

## **Application of REPULS ® VET Red Light Radiation Lamp in practice:**

Summary of a field study among the Austrian horses specialists (including Dr. U. Barth, Dr. G. Hladik, Dr. P. Küber, Dr. C. Mahringer, Dr. X. Sterrer)

### **General**

The REPULS ® VET Red Light Radiation Lamp is a development of the Vienna University of Technology with RELUX and by the Austrian Patent 505 280 protected. The principle of operation based on an entirely new medical technology: 4 light-emitting diodes - LEDs - emit cold pulsed red light, which occurs deep in the tissue with inflammatory mediators in this response and thus vary biochemically.

It comes in implication to pain and inflammation and finally to a substantially accelerated recovery.

The **REPULS ® Red Light Radiation Lamp** is a medical device in Class IIb - since the end of 2009 in human medicine and support in professional sports successfully. The use in veterinary medicine is one of the logical consequences of the sensational success in the above-mentioned areas.

This surveillance study was performed on 65 cases on horses (Dr. M. Keller, 2010) yielded a 92% success rate. The treatment is very well accepted by the horses .

### **The most successful indications on horses**

- Tension in the back and neck muscles, Kissing Spine Syndrome, the neck ligament insertion desmopathy
- Manifests acute to chronic injuries - especially synovial
- Subliminal inflammation of the supporting and musculoskeletal system: in monitoring of the training of the slightly tarnished or trained horse
- Joint inflammation, sesamoidosis

### **Results of field study**

There were 49 patients registered in study from the veterinarians, of which, two dogs with dermatoses.

In four patients the treatment was stopped, 92% could be treated easily.

The compliance of the horses and the owner was in 88% of the cases where described as good to very good.

The therapy was in Average of 7 days with a 15 minutes irradiation, in 61% twice a day. The irradiation was carried out to two-thirds (75%) by the patient owner himself.

In the completely treatment of 45 patients, only one aggravation occurred (exposure of a contraindication - abscess).

10 patients showed no change in the indication and irradiated at 76% of patients improved the clinical picture.

The positive change was assessed percentage, the result is an average improvement of 64%.

### **Results of the individual indications (number patient):**

3 acute muscle trauma :	100% improvement, on average by 55%
5 skin:	100% improvement, average 65%
18 tendon injuries :	94% improvement, average 66%
83 back (6):	83% improvement, average 65%
5 joints :	80% improvement, average. 67.5%
4 ligament injuries :	50% improvement, average 30%
6 infections :	17% improvement, average 80%

A deterioration - CAVE: Infections are a contraindication **1 HWS : 0%**

Of course, due to the partial small number of patients in the indication groups, the percentage data are checked on their reproducibility. Here in particular is to be mentioned the cervical spine, in an ongoing observational study has showed a 90% owned success rate.

Very good activity can be expected in the tendon and muscle disorders. That skin disorders respond well to therapeutic light, was described earlier. Joints and spinal injuries must be assessed case-specific, also here the REPULS ® VET has great potential.

### **Economic efficiency:**

The economic aspect is remarkable for the veterinarian and for the customer. For most of the indications, the radiator is offered as an option. This is especially effective extensively in action animals (geriatrics?).

**For example tendon:**

The injured tendon, as one of the main indications, means a minimum dwell time of average of 3 months. The REPULS ® VET is in 94% of the cases an average improvement of 66%.

If the average irradiation of one week are (175€ net.), Then the financial burden of the owner of an animal with such a serious injury , and will amortize bearable, by the expected shorter standing time.

The veterinarian has paid the device in less than 22 application runs.

**Conclusion:**

The **REPULS ® VET Red Light Radiation Lamp** has convinced both the veterinarian and the owner of the patient, through the simple, virtually free of side effects and extremely efficient effectiveness. The operation and use is fairly self-explanatory and without instructions led to a clinical success in 76% of cases.

Combined with a patient and customer satisfaction of 88%, this novel treatment method is to be called unique.

The financial situation is to be seen positive for both the owner and veterinarian.