

# A-Z FISH DISEASES

In this guide, I will walk you through things that your fish might be experiencing and why they are experiencing. I will also go through the diseases and give you a comprehensive guideline of what to look for and how to treat them.

So, let's not waste any precious time at could cost you the life of your fish.

Check this list and see if any of the symptoms are present in your fishes. Take note of the possible causes of it on the side

1. Heavy breathing - General symptom
2. Stops eating - General symptom
3. Discoloration - Stress, or plistophora. Other diseases possible.
4. Bumps - Cancer
5. Swelling (especially around the stomach area) - Dropsy, overeating, constipation (more on this later)
6. Ragged fins - Fin rot or being nipped by other fish (more on this later)
7. Gasping (at the water surface) - Lack of oxygen, poor water quality, gill flukes
8. Clamped fins - General symptom
9. Inactive (for normally active fish) - General symptom
10. Whitish, stringy poop - Internal parasites
11. Cotton wool-like growth - Fungus
12. Specks (not from original pattern) - White spot or black spot disease, depending on colour
13. Cloudy eye - Bacterial infection or poor water quality
14. Sunken belly - Internal parasites or bacteria (be careful, may be Fish TB)
15. Swollen eye - Pop-eye
16. Holes in the fish - Hole in the head
17. Red gills (inflamed) - Ammonia poisoning or gill flukes
18. Red streaks - External bacterial infection
19. White threads hanging from fish - Parasitic worms
20. Erratic swimming - Possibly terminal stage plistophora
21. Pine-coning of the scales (when viewed from above) - Dropsy
22. Swimming upside down (except in synodontis cats) - Swim bladder disease or internal injuries
23. Struggling to maintain buoyancy - Swim bladder disease
24. Scratching against surfaces - Usually with the specks symptom, caused by external parasites
25. Swollen gills - Gill flukes
26. Dusty covering - Velvet

If any of those symptoms are present, you have cause to be worried. But calm down, take a deep breath and relax. Don't panic, we're here to help you. Write down the symptoms you have observed or the possible diseases, Remember, water quality is one of the most important things. Maintain good water quality, and it is exceeding unlikely for your fish to get any disease/parasite.

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Good water quality is defined as (to me) - Ammonia 0, Nitrite 0, and Nitrate 40ppm and below

Now, false alarms

1. Swelling in stomach area - As mentioned earlier, may simply be overfeeding or constipation. Reducing the amount you feed and giving it boiled and shelled green peas will help out. Make sure it isn't another disease though
2. Ragged fins - It may be fin rot, which is caused by an infection or poor water quality. Or, it may simply have been nipped by a more aggressive fish. Watch it, and see if any other fishes are attacking it.
3. Floating at the surface, unable to swim down - May be caused by swim bladder disease, or simply that it swallowed some air bubbles while eating. If the latter, the problem should wear off within several days.
4. Exhibiting general symptoms of unhealthiness like lethargy, heavy breathing, stops eating, losing coloration, etc - If you have had that fish for a long time, a possibility you may want to consider is old age. Many smaller fishes only have a lifespan of 2-3 years, and will exhibit these symptoms at the ending of their lives.

If a fish is ailing, there are several steps that should be taken **prior to using medication.**

- 1) Take a look at the ailing specimen, and take note of what is different from normal.
- 2) Check to make sure that all environmental conditions are in order, because the number one cause of stress, ailing behavior, disease, and death in aquaria is environmental problems. Test the pH, ammonia, nitrite, and nitrate levels, and if possible, the oxygen content. If these are in order, make sure that no other toxins such as paint fumes, pesticides, or cleaning agents could have entered the tank. If the answer is no again, make sure all accessories are operating properly (heater, air pumps, filter, etc.). Try to see if another tank mate may have been on the aggressive. Run down the list of the fish's requirements to see that they are all in order. Remember that tank layout and dietary deficiencies also can affect the fish's health.
- 3) If you find that one of these conditions is off, then take steps to fix it. If the water chemistry is the problem, make water changes until the problem is fixed. If everything checks out, and you still believe a disease is present you need to identify the symptoms of the disease and treat accordingly.
- 3) Where possible place fish in hospital tank to treat and keep isolated from other fish for two weeks.

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## Anchor Worms (Iernea)

This is a parasitic copepod that attacks mainly freshwater fishes, but have also been found in marine habitats. These parasites can be seen with the naked eye. Females are 10-12mm, males are 0.8mm.

Females are parasitic and embed themselves into the hosts flesh. They are held in place using a 'holdfast', where they begin feeding on the fishes' flesh, organs and fluids. Reproductive potential is seen by the development of two egg sacs on the exterior/exposed part of the parasite, giving them that Y/T-shaped appearance. Young copepods are free swimmers, but soon attach themselves to the gills. Adults and eggs are introduced via live foods, infected water, or plants.

Symptoms: Fishes infected with these parasites can be seen 'flashing' on surfaces. This is the underside of the fishes as they attempt to rid themselves of these parasites. Other symptoms include localized redness, inflation of the body of the fish, breathing difficulties, lethargy, ulcers, dropsy, weight loss, loss of scales, gill and fin damage. Puncture wounds often introduce opportunistic, secondary infections.

Treatments: Infected individuals should be removed into a quarantine tank, as to prevent females from releasing their eggs into the main tank.

- 1) Salt has been recommended as the safest form of removal for effected fishes. 10-30 grams per litre.
- 2) Trichlorfon, Dipterex and Dylox (toxic to fishes and invertebrates - use with care)
- 3) Current treatments involves Dimilin

Anchor worms are actually crustaceans. The young are free swimming and borrow into the skin, go into the muscles and develop for several months before showing. They release eggs and die. The holes left behind are ugly and may become infected.

Treatment: The anchor worm is too deeply imbedded to safely remove. Treatment can best be done with a 10 to 30 minute bath in 10 mg per liter of potassium permanganate. Or treat the whole tank with 2 mg per liter, but this method is messy and dyes the water.



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**Argulus** - the fish louse (life cycle takes between 30 – 100 days dependant on the temperature.)

Lice are one of the biggest threats to fish that you may come across.

They are approx 5 to 10mm in size and can clearly be seen with the naked eye. The biggest danger from these parasites is from secondary infection such as; fungus, bacterial or internal problems.

The best way to deal with this problem is to physically remove the lice with tweezers and treat the fish with an organophosphate based medication. If you treat the fish three times over the life cycle of the parasite you will, almost always, eradicate the lice.

**Mortality rate.**

I had an infestation in one of my tanks and lost approx 60% due to a secondary systemic bacterial infection. Although I'm sure if I had caught it earlier this would've been lower.



**Black Spot** Black Spot, or diplostomiasis, often follows the addition of new aquarium fish. All fish are susceptible, especially the Silver Dollar and Piranha. It is fairly easy to diagnose and treat.

*Symptoms* Small black spots on the body.

*Treatment* Black spot is generally easy to cure. There are a number of commercially available treatments and preventatives.



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## **Bloat**

When a guppy shows a roughened appearance from the scales standing on end, and it appears to be bloated; it may have an intestinal infection which distends its intestines so greatly that it cannot swim below the surface without great exertion. Some stay in an upright position.

**Treatment:** Try placing the bloated fish in a solution made of two tablespoonfuls of Epsom salts and two tablespoonfuls of Turk Island salt in a gallon of water. Leave it there for 4-6 hours. Then add another gallon of water and let the fish remain in this weaker solution for twelve hours before returning it to tank.

**Body Fungus:** Body Fungus is just that, fungus. It will attack your fish's skin and cause ulcers or death in extreme cases. Large amounts of organic materials such as decaying food or fish waste can cause a breakout of fungus in your aquarium. Open wounds can develop fungus. The fungus feeds by excreting digestive enzymes which if it's on the fish, slowly digests parts of the fish. Though cured easily, if the fish doesn't get prompt treatment it will surely die. Secondary infections are also common.

**Symptoms:** White or grayish patches appear on the skin or gills that look like cotton or wool.

**Treatment:** Either purchase a treatment from your local fish/pet store specifically for fungus or buy an all round antibacterial treatment such as Melafix.

Image:

**Cataracts** are fungal growths on the eyes. Treatment with any aquarium fungicide should work. Its probability increases with water rich in ammonia or nitrates.

**Symptoms:** White or gray material covering the eyes only.

**Treatment:** Special attention should be made to assure that ammonia and nitrite levels stay within accepted measures. Add anti fungal treatment. Raise the temperature and if fish are compatible with salt add it.

**Clamped fins** The fish clamps its fins close against the it's body. Experienced aquarists use this to quickly spot problems with their fish.

**Symptoms** Like the name clamped fins.

**Treatment:** Water change (Like with all diseases) add melafix or some sort of appropriate medication. If possible add salt to compatible fish.

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**Corneobacteriosis:** Corneobacteria causes swelling in the head which will push the eyes outward. It is caused by overcrowding and water of poor quality, having an excess of ammonia and / or nitrites. (YOU KNOW SEE WHY WE GO ON AND ON ABOUT AMMONIA/NITRITES 😊)

*Symptoms* Bulging Eyes

*Treatment:* There are a few commercially available products which treat corneobacteriosis Penicillin and tetracycline are among them.

## **Cotton Mouth**

Mouth Fungus is so called because it looks like a fungus attack of the mouth. It is actually caused from the bacterium *Chondrococcus columnaris*. It shows up first as a gray or white line around the lips and later as short tufts sprouting from the mouth like fungus. The toxins produced and the inability to eat will be fatal unless treated at an early stage.

**Symptoms:** White cottony patches around the mouth and loss of appetite

**Treatment:** There are commercial products available to treat cotton mouth.



**Cysts** This is an uncommon disease. Fish infected by cysts should be euthanized before the cyst bursts.

*Symptoms:* Large balls appear on fish internally or externally. They look full of fluid and are relatively large.

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## **Dropsy**

Dropsy is a bacterial infection that can attack the internal organs. This bacteria seems to only affect fish weakened by bad water conditions, stress, etc. Excess body fluid builds up making the fish appear bloated and the scales protrude outward from the body. This disease needs to be caught early to have a good chance of successfully treating the fish.

**Symptoms:** Bloating, protruding scales, exhaustion, isolation, loss of appetite.

**Treatment:** There are commercial treatments available from any fish/pet store, but it must be diagnosed early. Use Kanamycin or Tetracycline and raise the temperature to about 80 degrees/ 30 deg C. This helps remove the fluid note this is rarely curable



## **Fin rot**

Fin Rot is a bacteria that attacks the fins and in extreme cases, the body. This bacteria is usually the result of environmental stress such as poor water quality, bullying, etc. Part of treating this illness is early detection. If left untreated, secondary infections can occur. Fin or tail rot can also be a secondary infection caused by stress from other diseases. There are many different ways that harmful bacteria can enter your aquarium, some fish at the pet store will look perfectly normal but harbor harmful bacteria that the fish has become immune to, and will release the bacteria through its feces in your tank. However, healthy fish will be able to fight off the bacteria with little trouble. If only a few fish infected, it is best to move them from the main tank, and place them in a bare hospital tank for treatment, but in most cases a hospital tank is not an accessible. Fish should never be given low dosages of medications over a long period of time; this could cause the bacteria to become immune to medications. Always follow the instructions on the bottle.

**Signs:** Can be either bacterial (fins rot with red [blood] outline on edge) or fungal (white, cottony grows on edge of fin) The fins will have a ragged, uneven appearance that will eventually, if left untreated, disintegrate to the point where only a stub remains.

Fin rot often begins with red streaks in the fins that are soon followed by abnormal lightening of the edge of the fin and then a fraying or rotting of the fin membrane and edges. This infection can lead to a complete rotting of the fin and can spread to the body and lead to death.

**Symptoms:** Rotting fins, loss of appetite, sluggish movements and laying on the tank bottom.

**Transmission:** The bacteria can be transmitted through the water from open ulcers, feces of infected fish, or through the consumption of infected, dead or

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dying fish in the tank.

**Predisposing factors:** This disease is not highly contagious; however it is often associated with poorly kept or dirty tanks with poor water quality. Any dead fish should quickly be removed and disposed of. Diseased live fish should be removed to a treatment tank.

**Treatment:** The antibiotics kanamycin or erythromycins are sometimes successful. All infected fish should be handled with care to prevent transmission to humans through open wounds or cuts

I had fin rot with angel and this fixed her up.

For 10 US gallons put in half a cap full of melafix and half a cap full of pimafix for 7 days and do 25% water change on the seventh day. Be sure to keep an air stone in there and don't have the temp too high. For one bacteria grows faster at higher temps, and these meds (which are natural...tea tree oil) will reduce O2 levels.

I also cut down on feedings.

I have experienced ammonia spikes in 10g tanks that were only mature for a month or two. I haven't had any problems with tanks more than 3 months mature. Something to keep in mind.



## Fish Tuberculosis

My goldfish tank got tuberculosis from a contaminated holiday food block. One of the fish was blind and not getting enough to eat so I'd been putting blocks in to feed him up a bit. Anyway, I was away for two days and when I came back ALL my goldfish had tb. I treated them with a 50% water change, aquarium salt, and melafix. Two died, two survived. I'm not sure if this was the best way to treat tb, but that's what I did...

**Flexibacter** is a gliding bacteria. These bacteria are long, thin, and flexible. One end of the bacterial cell is attached to the fish, while the other end is free floating.

**Symptoms:** Looks like fuzziness basically. Balls that look like mold.

**Treatment** Appropriate medication (Maracyn and Maracyn II used together).

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Increased aeration, and decreased temperature.



## **Fungus**

Common disease that affects all kinds of tropical fish. Fungus mostly infects in poor water conditions in which there are unacceptable levels of ammonia or nitrites. Fin nippers will damage the fins of other fish making them more susceptible to fungal infections and external bacterial infections such as fin and tail rot.

*Symptoms* A white cottony fluff will appear on fish. Can be around body or in mouth. Fin rot appears as white on ends of fins.

*Treatment:* Relatively easy. Add appropriate medication (Available for all fungal infections). If fish are salt tolerant add salt. Raise the temp to 30 deg C or 80deg F. You should treat the entire tank with fungicide to stop an outbreak. Determine the cause of the fungal disease and rectify it.



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**Fish Pox:** Mainly coldwater fish

## **Cause**

Viral infection.

## **Symptoms**

White, grey, or pink growths on skin and fins. Fish look like molten wax has been poured onto their bodies. The problem may advance and the skin might take on same color as surrounding tissue.

## **Occurrence**

Mainly coldwater fish, especially koi. The disease often appears, develops, subsides, and reappears later. Not very contagious and fish are rarely lost to it.

## **Treatment**

"No reliable treatment." 😊

Raise temp by 5-10C or 9-18F might eliminate problem temporarily. This disease is unsightly, more so than dangerous, but avoid buying fish with this disorder.

Bacteria are present everywhere on both land and in the water and are normally classified as either 'good' bacteria or 'bad' bacteria. The good bacteria in the aquarium consist of the ones that make up the biological filter. These bacteria break down ammonia and nitrate so that it can be removed from the water.

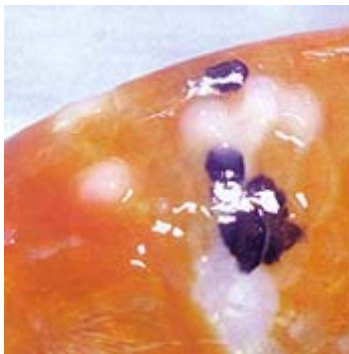
Without good bacteria most life would not be able to exist.

The bad bacteria are often bacteria that are normally present but don't cause problems until the fish is injured, stressed or suffering from another disease.

These bad bacteria take advantage of the compromised animal's weakened immune system and reproduce extremely quickly, creating the resultant sicknesses and problems.

The key to dealing with any bacterial infection is early recognition and treatment.

Of course, prevention through careful introduction of new fish, plants and water, as well as maintaining a healthy, stress-free environment for your fish, is still the best course of action.



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## **Gill disease**

### **Caused by**

Certain fungi, bacteria, protozoans and monogenetic flukes, and/or poor water quality

### **Symptoms**

Rapid gill movement, swollen gills, and discolored gill filaments with excess mucus. Fish stop eating and lie motionless on bottom or gasp at the surface.

### **Occurrence**

Newly imported fish kept in bad water conditions or established tanks and ponds that aren't maintained properly. Poor filtration, overstocking, and infrequent water changes. Also might be caused by irritation of gills due to chlorinated water.

### **Treatment**

Improve the water conditions--25-50% water change. Administer antibacterial medications.

If the problem persists, treat for parasites with an organophosphorous insecticide.

## **Hole in the Head**

here are two different diseases referred to as hole in the head. One is caused by a flagellated protozoan, either hexamita or spironucleus and the other is environmental. The first is less common in the aquarium due to breeding. The symptoms and sores caused by the disease differ. The end result can be fatal in both cases though. The first is so uncommon with the modern age of fish keeping that it is rarely found any more. It is caused by the specific pathogen a flagellated protozoan. The protozoan is found in every fish in their guts and other organs. It is kept in check in healthy fish through their immune system. Once a fish is weakened or environmental changes favor the protozoan, the numbers of the protozoan in the fish increase thus resulting in hole in the head (HITH). The symptoms of HITH are the fish will lose its appetite suddenly, will excrete white slimy feces and will develop puss filled holes in the head area. Left untreated this can result in the fish's death.

The other HITH is caused by environmental stress. This is the most common form of HITH and can be an indicator of poor water and filter maintenance. This can be caused by an excess of fish waste in the water, but more than likely by the presence of heavy metals in the tank such as copper. More than likely in rocks that are gathered and not tested to be safe for the aquarium. the fish develops small open sores that are not puss filled but rather like pits that can become enlarged as time goes on. This is caused by the epithelial cells dying. This can continue till too much of the head is exposed to the open water and the fish dies. Unlike the other HITH the fish does carry on its normal appetite and produces normal looking feces. There is no pathogen responsible in this form of HITH.

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While the first HITH can be cured with meds, the second form will only be aggravated by the meds. The first step is to find out the environmental cause of the stress either poor water quality or the contamination of heavy metals. You will need to change the water at least 75% every week to 10 days. Remove any rocks that are not approved for aquarium use, i.e. out of your yard or found on the banks of rivers, lakes, etc... Another problem is the filtration of the water. If you choose a filtration system for a fish that is not full grown and do not regularly check that it is keeping up with the load of waste, this can cause excess waste in the water. Aquarium filtration only slows the degradation of water quality it does not stop it.

From looking at your water changing schedule, you probably are experiencing the latter of the two HITH. The Oscar is probably eating and pooping normally but he is growing. The water maintenance schedule was probably sufficient when he was younger, but now he is quite larger and you need to increase the frequencies of changes. Once you get rid of the HITH you should continue the water changes on a weekly basis of at least 20%. Also make sure that your filter system is large enough to handle the amount of waste that is being produced by your Oscar.

Hole in head is a very serious disease that warrants prompt treatment. This is a common disease among larger Cichlids such as Severums and especially...Oscars. It appears as small holes on the face and around the eyes that may have a white material growing inside them. Hole in head, believe it or not, is an intestinal tract infection.

*Symptoms:* It appears as small holes on the face and around the eyes that may have a white material growing inside them. Loss of appetite and whitish feces are another indication that may appear before the development of the holes.

*Treatment* A range of medication including Aquarium Pharmaceuticals-General Cure, Aquatronics- Hex-a-Mit, Aquatronics- Hex-A-Vital (especially for Discus, You can also treat with Bettafix and do a water change every week around 20%.



## **Internal Bacteria** **Symptoms**

a. In some cases fish will darken in colour, become listless, stop feeding and die.

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b. In other cases, severe symptoms exist, ulcers, abdominal (dropsy) and eye swelling (pop eye), destruction of the central nervous system and then the fish dies.

**Influencing Factors** - Poor water quality will stress the fish and make them susceptible to infection. Also fin and body tissue damage will give the bacteria a site to start infecting.

**My Experience** - I recently lost one of my Mollies she was black so I did not notice her darken in colour, but she hid all the time and stopped eating, then died. At the point she died four other mollies and two platys started to hide and not eat. Also around this time started to notice that some of the fish had long stringy white feces (poo), it was 5 inches long in some cases.

I did a 30% water change and added Interpet No 9 for internal bacteria, plus two spoons of salt. Next day I added two more spoons of salt. On day four I put in the second dose required of Interpet No 9. Then nothing else and no water changes for the next 8 days. On the day four (after second dose) one of the mollies passed a lot of white gooey stuff and after that he started to come out at feeding time and occasionally take one or two nibbles.

All fish were fine at the end of the 8 days, out from hiding and eating again. Some did however still have a bit of stringy poo. I was therefore advised to do a 25% water change and clean up and redose the medication without salt. This is mainly as a precaution because the disease can come back if it is not "completely" cleared up.

**Reason it happened** - I did not know at the time but my pump housing was blocked my pump hardly running at all. My water parameters did not show there was a problem but the pump must have been getting slower and slower over a period of time and therefore the oxygen was getting lower and lower. I believe this is what caused the bad water conditions that kicked in the infection for my fish.

**What I have learnt** - Fish commonly get ill because of poor water quality. I knew I had not introduced anything new, I did regular water changes and my tests were all good. How could it be poor water quality? It was because of the pump problem. I say don't give up looking there is always a reason, don't just treat the disease, find out why and learn from it.

## **White Spot - Ichthyophthirius (Ich)**

This is probably one of the most common fish diseases. Ich looks like literally white spots all over the fish. This is a Protozoan disease caused by Ichthyophthirius in fresh water aquariums (Cryptocarion irritans in Marine). It is a parasite that attacks the eyes, fins, gills, skin and mouth interior

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Ich attacks the skin and gills of the infected fish. Ich is a parasitic infestation that is a very common pest among hobby aquarists. It can be introduced by rapid changes in water chemistry such as temperature or pH (these weaken the fish's immune system leaving them susceptible to disease), poor water quality, or bullied fish. Ich is easily treated if caught in time. Once symptoms are observed, treatment must be swift. The life cycle of ich is about 4 days, if treated; it will have to be a minimum of 4 days. While the ich is in cyst form, it can't be killed by medication so you have to treat long enough for the cysts to hatch into its free swimming form.

**Symptoms:** White spots all over the fish. Fish will flash or scrape its self against aquarium décor, appearance of small white cysts or "sprinkles of salt" on the body or fins, loss of appetite, rapid gill fluctuation (breathing heavily), exhaustion, isolation, fish may hang out near the surface or water return. They will have a loss of appetite or stressed-rapid breathing. The parasite can only be affected by treatment during the free-swimming stages of the cycle.

**Treatment:** There are many different treatments available for ich, just go to any fish/pet store. A Copper Sulfate or Copper Formalin medicine should be able to kill most infections. There are many medicines all do the trick. 😊 If the fish are salt tolerant give your fish a salt bath. Many people believe that the addition of aquarium salt at the ratio of 1 tablespoon per 5 gallons of water, to be very effective along with the commercial treatment, and upping the temperature to 82F. Also raise the temperature a little if you can because this will speed up the ich lifecycle. White spot (ich) lives in the water so if your fish get it, you need to treat the whole tank and not just the affected fish.

The important thing about treating white spot is that you need to have patience. There is no quick cure. Once your fish have the spots there is nothing that can be done about them, what you're trying to do is kill off what is in the water.

Treatment should continue for at least 4/5 days after the spots have cleared to make sure that the ich in the water is once again dormant.



## Neon Tetra Disease

Neon Disease is caused by a parasitic single celled organism called Pleistophora hyphessobryconis. The cell, releases millions of spores in to the water during reproduction. The spores are consumed with food by the fish where they then enter the intestine. The spores grow and replace the muscle fibers weakening the fish. If an infected fish becomes wounded or dies, the spores can escape and infect a new host.

**Symptoms:** Pale white patches appear under the skin beneath the dorsal fin.

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The fish also becomes emaciated and may swim erratically.

**Treatment:** Commercial remedies are usually ineffective as by the time diagnosis is confirmed the fish is too weak to be saved.



**Pop Eye** Pop eye is an infection that can have a few causes such as bacteria, Poor water quality, injury, poor nutrition, tumors, and vitamin deficiency. The symptoms are quite clear.

**Symptoms:** Eye or eyes protrude from head, cloudy eyes from bacteria infection.

**Treatment:** Generally hard to treat, you may try a broad spectrum antibiotic.



## **Saprolegnia**

If on the fish's body, a white slimy, flattish patch appears which seems to have replaced a part of the fish's skin, it is probably saprolegnia.

**Treatment:** Isolate the affected fish and disinfect the net. (1) Add two drops of tincture of metaphen to each gallon of water in the tank to attempt to destroy the organism. Several other treatments of the sick fish are also recommended: (2) Salt treatment, (3) heat treatment, (4) Apply hydrogen peroxide to the spot while holding fish in a damp net. Let it disinfect for 15-30 seconds before returning fish to the aquarium. Be sure to re-disinfect the net. (5) Malachite green, (6) Methylene Blue, (7) Acriflavin.



## **Septicemia:**

A fairly rare to common in all tropical and coldwater fish. It is caused by bad tank conditions and is very hard to cure if not impossible. This condition can follow on from skin infections such as fin rot or may occur independently as a result of dirty conditions. Bacteria enter the blood stream and circulate through the tissues

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causing inflammation and damage. Blood vessel and heart tissue damage result in leakage of fluids into the abdomen, producing dropsy. Inflamed blood vessels in the skin and at fin bases stand out.

Bacterial Hemorrhagic Septicemia can be diagnosed by red streaking of the fins and body and once this disease progresses, ulcerations and body sores start to appear. There is significant loss of appetite, lethargy, loss of motor functions in the later stages of the disease.

## Things To Look Out For

Reddening at the bases of the fins  
Small hemorrhages around the eyes  
Very dull, listless behaviors  
Lack of appetite

Treatment. Seek veterinary guidance. The vet will prescribe antibiotics. I recommend using Oxytetracycline Hydrochloride Powder obtained from a vet to cure this disease. Check the aquarium for the cause and eliminate it.

Diagnosis: The fish scrapes itself against objects; whitish-green threads hang out of the fish's skin with an inflamed area at the point of attachment.



**Skin & Gill Flukes** Flukes are a parasite that attack the gills and skin of infected fish. Small numbers of flukes are pretty much harmless, but in bad water conditions, over crowding, or aquaria with high organic content, they can multiply at a fast rate. According to the fish doctor the only reliable way to diagnose is with a skin scrape.

**Symptoms:** Fish will flash or scrape its self against aquarium décor, rapid gill movement, at a more advanced stage; the fish will isolate its self and lie at the bottom with fins clamped. The gills may turn red and swollen. Also cloudy skin due to excess mucus.

**Treatment:** Flukes are hard to treat and complete eradication is virtually impossible. It is said that for individuals affected with flukes, consecutive salt baths over 2-3 days can be useful. There are commercial treatments available

## **Skin ulcers**

Signs: Ulcers usually show up as raw opened areas on the skin. They often have

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reddened edges and may be associated with other symptoms of systemic infection or disease.

**Cause:** Aeromonas, Pseudomonas, Mycobacterium and Vibrio

**Transmission:** The bacteria are commonly found in the water and will invade a wound or skin injury on an otherwise healthy fish.

**Predisposing factors:** Previously damaged skin, poor water conditions, and stress can all lead to an increase in ulcers.

**Treatment:** Antibiotic baths coupled with anti-fungal baths containing phenoxyethanol are the most common treatments. Improving water quality, reducing stress, and decreasing the risk of injury are all very important in reducing the incidence of ulcers.

**Swimbladder:** This is a disease that affects the fish's swim bladder. Swim bladder disease is sometimes caused by deformed bladder, parasite infestation, bacterial infections or constipation.

**Symptoms:** Fish swim side-ways or rest on bottom and can't go to surface. Loss of balance and/or abnormal swimming

**Treatment:** This is also a hard disease to treat; there is also a product around called Paragon II by Aquatronics® that supposedly aids in treatment of swim bladder disease. Raise the temperature; add appropriate medication for swim bladder. Note this is a disease that is rarely curable.

Treat with Melafix every fortnight and salt everyday and a water change every fortnight... not the same day as putting in the Melafix. Feed Hikari Betta Pellets. All these treatment were done by me and most of them worked just fine. The treatment also worked with that fish that had the problem so please don't blame me if you try the same treatment to a different fish and it doesn't work.



## **Tuberculosis**

A fairly infectious bacterial disease, tuberculosis is becoming increasingly common. Affected specimens must be removed from the aquarium immediately so that other fishes aren't infected. A tubercular fish usually feeds normally, but loses weight as its internal organs become damaged. Some fish develop nodules under the skin which eventually ulcerate, in other nodules develop behind the eye, causing "pop-eye".

The bacterium that causes the disease prefers cooler temperatures than most bacteria that infect humans. However, fish tuberculosis can affect people, usually

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in the form of an infected nodule on the skin, but there is a small chance that it will cause a serious internal infection. Once diagnosed in one of your fish, strict hygienic precautions should be observed. A definite diagnosis is only possible by a post mortem.

## Things To Look Out For

Appears dull in color

Weight loss

Folded fins

Ulcerous skin wounds

## Treatment

Seek veterinary advice. Affected fish should be removed and euthanized. Don't allow them to die in the tank as other inhabitants will eat them and become infected too. The tubercular fish's contacts should be treated: move them to a separate hospital tank, and disinfect the original aquarium. If other fish succumb, don't introduce any new specimens, euthanize all affected fish then clean, disinfect and re-stock the aquarium.

**Tumor** There are 2 types of tumors. The Benign and Cancerous tumor.

*Symptoms:* The benign tumor will have something that looks like an infection around it. A Cancerous tumor will keep growing and some scales around the area will protrude when it grows big enough.

*Treatment:* Sadly no cure. Either euthanize the fish recommended or let it live in agony for its remaining days.



## **Velvet (Oodinium)**

Velvet is a parasite that is often confused as ich. The difference is, velvet is smaller and infects predominately the body and looks like a fine powder rather than salt sprinkles. Velvet attacks the body of the infected fish and is very contagious. Velvet is most likely caused by stress, poor water quality or chilling (sudden changes in water temperature). Velvet is a bit easier to cure than ich because the life cycle is shorter. However, this disease can prove fatal if left untreated. The parasite attaches to the skin and gills and large infestations can kill in a very short time

**Symptoms:** The parasites can usually be seen as a light dusting of gold spots on the flanks of the fish but can also appear as blue/grey fur like patches, if the parasite has entered the gill cavity then the gills will be flared and bright red in colour, fish will usually gasp at the surface. Fish will dart around and flash or scrape its self against aquarium décor, appearance of fine yellowish or white dust on body, fins clamped and/or rapid gill fluctuation (breathing heavily).

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**Treatment:** Use a medication intended for Velvet/oodinium, most white spot/ICH treatments will also work on velvet but check the label to be sure, if your fish allow for it add 1tsp per gallon of aquarium salts as well. The parasite while in its free swimming form is photosynthetic and takes its energy from light, for the best results in curing the disease completely cover the tank to block off any light and leave the tank in darkness for seven days, any live plants should be removed at this time and treated in a separate container. Increasing the temperature to 82°F and application of a commercial chemical treatment is most effective.

**Cause:** A parasite similar to white spot/ICH velvet is present in most aquariums but will only infect fish and become a problem at times of stress, i.e. when water quality is poor or a fish has been newly introduced...

## Fibrosis

Fibrosis is most often found in marine or brackish water fish but can occasionally be found in tropical species as well.

**Signs:** There are two forms of fibrosis.

**Acute Form:** Death may occur suddenly, before any signs are noticed.

Symptoms may include increased respiration, loss of appetite, lethargy, skin hemorrhages, and death. Post mortem exams may reveal enlarged internal organs, but without a diagnostic test, this disease is difficult to distinguish from other bacterial infections.

**Chronic Form:** Exophthalmoses, ulcers, and intestinal inflammation in fish that have died.

**Transmission:** Fish contract the bacteria *Vibrato angular* through open sores or feeding on dead fish that died from the disease.

**Treatment:** The best treatment includes the oral antibiotics chloramphenicol or furazolidone.



Photo courtesy T.H. Whittaker

## Summary

These are just a few of the most common bacterial infections that can infect fish. After reviewing the list of infections, it is very clear that most bacterial infections are caused by a few similar situations, and that following a few basic precautions can prevent most of these infections. The precautions include maintaining excellent water quality at all times, quickly removing any dead or diseased fish from the tank, treating all diseased fish, never introducing diseased or sick fish into your community tank, and preventing injuries from fighting or unsuitable

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habitat. If these basic guidelines are followed, bacterial infections will be a very rare occurrence in your tank.

## EUTHANASIA

For the aquarist the saddest job is that of euthanasia. This however is necessary in some cases, to avoid unnecessary suffering and pain to your fish.

A lot has been written about this topic and there are many divided opinions.

### Acceptable Methods of Euthanasia.

When considering euthanasia bear in mind that fish are capable of experiencing pain and stress and must therefore be destroyed humanely. There are a few acceptable methods and we will run through them one at a time.

1. Anesthetic- Immersion in an anesthetic solution such as Benzocaine or Tricaine Methane-Sulphonate is acceptable and may only be available via your veterinary practice. The effective dose will depend to some extent on the species of fish. An exposure to 300mg per litre of Tricaine Methanesulphonate is sufficient to cause the death to most aquarium fish. It is however advisable to leave the fish in the solution for at least an hour after death to prevent any possible recovery by the fish.

2. Decapitation- In many cases, especially with tropical fish this method is quick, clean and easy.

With the aid of a scalpel, or a sharp knife or even a pair of very sharp scissors this job can be carried out with ease. Lay the fish on a flat surface, prevent it from escaping and with one quick motion, slice its head from its body. The body may still wriggle; this is acceptable, as it is just a nerve reaction. The brain will feel no pain. To prevent HYPOXIA, you must destroy the brain as soon as the fish has been decapitated. Simply holding the head and penetrating the brain with a sharp instrument does this. This may sound barbaric, but it is humane.

Concussion- This is a method that is preferred by a lot of aquarist. What you do is wrap the fish's body in a cloth, leaving the head exposed. Picking the body of the fish you then strike the head off the edge of something hard with a hefty blow. This renders the fish unconscious and then again you must either decapitate it or destroy its brain to avoid any chance of recovery. Anglers' use a club, known as a priest to club big fish such as trout, to render it unconscious. I would not advise that you use such a device with tropical fish.

### Unacceptable methods of Euthanasia

1. – Flushing a fish down the lavatory
  2. – Removing them from the water until death occurs
  3. – Plunging them in either boiling or freezing water
  4. – Freezing them to death, this method causes pain and immense stress.
- Knocking them unconscious without destroying their brain.

### Safe Method of Disposal of the Carcass

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You should now exercise some responsibility in the disposal of your fish. Do not throw it in the lavatory as the carcass may contaminate other fish in the waterways. Do not feed the carcass to your other fish or animals, it could spread disease. Remember the reason why you had to destroy it in the first place.

The safest way is to wrap the carcass up in newspaper, place it in a polythene bag, securely seal it and dispose of it in the rubbish.

If you have a real fire, this is another effective method of disposal. Cremation

Remember, Commercial fish medications are not regulated by any government agency. This means that some commercial medications have not been tested for safety or effectiveness. Thus some medications are completely useless and may be even harmful to aquarium inhabitants. Check out what you are buying, if it is compatible for the type of fish that you have. Try to find someone who has used that product before, or stick with well known brands that you can be sure of.

## There is something called **Medication Poisoning**

If medications are misused they can be harmful more than helpful. Medications can have adverse affects on many types of fish including catfish, tetras, mormyrids, loaches and other sensitive fish. Copper based medications have harmful affects on invertebrates, so always remove snails and crustaceans from the tank before treating it. Always be sure to read the label on medication to confirm that it is suitable for your fish. If medication appears to be harming your fish, make a partial water change and filter the water with activated carbon.

There are a few things that you can do to prevent most of the diseases listed here which are:

1. Doing good water changes.
2. Keeping filters clean.
3. Not putting your hands in the tank a lot.
4. QT all new fish, for a min of a week.
5. Buy good healthy fish to start with, look at them at the pet store.
6. Give fish a hiding place. This can really cut down on the stress on the fish.
7. Live plants, since I have switched over to live plants I have had a lot less sick fish.
8. Don't add a lot of stuff (meds, stress coat, etc, etc) to the tank unless there is no other way around it, most of the short cut stuff is hard on fish.

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9. Don't mix fish aggressive and peaceful fish should not be mixed, leads to fin nipping then in most times fin rot.

10. Don't treat fish till you're sure of what they got.

11. Watch temp swings in the tank.