



SWIMMER'S ITCH

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The technical name for swimmer's itch is cercarial dermatitis. In developing countries, swimmer's itch translates into "rice paddy itch", "clam diggers itch", "sawah" to the rice farmers in Malaysia, "kubure" or "kobanyo" to the Japanese rice farmers or "hoi con" to Thai rice farmers. In these same places, all swimmers are usually exposed to the risk of cercarial dermatitis as well. On coastal New Jersey, it is called "Duckworms".

What is swimmer's itch?

Swimmer's itch is a patchy red pinpoint skin rash associated with itching on the parts of the body that have been in the water. Swimmer's itch is usually not severe. After the initial transient itching it will disappear without treatment. The itching occurs within 48 hours and may last up to 7 days. Rarely, it can be severe if a large proportion of the body is affected. The major, although not the only, cause of swimmer's itch are trematode parasites of aquatic/migrating birds. The life cycles of these parasites involve snails as the first host and aquatic birds or some mammals as the final host.

The larval parasite called a "cercaria" is released by aquatic or amphibious (moves both on land and water) snails and causes dermatitis when it mistakenly penetrates a person's skin rather than its rightful host, usually a duck. Swimmer's itch occurs in both freshwater and in the marine coastal environments.

What are the other causes of itching among swimmers?

Common lore in the media is that this is caused by "duck fleas" in freshwater and "sea lice" in the marine environment. Neither is correct. Trematode parasites cause the freshwater swimmer's itch and both trematode parasites and nematocysts cause marine swimmer's itch. Marine swimmer's itch is probably from contact with the larval form of the thimble jellyfish (*Linuche unguiculata*), sea anemone (*Edwardsiella lineata*), Portuguese Man-of-War (*Physalia utriculus*), and probably numerous others. In unusual circumstances, different algae, chemical pollutants and sewage may cause dermatitis that is indistinguishable from cercarial dermatitis. Thus, it is important, when visiting the pharmacist or physician, to mention that the itching dermatitis may have been acquired by swimming or bathing.

Jellyfish nematocysts remain active for months, even if dried out. They can persist in clothing or swimsuits with recurrence of symptoms upon wearing the same clothes over again. A delayed reaction can also be seen (a serum sickness-like reaction). Treatment options said to help include washing immediately in salt water, acetic acid (vinegar), methyl alcohol or dilute (1:10) household ammonia. Benadryl spray helps to reduce itch and pain, and may kill the nematocysts. It is a self-limited eruption that rarely persists beyond 10-14 days.

Where does it occur?

The appropriate question might be, "Where doesn't it occur". At one time or other in the past 70 years, since its major cause was first identified in Douglas Lake, Michigan, USA, it has been reported in almost every country in the world. No public health department requires that swimmer's itch be reported. Therefore it may seem that it is not such a widespread problem. In fact, it is more often reported in newspaper media than in the scientific literature!

When does it occur?

Swimmer's itch occurs when several factors converge at the optimal time. In summer, 1) the water temperature reaches the appropriate level for snails to reproduce and grow rapidly, 2) migrating aquatic birds infected with the trematode parasite return from their winter habitats or domesticated aquatic birds return to full activity and 3) the frequency of swimmers and bathers

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reaches its peak during this period. Over the past ten years, the baseline temperatures of the freshwater bodies in temperate zones have increased and migrating aquatic bird populations have generally increased, creating a greater risk of swimmer's itch.

How is the diagnosis confirmed?

Specific diagnosis is difficult. Skin **biopsies** are not helpful. There is no widely available blood test that gives specific indication that cercaria have caused the itching. The best confirmation of the cause is based on knowing from other people that swimmer's itch occurs in the place where one swam or entered the water. Other diseases have been confused with swimmers itch: **impetigo** (bacterial infection of the skin), **chickenpox**, **poison ivy**, **herpes**, or rare skin diseases.

What is the treatment?

Treatment may not be necessary when there are only a few itching spots. An antihistaminic or mild **corticosteroid cream** purchased over the counter in pharmacies can be beneficial. If the initial itching is severe, then scratching can cause abrasions and skin infections may develop. If the symptoms persist for longer than 3 days, a dermatologist should be seen. Prescription medications may help reduce the itching.

What is the prevention?

Swimmer's itch is caused by many different factors. Since the disease is really a disease of aquatic birds, the target should be to reduce the possibilities of the birds getting infected. In some small ponds and lakes, the snails that harbor the parasite can be killed by chemical molluscicides. The possible environmental effects of chemical molluscicides mean that this approach cannot be recommended in all situations. A newer approach has been to place a drug for treatment of the parasite into food bait. Other drugs are currently being tested. Indirectly, it is important that the vegetation in the pond or the lake be kept to a minimum so that the snails do not have the ideal environment to grow.

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