

Experience report on the PDT system SkinFlex M for the treatment of actinic keratoses

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Photodynamic therapy for the treatment of actinic keratoses is now an established treatment method. In particular, exposure to simulated daylight without UV components using LED systems promises a low-pain treatment option.

The new SkinFlex M daylight LED system from Schulze & Böhm GmbH in Brühl has been available on the German market since 2024. This report shows the experiences in our dermatological practice over a period of approximately three months:

Treatments:

Mainly actinic keratoses types I and II were treated in over 30 patients.

The treatment areas were mainly on the face and head.

Pre-treatment was usually carried out using curettage or fractional laser.

Treatment protocol:

After applying the photosensitizer for 60 minutes, the skin was then exposed to the daylight spectrum (400 to 700 nm) of the SkinFlex M for 60 minutes. Both Metvix (Galderma) and Ameluz (Biofrontera) were used as photosensitizers. The administered light dose was approximately 30 J/cm². After exposure, patients were asked to avoid sunlight for at least one week.

Description of the SkinFlex M system:

The PDT device consists of 5 large LED panels with a total treatment area of 900 cm², which allows the treatment of large areas.

The LED panels are attached to each other with stable metal hinges, which allows exposure to be individually adapted to the shape of the head.



The LED panels are attached to an articulated arm that can be easily adjusted to almost any position via several axes. The device is space-saving and mobile and only requires a normal 230 socket. A modern computer control with a large touch display offers maximum ease of use.



During exposure, no heat is generated on the skin, which patients find very pleasant. The fans are pleasantly quiet. The most important treatment protocols (3 different daylight protocols, classic red light PDT and blue light therapy) are already pre-programmed on program buttons. However, you can also control the individual LED colors (blue 417 nm, yellow 590 nm and red 633 nm) separately if desired. This makes operation quick and easy. After starting, the exposure runs automatically and at the end of the exposure time the device switches off automatically.

Treatment results:

The exposure itself is almost painless for most patients, well tolerated and has practically no side effects. The desired inflammatory reaction corresponded to the known course of artificial daylight PDT.



After about a week the skin had healed. The treatment results were very satisfactory, as is known from the previously published results of PDT. None of the treatments had to be discontinued. The results were almost equally good with both photosensitizers.

Conclusion:

The SkinFlex M system shows very good treatment results for actinic keratoses. The exposures are perceived as very pleasant, with almost no sensation of pain. As a result, photodynamic therapy with SkinFlex M represents an optimization of (outdoor) daylight PDT and a further development of conventional PDT (cPDT). The advantages are the year-round, plannable therapy regardless of the season or weather, the controlled, homogeneous and reproducible dosage, the UV-free, defined daylight spectrum, the short exposure time and the almost painless implementation in the doctor's office or clinic under medical supervision. The SkinFlex M PDT system represents a reliable and standardized treatment option for the treatment of actinic keratoses in the dermatologist's office or clinic.