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TATTOOING AND INFECTION: TATTOO INK IS A VECTOR FOR INTERNATIONAL SPREAD OF SERIOUS INFECTIONS

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Aim: To study the microbial safety of tattoo ink stock products and inks as a potential source of infection locally and across national borders. To discuss sterility and preservation requirements and future strategies to prevent infections in tattoos.

Methods: Clinical examples of common infections in tattoos are presented with a brief review of the issue. 58 new and unopened tattoo ink stock products from 13 manufacturers were purchased. These were cultured for bacteria and fungi pathogenic to humans. Labelling was checked as was damage to the bottles during transportation. Product data sheets were requested from manufacturers.

Results: 10% (6/58) of new inks were contaminated with bacteria, no with fungi. The isolates were *Staphylococcus* sp., *Streptococcus* sp., *Pseudomonas* sp., *Enterococcus faecium* and environmental contaminants. No *Mycobacteria* were found. 42% (5/13) of manufacturers claimed sterility. 12.5% (3/24) of inks claimed sterile was contaminated with bacteria. The physical sealing of bottles upon reception was not intact in 28% (16/58). On request of information about method of sterilisation and preservation 2 of 13 manufacturers responded and claimed their products were sterilised by gamma irradiation.

Conclusion: Tattoo ink stock products are often contaminated with bacteria, which are human pathogens. Claim of sterility is not to rely upon. Fortunately this exposure of the tattooed appears not paralleled with high rates of infected tattoos. Risk of infection transferred from tattoo ink, nevertheless, represents a serious risk. This threat calls for safer products and national surveillance strategies and control. It was hitherto neglected that tattoo inks potentially may spread serious infections such as penicillin resistant *Staphylococci* (MRSA) and *Coli* type VETEC across borders and internationally from bulk production sites. In a number of countries the frequency of MRSA is in the magnitude of order of 50% based on common isolates. The reservoir of MRSA is unlimited in a number of countries, where inks are produced.