Swimmer's Itch

How to avoid or minimize chances of contact
Avoid shallow water, swim in deeper water.

The organism that causes "Swimmer's Itch" is a small flatworm that lives usually within 1-2 inches of the surface. It is looking for a bird to complete its complicated life cycle. The worm will dig into the bird and get transported to the birds intestine. Here it completes the life cycle actually mating with other flukes that make it to the intestine. The worms then lay eggs (actually inside the bird's intestine small veins) and these eggs then make their way into the intesting and are passed into the lake with the bird's droppings.

Swim for short periods of time less than 45 min.
The organism tries to attach and then digs into your skin. This is not a slow process and can take 2-5 minutes to get under your skin. The small worm needs moisture to live and will die quickly if it dries out. Swim for short periods of time and dry off completely between swims (skin, hair and areas under your suit).

Do not feed or invite birds to hang around your dock.
The flatworm that causes swimmer's itch needs the bird to complete its life cycle. It is actually in the bird's intestine where these flatworms (also called flukes) complete the sexual portion of their lifecycle. The organisms mate inside the birds intestinal lining and then lay eggs inside the bird's intestinal veins and then the eggs work their way into the droppings. Collecting birds around your dock invites them to deposit the swimmer's itch eggs in your part of the lake. Do not feed the snails either they are also part of the problem. Having large numbers of smooth vinyl objects in the water around your dock encourage the snails.

Dry off all your skin especially the areas under your swimsuit and don't forget to dry your hair.
The flatworm that causes swimmer's itch can be removed before they penetrate your skin. It needs moisture to live and will die quickly when dry. If you 'air dry' the little worm will notice its water going away and bore into your skin faster. Towel dry quickly to remove the organisms completely.

Avoid swimming in the morning, swim late evening or swim at night
The life cycle of this flatworm involves shallow water snails which are all over our lakes and rivers. The snails seem to release the flatworms (flukes) in the morning and more so on warm days. It seems too that a sudden change in temperature from cold days to hot days cause aggressive releases the cercariae. The eggs from the bird droppings hatch in the lake and release
larvae that look for these snails as an intermediate host. Once in the snail the larvae reproduce asexually and produce huge numbers of cercariae. The life cycle that bores into our skin is this cercariae form. The cercariae do not live very long in the lake and will be dead after one or two days unless the find the type of bird they are looking for. Avoiding the times of the day the snails release these cercariae can reduce your chances of contacting them in the water. So swim when the water is cooler and in the evening away from the shore if you are a good swimmer.

Be aware that the oils in sunscreen can actually help the organism penetrate your skin

Fatty acids found in many skin oils and creams such as linoleic and linolenic acids soften the skin. Sun screen preparations that have these compounds will actually help the cercariae get under your skin. Getting the skin moist and keeping it wet will do the same thing. Entering the water with sun screen on and staying there for a long time will help the organism penetrate your skin faster. Avoiding sun screen is not a good idea as it can increase your chances of skin cancer. It is best if you are going to swim without sun screen do it in the evening.

Swim on the upwind side of the lake shore

The cercariae form is this organism floats on the surface of the water or very close to it. A gentle breeze will push the little guys close to the shore where they will concentrate. There is a small spike on the organism that when floating on the surface might act as a small sail helping it along the surface in a breeze. If your are swimming on the downwind side of the lake on a windy day there will be more of the cercariae around you. Swim on the upwind side of the lake if possible as there should be fewer of the organisms there.

Shower when you get out of the lake

Showering with tap water and soap is a good idea but it is not the water in the shower that helps, it's the soap. Dry off completely after your shower with a towel. If you 'air dry' the worms sense their moisture going away and bore into your skin faster.

Best advice: Swim in deeper water in the evening with no sunscreen, no swimsuit note this is illegal in Okoboji, on the upwind side of the lake shore for less than 30 min, dry off completely afterwards, and you should minimize your chances of getting swimmer's itch.
What do I need to know?

Swimmer's itch itself is not very dangerous.

As a medical problem this is not considered dangerous for most people. The organism cannot live in our tissue and quickly dies if it does get in. The cercariae do not get very deep and remain in the epidermis when they die. They do not last long enough to make it to the dermis. For a normal healthy person this should be only a nuisance causing an itchy rash that can last up to a week. If you have been exposed to the organism several times the rash can be very miserable. If your immune system is not strong it can however put you at risk of secondary infections. Rarely the rash can be very itchy causing nausea and making you vomit. If a severe reaction occurs medical attention is a good idea as something else could be wrong. Your skin can blister from the small worms and the blisters can get infected with other organisms. Another real risk is mistaking a more serious condition for swimmer’s itch. Possible conditions include impetigo, shingles, other fungal rashes (especially if they persist longer than a week or are associated with dizziness or breathing problems) should be evaluated by qualified medical personnel.

Swimmer’s itch is not contagious.

If you have the rash you cannot give it to someone else. The rash is your body reacting to the cercariae bodies that have made it under your skin. The cercariae is dead before or as the red spot appears. It will not jump to another person and give them the rash.

Swimmer's itch does not spread

If you have the rash it cannot spread from one part of your body to another. The rash is your body reacting to the cercariae bodies that have burrowed under your skin. One red spot is caused by each cercariae that gets under your skin. The cercariae is dead before or as the red spot appears. It will not jump to another part of your body and cause a second red spot. If the spots are spreading and you have been out of the lake for awhile you may have something else not 'swimmer’s itch'.

Not everyone gets it

Only 30-40% of the people exposed to the organism actually get the rash. The rash is your body reacting to the cercariae bodies that have burrowed under your skin. The rash is not actually caused by the cercariae directly but your immune system reacting to the foreign tissue of the flatworm. The first time you are 'invaded' your reaction can be very mild. Second, third and more exposures can get worse each time as your body’s immune develops a sensitivity to the foreign body parts of the little worm. If a group of children
are in the same water for a long time it is not unusual for some of them to get
the rash and others to have no problems.

There is an aquatic poison to kill the shore line nails (don't even think
about it)

There is a chemical you can put in the lake that will kill the snails near your
shore. To apply this chemical yourself requires some serious effort. First of
all you need a commercial license to apply it in our lake. Second you need a
permit from the DNR to apply the chemical. You will not get a permit from the
DNR to legally apply this chemical. Any use of this compound in our area
lakes will be illegal. Even if you have a lake or pond completely on your
property be careful. You will still need a private license to apply the chemical
and you may need a permit also. This compound only kills the snails in the
area you apply it and only for a brief time. if snails in some other part of the
lake are releasing the worms it will not do any good. The chemical does not
kill the flatworms just the snails they reproduce in.

The lake is not polluted

Swimmer's itch has nothing to do with pollution of the lake or sewage
entering the lake. The water in the lake is just as safe with or without
swimmer's itch. This is such a natural part of the lake biological makeup it
should be expected and considered a normal part of the lake experience.
Local biological diversity enriches us all, really.

Swallowing lake water is not known to cause swimmer's itch
internally

Swimmer's itch is a living organism and will be digested quickly by your
body's digestive process. Saliva should deactivate the flatworms quickly.
Any cercariae that make it to your stomach will be instantly killed by your
stomach digestive acids and juices. The organism should be very unlikely to
live long enough to penetrate the lining of your mouth or esophagus (food
tube.) It may be possible for the organism to penetrate the lining of your
nose or sinuses so a snort of lake water with cercariae in it may cause a rash
inside your nose. If you do get the rash in your nose it can be expected to
cause a limited sinusitis (stuffy nose) for about a week. Swallowing lake
water is not safe as it can contain cryptosporidiosis or giardia, both human
pathogens and present in local lakes and rivers. Purifying lake water is not a
good idea as both of these organisms have heat resistant forms.

Biological facts about this problem

The organism is a parasite flat worm (shistosomes) but we are not a host or
part of its life cycle. There could be more than a dozen different species of
organisms that cause the problem and the actual number is not well known.
The species of flat worm causing the problem at any different time may not
be the same as the one last time we had Swimmer's itch. The species of bird,
species of shistosome, and species of snail needed to complete the cycle
are very specifically matched. This problem is worldwide. There is a related species of this organism that lives in the birds nose, not its intestine. Lakes in Europe are contaminated when the bird drinks the water. The organism that penetrates our skin is small and would take 50 of them lined up end to end to make one inch. They are essentially clear when in the water and difficult to see without a low power microscope.

Medical treatment

Medical treatment for this problem is symptomatic because it is your body has to clear the organism on its own. There is no medication that will make that happen faster. Topical hydrocortisone creams which can be obtained over the counter may help with the redness, itching and pain. Be careful with these medications, even the over the counter strengths. If you are unfortunate to have a large area of your body with the itch and use alot of hydrocortisone for a week or more you can suffer some of the huge number of side effects of this medication. Benedryl cream is also available over the counter and should help with the itching. Most people get sleepy using benedryl and if you use alot of this do not plan on doing much else that day. The most important thing to consider is could your rash be due to something else. Getting sound medical advice from someone in your area that is familiar with swimmer's itch and other skin conditions is a good idea. Antibiotics usually have no place for treatment if swimmer's itch however if your immune system does not work well or the lesions blister and get infected antibiotics may be necessary.

Prevention

There are two products on the market that may be effective to control swimmers itch. Swimmers itch guard a preparation that sounds like it will be effective is a cream that once applied may stop the parasites from getting on your skin. There is another compound called Safe Sea that is supposed to stop jelly fish stingers and is for ocean use. This may also stop swimmer's itch. Both are available on the internet.