

# **Traumatic injuries of beak and talon in captive raptors.**

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Beaks and talon are permanently grinding sharp dermoid organs in raptors. Their good condition is essential for normal food intake, locomotion and species specific hunting. In captive raptors permanent grinding off is limited and traumatic injuries of these organs are common.

In the front part of the beak bilateral cracks are present in the early stages of damage. During the eating of hard bones or constantly biting at jesses, the cracks can progress further up towards ceroma and large pieces of the beak's edge can be detached.

The main cause of talon traumatic injuries is an overgrown sharp talon. The talon can be stripped off if the bird applies sudden excessive force and tension when the talon deeply penetrates hard material, e.g. a glove, or even its prey. Such injuries are very often painful and markedly reduce performance and ability in the next couple of days. Acute injuries bleed intensively and could be an easy entrance for different pathogens.

The objectives of quick trauma management are primarily to reduce the possibility of infection and secondarily to protect the distal digital process from further damage and provide necessary pressure for the new nail to regrow. The band shape of the talon depends on the shape of the boned base. If sufficient protection is not provided immediately after the injury, the process is further traumatized. Then the newly regrowing talon is straight and the catching ability of that foot is severely reduced. Mostly the toes are stripped off from the digits I. and II., the most important ones for proper grip.

### **Methods**

Five falcons with beak injuries and nine falcons with talon injuries were presented for medical check up and correction in a specialized falcon hospital. In five cases with stripped off talons the injuries were fresh, 2-10 hours old. No damage of distal digital process was visible and intensive bleeding was present. A termical toes on injured digit and 4% Lotagen liquid was applied using soaked gauze for 1-2 minutes. Distal present was cleaned of using iodine solution. When no bleeding was present and the surface of the proceses was fully dry a layer of cyanoacrylate adhesive "Super Glue" and Talc powder mixed with cly (500mg/capsule, rate 10:1) was applied to form a white mass hordening very quickly. 4-5 layers were used to form a thick cap, strong enough to protect the distal.

The same Super Glue and Talc powder mixture was used to correct cracks on 5 beaks injuries. The cracks were cleaned off and the damage was filled with the mass from inside and outside. When the hardened beak was ground and smoothed with sand paper, this procedure stopped the progress of the crack.

### **Results**

In nine cases of talon injuries the artefact talon cap remained on distal processus almost until the new talon fully regrew. It took 5-8 month relatative to the size of talon. If the repair was done in the acute stage with no damage of the distal processus, the newly regrown horn formed the identical talon to the old one. If distal phalangeal processus was partly damaged the new talon was defective equally to the processus damage. In two cases the talon cap came off as result of intensive bleeding and in the second case as result of no proper drying of the processus surface prior applying the Super Glue and talc powder mixture. Both cases were corrected in the same way and this provided sufficient protection. No evidence of inflammation or infection was seen in any of the cases.

### **Conclusion**

Using Talc powder, Super Glue and antibiotal mixture is a quick, easy and effective way to repair traumatic injury of talons and beaks at raptors. It can be used for long-term injury management or as a alternative procedure in conditions before proper repair and medical management can be performed. Successful horn regrowth and identical shape of the new talon fully depends on good protection of the distal phalangeal processus.