

Experience Report

The Tissue Adhesive EPIGLU[®] in the Veterinary Medicine



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Cases

- 1. Castration of a male dog**
- 2. Castration of a buck rabbit**
- 3. Castration of an inguinal and abdominal cryptorchidism**
- 4. Castration of a female dog**
- 5. Removal of mammae due to mammary tumours**
- 6. Closure of a knee wound after a cruciate ligament operation on a dog**
- 7. Closure of an abdominal stomach wound after pyometra operation**
- 8. Castration of a monkey**
- 9. Treatment of a fractured beak**
- 10. Treatment of a long abdominal operation wound after removal of a bladder stone on a male dog**
- 11. Treatment of a wound after a thigh fracture on a Rhodesian-Ridgeback dog**

Our practice...

... is situated in a suburb of Hamm in a purely residential area. Therefore clients are therefore mainly private individuals where the pet plays a major role – with older people often their only contact. We have been improving our operating methods for years, as well as the post-operative treatment, which has progressively improved and is reflected in the satisfaction of our animal owners, especially with the post-operative wound closure problems that very seldom occur.

Generally, after an operation the severed layers are finally sealed with a sub- or intra-cutaneous sutures with a good absorbable thread. A needle-thread combination with 5-0 or 4-0 Vicryl or Vicryl Rapid is used. The skin layers are adapted so, that the then applied adhesive prevents gaping or movement of the superficial skin layers.

The subcutaneous or intra-cutaneous sutures provide secure protection when there is movement or Strain. The closure of the epidermis with skin adhesive is even visually more attractive than sutures or clamps, that are always disturbing for the animal leading to an increased licking of the wound and therefore, to a slower and wound healing. To avoid this increased licking of the wound, complicated bandaging or a neck collar have to be applied, that the animal constantly tries to remove. Particularly the neck collar is a great burden for both animal and owner, and frequently cause damages to the home whilst trying to free themselves.



With adhered wounds it can be observed that there is a rapid healing with minimal scarring. The animals rarely lick these wounds. Normally – for optical reasons only – a very thin layer of aluminium aerosol is sprayed over the wounds that have been adhered with the tissue adhesive; the animal owners are always positively surprised at the external appearance of the wound. Should the wound healing process be disturbed it can be seen from the condition of the aluminium layer whether the animal has licked the wound, which is a very rare occurrence.

The adhering of the outer skin layer has an immense advantage in comparison to the traditional wound treatment and is indispensable in the daily routine, as can be seen in the described cases.

It should not be underestimated that for wounds treatment with **EPIGLU®** adhesive

Do not need an appointment for the removal of stitches, which is often very stressful for unruly animals for the owners, animals, veterinary and staff.

The final examination of adhered wounds is usually carried out problem free for all parties.

Apart from domestic animals, also the animals from the Zoo in Hamm are treated in our practice, as in case 8 – castration of a monkey – describes.

Case 1 – Castration of a male dog

After the castration (Fig.1) the subcutaneous sutures are carefully performed so that the close together wound edges can be covered directly, without any further aid, with a thin layer of **EPIGLU®** (Fig.2). After the spraying of the aluminium aerosol the surgical wound is in an excellent condition. (Fig.3).



Fig. 1



Fig.2



Fig.3

Case 2 – Castration of a buck rabbit

After tying the spermatic cord and the removal of the testis (Fig.4) the thin skin is pressed together and **EPIGLU®** applied (Fig.5) to the close together wound edges. Here it can also be observed that there is a significant reduction in the licking reflex of the wound closed with the adhesive with the adhesive closed wound (Fig.6).

As the adhesive offers an infection barrier increased wound infection does not occur even when the environment of the rabbit is not of optimal hygienic conditions.

Since we have changed over to the using of **EPIGLU®** no more healing problems have occurred.

The rabbit can go straight home. A neck collar or special lining of the cage with bedding or paper is not necessary (Fig.7). Adhesive which can be seen in picture 6 is adhesive remaining from the foil of the surgery.

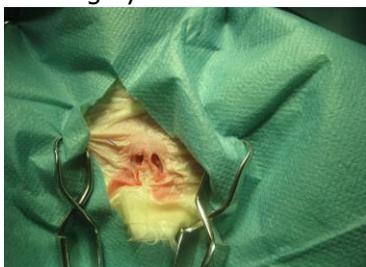


Fig.4



Fig.5



Fig.6



Fig. 7

Case 3 – Castration of an inguinal and abdominal cryptorchidism

In picture 8 both of the surgery wounds can be seen clearly, that through the subcutaneous sutures, the wound boundaries are very close together. In illustration 9 it is shown that not only simple skin wounds, but also laparotomy wounds can be closed with **EPIGLU®**.

Here forceps are used to assist with application. Also these operation wounds are sprayed with aluminium aerosol, for optical reasons, and the very satisfied animal owner can leave the surgery with his pet without any further treatment or care.



Fig. 8



Fig. 9



Fig. 10

Case 4 – Castration of a female dog

The pictures below were taken 10 days after the operation. After 8 days the operation the wound was already healed insofar as the remains of the adhesive and spray could be removed with skin oil.



Fig.11



Fig.12



Case 5 – Removal of mammae due to mammary tumours

After the removal of the mammae the long skin wound is closed with the adhesive technique. The OP was 8 days ago and the wound is infection free.



Fig. 13

Case 6 – Closure of a knee wound after a cruciate ligament operation on a dog

Even wounds on moveable joints, as shown here, the application of **EPIGLU**[®] on the knee after a cruciate ligament OP (Fig. 14). This wound is initially bandaged (Fig.15). One week after the operation the rest of the adhesive can be seen that hasn't been licked off by the dog (Fig.16).



Fig.14



Fig.15



Fig.16

Case 7 - Closure of an abdominal stomach wound after pyometra operation

Even with such a long stomach wound (Fig.17) after the closure with a subcutaneous suture the epidermis is closed onely with **EPIGLU**[®] to avoid infection (Fig.18). The wound boundaries have to be adapted with additional aids during the adhesion. In the postoperative illustration no. 19 it is impressive to see that even this long wound can be perfectly sealed. Healing was as with most bonded wounds irritation free. For the removal of stitches with traditional wound treatment sedation would be necessary, which would mean stress and costs for the animal owner and time for veterinary surgeon.



Fig.17



Fig.18



Fig.19



Case 8– Castration of a monkey

Here the adhesive was a great advantage. Previous experiences has shown that the monkeys use their skillful hands to pull the stitches out 2 – 3 days after castration, disturbing the wound healing. Since we have started to adhere the wounds, the monkeys leave these alone and therefore there is no interference with healing. The illustrations 20 and 21 show the pre-operative situation and in picture 22 the wound is, as usual, covered with a thin layer of **EPIGLU®**.



Fig.20



Fig.21



Fig.22

Case 9 – Treatment of a fractured beak

The broken beak of the Ibis is treated with a splint reinforced with **EPIGLU®**. Until the healing process is completed the birds' nutrition was carried out with an implanted probe



Fig.23



Fig.24

Case 10 – Treatment of a long abdominal operation wound after bladder stone removal on a male dog

Also these long wounds have been covered with a thin layer of **EPIGLU®**. after subcutaneous sutures therefore securing against wound dehiscence and infection. The healing process continued without incident.



Fig.25



Case 11– Treatment of a wound after a thigh fracture on a Rhodesian-Ridgeback dog

One week after surgery the remains of the adhesive that has not been licked off by the dog can be seen clearly. The wound area is normal.



Fig. 26

Summary

The Ethyl-Cyanoacrylat-Adhesive has enhanced our daily practice. The wound treatment takes less time, and the costs involved in using the adhesive EPIGLU® is lower than the cost for sutures.

The removal of stitches, which once again causes a stress situation, is eliminated. The animal owner is glad that the animal does not have to wear a neck collar; the wounds are almost never licked, a rapid healing and the scar formation barely discernible.



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