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107 | In Vivo Imaging of Intraepidermal Tattoos by Confocal Scanning Laser Microscopy

O?goshi K, Suihko C, Serup J.; *Skin Res Technol*. DOI: 10.1111/j.0909-752X.2006.00199.x. May 2006; 12(2):94-8.

ABSTRACT

BACKGROUND/AIMS: In vivo confocal laser scanning microscopy (CLSM) is a new method for high-resolution imaging of intact skin in situ. Horizontal mapping of the outer skin is provided (magnification x 1000).

OBJECTIVES: Tattooing is popular all over the world; however, tattooed skin has not been studied in using CLSM.

RESULTS: Tattoos in two volunteers were studied using the VivaScope1500 of Lucid Inc. Subepidermal massive deposits of dense, clustered pigment granules up to about 3 μm in size corresponding to black tattoos, and more scarce and diffuse deposits, corresponding to red, blue and green tattoos, were observed. Diffuse pigment granules tended to accumulate in the outer dermis underneath the level of the basement membrane zone.

CONCLUSIONS: Dermal pigments from tattoos can be imaged in vivo using CLSM. This application of CLSM has an important future potential for pre-evaluation of tattoos before laser removal, predicting good or poor outcome of laser removal.