



PHOTODYNAMIC THERAPY

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Photodynamic therapy is a treatment in which light is applied to the skin to destroy premalignant and/or malignant lesions which have been activated by a photosensitive drug. The most common use in dermatology is to treat **actinic keratoses**, the dry, scaly patches on the skin caused by excessive exposure to ultraviolet light from the sun. These precancerous lesions have a potential to turn into **squamous cell carcinomas**.

The two most commonly used photosensitizing compounds in dermatology are aminolevulinic acid and methylaminolevulinate. At the beginning of a treatment one of these solutions is applied to the skin. The drug is absorbed by the actinic keratosis cells where it is converted to a chemical that makes the cells extremely sensitive to light. Next is the incubation time in which the solution is allowed to penetrate the skin. For more delicate areas like the face, the waiting time is 1 to 2 hours. Other areas like the scalp, arms, or chest may have an overnight incubation time. Finally one sits before a specific wavelength light source which activates the medicine to destroy the abnormal cells.

The light itself is of low intensity and does not heat the skin. However, because of the solution being applied, one does experience some burning, tingling, or stinging of the actinic keratoses. These feelings of discomfort should improve at the end of the treatment and quickly subside. Following treatment, the skin will redden with some swelling and scaling. These are temporary and should completely resolve within four weeks. The skin will remain very sensitive to sunlight or bright indoor lights for at least 48 hours after the solution is applied, so adequate sun-protective items should be used like a wide-brimmed hat or an umbrella.

The only FDA approved indication for photodynamic therapy in dermatology is actinic keratoses. However off-label uses include treatment of **basal cell carcinoma, Bowen's disease, acne, rosacea, photoaging, sebaceous hyperplasia, flat warts, and genital warts**.

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