

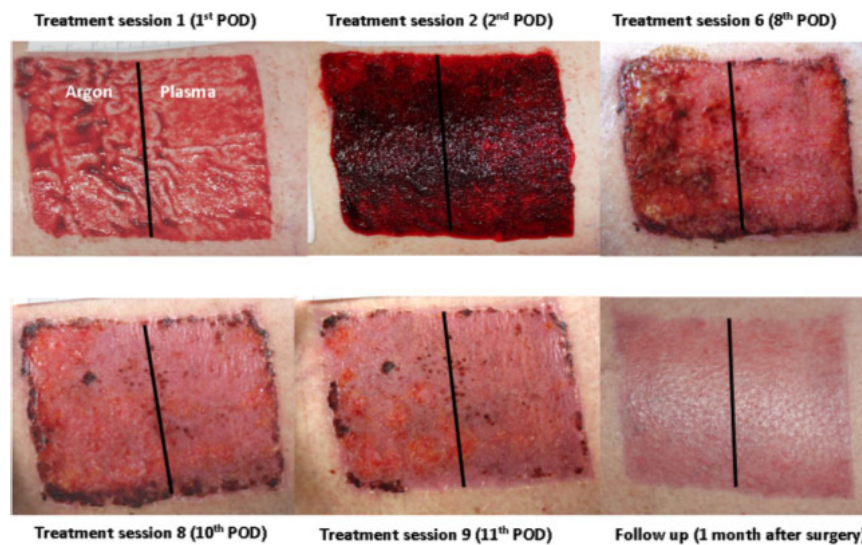
## Adtec SteriPlas use on Skin Graft Donor Sites

Cold atmospheric plasma has already been shown to decrease the bacterial load in chronic wound dermatological applications. In this study, forty patients with skin graft donor sites on the upper leg were enrolled in a study to assess the impact of cold atmospheric argon plasma on the process of donor site healing.

### Study Outline

Forty patients attending the outpatient and inpatient clinics at the Department of Dermatology of the University Hospital Regensburg, Germany, were consecutively enrolled into this prospective randomized controlled study between May 2009 and June 2011. The wound sites were divided into two equally sized areas that were randomly assigned to receive either plasma treatment or placebo (argon gas) for 2 minutes. Donor site healing was evaluated independently by two blinded dermatologists, who compared the wound areas with regard to re-epithelialization, blood crusts, fibrin layers, and wound surroundings.

### Results



From the second treatment day onwards, donor site wound areas treated with plasma (n=34) showed significantly improved healing compared with placebo-treated areas.

Considerable positive effects could be observed with regard to improved re-epithelialization, significantly fewer fibrin layers, and blood crusts, without any influence on wound surroundings. Wound infection did not occur in any of the patients, and no relevant side effects were observed. Control

areas that were treated with the inert noble gas argon as placebo were never significantly superior to the areas treated with plasma. Both types of treatment were well tolerated.

This study shows the benefits of plasma application to standardized acute wounds, in which, from the very first moment, bacteria should not be allowed to play. Undoubtedly, Skin Graft Donor Sites are colonized in the course of time with microorganisms that might impair physiological wound healing. Adtec Plasma treatment can reduce or completely eliminate bacteria without damaging healthy tissue or human cells. Short treatment times that are sufficient to kill bacteria do not cause any (macroscopic nor microscopic) alterations in human skin.

Patients rated the plasma treatment very positively because of its easy application and the low rate of side effects.

Full Study Details can be obtained from the following paper:

**Randomized placebo-controlled human pilot study of cold atmospheric argon plasma on skin graft donor sites**. Heinlin J, Zimmermann JL, Zeman F, Bunk W, Isbary G, Landthaler M, Maisch T, Monetti R, Morfill, GE, Shimizu T, Steinbauer J, Stolz W, Karrer S. Wound Repair Reg 2013