

Cold plasma therapy with the **plasma care®** leads to healing of a post-operative wound healing disorder 1½ years after a traumatic lower leg amputation and flap plastic.

Chronic wounds that do not heal even with optimal treatment represent a physical and psychological burden and a significant risk of infection for patients. They are also a health economic challenge for our society.

Cold plasma therapy has found its way into wound care for a number of years.<sup>1</sup> It is a physical treatment method in which the wound surface is exposed to a cold ionized gas in order to inactivate wound pathogens and stimulate wound healing.<sup>2</sup> This can improve the contribute to the wound situation.

**CASE REPORT**

At the age of 61, the patient suffered a traumatic trans-tibial amputation of the right lower leg, which was closed with a flap in January 2018. For the following 18 months, the patient was cared for by a professional wound care service. The wound situation on the contact surface of the prosthesis and the patient's sensation of pain regularly improved and worsened, but wound closure did not occur and a moderate amount of reddish exudate was observed throughout. The skin area was normal.

From August 2019, in addition to the standard treatment, **the patient was given cold plasma therapy twice a week: Each wound area was treated with the plasma care®** for 1 minute. At the beginning of the therapy the wound had an area of 0.74 cm<sup>2</sup> (L x W = 2.04 cm x 1.87 cm). After a total of 9 cold plasma treatments, the skin area was still normal, the wound area had shrunk to 0.17 cm<sup>2</sup> (0.51 cm x 0.48 cm), the exudate was transparent and the patient had reported no pain during the treatments.

 Profile  
Woundmanager

**ELLIPSA medical services GmbH**  
Wound expert (ICW) at Ellipsa medical services GmbH, a mobile wound care home service in Regensburg

 Patient Overview

**63-year-old, mobile patient with trans-tibial amputation**  
Post-operative wound healing disorder in the residual limb (lower leg right) after flap plastic surgery in January 2018, no known concomitant diseases

**References**

- <sup>1</sup>J Heinlin et al. (2011) Plasma applications in medicine with a special focus on dermatology, JEADV 25, 1-11
- <sup>2</sup>T. von Woedtke et al. (2019) Plasma Medicine: A Field of Applied Redox Biology, in vivo 33, 1011-1026



Fig. 1: Initial Situation



Fig. 2: 3 CAP Treatments

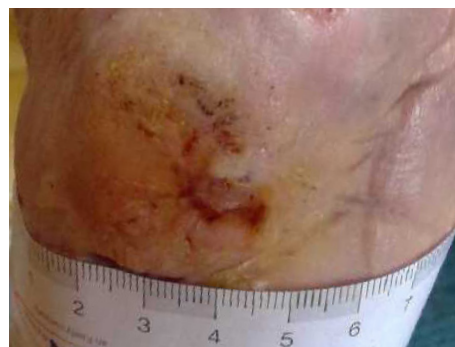


Fig. 3: 6 CAP Treatments



Fig. 4: 9 CAP Treatments