacids

exactly as directed by your doctor, or according to the manufacturer's directions. If you are using the tablets, chew them well before swallowing for faster relief.

Some antacids contain magnesium or sodium bicarbonate, ingredients that may have a laxative effect.

Side effects include constipation, diarrhea, white or pale bowel movements, and stomach cramps. Serious side effects can occur with an overdose or overuse of antacids.

Acid blockers. Pepcid AC, Tagamet HB, Zantac 75 (ranitidine), and Axid AR are H₂ blockers or acid-blocking drugs that are available without a prescription (over-the-counter). These products are for relief of heartburn, acid indigestion, and sour stomach. Acid blockers work by reducing the production of stomach acid.

Take these medications according to the directions on the package or as advised by your doctor.

Possible serious side effects that need to be reported to your doctor right away include confusion, chest tightness, bleeding, sore throat, fever, irregular heartbeat, weakness, and unusual fatigue. Other, less serious, side effects include headache, dizziness, and

diarrhea. These are usually temporary and will likely go away on their own.

When combined with lifestyle changes, these over-the-counter remedies relieve symptoms in about 25 percent of heartburn sufferers. People who have more severe heartburn symptoms that aren't relieved with these medications or who have been using these drugs for more than two weeks should contact their physician."²⁷

Should I take an antacid?

"Before taking an antacid or acid reducer, talk to your doctor if you have any of the following symptoms:

- trouble or pain when you swallow;
- bloody vomit;
- bloody or black stools;
- ongoing stomach pain;
- lightheaded, dizzy, or sweaty feeling;
- chest pain, shoulder pain, or pain that spreads to your arms, neck, or shoulders with shortness of breath;
- weight loss for no reason;
- nausea or vomiting;
- wheezing (you'll hear a squeaky or musical sound in your chest);
- heartburn that has lasted more than 3 months.

You should stop using antacids or acid reducers and call your doctor if any of the following are true:

- Your stomach pain doesn't get better when you use the medicine, or it gets worse.
- You need to take the medicine for more than 14 days.
- You're taking Omeprazole (brand name: Prilosec) and feel like you need to take more than 1 course in 4 months.

Don't try to treat yourself if you have any of these symptoms. They may be signs that you have an ulcer or a more serious problem that needs to be checked by your doctor."²⁸

Antiemetics

Antiemetic drugs are medicines that can help relieve nausea, vomiting, and motion sickness. Several OTC drugs are used as antiemetics.

- "Bismuth subsalicylate (brand names: Kaopectate, Pepto-Bismol) may help treat some types of



nausea and vomiting, such as from the flu (influenza). It's also used for upset stomach and as an antidiarrheal (medicine to treat diarrhea)."²⁹ "Bismuth subsalicylate works by coating the stomach lining."²⁹

- "Certain antihistamines may help prevent nausea and vomiting caused by motion sickness. These include dimenhydrinate (one brand name: Dramamine) and meclizine hydrochloride (one brand name: Dramamine Less Drowsy)."²⁹ "Antihistamines appear to dull how the inner ear senses motion. They 'block' messages to the part of the brain that controls nausea and vomiting. This is why they work best if you take them before you think you might have a problem with motion sickness."²⁹



Should I take antiemetic drugs?

As with any drug from the salicylate family (like aspirin), don't give this medicine to children or teens because of the risk for Reye's Syndrome – a disease affecting the brain and liver. Also, before taking an antihistamine, talk with your doctor if you have any of the following problems:

- glaucoma;
- trouble urinating (from an enlarged prostate gland);
- breathing problems, such as asthma, emphysema, or chronic bronchitis;
- thyroid disease;
- heart disease; or
- high blood pressure.²⁹

Topical Products

“Topical products are those that can be applied to areas of the skin.”⁶ OTC topical products can be effective in preventing and curing infection as well as relieving itching and aching, but it is important to remember that medical creams and ointments available OTC for these conditions are not like moisturizing lotions and creams – they are medicines that can “sometimes penetrate the skin and enter the blood stream.”⁶

Antibiotic Ointment & Antiseptics

Antibiotic ointments and antiseptics can be helpful in preventing infection.

“Antibiotic ointments (such as Bacitracin, Neosporin, Polysporin³) help healing by keeping out infection and by keeping the wound clean and moist. A bandage does pretty much the same thing. If you have stitches, your doctor will tell you whether he or she wants you to use an antibiotic ointment. Most minor cuts and scrapes will heal just fine without antibiotic



ointment, but it can speed healing and help reduce scarring.”³⁰ Be sure to first wash the area with cool water. You can hold the wound under running water or fill a tub with cool water and pour it from a cup over the wound. For cuts, scrapes, and wounds, irrigation with cool running water is usually best. You can hold the wound under running water or fill a tub with cool water and pour it from a cup over the wound.³⁰ Use soap and a soft washcloth to clean the skin around the wound. Try to keep soap out of the wound itself because soap can cause irritation. Use tweezers that have been cleaned in isopropyl alcohol to remove any dirt that remains in the wound after washing.³⁰

Even though it may seem that you should use a stronger cleansing solution (such as hydrogen peroxide or an antiseptic), these things may irritate wounds. Ask your family doctor if you feel you must use something other than water.³⁰ An initial cleansing of a wound with antiseptic (e.g., hydrogen peroxide) may be appropriate to reduce infection, but

should not be used repeatedly, as it does not promote healing.³¹

Anti-fungal Creams

Anti-fungal creams are commonly used to treat athlete’s foot (e.g., terbinafine [Lamisil], clotrimazole [Lotrimin], miconazole [Monistat-Derm]) or jock itch (terbinafine [Lamisil AT], naftifine [Naftin], miconazole [Micatin, Monistat-Derm], clotrimazole [Lotrimin AF]).^{32, 33} Your doctor can confirm if you have one of these conditions. You may only need to put an antifungal cream on the rash for a few weeks. This is especially true for jock itch. If the condition does not clear up, you may need a prescription medication that can be taken by mouth for a longer period of time.³⁴

Anti-fungal creams and suppositories are also available OTC to treat yeast infections. Some examples include miconazole (Monistat), clotrimazole (Gyne-Lotrimin), and tioconazole (Vagistat). “Yeast infections may also be treated with an oral antifungal medication, such as fluconazole (Diflucan). The advantages of over-the-counter treatment for a yeast infection are convenience, cost, and not having to wait to see your doctor. The catch is you may be treating something other than a yeast infection. It’s possible to mistake a yeast infection for other types of vaginitis or other conditions that need different treatment. Using the wrong medicine may delay a proper diagnosis and the most appropriate treatment, and can lead to complications.”³⁵ It is important to see your doctor, especially the first time you suspect a yeast infection, so that you can know how to identify it correctly. Talk with your doctor about whether or not OTC yeast infection medicines are right for you.

Anti-itch Creams (e.g., Cortisone/hydrocortisone creams)

“If you develop redness, heat, swelling, and pain on your skin when you come in contact with certain substances, you may have what is known as ‘contact dermatitis.’ Contact dermatitis is caused either by an allergy or a sensitivity (a non-allergic response) to common substances.”³⁶ Some common culprits are poison ivy, detergents, or fragrances. You can treat mild cases of contact dermatitis yourself. Over-the-counter medications such as calamine lotion, antihistamines, or cortisone creams and ointments usually will relieve your discomfort. Talk with the pharmacist about recommended products.³⁶

“If you have frequent and/or severe outbreaks of contact dermatitis, consult a physician. A proper diagnosis along with identification of key allergens

and stronger prescription medications will help you manage your skin allergy effectively.”³⁶

Muscle-ache Creams

“Many athletes use muscle-ache creams that contain methyl salicylate. Also known as oil of wintergreen, methyl salicylate is an aspirin-type ingredient of many topical creams that relieves pain. Used correctly, creams containing methyl salicylate can provide temporary relief from minor aches and pains of muscles and joints associated with simple backache, arthritis, strains, bruises, and sprains.

As with all medications, misuse of these products can cause harm.”⁶

“...Products with methyl salicylate should not be used for more than seven days and should not be applied to wounds or damaged skin. They should not be used under a tight bandage, and contact with eyes should be avoided.

FDA requires the labeling of any drug containing more than 5 percent methyl salicylate to include warnings that cover such precautions as keeping the product out of children’s reach and using the product as directed.”⁶ Remember that salicylates are part of the aspirin family, which should not be used in young children and teens due to the risk of Reye’s Syndrome. Talk with your doctor about muscle-ache cream use for your child.

To view the references used in this document,
go to: [http://fcs.tamu.edu/health/
healthhints/2009/nov/otc-medicines-ref.php](http://fcs.tamu.edu/health/healthhints/2009/nov/otc-medicines-ref.php).

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