



Nanotechnology in dermatology

Nanotechnology is an emerging branch of science built on the fundamental changes in material properties when particle size falls into the nanorange (1–100 nm). Through the manipulation of the size and shape of a device at the nanorange, a novel and often superior characteristic or property can be achieved.

Nanotechnology promises to revolutionise medical care in its entirety. The technology has been used in biomedical and therapeutic agents, with the aim to provide novel treatment solutions where small molecule size may be beneficial for modulation of biologic function.

Within dermatology, nanotechnology has gained particular prominence through targeted drug delivery. Recent developments in nanomedicine have become both increasingly important and innovative in the treatment of skin cancers, inflammatory dermatoses and the area of wound healing. Other applications include the treatment of sebaceous gland and scalp disease, as well as consumer products such as cosmetics and photoprotectors.

Innovation in nanoparticle drug delivery systems represents a promising response to the demand for less invasive and more selective medicines and therapies. As such, the design, production and application of nanotechnology represent the possibility of a better, more targeted approach to a wide range of dermatological issues.

This review provides an overview of the most investigated applications of nanotechnology in dermatology.

