Healthy Families, Healthy Homes

Things you can do to create a healthy household environment

APUA
ALLIANCE FOR THE PRUDENT USE OF ANTIBIOTICS

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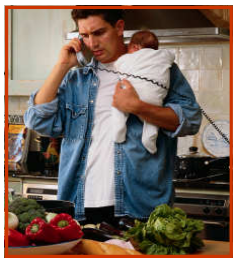

Introduction

Many people are very worried about keeping their families healthy, and want to know more about steps they can take to reduce the risk that they or their loved ones will get sick. There is a lot of information out there on the subject, and sometimes all of the different advice from so many sources can be more confusing than helpful. There's good news though. Keeping the environment of your home healthy is easier than you might expect, and it won't take as much time out of your busy schedule as you might think.

We want to help you by providing a basic guide on steps you can take to reduce the risk of infections

This is a guide for parents, couples, and everyone else who wants to learn more about the steps they can take to make sure that their homes are healthy environments for everyone who lives in or visits them.

The Alliance for the Prudent Use of Antibiotics (APUA) was founded in 1981 as a non-profit organization dedicated to strengthening society's defenses against infectious disease by promoting appropriate antimicrobial access and use and controlling antimicrobial resistance on a worldwide basis. With affiliated chapters in over 60 countries, APUA conducts applied research, education, capacity building and advocacy to contain drug resistance at the global and grassroots levels.

APUA
ALLIANCE FOR THE PRUDENT USE OF ANTIBIOTICS

Washing your hands and encouraging your family members to do the same is the single most important thing you can do to keep your family from getting sick. In the sections that follow, we'll answer several important questions that you may have about handwashing.

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Is there a "right" way to wash my hands?

Yes, there are several things you should keep in mind when washing your hands. It is not enough to just put your hands under the tap for a few seconds and then shake them dry. Here are the steps you should take and teach your family to take in order to reduce the risk of getting sick:

- Use soap and warm, running water
- Rub hands together under the water for at least 20 seconds. (You can teach children to wash their hands for as long as it takes to sing "Twinkle, Twinkle Little Star.") Make sure you rub all hand surfaces, including wrists, palms, back of hands, fingers, and under the fingernails.
- Dry your hands when you're done, using a clean or disposable towel. Drying your hands actually does remove some extra germs that you may have missed while washing.
- You may wish to use hand lotion after washing to help prevent your skin from drying and cracking.

When are the most important times to wash my hands?

Always make sure to wash your hands well in the following situations:

Before:

- Eating or serving food
- Preparing a meal
- Putting in contact lenses

After:

- Using the bathroom
- Changing a diaper, even if your hands look clean
- Taking out the trash, changing a cat litter box, or cleaning up after other pets
- Playing with animals, especially reptiles.
- Blowing your nose, coughing, or sneezing into your hand
- Touching uncooked food, especially raw meat, fish, poultry, or eggs (wash your hands after touching these and before you touch any other food or surfaces in your kitchen)
- Treating cuts, scrapes, burns, blisters, acne, or skin infections
- Taking care of someone who is sick or hurt
- Being out in a public place, especially if you were touching objects that lots of other people were touching.

A Little More about Reptiles

Sometimes people wonder why health groups always tell people to be extra careful about handling reptiles. The reason is that some reptiles, including pet snakes, turtles, iguanas, and lizards, can carry a type of *Salmonella* bacteria that can make people sick. The animals usually don't look sick when they have salmonella, so you have no way of knowing whether it is safe to touch or not. It is always best to wash your hands after touching any reptile or putting your hands inside a reptile cage. If you can't wash your hands, use alcohol based hand sanitizer. Make sure you don't touch your mouth or face before washing your hands.

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Should I use antibacterial soap, just to make extra sure I kill all of the germs?

Regular soap and water is typically all that is needed. If someone in your family is already sick or has an immune system that has been weakened by chemotherapy, HIV, or some other cause, use of antimicrobial soaps may offer additional benefit. In the United States, antibacterial soaps usually contain either Triclosan or Triclocarbon, which are both antibacterial compounds. However, there is currently scientific debate if there are benefits to the use of these products within healthy households. Studies comparing families who used antibacterial soap to families who did not, have found *no* reduced risk of colds, flus, or stomach infections for the families who used the antibacterial products. Also, many of these illnesses are actually caused by viruses, which triclosan does not kill.

While there are no demonstrated benefits to using triclosan, there *are* a few risks associated with it. When trying to decide whether to use antibacterial products, you may wish to consider the following points:

Skin Irritation and Absorption into the Body

Some people are sensitive to triclosan and find that it irritates their skin. Studies have also found that triclosan can get absorbed into the body, where it can accumulate in fatty tissues. There is no evidence that this causes harm to humans currently, but little research on the subject has been carried out.

Buildup in the Environment

When you wash your hands with antibacterial soap, the triclosan goes down the drain along with the water. Wastewater treatment plants do not usually remove triclosan from water, and triclosan can take a long time to break down into more harmless chemicals. That means that a lot of the triclosan in household soaps ends up in streams and lakes, and it stays there for a long time once it gets there. It is very toxic to some types of algae, and some recent studies show that triclosan exposure can interfere with the development of tadpoles into frogs.

Antibacterial Resistance

There is also concern that overuse of products containing triclosan may help lead to antibacterial resistance. Some bacteria are naturally resistant to triclosan, so when an antibacterial soap is used, it will not kill these resistant bacteria, which can then reproduce and become more common. This could make triclosan-containing products less effective when they are really needed— in health care facilities or for people with weak immune systems, for example. Also, since triclosan works in ways that are very similar to some antibiotics, overusing triclosan may also cause bacteria to become resistant to some of the antibiotics that doctors prescribe when you are sick. This has not been proven to take place in households, but it has been demonstrated in the lab many times.

Since triclosan use *does* carry some risks and does *not* provide additional protection against illness, in most cases, there is no reason to risk the disadvantages that its overuse may carry. However, if someone in your home is already sick, or is immunocompromised and more vulnerable to infection, in some situations, the use of antibacterial soap may be a good precaution. Talk to your doctor about whether this is the case.

Extra Tips for Pet Owners

- Remember to keep all pets up to date on their vaccinations, and take them to the vet for regular checkups. Keeping pets healthy reduces the chance of health problems for the humans in the house too.
- Try to keep cats off of food preparation surfaces (Easier said than done, we know!) If this isn't possible, make sure you always clean the countertop before preparing food there.

What about gel or spray hand sanitizers? Can I use these instead of washing my hands?

Alcohol-based hand sanitizers make a great addition to handwashing, and are especially useful when you are out in public or can't get to a sink with soap and water. Using actual soap and water is still the best way to clean your hands though, so don't use hand sanitizer instead of handwashing when you have soap and water available. You should be especially sure to use soap and water instead of gel when your hands are noticeably soiled (after handling raw meat, for example).

Also, check to see what the active ingredient is in your hand sanitizer. There are different products on the market. Some contain alcohol, and others contain triclosan or triclocarbon. These last two carry the same disadvantages as the soaps mentioned above—and they also will only kill bacteria. Alcohol based sanitizers, can kill bacteria and the viruses that cause colds, flus, and other illnesses.

If your product is alcohol based, check to make sure it contains at least 60% alcohol. Products with lower amounts than this may not work. And, just as with handwashing, there is a right and a wrong way to use alcohol based hand sanitizers; squeezing a small drop onto your hands and giving them a quick rub will not kill the germs that can make you and your family sick. To use an alcohol-based hand sanitizer properly, make sure to put enough of the product on your hands to wet them, and then rub your hands together until they feel dry.

Why do some products that kill germs cause resistance, while others don't?

In these guidelines, we discuss how some products, like antibacterial hand soaps, may lead to the development of antibiotic resistance, and how others, like alcohol based hand sanitizers and bleach, probably do not. Are you wondering why some products might cause this problem while others do not?

To get an idea of how this works, think about the type of children's game where you start off building a solid tower of wooden blocks. Then everyone takes turns removing one block at a time; the tower can stay standing for a long time, unless someone removes an important piece. Antibacterial products are a little like that; they attack a special, important piece of a germ, and destroy it that way. If a certain germ is missing that important piece, or if it is built just a little differently, so that that piece isn't quite so important to it, the antibacterial won't work on it anymore. In a group of bacteria, a few of them may be built just a little differently, and when that happens, an antibacterial product like triclosan will kill everything but those few—which can then go on to reproduce new bacteria that are also resistant to the antibacterial being used.

Alcohol, bleach, and most general disinfectants are different. Think about the tower of blocks again, but this time, imagine someone coming along and just kicking the whole thing down. These products work more like that; they destroy the germ by drying it up or by doing something else that works on all of the germs, even the ones that have differences that might make them resistant to some antibacterials. Only small changes are needed for bacteria to become immune to antibacterials, but BIG changes would be needed for them to become resistant to most disinfectants and sanitizers—and changes that big are less likely to happen.

Are there any dangers or risks I should be aware of when using alcohol hand sanitizers?

There are two main things you should keep in mind to make sure you are using these products safely. First, remember that alcohol is flammable. Don't store alcohol sanitizers near open flames or heat sources. Be especially careful in the kitchen; this may be a great place to have the sanitizer on hand, but be sure you don't keep it too close to the burners on your stove.

Second, hand sanitizers are not meant to be swallowed, and when they *are* swallowed in large amounts, they can cause alcohol poisoning. Make sure you keep these products out of reach of small children, and don't let young children use them unless you are watching.

What about the rest of my body? I shower and bathe regularly, but are there any times it is especially important to shower?

It is a good idea to shower after working out, especially if you've used shared equipment or if you play a sport where you come into a lot of physical contact with other players. Just like with washing your hands, you need to make sure you use warm water and soap and rub your skin vigorously; just standing under the water for awhile isn't enough. As with hand soaps, there are many antibacterial shower washes on the market. And again, these products may carry some risks and do not carry any benefits of use for healthy people.

What about skin infections like MRSA? Do I need to take extra steps to keep my family protected from problems like these?

Following the handwashing guidelines listed here is the single most important step you can take to protect yourself and your family from most types of infectious diseases, including MRSA and other skin infections. However, we have included a separate section on MRSA, which may answer some of the other questions you have on that subject.

Important Things to Remember about Handwashing

- Make sure you wash your hands in these situations:

  BEFORE: Eating or serving food, preparing a meal, putting in contact lenses, or treating any break in the skin.

  AFTER: Using the bathroom, changing a baby, taking out trash, cleaning up after pets, touching uncooked food (especially raw meat or eggs), cleaning up after a pet, taking care of someone who is sick or hurt, and blowing your nose or coughing or sneezing into your hand.

- Make sure you wash your hands for long enough; you should rub them together with soap under running water for around 20 seconds.

- Remember that most of the time, antibacterial soap does not give you any extra protection against getting sick. If everyone in your home is healthy, regular soap and water is the better choice.

- Alcohol based hand sanitizers are good to use when you can't get to soap and water—but don't be tempted to use them instead of soap and water.

Making sure you and your family wash their hands often enough is one of the most important things you can do to reduce the risk of infections. However, there are a few more steps you should take to make sure your home is a healthy environment for everyone who lives there. In this section, we'll try to answer some of the questions you may have here about cleaning surfaces in your home and also help you figure out what all of the small print on the labels means.

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When I see the commercials for disinfectants on TV, I end up feeling like I need to be cleaning everything in my house all of the time! Do I?

Cleaning everything all of the time would definitely be going too far! You'll want to do routine cleaning, of course, to prevent accumulation of obviously unhealthy messes and to keep your house looking the way you want it to look. But as far as cleaning to reduce the risk of you and your family getting sick, there are a few simple rules. APUA recommends that you pay the most attention to the following 5 types of places when cleaning:

1) **Cutting Boards.** Make sure that any surface you use to prepare food is clean before you start. It is best to have two cutting boards, one that you never use for anything but meat, and another that you only use for vegetables, fruits, and other types of food that you don't have to cook to eat safely. Always wash both cutting boards very well after you use them. If you do only have one cutting board, and you are using it to cut several things up during a meal, make sure you wash it very well after putting any meat on it. Partnership for Food Safety Education is a great additional source for additional food preparation and handling tips (www.fightbac.org).

2) **Kitchen Counters.** Just like your cutting board, when you use your kitchen counter as a food preparation surface, it needs some special attention. Make sure it is clean before you put any food you are preparing on it. Most of the time, it is ok to just wash it with soap and water using a clean sponge (see Item 5 for more about the sponge). If you feel that you need to disinfect the counter though, make sure you use a product that says it is safe to use on food surfaces. When you're concerned about keeping your family healthy, it's easy to get focused on germs—but remember there are other things that can cause health problems too, and one of them is accidentally eating cleaning products! Always wash your counter *after* preparing food too. If you have been preparing raw meat, poultry, fish, or eggs on the counter, you will want to clean it extra carefully after you are done and before you put any other food on the counter. If you use a disinfectant, make sure to follow the instructions carefully. Usually, you will need to wipe up any obvious mess with a paper towel first, and then spray the disinfectant on. Make sure you leave it on for as long as the directions say, and then wipe it off—and again, use a product that says it is safe for food surfaces.

3) **Bathroom counters**. Think of bathroom counters in the same way you might think of kitchen counters. For routine cleaning, simple cleaners, or soap and water are often enough. But, you should pay attention to what gets laid down on the counter. If you're cleaning up a cut, and lay an old bandage down there, for example, you'll want to do some targeted disinfection there. Follow the same rules as you would for a kitchen counter—except, of course, since you don't eat off of your bathroom counter, food safety concerns aren't as important.

4) **Dishes and the Kitchen Sponge**. Use a sponge or dish rag to wash your dishes with hot water and dish soap (no need to get the antibacterial kind). Make sure you get all particles of food off, and then rinse dishes well before putting them in the dish drainer or drying them.

   There's one other step in dishwashing that people often aren't aware of though. That wet kitchen sponge or dish rag that you used to clean the dishes is a perfect environment for germs to grow. You don't want to be spreading germs around your kitchen with the sponge. Luckily, there's an easy way to take care of this problem. Just wet the sponge, ring it out, and put it in the microwave for 2 minutes. Make sure you wet the sponge though; otherwise, it can catch on fire!

5) **Places that people touch often**. When scientists go around testing different areas of the house for bacteria, where do you think they find the most things growing? You might be surprised to learn that it isn't the toilet or the bathtub (though of course, you will still want to keep those clean). Germs are much more likely to be found on the handle you use to flush the toilet, and on the faucets at the sink. Remember how important we said it is to wash your hands? That's because one know way that people get sick is when they get germs on their hands and then touch their nose, mouth, or eyes. So the places in your house that have the most germs on them are usually the ones that people touch with their hands the most—like doorknobs, refrigerator handles, light switches, telephones, and computer keyboards—all things that people usually forget about when they clean their houses. You shouldn't feel that you need to constantly disinfect these items, but you can include them in your routine cleaning, and if someone in your house is already sick, it makes sense to take some extra time to use a disinfectant on these items. As always, make sure you read the label of the product you're using. You want to make sure you use it in a way that allows it to work—and you don't want to ruin anything in your house by damaging it with the wrong cleaning product.

What about laundry? Is there anything special I should do when cleaning clothes?

Most of the time, just following the washing instructions that are on your clothing is fine. However, if someone in your home has been sick, there are extra steps you can take to disinfect sheets or other fabrics—especially if they have been contaminated by vomit or diarrhea.

- First of all, make sure you wash these items separately from your other laundry.
- Using the hottest cycle on your washing machine along with laundry detergent will help disinfect fabrics in these cases.
- If you can't use a hot wash cycle, you can add bleach to the laundry load instead.
- Also, always remember to wash your hands after touching the laundry of someone who is sick.

What should I know about routine cleaning, apart from the need to pay special attention to the surfaces that were already mentioned?

Remember that bacteria and viruses aren't the only things that can cause health problems. Dust and mold are also concerns, especially for people who have allergies. Simple routine cleaning goes a long way to keeping these under control:

- Vacuuming carpets every week will help keep dust under control.
- Routine use of disinfectants for bathtubs, shower curtains, sinks, and other areas that are often wet will help keep mold or bacteria from growing in those places.
- If you have a ventilation fan in your bathroom, make sure to turn it on whenever you use the shower; it will help keep mold from growing.

Is it possible to be too clean? I've heard that cleaning your house too much can make kids more likely to get allergies or asthma. Is that really true?

That's a good question, and it isn't one that anyone has a definite answer to yet. There are some scientific studies that show that children who grow up with more exposure to soil and bacteria in the environment are less likely to get asthma or allergies. The idea that these early exposures have this effect is sometimes called the "hygiene hypothesis." However, there are other scientific studies that don't show a very strong relationship between allergies and being "too clean." We really don't know the answer to this question yet, but APUA recommends that you keep the following things in mind:

"Good Bacteria": What does that term mean?

Did you know that there are more bacterial cells in your body than human ones? Most of these bacteria do no harm, and many of them are actually good for you. In fact, you need them to stay alive! These bacteria live in your intestines, your mouth, and on your skin, and they help you in many different ways. For one thing, if you have a lot of "good" bacteria living in your intestines, it is harder for "bad" bacteria to set up and make you sick. The bacteria also make some nutrients that your body needs, like Vitamin K. Some good bacteria on the skin may help stop fungi and yeast from growing there.

- If you're worried about exposing your family to too many cleaners and disinfectants, antibacterial soap is a good thing to cut out. Using it won't help keep your family from getting sick, and since it stays on your hands for awhile after you are done washing them, it may kill some of the "good" bacteria that are good for you. The same goes for dish soap, toothpaste, and other products that sometimes have ingredients like triclosan added to them.

- Not even the strongest believers in the "hygiene hypothesis" think that you should stop cleaning your house or washing your hands. If you follow the advice in this guide, you'll reduce the risk of your family getting sick, but you won't be going overboard.

- It's ok for kids to play outside and get dirty. Maybe one day scientists will know for sure whether or not doing that helps prevent allergies and asthma—but for now, remember all of the other great benefits of those activities. Kids have fun and learn a lot that way, and they get exercise too. Remember, there's more to keeping kids healthy than just killing germs!

- Even if these products don't cause asthma, they can sometimes cause asthma attacks in people who already have it. You can reduce that risk by not using products with strong odors in closed spaces. Don't shut the door to the room you are cleaning, and open a window if you can. If you have asthma, and a cleaning product makes you have symptoms, stop using it, check the ingredient list, and try something else next time. If your child has asthma, take the same steps, and try to avoid doing extensive cleaning or disinfection when the child is in the same room.

Important Things to Remember about Surface Disinfection

- Pay special attention to any surface that touches food and to surfaces that people touch often.
- If someone in the house is sick, make sure you wash their sheets and other contaminated laundry separately, in hot water if possible.
- Routine vacuuming and cleaning of bathroom surfaces helps keep dust and mold from building up—another important part of making sure your home is a healthy environment.

There are so many products out there that are designed to help you clean your home that it can be hard to know what the differences between all of them are, and how much you really have to clean to keep your home a healthy environment. If you've ever picked up a cleaning product and really looked at the details on the label, there's a good chance that you ended up more confused than you were when you started. Just seeing all of that small print is enough to make you want to skip the reading and start using the product! There's a lot of important information on that label, though, and a lot you should know about using cleaners and disinfectants. In this section, we'll try to answer some of the questions you may have here about cleaning surfaces in your home and also help you figure out what all of the small print on the labels means.

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We'd like to be able to give you a simple set of rules about how to use cleaners and disinfectants, but since different products use different ingredients, there is really only one important guideline we can provide: Remember to read the label of any product you use, and follow the directions on it!

It's important to read the label, but we admit, it can be a little overwhelming. In this section, we'll try to answer some of the questions you may have about all of the information you'll see there, and tell you what some of the words on the label mean. A lot of those words have legal, official definitions that are different from what you might expect. There are government departments that decide what products are safe to use. These departments also make rules about what has to be on a label and what the words on a label mean.

In the United States, soaps and surface cleaners are regulated by different groups. The Food and Drug Administration (FDA) regulates soaps, body washes, shampoos, hand sanitizers, toothpastes, and other products that are designed to clean any part of human bodies. The Environmental Protection Agency (EPA) regulates all products that are used to disinfect surfaces like countertops, floors, dishes, carpets, and clothing.

The FDA and EPA have several roles in regulating products. One concerns safety; they decide what products can be considered safe enough for use in homes before they are approved for sale and also decide how those products must be used in order for them to be safe. The FDA and EPA also regulate the use of many words used on product labels. Words like "disinfectant", "sanitizer", "kills", etc. have specific meanings, and products that use these words must meet specific performance criteria. Labels are also required to have safety information and instructions on what to do if the safety information is not followed. In the next few sections, we'll list some of the terms that you may see on the labels of cleaning products, and tell you what they mean.

The next couple of pages include diagrams of the sections of a typical disinfectant product label, so that you can see all of the types of information that are usually on there. All surface disinfectants will have all of these sections—but not always in the same place. Our label diagram will give you an idea of what headings to look for, and tell you what you can find out by reading each part of the label.

PRODUCT NAME
BRIEF INFORMATION ON WHAT THE PRODUCT CAN DO

This section may say something like "Disinfectant" or "Cleans and Disinfects." Words like this actually have legal definitions, so knowing what they mean will help you choose the right product. Later on, we'll tell you more about what the words you see on this part of the label really mean. For now, the main thing to know is that if the word "disinfectant" or "sanitizer" appears on the label, that means that the product has met certain standards for killing various types of germs. Often, the label will give you examples of the types of germs it can kill. If it says "kills germs" on the front, there will probably be an asterisk or other symbol with the phrase; if you look for the same symbol on the back, you'll usually find more specific information. Not all disinfectants work against the same germs though, so keep reading to find out what the phrases on the label really mean.

If the word "disinfectant" is not on the front, and only the word "cleaner" is, your product does not kill germs; it just removes dirt or grime from surfaces, like soap.

If the front label says "limited disinfectant," that means it only kills bacteria of certain types. (More about that later).

INGREDIENTS

This section tells you what's in the product, and how much of the active ingredients are in it. It usually looks like this on the label:

Active Ingredients ……..X%
Inert, Inactive, or Other Ingredients……X%
Total……100.0%

Wondering what the difference between active and inert ingredients is? Ingredients listed as **active ingredients** on the label of cleaning products are the ones that kill, inactivate, or prevent germs from reproducing. Some products have more than one active ingredient.

Inactive ingredient and **inert ingredient** mean the same thing. They are ingredients that do not kill or hurt germs. These may include fragrances, dyes, water, preservatives, and detergents or other compounds that help remove grease and dirt.

If no active ingredients are listed, your product does not kill germs or stop them from growing. It may be an excellent cleaner for dirt or grease, but it is not a disinfectant.

EPA REG. NO.

This is the EPA registration number. All products sold as disinfectants in the United States MUST be approved by the EPA and MUST include the EPA registration number on the label. Being EPA registered means that a product has been determined to work effectively and to be safe to use as long as directions are followed. If you want to know more about a product, you can look up a product's registration number on the EPA's website.

Nearby, you will probably also see the EPA EST. NO. This just tells you where the last stages of making the product happened. Make sure you don't accidentally type this number if you are trying to research a product.

KEEP OUT OF THE REACH OF CHILDREN

This will usually be on the front of a label, along with a "signal word": Either Caution, Warning, Danger, or Danger-Poison, with "caution" having the lowest risks, and "Danger-Poison" the highest.

The front label usually tells you to read the back label for more information about using the product safely and first aid.

DIRECTIONS FOR USE

This part of the label tells you how to use the product safely and so that it works. Read this carefully, and be on the lookout for instructions about these two things:

Cleaning before Disinfecting—Check to see whether you have to clean the surface with another product before disinfecting. Many disinfectants don't work if there is liquid or dirt on the surface you're using them on, and almost all products will at least require you to wipe up surfaces that are very dirty before using.

Contact Time—Check to see how long you need to leave the product on a surface before you wipe it up. Many products won't work unless you use enough to make the surface completely wet, and then

STORAGE AND DISPOSAL

This section tells you how to safely store your product, and how to dispose of empty containers in the way that is safest for people and the environment.

PRECAUTIONARY STATEMENTS

This section includes information on dangers related to using this product. It may include information in three different sections:

Hazards to Humans and Domestic Animals—This section tells you about dangers to people and pets if the product is used the wrong way. It will usually contain a "signal word" again, with more detailed information. Remember chemicals can get into your body in ways other than eating or drinking. Check to see if the product is dangerous to breath or to get on your skin or in your eyes.

Environmental Hazards—If this chemical or product can cause problems in the environment, this section will tell you how to use and dispose of it so that there is the least effect on the environment.

Physical or Chemical Hazards—These are often problems that have to do with the container. For example, it may be dangerous to put a hole in a spray can, or to store it in hot places. This section may also warn you about other chemicals it is dangerous to mix the one you're using with.

FIRST AID

This information is usually included along with or near the precautionary statements. It tells you of steps you should take if a product accidentally:

Is swallowed
Is inhaled
Gets in the eyes
Gets on the skin (or clothes)

Questions about Common Label Words and Phrases:

We covered the most important information about how to read product labels in the diagrams on the last couple of pages. You may have noticed some other words and phrases on product labels though, and be curious about what these mean. In this section, we will try to answer some of the questions you still may have. You'll see some words, like "disinfectant," in more than one question. Disinfectant always has the same basic definition—the one we mentioned up in the label section—but there are some extra details that we'll include in different questions below.

*Is there a difference between a **cleaner**, a **disinfectant**,, and a **disinfectant cleaner**?*

Yes, there is. A **cleaner** is something that removes dirt or grime from a surface. A **disinfectant** is something that kills germs. For example, most window cleaners are good for removing dirt, but they don't kill germs. Meanwhile, bleach is great at killing germs, but by itself, it is not very good at removing dirt. **Disinfectant cleaners** usually contain both an ingredient to remove dirt from surfaces, and one or more disinfectant ingredients, which kills germs. The label on these products will often say "cleans and disinfects." Keep in mind, though, that if a surface has gotten very dirty, you should still wipe it off before using any product; even disinfectant cleaners can't always get through a large puddle of liquid or layer of dirt to disinfect the surface underneath.

*Some surface cleaner labels say **limited disinfectant** or **antibacterial.** What do those words mean?*

Limited disinfectants don't kill as many types of germs as products that say **general disinfectant**, **broad spectrum disinfectant**, or just **disinfectant** on the label. There are two main types of bacteria and two main types of viruses [See Box]. **Limited disinfectants** just kill bacteria of one type; they don't have a strong effect on other bacteria or on viruses. A limited disinfectant only kills one type of bacteria or the other and may not kill viruses or fungi. If a product is a limited disinfectant, it *must* say so on the front label. If it does not use this phrase, the product does kill more types of germs, but you'll still want to read the label to find out exactly what it can kill.

If the label says **antibacterial**, the product probably does not kill viruses or fungi.

*What about products that say **sanitizer** or **food surface sanitizer** instead of "disinfectant" on the label? Does this mean the same as "disinfectant?"*

Not exactly. In order to be labeled a **disinfectant**, a product must kill 100% of bacteria on hard surfaces *when used according to the instructions provided on the label.* A **sanitizer** reduces bacteria on hard surfaces to levels that are considered safe by experts. You will often see the word "sanitizer" on products that are used to clean carpets or floors, or to spray in the air (more about air sanitizers later).

*The label on my product says it is **bacteriostatic** and that it* "**controls bacteria that cause bad odors**." *Does that mean it is killing bacteria?*

No. Products that are **bacteriostatic** simply stop bacteria from multiplying. They don't kill the bacteria that are already there. These products are used to control germs that cause economic or aesthetic inconvenience, but that do NOT generally cause health problems. Bacteriostatic products are often used to control odor-causing bacteria, or bacteria that form slimy layers on sufaces. If a product label says something like "**controls bacteria that cause bad odors**," but does not say it is a disinfectant that kills germs that cause diseases, it is probably a bacteriostat and not a disinfectant or sanitizer.

When a product is labeled as a **food surface sanitizer**, it is not allowed to contain dyes or fragrances, and using it according to directions is safe even for surfaces that will touch food that people eat. If you want to kill germs on surfaces that touch food, make sure you use a food surface sanitizer and not another type of product.

*I have a product that says it **sanitizes the air**, or **kills germs that are in the air**. Will using those products help keep me and my family from getting sick?*
These products do kill germs in the air, but no studies have shown that using these spray products keeps people from getting sick from breathing viruses or bacteria. These products may help control odor-causing bacteria, however.

*What's the difference between a **disinfectant**, an **antibiotic**, an **antiseptic**, an **antibacterial**, and an **antimicrobial**? Do these words all mean the same thing?*
No. Sometimes people use these words interchangeably, and they do have similar meanings, but they all actually have different definitions. A **disinfectant** is a product that is put on non-living surfaces to kill germs. Bleach is one common disinfectant. An **antibiotic** is a product that kill germs inside a living body, like penicillin. An **antiseptic** is a product that kills germs on living tissue, usually on wounds; rubbing alcohol is often used as an antiseptic. (But sometimes it is used to make a product that cleans non-living surfaces—and then it is classified as a disinfectant!) An antibacterial is an antiseptic that only kills bacteria; antibacterials do not kill viruses like the ones that cause colds and the flu very well. Triclosan and Triclocarbon are the two most common antibacterials in the United States. **Antimicrobial** is a general word that just means a product can kill some types of germs; you'll have to read more on the product label to find out what it can really kill.

Chapter 4: Special Concerns about MRSA and Skin Infections

Many people have called or written to APUA asking how they can protect themselves and their families from MRSA. Everyone has a lot of questions about this topic, so we've decided to include a special chapter about it here. Even though we have focused on MRSA, the guidelines we provide will protect you and your family from other types of skin infection as well.

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How can I avoid getting an MRSA infection?

- The most important thing you can do to protect yourself from MRSA and other infectious diseases is to wash your hands often. When soap and water are not available, alcohol based hand sanitizer is a good substitute. (Look at the chapter on handwashing to find out more).
- MRSA can enter the body through small cuts and cracks in the skin's surface, so take steps to keep your hands from getting dry and cracked.
- Keep cuts and scrapes clean and covered until they are healed.
- Do not share personal items like towels and washcloths and razors.

If someone in my family has MRSA, does that mean that I need to disinfect everything in my house every day? What areas in the home should I clean more carefully?

You do not need to disinfect every area in your home every day, but you should continue following the cleaning guidelines from the surface disinfection chapter. You will also want to take the additional steps of carrying out targeted disinfection of surfaces that have come in contact with MRSA infections and surfaces that people frequently touch. Here are some things to keep in mind:

- Choose a cleaning product with a label that says it is also a disinfectant, and make sure to read the label carefully before using any product. Many disinfectants need to stay in contact with the surface you are cleaning for several minutes; if you just spray the cleaner and then wipe it off with a paper towel right away, it may not work.
- Cleaning can be hard on your hands, causing your skin to become dry or cracked. Wear gloves while doing extensive cleaning, in order to protect your skin. Remember, MRSA usually enters the body through a break in the skin, so extensive cleaning could do more harm than good if you don't take steps to protect your hands.
- Special attention should be paid to areas that have come into direct or indirect contact with an MRSA infection. For example, if you set a bandage that had been covering an infection on the bathroom counter before throwing it away, you should clean and disinfect that surface. You may also want to clean areas that people touch often, such as faucet handles and doorknobs.
- Do not share personal items like towels, washcloths and razors.
- Launder towels and linens in hot water.

I am concerned about getting MRSA at my gym or during sports practice. What can I do to prevent this?

- If you are worried about MRSA at your gym, you can use paper towels and alcohol based sanitizer to wipe down the surfaces of workout equipment before and after using it. Many gyms already provide these materials in workout areas. If yours does not, you can ask gym management staff to start supplying them.
- You may also place a towel between yourself and exercise equipment seats.
- Make sure cuts and scrapes are covered before working out or practicing a sport.
- If you get a cut or scrape while practicing, take a break to clean it and cover it up.
- Avoid sharing towels and other personal care items with other people.
- Take a shower after working out, especially if you are participating in a sport that involves physical contact with other people.

Can my pet get MRSA? Can I get MRSA from my pet? Should I have my dog or cat tested for MRSA?

It is possible for dogs, cats, and other animals to carry MRSA or suffer from MRSA infections. If your pet has open sores or other skin lesions, you should speak with your veterinarian. Most of the time, it is not necessary to have animals tested for MRSA if they have no symptoms. However, if MRSA keeps returning in a family after multiple rounds of treatment, it may make sense to have pets tested to see if they are carriers. Animals can be treated for MRSA just as humans can; if your cat or dog has MRSA or is carrying it, it does not mean you will have to give up your pet.

My doctor says I have a staph infection. Does that actually mean that I have MRSA?

No, not necessarily. "Staph" is short for *Staphylococcus aureus*, which is a type of bacteria that lives on the skin of 25-30% of the population at any given time. Most of the time, it doesn't cause problems, but if it enters through a break in the skin, it can cause a "staph infection." MRSA stands for Methicillin resistant *Staphylococcus aureus*. It is simply one type of staph infection, and the symptoms it causes are the the same as the symptoms seen in other staph infections of the skin. The difference between MRSA and other forms of staph is that MRSA has become resistant to some types of antibiotics. This can make it more difficult to treat; however there *are* antibiotics available that can treat most MRSA infections. To find out more about antibiotic resistance in general, click here. [http://www.tufts.edu/med/apua/Q&A/Q&A_AR.html]

I keep reading that MRSA is associated with poor hygiene. I wash my hands all the time, and keep my house clean, but I have MRSA. What am I doing wrong?

You are not doing anything wrong. Washing your hands is the best thing you can do to protect yourself from many infectious diseases, including MRSA. However, even people who clean their hands and homes often and well sometimes still get MRSA infections. Having MRSA does NOT mean you have poor hygiene or are "dirty."

If I have had an MRSA infection, does that mean I will always be a carrier even though the active infection is gone?

Not necessarily. Some people who have had an active infection do become carriers, but not everyone does. Also, the carrier state can be temporary, especially in people who are otherwise healthy. Many people who are found to be carriers during an initial test are no longer carrying MRSA after a few months have passed.

I will be going into the hospital for surgery soon. Is there anything I can do to reduce the risk of getting MRSA while I am there?

The best step you can take is to politely ask people who come into your room to wash their hands or clean them with an alcohol-based hand sanitizer. Don't be shy about asking doctors and nurses to do this. You can also ask your doctor what steps will be taken to reduce the risk of infection, and ask if there are other things you can do yourself to reduce the risk.

Since surface disinfectants kill MRSA effectively, can I help keep myself and my family healthy by using those disinfectants on my own skin? Can I spray family members or pets with these disinfectants?

No. This may seem like a logical step to try, but it will actually do much more harm than good. These products are not made to be used on humans or animals and may cause health problems if used the wrong way. They may also damage your skin, which can actually make it easier for MRSA to enter your body.

Important Things to Remember about MRSA

1) Washing your hands often and well is the best way to prevent it.
2) Keep cuts and scrapes covered until they heal, especially during sports practice or when working out.
3) Don't share items like washcloths or towels.
4) If you have a cut or pimple that doesn't seem to be healing the right way, or that gets red or feels hot to touch, call your doctor or health care provider.
5) Remember MRSA is treatable. If the treatment your doctor prescribed doesn't seem to be working, call back and ask for advice. You can also ask your doctor if he or she has tested to see what antibiotics your MRSA will respond to.

Chapter 5: Precautions for Babies and People with Lowered Immunity

Extra Information for When there is a Baby in the Home

When you have a new baby in the home, it's easy to feel confused and overwhelmed, and afraid of making mistakes. Don't worry though; making your home a healthy place for a baby is less complicated than you might think. First, just be extra careful about following the advice already mentioned in this guide. For the most part, an environment that is healthy for the rest of your family is healthy for your baby too. However, there are a few extra things you'll need to keep in mind:

- Follow the handwashing guidelines, and teach older children to make sure their hands are clean before they touch their new brother or sister too.
- Once your baby learns to crawl, he or she will be spending a lot of time on the floor. Keep up with routine vacuuming and mopping. Pay attention to what falls on your floor, too. If some liquid from a raw chicken splatters onto the floor while you are cooking, make extra sure you wipe it up and then disinfect the area. Make sure the disinfected area is completely dry before you let your child play there again, and put the disinfectant away somewhere out of reach as soon as you are done using it.
- Babies often put toys and other objects in their mouths. You can wash plastic toys with soap and water if they look dirty, or if they've spent a lot of time on the floor or have been shared by another child. Use warm water, and make sure to rub all surfaces of the toy with the soap. If you feel that a toy needs disinfected (maybe it's been dropped in the toilet by an adventurous toddler), remember to treat the toy the same way you would treat a surface you would eat off of. Use a sanitizer that is designed to disinfect eating or food preparation surfaces if you can. If you can't, let the disinfectant dry completely, and then rinse it off very well under running water and dry it before giving it back to your child.
- Stay up to date on well child doctor visits, and on vaccinations. Vaccinations greatly reduce the risk that your child will suffer from several dangerous infections.

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Additional Information for People with Lowered Immunity

For the most part, the guidelines we're giving you here are for homes in which everyone is basically healthy. That is, no one living in the home has a problem with his or her immune system caused by chemotherapy, HIV, or some other condition.

When someone in a home does have a weakened immune system, you will still want to follow the steps provided in this guide. **Be extra careful about following the handwashing guidelines, because keeping hands clean is the most important way to reduce the risk of getting sick for *everyone*.** However, in these special circumstances, there may be some other steps you should take too. We cannot give specific instructions on this topic, because different situations will require different measures. However, we want to remind you to ask your health care provider whether there are any extra steps you should take to stay healthy. Below are some topics you may wish to discuss with your doctor:

- **Antibacterial Soap and Other Antibacterial Products**. For healthy households, APUA does not recommend the use of antibacterial soap, dish soap, or toothpaste. However, for some people with weak immune systems, this may be a good precaution to take. Ask your doctor whether he or she thinks you should be using these products.
- **Pet Care**. Ask if it is ok to change cat litter boxes or do other animal care activities.
- **Food Choice and Food Preparation**. Some foods are usually fine for healthy people to eat, but may cause problems for some people with weakened immune systems. Ask your doctor whether there is anything you should avoid, or whether you need to cook your food longer than you might have done in the past.

Acknowledgements and Other Informational Sources

APUA works closely with experts in the fields of medicine, microbiology, public health, behavioral sciences, and communications. We gratefully acknowledge the time and expertise provided by our Home Hygiene Advisory Panel; rich discussions among this group helped to clarify the issues that families face in maintaining healthy households, and their expertise is much appreciated. Home Hygiene advisory panel members are listed below:

Allison E. Aiello, Ph.D.
Dr Aiello is Assistant Professor of Epidemiology at the University of Michigan's Center for Social Epidemiology and Population Health. Her research interests include examinations of possible links between antibacterial soap use and antimicrobial resistance; estimating the benefit of hand hygiene in the community setting; the effects of socioeconomic, environmental, and cultural factors on access to and use of antibiotics; and the connections between social factors and infectious disease.

Philip Carling, MD
Dr. Carling is the Director of Infectious Diseases and Hospital Epidemiology at Carney Hospital in the Dorchester area of Boston and is on the faculty of Boston University School of Medicine. Currently his research activities relate to developing methodologies to evaluate and enhance cleaning and disinfection activities in hospitals and other settings.

Donald A. Goldmann, M.D.
Dr. Goldmann is Professor of Pediatrics at Harvard Medical School and Professor of Immunology and Infectious Diseases at the Harvard School of Public Health. He has been widely published on subjects including the epidemiology of health risk and pediatric patient safety and has developed award-winning training programs in health services research.

John A. Jernigan, M.D., M.S.
Dr. Jernigan is currently Chief of the Intervention and Evaluation Section, Division of Healthcare Quality Promotion (formerly Hospital Infections Program), Centers for Disease Control and Prevention (CDC), and Assistant Professor of Medicine at the Emory University School of Medicine, Division of Infectious Diseases.

Stuart B. Levy, M.D.
Dr. Levy is President and founder of the Alliance for the Prudent Use of Antibiotics (APUA), and a past president of the American Society for Microbiology. A microbiologist and physician, Dr. Levy discovered the mechanism for tetracycline resistance (efflux) and was among the first to document the transfer of drug resistance among animals and humans. He is currently Professor of Medicine and of Molecular Biology/Microbiology, the Director of the Center for Adaptation Genetics and Drug Resistance at Tufts University School of Medicine, President of Paratek Pharm., and a Staff Physician at the New England Medical Center.

Andrew H. Liu, M.D.
Dr. Liu is an Associate Professor in Pediatric Allergy and Immunology at the National Jewish Medical and Research Center and the University of Colorado School of Medicine. He has conducted extensive research on childhood asthma, including work on the possible applicability of the "hygiene hypothesis" to rising allergy and asthma prevalence.

Bela Matyas, M.D., M.P.H.
Dr. Matyas is currently the Medical Director of the Epidemiology Program in the Massachusetts Department of Public Health (MDPH).

Joan B. Rose, Ph.D.
Dr. Rose holds the Homer Nowlin Chair in Water Research at Michigan State University and is also the Co-Director of the Center for Advancing Microbial Risk Assessment (CAMRA) and the Director of the Center for Water Sciences. She is an international expert in water microbiology and a leader in the field of quantitative microbial risk assessment.

Syed A. Sattar, Ph.D.
Dr. Sattar is the founding director of the Centre for Research on Environmental Microbiology, Faculty of Medicine, University of Ottawa, Canada. He investigates the potential of chemical disinfectants and hand antiseptics in interrupting the spread of infections. He is an adviser to Canadian and U.S. governments as well as the World Health Organization on various aspects of biosafety and infection control.

Elizabeth Scott, Ph.D.
Dr. Scott is a Consultant in Food and Environmental Hygiene in Newton, Massachusetts, and Co-Director of the Simmons College Center for Hygiene and Health in Home and Community She is an authority on consumer food hygiene and general hygiene issues, and her current interests include developing a common approach to hygiene concerns in community settings based on an understanding of the risk of infection acquisition and transmission in home and related community settings.

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Further Information and References

You may wish to look for additional information on keeping your family healthy at some of the websites below:

Alliance for the Prudent Use of Antibiotics—www.apua.org
Partnership for Food Safety Education—www.fightbac.org
International Scientific Forum on Home Hygiene—http://www.ifh-homehygiene.org/
Centers for Disease Control and Prevention (CDC)—http://www.cdc.gov/Family/

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The references listed below include some of the important peer-reviewed articles that have appeared in peer reviewed academic journals over the last few years:

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