There can be nothing more upsetting than ulceration on a fish. This kit is designed to give you a pretty good chance of repairing the damage. Before I go on to describe the treatment plan, one or two questions you must ask yourself; is this an isolated "one off" would or ulcer? Do other fish show signs of ulcers? If so please, please, please, be quite sure your water quality is good. Most ulcers that "break out" on Koi and Goldfish, (that have been previously o.k.) are normally a result of an underlying water quality issue. Poor water quality will only delay the healing process, especially if Ammonia is high.

The secret to successful treatment is to catch the problem early and do something about it. Only in exceptional circumstances will a fish have the ability to heal without treatment. Also, a certain amount of persistence is required. It is quite common for the need to repeat the treatment. This topical treatment kit can be used at any temperature any time of the year, though it must be pointed out the fish will heal quicker if the water temperature is  $21^{\circ}C + (70^{\circ}F +)$ . Do not be put off if you cannot achieve that temperature at the time of treatment, keeping the wound clean and free of bacteria at any temperature is very beneficial.

The main problem faced when trying to heal a wound etc, is the ever-present pathogenic bacteria in the pond and on the wound, itself. It is beneficial to lower bacterial levels in the pond at the time of treatment, especially when the water is above 18°C (65°F) this can be achieved by adding **Kusuri Chloramine T** or **Kusuri Acriflavine** to the pond, or though non-chemical beneficial products like **Kusuri Pro-100** will not damage water quality or low filter activity.

## Step one:

Prepare everything before you start! Firstly, read through these instructions. If the wound is in an awkward location and the fish is above 6 inches, then it may be best to sedate the fish. To sedate a fish, take a bowl / plastic bag and add pond water, just enough to cover the fish. Work out the volume of water that has been put in the bowl and then add **Kusuri Masuizai Koi Sedate**, at the rate of 10mls to 2 gallons. Shake the bottle well before use. Agitate water to mix solution fully. Put fish in bowl and watch carefully, when the fish "gone over" or can be lifted above the water for 20 seconds without "kicking or twisting" the fish is ready for treatment.

Depending on the size, temperature, general health and gill efficiency it maybe necessary to add more **Kusuri Masuizai Koi Sedate**, add at the same rate to the same solution if the fish is not fully sedated after 2 minutes. This is common do not panic!

Remember at any stage during the treatment return the fish to the pond if you are in anyway concerned that all is not going well! Then follow Stage three.

Soak a tea towel or similar with pond water. When the fish is sedated, place on a damp tea towel and cover the fish so only the treatment area is visible.

## Step two:

Dry wound with a swab or cotton bud. If there are any very loose or dead scales remove them. Add **Kusuri Roccal Wound Cleaner** on to the wound site to clean the treatment area, using a cotton bud. Dry off again. Avoid contact with eyes and gills. Wipe area clean and apply the penetrating **Kusuri Anti Bac** solution on the wound **(DO NOT DRY OFF).** Then immediately sprinkle **Oraheasive Powder** liberally on to the treatment area, blow off excess powder. Allow the powder to absorb into the wound (about 20-30 seconds). The powder can be lightly wetted again with the **Kusuri Anti Bac** and more powder applied to make a double layer of protective powder, and then finally apply **Kusuri Top Coat Sealer** solution over the powder and surrounding area. Allow sealer to dry off for at least 50-60 seconds. That's it!

# Step three:

Return fish to pond. Avoid touching the treatment area; hold fish in water near an air source venture or air stone. If possible move fish back and forth to make gills move. It is possible to put a finger in the mouth of the fish to make the fish "gulp" this can help resuscitation. Release fish when it can swim away unaided.

## Follow up:

Hopefully this procedure will not have to be repeated. Though the procedure can be repeated if required, sedating fish is stressful and should be kept to a minimum. Keep a close eye on the wound, the dressing should last 3 to 5 days, after that, just apply **Kusuri Anti Bac** solution by bowling the fish then holding the wound site above the waterline. Once a week is adequate until a sign of new skin growth is evident, i.e. area goes white around the edges of the wound or the wound becomes light pink in colour as the new tissue is being generated.

Remember any chemical is a dangerous substance! Always wear surgical gloves when handling medications. Please read fully the statutory health and safety statements on each bottle.

Spray bottles are supplied uncharged, 4-5 pumps maybe required before spray appears.

## This kit contains:

- 100ml Masuizai Koi Sedate (use cap to measure product).
- 100ml Roccal Would Cleaner
- 100ml Anti Bac
- 25g Oraheasive Powder
- 50ml Top Coat Sealer
- 1 spare spray head and 100ml bottle
- Cotton bud applicators
- Latex surgical gloves

Replacement kit components are available at: www.kusuri.co.uk