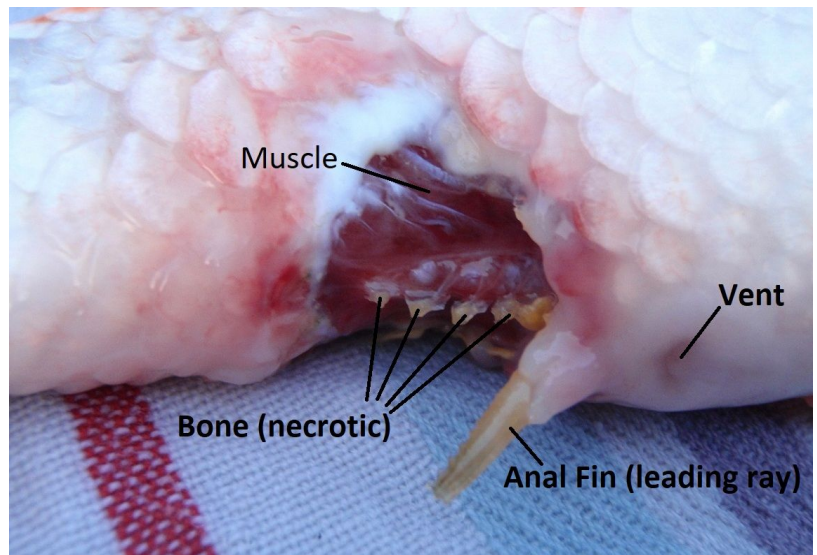


## Fin Rot: Personal Koi Keeping Experience.

The following set of images are from a koi that I successfully treated. This small Kohaku was sulking in a corner of my pond. It was the beginning of November 2012. The pond was filtered using a less than adequate Hozelock Trinamic filter fed via a pump. It was a typical liner pond. I was just starting to get more understanding of the complexities of keeping koi so very early days in the hobby.

This Kohaku had no visible wounds when viewed from above. I netted it and on closer examination I discovered an advanced state of fin rot. The anal fin had completely rotted away and tissue from the tail tube was being eaten away. Damage was down to the muscle and bone which was dead (necrotic) as shown in the photograph above.



At this point in my hobby I did have a microscope but it was one from childhood, it had no mechanical stage and no light, it was difficult to examine a slide and get the correct light with only a mirror as the light source! So scrapes were carried out, Trichodina (below) was found in very large numbers. Water parameters were all fine.

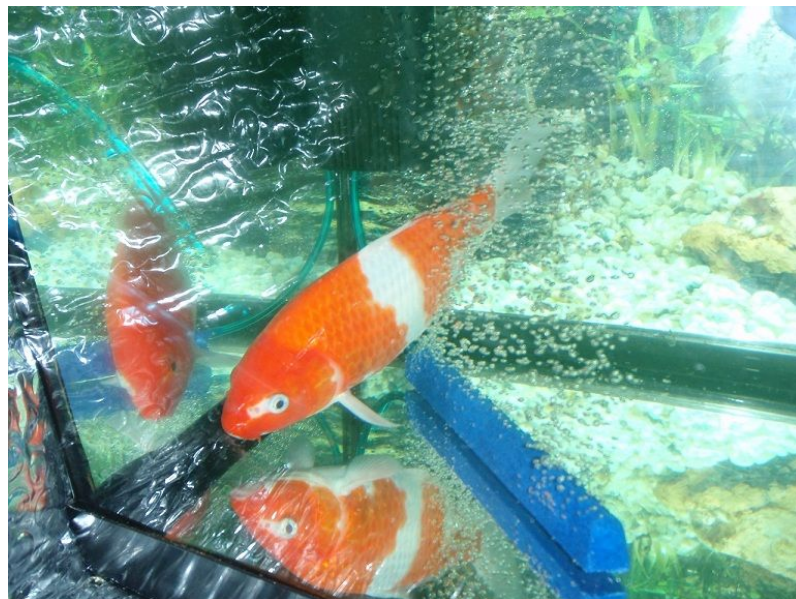


I realised that in order to have any chance of saving this fish I needed to remove the dead tissue of the bone and remnants of the anal fin. Due to the close proximity to the vent I had to take great care so as not to cause further damage to internal organs. The koi was sedated using Kusuri Mazsuizai. I soaked my tools in boiling water with TCP to disinfect them as much as possible prior to use. The area was then cleaned with roccal wound cleanser and sterile gauze. The aim was to keep the area being operated on as clean as possible. There were a number of dying and dead scales

around the site which came out relatively easily using a pair of tweezers. Using very sharp and strong bone cutters I then clipped off the ray and the bony protrusions as

far down as I could. I then cleaned the area again and used antibacterial spray. Satisfied all the dead tissue had been removed I then used "Orapaste" that I had got from a vet to fill the cavity of the ulcer. This was then covered with "Orahesive powder" and then sealed with the "Top Coat Sealer".

As it was a small koi, approx 4-5 inches, I set up an aquarium with a heater and air stone as a hospital tank. I used fresh water which was dechlorinated and dosed with Acriflavine and PDV Salt to the water to make a solution of

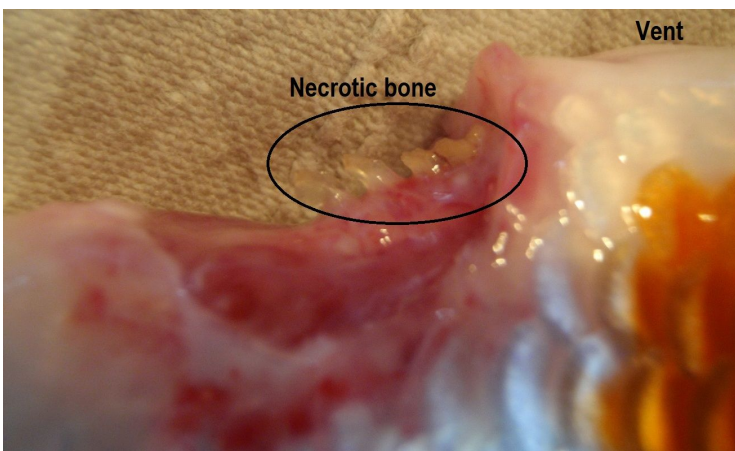
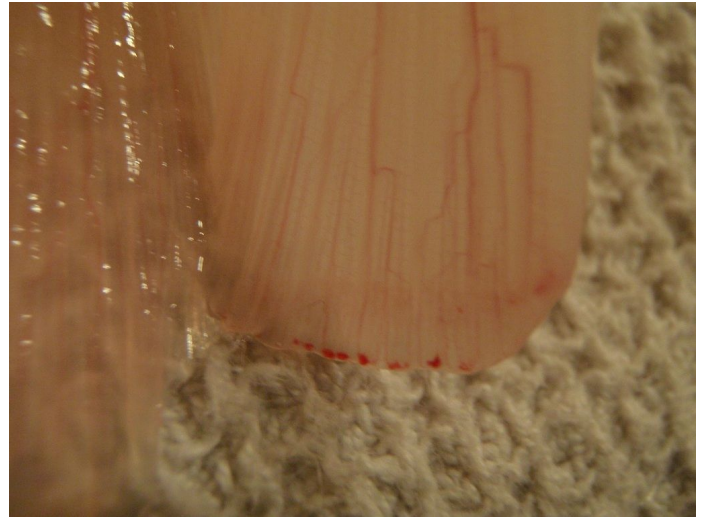


around 0.3%. I did not have a salt meter so I relied on measuring how much water came out and went in. The koi was put into the water and the heater turned up to achieve a temperature of 23C over a few days. Daily half water changes were done as no filter was set up, fresh water was dosed with salt and acriflavine and warm water used to maintain a constant temperature.

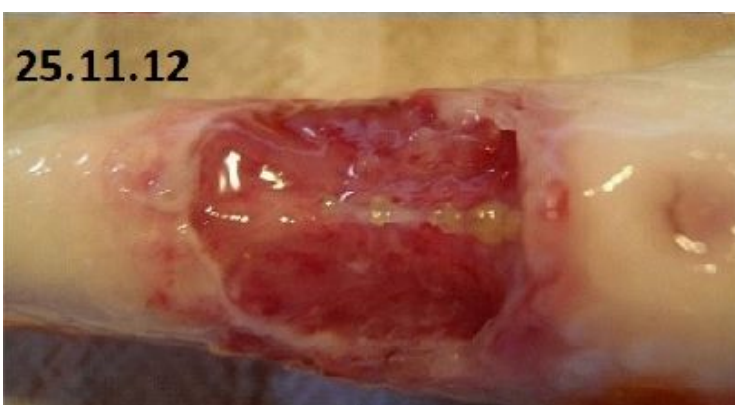


As well as the ulcer that had developed, there was a small amount of fin rot on one of the fins (Tail/Caudal). While the koi was sedated I took the opportunity to cut back the damaged fin. The photograph to the left shows it before treatment and the red line is where the fin was trimmed back to. As you can see there is redness which indicates infection and the edges are ragged with no blood flow or viable skin tissues.

To cut the fin I used a strong pair of surgical scissors to make a clean cut. There was minimal bleeding which was cauterised using Hydrogen Peroxide. It was rinsed with tap water, Povidine applied with orahesive powder on top, then sealed with the top coat sealer. The image to the right shows the fin is growing back, has a nice smooth edge and has a good blood supply with healthy skin tissue.

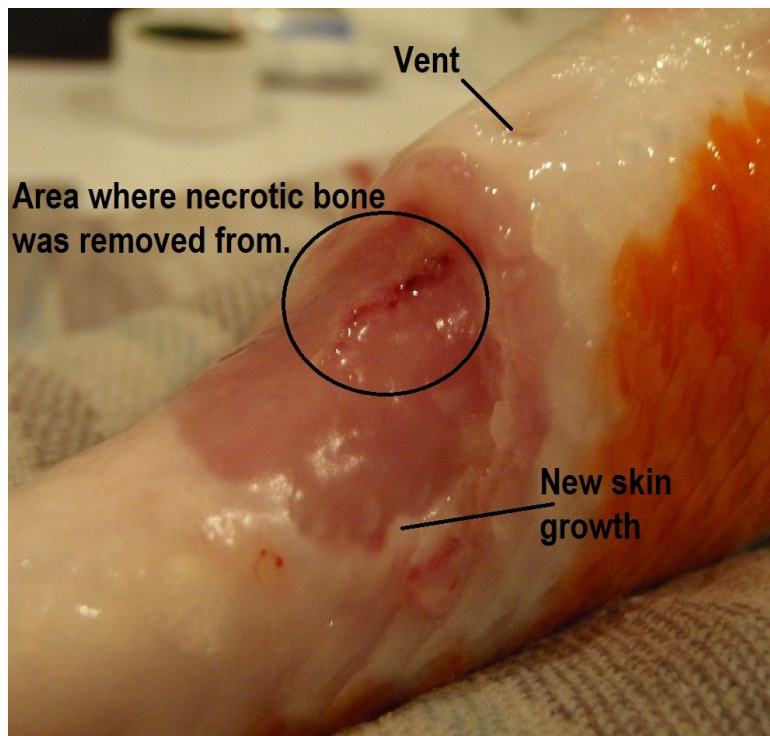


A week later I sedated the koi again to check on the wound. Further bits of bone needed removing, these are the yellow bits circled in the image to the left. If they were to be left in the fish it would prevent healing and would eventually start rotting inside the fish. I could see that the muscle was no longer visible and a layer of new tissue was starting to form. It had a healthy pink look with good blood supply and the wound edges were also starting to heal. It did still look quite raw though. You can tell it is healing as the edges of the wound are getting more white and the wound is



shrinking. I cleaned the wound and sealed again and returned the koi to the tank.

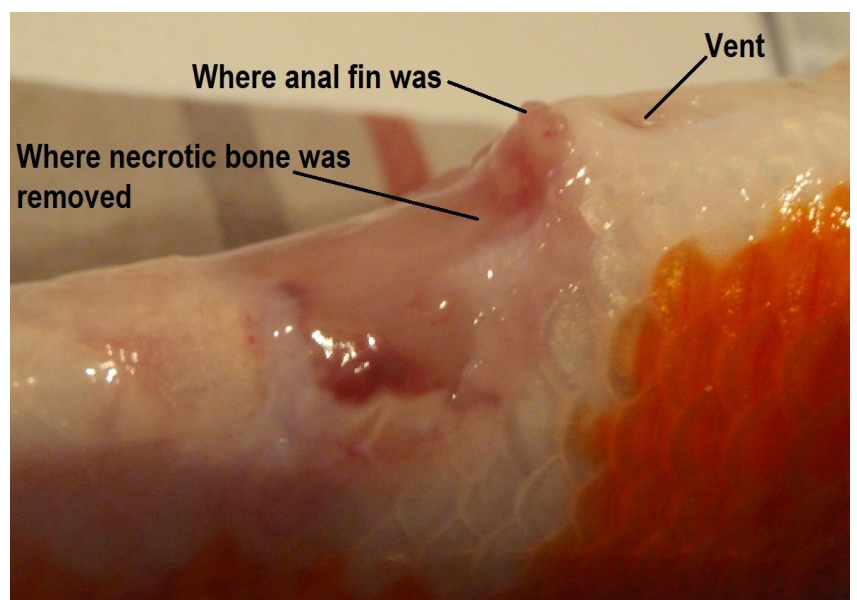
Another week went by and I wanted to check on the wound. The wound bed now had a full layer of new tissue forming over it which was pink and had a good blood supply. It did not look as red and angry now. The redness around the edge of the

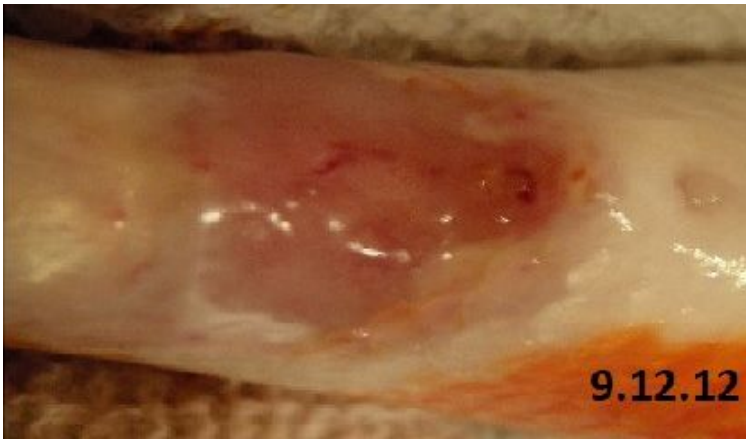


wound was almost gone and the white edges were smoothing out as the new top skin layer is growing. No more tissue needed removing and there was no more signs of infection. The skin was healing over the area where the bone was removed. The same topical treatment was applied: area thoroughly cleaned, Povidine applied then Orahesive, top coat and the koi returned to the tank to recover from the anaesthetic. Seeing how well this little kohaku was doing certainly made all the

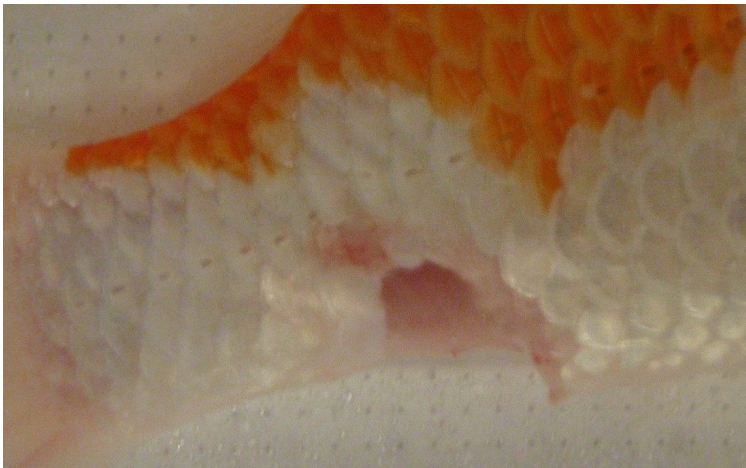
time spent treating it worthwhile.

He was now being fed sparingly with medikoi health to aid healing and water changes increased. After another week the wound was getting there. It was more difficult to see any defining edges to the wound as the top skin layer was continuing to spread over the wound bed and fill out. There doesn't look to be a huge bite out of him now.





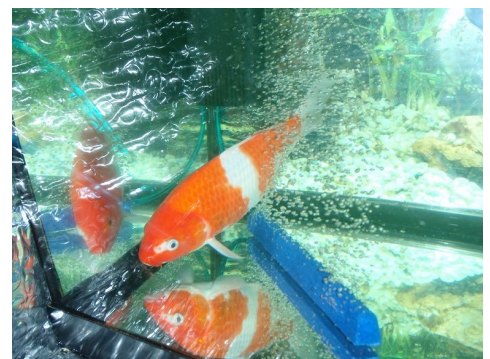
After another week of treating with heat, salt and acriflavine the wound was healing very well. It got to the stage where no further intervention was needed apart from water maintenance. It was not necessary to keep sedating him when the wound was almost healed. The Kois ability to swim was not impeded and you could hardly notice there was anything wrong with it.



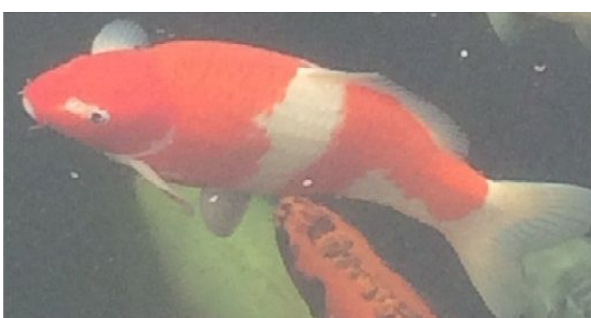
As it was still winter I had to gradually reduce the temperatures of the tank. The koi was eventually returned to the pond after temperatures were warmer.

No antibiotics were used at any point to treat this fish. Parameters of the

water needed to be closely monitored due to the very small tank volume. A small drop in filter was added to try and keep the parameters reasonably stable. Larger regular water changes were still needed though.



Left: The tank used as a hospital facility during treatment.



By 2015 this Kohaku wasn't quite as small and had doubled in size. He continued to thrive and do very well.