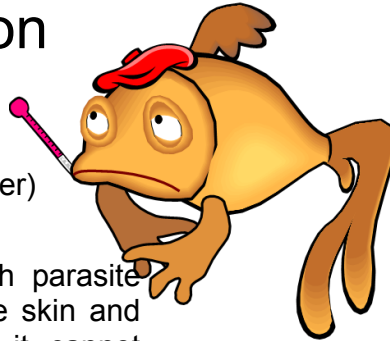


Basic Information on **Ick**

Ichthyophthirius multifiliis (freshwater)
Cryptocaryon irritans (saltwater)



Ick (Ich) is ciliated protozoans, a fish parasite which can only survive by feeding on the skin and tissue of fishes. Without a host fish, it cannot survive long periods. It is a single-celled creature which goes through several developmental stages before you see the all-too-familiar "white spots."

Ick's first developmental stage cannot be seen with the naked eye. These "swarmers," as they are called, bore into the fishes' gills and outer skin. When you see the little white spots, you are seeing the parasites in their growing and mature stage. They are actually feeding on your fish!

Once these parasites fully mature they leave the fish and become free-swimming once again. On the bottom of the tank this mature parasite becomes encysted. Inside this cyst it separates into many (up to 1000) offspring. These new swarmers then leave the cyst to find another fish to attack. The swarmers must find a host fish in approximately 24 hours, or they will die!

The warmer the tank water, the faster this cycle will occur. In freshwater, the complete cycle takes about 3 to 4 days at 70° Fahrenheit (at 50° Fahrenheit this period is as long as 5 weeks). *Cryptocaryon* (saltwater) is more dependent on temperatures over 68° Fahrenheit.

What Causes Ick?

Ick is caused by fairly simple and correctable environmental factors:

- Temperature Fluctuations
- Lack of tank cleanliness
- Exposure to weakened or already parasitized fish
- Poor diet
- General weakness of some of the fish in the tank
 - any STRESSFULL situation including
- One fish bullying another
- Improper acclimation procedure
- Poor water changing technique

Outbreaks of ick are most common in the spring and fall - the transition seasons. In these months, temperatures fluctuate most, both in range and rapidity. Tropical fish do not react well to rapid temperature changes, even those within the "safe" range (72° -

82°). An aquarium located in a western window (afternoon sun) or in the path of an air-conditioning vent is prone to this temperature fluctuation.

If the ick was not caused by temperature problems, the next greatest probability is poor tank maintenance. A dirty tank which has too much ammonia, nitrite, or nitrate in the water will weaken the fish. See our handout "Basic Information on Water and Water Changes".

"Pecking order" problems and the introduction of new fish can also be a cause of stress induced ick. The new fish does not have to be sick to cause the problem. Almost every tank establishes some sort of pecking order and the new fish are automatically the "lowest on the totem pole" until they establish their rank. If the lowest fish in the pecking order gets pecked a little too much, the stress will weaken it and ick attacks. Once one fish has ick, the entire aquarium population is at risk.

The last of the common causes of ick is poor diet. Most aquarist feed their fish once a day with the same food. A varied diet insures the health of your fish.

How can you prevent Ick?

Proper and timely water changes, varied diet, compatible fish, and a heater in every tank are the easiest ways to keep ick away. When buying new fish, never buy from a tank showing signs of this disease.

Remember - ick is contagious! Don't overcrowd! When your aquarium is overcrowded, the chances of the fish being parasitized is greater because the "swarmers" can easily find a host.

Ultraviolet sterilization (the passing of water over an ultraviolet light) will also kill any swarmers. It is a very good preventative and can help with the cure.

How do you get rid of Ick?

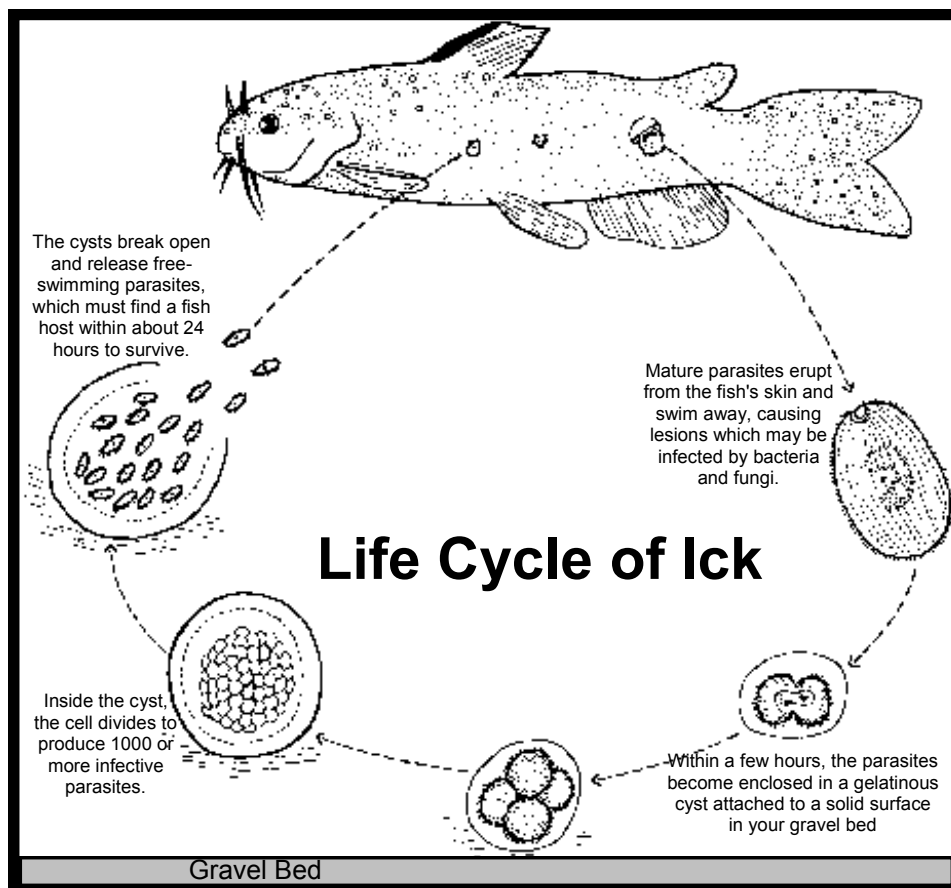
As we have just learned, ick is not just a disease of fish - it is a disease of the tank. The whole tank is infected with some stage of the parasite. When attached to the host, ick is actually under the skin and cannot be treated. Only the free-swimming stage of the parasite can be killed. The use of a chemical (such as Quickcure, Coppersafe, or Ick Attack - see labels to ensure you use the right product for your tank) is the most common method of ick cure. Following label directions, removing the carbon from the filter and most importantly, doing a 25% water change with a gravel washer every other day for 4 days will normally eliminate the problem.

In a saltwater tank, the use of chemicals is not as easy as it is in freshwater. Many saltwater aquarist keep invertebrates (shrimp, crabs, corals, anemones, etc.) with the fish. This presents an additional problem because the very chemical you use to kill the ick may also kill the invertebrates. Since invertebrates are not parasitized by ick, you can separate them and treat the fish. Dosage of chemicals differ so please follow label directions!

When using copper to treat please do not overdose - too much copper will kill the fish too. A good copper test kit will allow you to monitor the type of copper you use. Remember, the copper must remain in the water for at least 5 to 7 days to get rid of the swimmers. Depending on the specific type of copper you use, its absorption by the crushed coral, dolomite, or decorative coral will vary. Keep an eye on the level by using your copper test kit.

The coral tends to release the copper back into the system when it is exposed to acidic condition (such as low pH water and even sometimes the base of anemone!). With this in mind, when treating a community saltwater tank, it is usually best to remove the fish to a separate treatment tank and have no fish in the display tank for at least 7 days.

There is one way to eliminate ick from both freshwater and saltwater tanks without using chemicals. Very fine filtration using diatom powder will literally "filter out" the swimmers. Marineland's Magnum filters use this powder in a special diatom canister. This canister enables the Magnum to filter out particles as small as 1 micron (which is .00003937 of an inch!)



Please Note: The information in this handout is meant to provide basic information only. Please see a salesperson for more information.

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