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CAN A PERSON WITH KNOWN NICKEL ALLERGY BECOME TATTOOED?

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Introduction: Nickel allergy affects 9% of adults (females 17%, males 3%). Everybody who is allergic to nickel may develop dermatitis by skin exposure to very low amounts of nickel. Many tattoo inks contain nickel. Is it safe for nickel allergic persons to become tattooed?

Methods: Sources of information: reported concentrations of nickel in broad selections of tattoo inks in Denmark, Italy and Sweden; clinical reports; knowledge on levels of nickel resulting in allergic contact dermatitis; restrictions and recommendations for prevention.

Results: Nickel was detected in all tattoo inks from Denmark (n=61) and Italy (n=56). The highest concentrations were 18 µg/g (=ppm) (Denmark), 9.6 µg/g (Italy) and 71 µg/g (Sweden). No conclusive relationship between concentration, brand, colour or pigment has been revealed. The sources of nickel are unknown. The levels in many tattoo inks result in exposure exceeding the limit values in REACH (release 0.5 and 0.2 µg/cm²/week) and the recommendation for consumer products (1 µg/g).

Conclusion: It cannot be regarded safe for nickel allergic persons to become tattooed today, when most tattoo inks contain nickel. No information on nickel concentration in tattoo inks is available to tattooists, clients or retailers. No recommendation on how to avoid nickel-containing tattoo inks can be given. The current requirements by the Council of Europe in ResAP(2008)¹, which is applied in some European countries, states that nickel shall be “as low as technically possible”. This is insufficient for protection of public health.