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Trans-epidermal pigment release

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TEPR is a modern version of on an old technique for removing tattoos. The removal of tattoo pigments using this technique is described as Trans Epidermal Pigment Release (TEPR). An understanding of alternate methods of tattoo removal and how the skin heals will help in understanding how TEPR works.

Making a tattoo: Tattoo pigments are injected into the skin using needles that deposit them at a particular range of depth. The epidermis is disrupted by the process and heals afterwards in the manner of a graze or superficial burn by re-epithelialisation. Now being intracellular, the pigment is protected from further elimination by the immune system and therefore remains, pigmenting the skin when seen by an external observer through the translucent layers above.

Lasers rely on the principle of selective disruption and destruction of pigment and the cells within which they are contained. Released, broken up pigment molecules are thus exposed to the immune system and recognised as "foreign".

The problem of tattoo removal from the skin: The efficacy of removing tattoo pigment from the skin without leaving evidence that a tattoo has been there or that an injury to the skin has occurred whilst trying to remove it. The depth at which pigment is placed by the tattooist's needle varies in absolute millimetres.

Tran'sepidermal pigment release: (TEPR): TEPR utilises the theory of partial thickness wound healing in modified form. Its advance is to rely upon small surface area, closely spaced partial thickness injuries with intervening skin bridges of intact epidermis and dermis. TEPR techniques first create circular patches of de-epithelialized skin in a pattern which covers the area of tattoo.TEPR uses medical grade micro-needles set to precise user defined penetration depths.