

## Press release

### CE mark approval for the plasma care®

**terrapiasma medical GmbH has successfully completed the CE conformity assessment procedure for the plasma care®. In June all necessary certificates were issued to terrapiasma medical GmbH from TÜV Rheinland (notified body). The plasma care® - which can now be marketed in the European Union - is a portable medical device for wound care using cold atmospheric plasma. As a professional device, the plasma care® can now be used by medical experts for the treatment of acute and chronic wounds.**

The plasma care® is a handheld and portable medical device. It generates cold atmospheric plasma directly from the surrounding air by means of micro-discharges. Cold atmospheric plasma is a partially ionized gas, which causes localized and temporary formation of micropores with a diameter of few nanometers in the cell membrane. This results from physical as well as chemical processes. Reactive oxygen and nitrogen species such as nitrogen dioxide, hydrogen peroxide and ozone – produced by the plasma - enter the cell via these micropores. In prokaryotic cells (bacteria) the reactive species then react with the free DNA in these microorganisms and inactivate them by inducing DNA oxidation and double-strand breaks. Antibiotic and other resistances (as for example in the case of MRSA) do not have any influence on this mechanism of inactivation and do not impair this. Human eukaryotic cells on the other hand are not harmed by the effects of temporarily applied cold atmospheric plasma, as their DNA is additionally protected by the nuclear membrane. Moreover, cell-biological repair mechanisms provide additional protection (for example the regulation of the cellular redox-balance).

With the development of the plasma care® terrapiasma medical GmbH successfully managed to integrate the complex plasma technology into a small, portable and battery-operated handheld device. The plasma care® uses an indirect plasma source based on the SMD (Surface Micro Discharge) technology (patent pending), which guarantees that no current flows through the patient. The plasma care® was developed in such a way that it significantly reduces the bacterial load in in-patient and out-patient wound care settings, especially in infected wounds which are difficult to heal, and even in the case of infections with multi-resistant pathogens. For this purpose, the plasma care® in combination with a spacer (sterile disposable) is placed onto the wound. By touching the capacitive (touch) start button the plasma production is activated and the generated reactive plasma species are transported to the wound surface without any additional flow, i.e. by pure diffusion.

411 Words

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