

Swimming pools and pools

Risks of swimming in the wild

- Injury, drowning.
- High temperature, UV radiation.
- Sinice.
- Infectious diseases.
- Cercarial dermatitis.



Cyanobacteria and bathing in nature

Ponds and reservoirs are home to a wide range of organisms. The tiny ones are called '**plankton**'. The latter can be divided into **phytoplankton** and **zooplankton** (daphnia), which feed on phytoplankton. The presence of phytoplankton and bacterioplankton is of greatest importance for aquatic recreation because these organisms can cause health problems. Phytoplankton consists of 2 groups of organisms: **algae** and **cyanobacteria**. Their function is similar, but the cyanobacteria are more dangerous in terms of their impact on human health. If there is a large amount of phytoplankton in the water, a so-called **vegetation haze** will form. Turbidity in the water can have various causes, but it always indicates reduced water quality. Some cyanobacteria tend to rise to the surface and accumulate there in the form of green mush. This accumulation of cyanobacteria is called a *cyanobacterial bloom* and occurs in late summer. Cyanobacteria produce substances that cause allergies. Depending on the sensitivity of the bather, rash, red eyes, nasal discharge may occur. Allergic reactions can also be triggered by certain algae. Cyanobacteria can also produce various toxins. Depending on how many toxins enter the body, the symptoms vary: from mild acute poisoning manifested by intestinal and stomach problems, to headaches, to liver problems. The risk is increased in children, who generally drink more water than adults when bathing and have a smaller body weight. Hypersensitivity reactions - skin manifestations, inflammation and allergic reactions of the eyes and conjunctivae - may occur in allergy sufferers. The risk increases with length of time in the water, repeated bathing and the amount of cyanobacteria in the water. To detect the presence of cyanobacteria, leave the bottle with the neck constricted in the light for about 20 minutes. If a green ring forms on the surface (the water remains clear), it is probably cyanobacteria. If the water is cloudy evenly, it is algae.

Infectious diseases

They can be caused by bacteria, viruses and protozoa. Symptomatology is gastro-intestinal.

Cercarial dermatitis

It is a '**parasitic disease**' that manifests itself in humans by the formation of spots, vesicles and reddening of the skin. Intense itching is also present. It is caused by flukes of the genus *Trichobilharzia*. Their life cycle is linked both to aquatic snails and to waterfowl (e.g. mallards). In terms of cercariae dermatitis, the most important phase of the life cycle is the so-called *cercariae stage*, which is released from the snail into the water and seeks out waterbirds to complete its development. If a cercariae encounters a bathing human, they penetrate the human's skin. Itchy papules, urticarial manifestations, allergic manifestations, mild fever appear on uncovered parts of the body. The manifestations disappear within 1-2 weeks.

Fungal skin diseases and warts in swimming pool areas

Swimming pools with adjacent areas (showers, changing rooms, areas around the pool) pose certain health risks to visitors. In addition to injuries, the transmission of warts and fungal foot diseases is a problem.

Fungal diseases

In the swimming pool environment there are *dermatophytes* belonging to 3 genera: *Trichophyton*, *Microsporum*, *Epidermophyton*. Different species can selectively attack skin, hair, nails or beard. The most common infection associated with the pool environment is ***tinea pedis***, where the foot, skin, and toes are affected. The causative organism is *Trichophyton mentagrophytes* var. *Interdigitale*. *Candida albicans* is also a frequent causative organism. Fungal diseases are manifested by itching, wetting, redness. They mainly affect people over 15 years of age.



Example of a potential threat.

Hogwarts

These are papulose growths on the skin. The causative agents are papillomaviruses. Plantar warts are painful, they occur on the plantar, but also on the palms of the hands. They are most common in school-age children. On the back of the hands we find common plantar warts (*verruca vulgaris*)'. ***Molluscum contagiosum*** is a contagious

skin disease. The causative agent is a virus of the *Poxvirus* group. It is manifested by papules with a central cartilage. They occur in children and adolescents on the face, neck, legs, back, ...

Transmission of mould and warts =

The source is a person suffering from such a disease. The infection is spread by direct contact or shared objects and spaces (towel, floor, seat). Infectious scales are shed from the feet or other areas of affected individuals. These scales shed fungal and papillomavirus germs. Transmission of the infection is facilitated by injury to the feet. Waterborne transmission has not been proven.

Prevention of the transmission of fungal skin diseases and warts in swimming pool areas

Persons suffering from these diseases should not visit swimming pools or swimming pools at all until they are cured. Another preventive measure is to clean and disinfect floors and other surfaces. Suitable virucidal and fungicidal agents are e.g. savo prim (active substance is sodium hypochlorite), Orthosept P (active substance is quaternary ammonium compounds), Stericlean (sodium hypochlorite).

Links

Related articles

- Children's sandboxes
- Swimming pools and swimming pools

References used

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