

kINPen® VET

Innovative Wound Treatment:
Cold Atmospheric Pressure Plasma (CAP)
in Veterinary Medicine

FROM PROTOTYPE – TO PRODUCT – TO MARKET

kINPen® VET

Cold Plasma Device for Wound Treatment

- Stimulates and accelerates physical wound healing
- Has an antibacterial (even on multidrug resistant strains), antiviral and antifungal effect
- Very effective reach of deep and hidden wound areas such as caverns, cavities and hair follicles
- Short and painless treatment without sedation
- Compact and portable
- Easy handling
- Accepted very well by patients and practice staff

www.kinpen-vet.de



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kINPen® VET was awarded the title of "BEST OF" from the INDUSTRIEPREIS 2015 and is prizewinner of the SIGNAL IDUNA Environment and Health Prize from Hamburg's Chamber of Commerce 2015.



Plasma Medicine

In the last few years plasma medicine has completed the transition from a field of research to actual medical use. The creation of the world's first professorship for plasma medicine in Greifswald and the founding of the National Centre for Plasma Medicine in Berlin have made it possible to pave the way for the innovative technology to become an evidence-based clinical plasma medicine.



The main area of application for plasma, both in human and veterinary medicine, is the treatment of wounds. In addition to dermatology and surgery, oncology and dentistry are further promising areas of application, which are at the focal point of current research.

Further information (in German):
www.plasma-medizin.de

What Is Cold Plasma and How Does It Work?

Plasma is seen as the fourth fundamental state of matter after solid, liquid and gas. A plasma is an ionised gas and contains not only electrons and ions, but also free radicals, excited species, UV radiation and electromagnetic fields. The synergetic combination of these components creates an antibacterial (also against multiple drug resistant infections), antiviral, antifungal and anti-inflammatory effect on the surface of the wound. The plasma activates the immune system and increases cell proliferation and associated angiogenesis. This results in a largely physiological skin structure with minimized scar formation. Neither damage to deeper layers of skin nor other side effects have been observed in numerous documented case examples in veterinary medicine and in clinical studies in human medicine.

The kINPen® VET

The kINPen® VET which operates at atmospheric pressure with argon gas creates a cold plasma at a comfortable temperature of around 40° C. The plasma is emitted from the tip of the device. It is visible and looks like a flame. It has an effective area of about 1 cm². The pen-like handheld device is traced over the affected area of skin at a moderate speed of about 5 mm/sec. In order to achieve the best possible affect, the intensity of the treatment is controlled over the treatment time and should last for approximately 20-30 sec/cm² of wound area. An interchangeable spacer guarantees the correct distance is kept during treatment.

Indications and Documented Therapy Success (selection):

- Chronic wounds
- Wound healing disorders e.g. wound dehiscence, necrosis or emergence of a seroma
- Multiple drug resistant pathogens
- Hotspots
- Mycosis
- Otitis externa
- Intertrigo
- Pyoderma



Photo caption: Diabetic male cat with chronic leg wound – course of healing over 14 weeks (2 treatments/week); Dr. C. Bender, Veterinary Practices Karrin & Lubmin

Who Manufactures the Device?

The neoplas GmbH is manufacturer of the kINPen® VET and is a spin-off company of the Leibniz Institute for Plasma Science and Technology (INP Greifswald), Europe's largest non-university research institute for low temperature plasmas. The high-tech company which was founded in 2005 is specialised in the development and manufacturing of plasma sources. With the CE-certified kINPen®VET the neoplas GmbH is the pioneer on the veterinary medicine market.