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Sea bather's eruption

What is it?

Sea bather's eruption is a rash, which affects the bathing suit-covered areas of the skin, rather than exposed areas, after swimming in the sea. It is caused by stings from the stinging cells (also called nematocysts) of the larval forms of certain sea anemones, such as *Edwardsiella lineata*, and thimble jellyfishes such as *Linuche unguiculata*. Sea thimbles are small tropical jellyfish that, even as adults, get no larger than about a centimetre in size. Most cases of sea bather's eruption occur during the summer as it seems to be dependant on water temperature. It affects swimmers, snorkelers, or divers soon after getting out of the water.

Sea bather's eruption has been called sea lice by some. Sea lice is actually due to immature larval forms of parasitic flatworms (schistosomes), penetrating the skin.

What actually causes it?

Sea bather's eruption is a hypersensitivity reaction to the larval form, or planulae, of the thimble jellyfish, *Linuche unguiculata*. It has also been reported to be caused by the larvae stage of the sea anemone, *Edwardsiella lineata*, and various cnidarian larvae in other parts of the world.

The rash is caused by the body's allergic reaction to the toxin injected into the skin by the tiny stinging cells or nematocysts of the larval jellyfish. These tiny larval forms (the size of a pin head) become trapped underneath bathing suits or in the hair of the bather. Each larva is equipped with a number of stinging cells, that can be triggered by simple mechanical pressure or by osmotic changes that occur with evaporation or when rinsing off with freshwater. The rash typically develops underneath the bathing costume, which is believed to trap the jellyfish larvae against the skin. As the swimmer gets out of the sea, water drains out of the bathing suit, trapping the larva between the suit and the skin. Pressure on the small jelly fish cause the stinging cells to discharge, releasing toxin into the skin. Wearing bathing suits for prolonged periods after swimming, showering in fresh water, and mechanical stimulation (rubbing with a towel) make the eruption worse.

Be aware that you can still be stung days or weeks later after washing and drying the infested clothing. The stinging cells are not actually alive and can persist until a particular physical or chemical reaction stimulates them to fire the stinger that contains the toxin.

What are the symptoms of sea bather's eruption?

A tingling sensation under the bathing suit (breasts, groin, cuffs of wetsuits) is often first noticed while still in the water. Over several hours it becomes an itch, which can last for several weeks. It is generally confined under the swimming costume. Some patients (up to a fifth) complain of feeling slightly unwell, with temperatures and fatigue. Some children also develop tummy upsets. As one takes a freshwater shower, while still wearing the bathing suit, the itch gets worse. Itching can be quite severe and they may become painful.

The rash usually starts a couple of hours after swimming. It consists of red bumps, which may become dense and run together in a mass. Each person may react differently to the stings depending on their sensitivity and previous exposure.

What can you do to prevent sea bather's eruption?

Other than staying out of the water, not much can be done to completely avoid the jellyfish's sting if they are present in the water. People have tried various barrier creams to prevent the larvae from getting to the skin but creams do not provide a strong enough barrier to the stingers. Sometimes, a wet suit will limit the infestation to the edges of the garment. General experience indicates the infestation seems to occur near the surface of the water so snorkelers and swimmers seem to be the most vulnerable.

If you think have been exposed to the jellyfish larvae, the most effective preventive measure is to take off your bathing costume as soon as possible and rinse the body in seawater that doesn't have the jelly fish. Pat-dry with a towel and change your clothes. Do not rub the affected areas with towels or hands as that could cause additional stinging. Caution: An immediate rinse with fresh water, vinegar or other solutions may actually cause additional stinging from larvae clinging to your skin or clothes.

What is the treatment?

Once the rash occurs (and you have taken off your swimming costume and showered), an application of diluted vinegar or rubbing alcohol may neutralize any toxin left on the skin. An ice pack may help to relieve any pain. The most useful treatment is 1% hydrocortisone lotion applied 2–3 times a day for 1–2 weeks. Topical calamine lotion with 1% menthol may also be soothing. Nonsteroidal anti inflammatory drugs such as ibuprofen and aspirin (but not in children) may also will help reduce pain and inflammation.

If the reaction is severe, the injured person may suffer from headache, fever, chills, weakness, vomiting, itchy eyes and burning on urination, and should be treated with oral prednisone ([steroids](#)).

The stinging cells may remain in the bathing suit even after it dries, so once a person has developed sea bather's eruption, the clothing should undergo machine washing or be thoroughly rinsed in alcohol or vinegar, then be washed by hand with soap and water.

Other treatments

[Antihistamines](#) may also be of some benefit. Other treatments that have been suggested include remedies made with sodium bicarbonate, sugar, urine, olive oil, and meat tenderizer although some of these some may increase the release of toxin and aggravate the rash. Symptoms of malaise, tummy upsets and fever should be treated in the normal fashion.

What else could it be?

Sea bather's eruption is often misnamed 'sea lice', which are true crustacean parasites of fish. These flatworm larvae try to burrow into the swimmers skin (so they bite rather than sting) and are usually found on exposed skin (similar to sandflies bites). Sea bathers rash can also look very similar to [seaweed dermatitis](#), but no seaweed is found on the skin or in swimwear.

Other information

Seabather's eruption was first described in 1949 as an itchy rash occurring after swimming off the eastern coast of Florida. It has now been reported to occur in many tropical and sub-tropical waters. In Florida it is called 'Pica-Pica', the Spanish for 'Itchy-Itchy'.

Related information

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emedicine, the online textbook

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