

# Healthy Swimming:

## Prevention of Recreational Water Illnesses (RWIs)

### Information for Swimmers

*Recreational water is defined as swimming pools, waterparks, spas, decorative or interactive fountains, rivers, lakes, and the ocean.*

This summer, swimming pools will be filled with millions of people having fun and staying cool. But did you know that germs can contaminate swimming water? In the past we weren't as concerned but today there are new germs that can contaminate water and cause illness. This summer, learning new information about recreational water illnesses (RWIs), which are spread by swimming in contaminated recreational waters such as swimming pools, water parks, lakes, and the ocean, can protect you from getting sick.



RWIs are caused by germs like "Crypto" (KRIP-toe), short for *Cryptosporidium*, *Giardia* (gee-ARE-dee-uh), *E. coli* 0157:H7, and *Shigella* (Shi-GE-luh) and are spread by accidentally swallowing water that has been contaminated with fecal matter. How does a pool get contaminated? You share the water with everyone in the pool. If someone with diarrhea contaminates the water, swallowing the water can make you sick.

The great news is that germs causing RWIs are killed by chlorine. However, chlorine doesn't work right away. It takes time to kill germs and some germs like Crypto are chlorine resistant and can live in pools for days. This is why even the best-maintained pools can spread illness. Therefore, healthy swimming behaviors are needed to protect you and your kids from RWIs and will help stop germs from getting in the pool in the first place.

# Healthy Swimming

## Table of Contents

How can swimming make you sick? How does water get contaminated?	1
What kinds of illnesses can people get from swimming? Can swimming pools spread head lice?	2
Can people get a recreational water illness (RWI) from swimming in the ocean? Can people get a recreational water illness (RWI) from using hot tubs and spas?	3
Can people get a recreational water illness (RWI) from swimming in fresh water lakes and rivers? Can people get a recreational water illness (RWI) from playing and wading in decorative water fountains?	4
Doesn't chlorine kill all germs found in swimming pools, hot tubs, and spas? What is a person's chance of getting diarrhea when swimming? Why do many recreational water illnesses (RWIs) go undetected?	5
Is it a good idea to swim when you have diarrhea?	6
Should some people be more concerned than others about the spread of Crypto (short for <i>Cryptosporidium</i> )? So people with compromised immune systems are at greater risk for developing severe or life-threatening illness?	7
What should someone do if he or she has diarrhea?	8
My child has diarrhea and wants to go swimming. What should I do?	9
Do swim diapers or swim pants prevent fecal matter from entering the water? What should I do if I see fecal matter in the pool? Should I think the water is safe if I don't see fecal matter in the pool?	10
How can I protect myself, my family, and others from getting sick? <ul style="list-style-type: none"> <li>• Three "P-L-E-As" for Everyone</li> <li>• Three "P-L-E-As" for Parents with Young Kids</li> </ul>	11

## How can swimming make you sick?

Most recreational water illness (RWI) reported is diarrheal illness, which is spread by swallowing contaminated water.

In addition, swimming in water contaminated with germs can also cause infections in your eyes, nose, ears, and in cuts and scrapes.

People in the pool share the water with everyone else in the pool. If someone with diarrhea contaminates the water,

swallowing the water can make people sick. Recreational water can also be contaminated by fecal matter rinsed off of the bodies of swimmers. When people are ill with diarrhea their stool can contain millions of germs.

Therefore, swimming when ill with diarrhea can easily contaminate the water and, if the pool water is swallowed, can make you sick.

## How does water get contaminated?

Pools can be contaminated by persons who swim while experiencing diarrhea and have a fecal accident.

Swimming pools, waterparks, hot tubs, and spas can also be

contaminated by germs that are rinsed off swimmer's bodies including their rear ends. In addition, lakes, rivers, and the ocean can be contaminated by sewage spills, animal waste, and water runoff.



Diarrheal accidents are not easily noticed and as a result could contaminate even the best-maintained pool. Plus, some germs like Crypto (short for *Cryptosporidium*) are resistant to chlorine and can live in even the best-maintained pools for several days.

“Even the best maintained pools can spread illness.”

## What kinds of illnesses can people get from swimming?

- Diarrheal illness
- Skin rashes
- Ear infections
- Eye infections
- Respiratory infections



These recreational water illnesses (RWIs) have been linked to swimming. However, reports to CDC show that diarrhea is one of the most common RWIs. Diarrheal illness is spread when infected

germs from human or animal feces gets into the water. If the contaminated water is swallowed it can cause people to become ill.

## Can swimming pools spread head lice?

Not likely.

Lice survive by holding onto hair and are not likely to let go when someone's head goes under water. It would be rare to find lice floating in pool water. It is more likely that head lice are spread by sharing towels or other items that have been in contact with an infested

person's hair. Teach your children not to share towels, hair brushes, etc., either at poolside or in the changing room.

Be aware that swimming or washing hair within 1-2 days after treating with anti-lice shampoo will make the treatment less effective.

For more detailed information on head lice visit:

[www.cdc.gov/ncidod/dpd/parasites/headlice/default.htm](http://www.cdc.gov/ncidod/dpd/parasites/headlice/default.htm)



*"Healthy swimming is a team effort and it's for the health of everyone. Lifeguards watch the chlorine levels and I don't let my child swim with diarrhea. That way we are all protected."*

## Can people get a recreational water illness (RWI) from swimming in the ocean?

Yes.

Recreational water illnesses (RWIs) have been associated with swimming at ocean beaches. Some common germs can live for long periods of time in salt water. Swimmers should always avoid swallowing the water that they and others swim in.



## Can people get a recreational water illness (RWI) from using hot tubs & spas?

Yes.

Skin infections are the most common RWI spread through hot tubs and spas.

Given that hot tubs and spas have warmer water than pools, chlorine or other disinfectant levels evaporate faster.

For that reason, it is important that chlorine or disinfectant levels in hot tubs and spas are checked even more regularly than in swimming pools.



## Can people get a recreational water illness (RWI) from swimming in fresh water lakes and rivers?

Yes.

Lakes and rivers can become contaminated with germs from sewage, animal waste, water runoff, as well as direct human contamination from fecal accidents and germs rinsed off the bottoms of swimmers.

Avoid swimming in areas that have been identified as unsafe by health departments. Contact your state/local health department about germ-testing results for local recreational water.

Some germs that live in fresh water normally don't infect humans. For

example, *Naegleria* (*nuh-GLEER-eh*) is a germ that is found throughout the world.

*Naegleria* is found in warm, stagnant bodies of water and can cause severe illness. *Naegleria* enters the body through the nose when you are swimming underwater or diving into water. Persons can prevent *Naegleria* infection by not swimming in small shallow ponds or areas posted by local health authorities as "No Swimming." Swimmers should hold their nose or use nose plugs when jumping or diving into water.

For more information on *Naegleria* visit:  
[www.cdc.gov/ncidod/dpd/parasites/naegleria/default.htm](http://www.cdc.gov/ncidod/dpd/parasites/naegleria/default.htm)

## Can people get a recreational water illness (RWI) from playing and wading in decorative water fountains?

Yes.

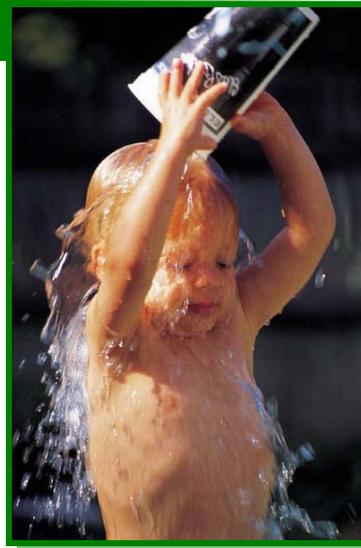
Several diarrheal illness outbreaks have been caused by playing and swallowing contaminated water in fountains. Not all decorative or interactive water fountains are

chlorinated and filtered. Therefore when people, especially diaper-aged children, play in or soak themselves with the water jets, they can contaminate the water with fecal matter. This may spread germs that can make people sick.

## Doesn't chlorine kill all germs found in swimming pools, hot tubs & spas?

Yes, chlorine does kill all germs but it takes time.

A few germs can survive in chlorinated water for several hours to several days in pools, hot tubs, and spas and you can therefore get infected. It is important to maintain proper levels of chlorine to kill germs. However, be aware that even the best-maintained pools can spread illness.



## What is a person's chance of getting diarrhea when swimming?

An exact number does not exist.

If pools are properly maintained and chlorinated, the risk is thought to be low for germs that are killed easily by chlorine.

However, over the past 10 years, more than 150 outbreaks involving thousands of people have been reported, involving pools, waterparks, hot tubs, spas, lakes, and rivers. Many outbreaks are never detected.

## Why do many recreational water illnesses go undetected?

Because people do not think that pool water can make them sick.

It can take several weeks before the germs in the water cause illness, so

people often don't connect their illness with swimming. In addition, because diarrhea is so common, most people don't seek medical attention for it, so outbreaks of

## continued from page 5

illnesses often don't get reported to health departments.

The longer the time period between swimming and illness the

less likely people are to think that they became sick from swimming. For all these reasons, many outbreaks go undetected.

For a summary of reported outbreaks visit:

[www.cdc.gov/ncidod/dpd/parasiticpathways/swimming\\_technical\\_reading.htm](http://www.cdc.gov/ncidod/dpd/parasiticpathways/swimming_technical_reading.htm)

## Is it a good idea to swim when you have diarrhea?

No.

You share the water with everyone in the pool, so swimming when ill with diarrhea can contaminate the water.

Stay out of water that is shared by others if you have diarrhea. Persons who swim while they have diarrhea threaten the health and well being of those sharing the water. This is true because



recreational water illnesses (RWIs) are more easily spread when someone is experiencing diarrhea.

## Remember—YOU can HELP make your pool safer!

*"Letting your child swim when ill with diarrhea is irresponsible. Your child could make everyone in the pool sick and that is not something I would want to do."*

### Healthy Swimming...



"If you're not thinking about it, you could be making MY child sick!"

## Should some people be more concerned than others about the spread of Crypto (short for *Cryptosporidium*)?

Yes.

Every swimmer should be concerned, but those living with a compromised immune system should be even more concerned.

They should realize that accidentally swallowing Crypto-contaminated water can cause illness. Children, pregnant women, and people with compromised immune systems (such as those



living with AIDS, those who have received an organ transplant, or those receiving certain types of chemotherapy) can suffer from more severe illness than others.

## So people with compromised immune systems are at greater risk for developing severe or life-threatening illness?

Yes.

If you are living with a compromised immune system (such as those living with AIDS, those who have received an organ transplant, or those receiving certain types of chemotherapy) you are at greater risk of developing severe or life-threatening illness if infected with Crypto (short for



*Cryptosporidium*).

Recreational water illnesses (RWIs) can be spread by swallowing fecally contaminated water. Persons with compromised immune systems

## continued from page 7

should be aware that swimming pools, waterparks, hot tubs, spas, decorative fountains, lakes, rivers, and salt water beaches might be contaminated with human or animal waste that contains Crypto.

Persons with a compromised immune system should consult with

their health care provider before participating in behaviors that place them at risk for illness. Avoid swallowing the water when swimming or playing in recreational water.

(1999 USPHS/IDSA Guidelines for Prevention of Opportunistic Infections in Persons with Human Immunodeficiency Virus).

For further information about *Cryptosporidium* go to:  
[www.cdc.gov/ncidod/dpd/parasites/cryptosporidiosis/factsht\\_crypto\\_prevent\\_ci.htm](http://www.cdc.gov/ncidod/dpd/parasites/cryptosporidiosis/factsht_crypto_prevent_ci.htm)

1999 USPHS/IDSA Guidelines for Prevention of Opportunistic Infections in Persons with HIV).  
[www.cdc.gov/epo/mmwr/preview/mmwrhtml/rr4810a1.htm](http://www.cdc.gov/epo/mmwr/preview/mmwrhtml/rr4810a1.htm)

## What should someone do if he or she has diarrhea?

Most important, prevent dehydration by drinking plenty of fluids.

This is especially important for young children, pregnant women, and persons living with compromised immune systems (such as those living with AIDS, those who have received and organ transplant, or those receiving

certain types of chemotherapy).

### SEEK MEDICAL CARE IMMEDIATELY IF:

- your diarrhea is bloody
- your diarrhea does not resolve in 5 days
- your diarrhea is accompanied by fever or chills
- you are dehydrated. (Signs of dehydration include: dry or “cottony” mouth, cracked lips, dry flushed skin, headache, irritability, not urinating at least four times a day, no tears when crying, no sweating, or confusion).



## continued from page 8

A health care provider may prescribe medicine to help replace the fluids your body has lost because of the diarrhea. In some cases, over-the-counter antidiarrheal medications slow the diarrhea.

One of the germs that causes diarrhea is Crypto (short for *Cryptosporidium*). Health care providers do not routinely test for this germ. Therefore, persons

experiencing diarrhea may have to ask their health care providers to test for Crypto. Be aware that there are many causes of diarrhea. A specific diagnosis can only be made by your health care provider.

Remember, for the health and safety of those sharing the pool water, don't swim when you have diarrhea. Diarrhea can contaminate the pool and make people sick.

For more information on diarrhea visit:

[www.cdc.gov/ncidod/dpd/parasiticpathways/diarrhea.htm](http://www.cdc.gov/ncidod/dpd/parasiticpathways/diarrhea.htm)

## My child has diarrhea and wants to go swimming. What should I do?

Don't take your child swimming.

Otherwise, he or she may contaminate the water with fecal matter by simply moving through the water or having a fecal accident.

Contaminating the pool puts other swimmers at risk of getting a recreational water illness (RWI). Although swimmers with diarrhea do not mean to contaminate the water, this is how illness is spread.



See the information above for treatment of diarrhea.

## Do swim diapers or swim pants prevent fecal matter from entering the water?

Not likely.

Swim diapers are unlikely to prevent diarrhea (which may contain germs) from leaking into the pool.

Even though diapers or swim pants may hold in some feces, they are

not leak proof and can still contaminate the pool water.

Therefore, it is recommended that you change your child often and make frequent trips to the toilet. Swim diapers or pants are not a remedy for frequent diaper changing.

## What should I do if I see fecal matter in the pool?

Immediately notify the pool attendant or lifeguard.

Pool staff should ask swimmers to leave the water immediately. The pool water may be tested and the chlorine levels raised, depending on the policy and initial chlorine level at the pool.

The wait between the closing and re-opening of the pool can be frustrating.

Be supportive of pool management as the pool is closed to prevent the spread of recreational water illnesses (RWIs), which can make you and your family sick.

## Should I think the water is safe if I don't see fecal matter in the pool?

No. Just because you can't see these germs doesn't mean that they are not present.

Even the best-maintained pools can spread illness. Therefore, the safest pools are pools that are not only well maintained, but also

## continued from page 10

have the commitment of all patrons to practice healthy swimming behaviors.

Remember, chlorine does kill all germs, but it takes time. Some

germs can live for hours to several days in swimming pools. Be aware that as a swimmer, you play a crucial role in preventing recreational water illnesses (RWIs).

## How can I protect myself, my family, and others from getting sick?

Healthy swimming behaviors are needed to protect you and your kids from RWIs and will help stop germs from getting in the pool in the first place. Here are six “P-L-E-As” that promote Healthy Swimming:

### Three “P-L-E-As” for Everyone

**PLEASE** don’t swim when you have diarrhea...this is especially important for kids in diapers. You can spread germs into the water and make other people sick.

**PLEASE** don’t swallow the pool water. In fact, try your best to avoid even having water get in your mouth.

**PLEASE** wash your hands with soap and water after using the toilet or after changing diapers. You can protect others by realizing that germs on your body end up in the water.

### Three “P-L-E-As” for Parents with Young Kids

Follow these “P-L-E-As” to protect your child and others from getting sick and to help keep RWIs out of your community:

**PLEASE** take your kids on bathroom breaks often. Waiting to hear “I have to go” may mean that it’s too late.

**PLEASE** change diapers in a bathroom and not at poolside. Germs can spread to surfaces and objects in and around the pool and spread disease.

**PLEASE** wash your child thoroughly (especially the rear end) with soap and water before swimming. We all have invisible amounts of fecal matter on our bottoms that could end up in the pool.

For more detailed information recreational water illnesses (RWIs) visit:

[www.cdc.gov/healthyswimming](http://www.cdc.gov/healthyswimming)