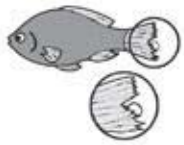
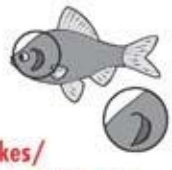
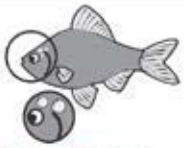
TROPICAL FISH FIRST AID BY API Aquarium Pharmaceuticals

	SUGGESTED TREATMENT	APPEARANCE	CAUSATIVE AGENT
 **Fungal Infection**	**PIMAFIX™ OR FUNGUS CURE™**	• Whitish cottony tufts or patches appear on the mouth, skin and fins of tropical fish, goldfish and koi.	True fungal infections are caused by *Saprolegnia* and *Achlya* species.
 **Fin and Tail Rot**	**MELAFIX®** If treatment appears to be ineffective, select one of the following medications for treatment: **PIMAFIX or FURAN-2 or TRIPLE SULFA or E.M. TABLETS or T.C. CAPSULES.**	• Fins appear ragged and split. Disease can progress until fins and tail are completely eroded. • Secondary fungal infections commonly occur.	Several bacteria infections can cause degradation of the fins and tails of tropical fish, goldfish and koi. These pathogens include *Flexibacter columnaris, Nocardia, Mycobacterium* and *Pseudomonas* species.
 **Flukes/ Parasitic Worms**	**GENERAL CURE™**	• Most parasitic worms are not visible without the aid of a microscope. Fish will scratch against objects and appear listless. A grayish film may form on the body. • Rapid breathing in fish may be accompanied by gasping at the surface of the water, or the fish sitting on the bottom of the aquarium. • Gills undergo severe damage, leading to suffocation and death.	*Dactylogyrus* and *Gyrodactylus* are parasitic worms commonly called flukes that attack fins, skin and especially gills of tropical fish, goldfish and koi. Parasitic worms are frequently found on newly imported fish. The worms attach to the skin of fish via hooks, where they can feed on blood and body fluids. Secondary bacterial or fungal infections may occur following infestation by either of these parasites.
 **Hole-In-The-Head Disease (*Hexamita*)**	**GENERAL CURE™**	• The most obvious symptom is the pitting and erosion of skin and muscle tissue around the face of the fish. This erosion appears to be a symptom of the parasite's presence in the intestinal tract, not on the surface of the fish. • Many fish exhibit poor appetite, weight loss and nervousness; death ultimately results.	*Hexamita* and/or *Spironucleus* parasites infect the intestinal tract of many tropical fish, especially cichlids.
 **Dropsy and Malawi Bloat**	**MELAFIX® OR PIMAFIX™** If treatment appears to be ineffective, select one of the following medications for treatment: **FURAN-2 or TRIPLE SULFA or E.M. TABLETS or T.C. CAPSULES.**	• Fish develop a bloated appearance due to accumulation of fluid in the body cavity. • Scales may appear to stick out from the sides of fish. • In advanced cases, fish lose the ability to swim and may float upside down.	Internal *Aeromonas* bacterial infections most commonly cause this disease. Viral and internal parasitic pathogens (*Myxobolus cerebralis*) have also been indicated, but are untreatable.
 **Fish Lice (*Argulus*)**	**GENERAL CURE™**	• *Argulus* is easily identified by its round, flat shell and can often be observed moving about on fish.	The parasitic crustacean, *Argulus,* moves over the external surfaces of tropical fish and goldfish, piercing the skin and sucking blood and tissue fluids. The piercing mouthparts damage fish skin, leading to secondary bacterial and/or fungal infections.
 **Anchor Worms (*Lernaea*)**	PONDCARE **DIMILIN®**	• *Lernaea* can be easily identified as a grayish worm attached to a fish. Fish tissue is often red at the point of the worm's attachment; the worm has two egg sacs at its opposite end.	Anchor worms (*Lernaea*) are copepod parasites that attach to the bodies of tropical fish, goldfish and koi. Fertilized female *Lernaea* penetrate the skin and embed an anchor-like attachment into the fish, then begin to develop visible egg sacs. Secondary bacterial or fungal infections may occur following infestation by these parasites.
 **Bacterial Hemorrhagic Septicemia**	**MELAFIX®** If treatment appears to be ineffective, select one of the following medications for treatment: **PIMAFIX or FURAN-2 or TRIPLE SULFA or E.M. TABLETS or T.C. CAPSULES.**	• Fish show blood streaks in the fins and body.	*Pseudomonas, Aeromonas* or *Streptococcus* bacterial species most commonly cause these symptoms.

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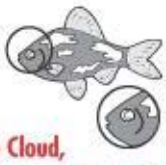
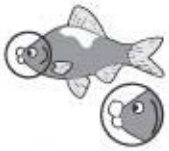
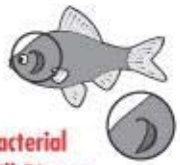
 **Eye Cloud, Pop Eye, & Body Slime**	**MELAFIX®** If treatment appears to be ineffective, select one of the following medications for treatment: **PIMAFIX** or **FURAN-2** or **TRIPLE SULFA** or **E.M. TABLETS** or **T.C. CAPSULES.**	• Eyes develop a whitish haze and/or protrude from the head. • Hazy or slimy patches appear on the bodies of fish. • If infested with parasites, fish may scratch on objects in the aquarium and exhibit rapid breathing.	Bacterial pathogens include *Pseudomonas, Mycobacterium* or *Streptococcus*. Parasitic pathogens include *Ichthyobodo, Trichodina* and *Chilodonella*. See subclinical Parasitic Infection if fish are scratching.
 **Ich (*Ichthyophthirius*)**	**SUPER ICK CURE™**	• Early symptoms of this infection in fish include darting in the aquarium and scratching against the gravel and ornaments. • Fish exhibit labored breathing and may remain at the water's surface, near filters and aeration devices. • White spots may or may not be visible on fish.	Ich, also known as white spot disease, is caused by the external parasite *Ichthyophthirius multifiliis*. This microscopic parasite has a multi-staged life cycle and is invisible during its theront stage. Theronts burrow into gill and skin tissue, causing severe electrolyte loss and gill damage and prompting secondary bacterial and/or fungal infections.
 **Open Red Sores**	**MELAFIX®** If treatment appears to be ineffective, select one of the following medications for treatment: **PIMAFIX** or **FURAN-2** or **TRIPLE SULFA** or **E.M. TABLETS** or **T.C. CAPSULES.**	• Fish exhibit open red sores on the body.	*Aeromonas* species are often responsible for this common bacterial infection.
 **Mouth Fungus- Saddle Back Disease**	**MELAFIX® AND PIMAFIX™** If treatment appears to be ineffective, select one of the following medications for treatment: **FURAN-2** or **TRIPLE SULFA** or **E.M. TABLETS** or **T.C. CAPSULES.**	• Raised, gray patches are observed on the fins and mouth areas of fish. • Live bearers, such as guppies and mollies, develop grayish patches on their backs, giving rise to the name "saddle back disease." • Infected areas may develop into red ulcers and infect the gills, causing rapid loss of fish.	*Flavobacterium columnaris* is a common bacterium responsible for this disease.
 **Subclinical Parasitic Infestation**	**GENERAL CURE™**	• Fish may scratch on objects in the aquarium. • Slimy skin may develop on fish and fins may be clamped. • Labored breathing may be observed.	*Trichodina, Ichthyobodo,* and *Chilodonella* are protozoan parasites that infect the skin and gills of fish.
 **Velvet (Oodinids)**	**GENERAL CURE™**	• Heavy infestations on the skin cause a golden, velvety appearance on the sides of the fish. • Gills are also infested, causing fish to breathe in a labored manner and to scratch on objects in the aquarium.	Velvet is caused by parasites, most often *Amyloodinium ocellatum* in marine aquariums and *Piscinoodinium* species in freshwater aquariums. (Velvet was formerly called odinium by aquarium hobbyists and in some older texts.)
 **Bacterial Gill Disease**	**MELAFIX®** If treatment appears to be ineffective, select one of the following medications for treatment: **PIMAFIX™** or **FURAN-2™** or **TRIPLE SULFA™** or **E.M. TABLETS™** or **T.C. CAPSULES™.**	• Fish will scratch against objects and appear listless. A grayish film may form on the body. • Rapid breathing in fish may be accompanied by gasping at the surface of the water, or the fish sitting on the bottom of the aquarium. • Gills undergo severe damage, leading to suffocation and death.	This bacterial disease can be caused by many pathogens such as *Pseudomonas* and *Mycobacterium* species

Note: At times, more than one medication is needed to treat bacterial infections. This is because, without identifying the species of bacteria, the most effective treatment can be difficult to determine. So, if the first product listed under suggested treatment is ineffective, it is recommended to try the other products in the order listed.

Questions or comments?
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or visit us on the web at
www.aquariumpharm.com

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