

Tattoos - Life-Saving Art or Potential Health Hazard ?

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Tattoos as a form of bodily adornment are known to have their origins in antiquity.^{1,2} Almost every known ancient civilisation has used the art of tattooing in ceremonial or religious rites and the significance of tattoos in tribal traditions has persisted into modern cultures to varying degrees. Captain James Cook's observations of the Polynesians of Tahiti and the New Zealand Maoris during his first voyage led him to record in his journal 'Both sexes paint their bodies, "Tattaw" as it is called in their language (Tahiti), this is done by inlaying the colour of black under their skins in such a manner as to be indelible'.³ His revelations led to the revival of tattooing as an art form in Europe where working-class popular culture may have been influenced by returning soldiers and sailors. Australian historian David Kent has also shown that tattoos were common among our earliest convict settlers arriving at Port Jackson.⁴ Quite apart from tribal custom, however, tattoos have within the past century enjoyed a range of social acceptance and popularity from stigma to fashionable art.

In the armed services tattoos have always been commonplace and generally accepted as little more than distinguishing marks for those individuals who dared to be different.⁵ Unlike the general population where differing fashion trends and variable social mores have until recent years dictated the utmost discretion on the siting and design of tattoos, members of the Australian defence forces have met with few controls either from within the service or from outside.

Not surprisingly, however, the majority of tattoos acquired by young servicemen in particular have been obtained soon after enlistment and during an early period of service away from home. Peer pressure, opportunity and the effects of alcohol have been common factors influencing young troops to seek tattoos.⁶ The group of new recruits who have identical designs tattooed on their arms after a night on the town is a common scenario. Their desire to identify as mates and the often conservative, even patriotic nature of their tattoos is reassuring. Trends including motivation and social attitudes towards tattoos as body art, however, have changed with the gradual discard of the conservatism of past generations.

World War I

Designs frequently sought by soldiers about to leave Australia during the first World War incorporated kangaroos and lions with flags and other patriotic items such as the rising sun emblem for the Army. The Union Jack and the Australian flag were combined to indicate a close alliance in a fight primarily for the motherland. If words were used they generally spelt "mother", "mum and dad" or the name of a girlfriend to indicate some attachment. Because of the permanent nature of the tattoo the recorded "Mary" or "Ethel" was often a source of regret and embarrassment in later life.

Rarely did an individual choose to have his own name tattooed on his body but hearts and initials were considered safe and acceptable and were commonly used. Other words, such as patriotic slogans - "Fight the Good Fight", "For England" or "Death or Dishonour" might have been chosen to build courage and hope in a situation requiring moral support.

For teenagers, transformed rapidly into men prepared to enter battle, the military uniform and the warrior image were no doubt enhanced by a manly tattoo that also sent a message of courage and devotion.

It has long been a tradition that sailors obtained the most artistic tattoos often from exotic ports visited during their service. Long periods at sea and a reputation for having a girl in every port were part of a tradition which men of the Navy shared and promoted with some degree of pride. Their visits to foreign ports in Hong Kong, Singapore and the Middle East provided the opportunities for some unique experiences including a wide variety of tattoos. Dragons, snakes and erotic women featured strongly in the more artistic and coloured Asian and Oriental designs which persist to the present day. Their ships and anchors, often with a simple message like "Homeward Bound", combined that adventure and romanticism attached to the high seas with a certain stability and sense of purpose. The anchor tattoo among sailors has been interpreted as a symbol expressing safety and a determination to 'hold fast'.

World War II

Tattoos became even more popular with our armed services during the second World War, possibly influenced by the growing trend among American servicemen. Again, however, young men joined the army before being subjected to peer pressure and the fervour of patriotism was strong enough to influence many in their choice of tattoo.

Unfortunately, social attitudes and acceptance of tattoos outside the armed services have not been universally favourable and a certain stigma attached to the lower socio-economic groups, prison inmates and bikie gangs, related as much to their dress habits including tattoos as it did to their antisocial behaviour. The community response to ex-servicemen with tattoos who were unwittingly grouped with these social misfits caused many of them even decades later to regret having the tattoos in the first place.

As with the previous generation, World War II servicemen tended to confine their tattoos to the upper limb; some being conscious of a perceived need to hide their tattoos from public scrutiny made certain that they could be covered by short sleeves. In many ways the society of the 1940's was more conservative than that of their parents. Such concerns didn't trouble the men of the Navy, however, whose overt display of body art became more varied, more ornate and more obvious in keeping with their seafaring tradition. They too were more prone to local complications such as bleeding and infection from the parlours of Asian ports where unsterile bamboo needles were commonly used.

Although an increasing proportion of tattoos were made by professional tattoo artists during this period, many of them establishing their tattoo parlours close to military camps and port facilities in the larger cities, some were still self-inflicted or provided by another amateur, and the results of these latter were often crude, simplistic and obviously inferior. Professional artists at this time began to show more pride in their work. Flowers, females in various poses, Scotsmen, flags and even dragons incorporated coloured designs using red, yellow, blue and green dyes as well as blue and black ink, although not without some unknown risk and with no guarantee of permanence. Most of those we have observed sixty years later have little or no coloured pigment remaining apart from the black or blue outlines and basal cell carcinomas have developed in some tattoos with red dye.

Korea and Vietnam

Tattoos obtained by Australian servicemen during the Korean and Vietnam conflicts have demonstrated a growing trend towards sophistication in both

technique and artistic design. Corps mottos and slogans such as "Death before Dishonour" or "Invicta", "Paulatim" and "Who Dares Wins" were more often used as captions to an artistic metaphor of roses and daggers. Although the army personnel continued to display traditional and patriotic designs including crossed rifles, flags and the rising sun emblem, unit and corps insignia appear more frequently as well as oriental patterns and pictures that would indicate their overseas service. Sailors showed this trend and Asian influence by having bigger and better dragons, sometimes accompanied by Mandarin script, not only on arms but across the chest or back. The colours used in these tattoos are generally more distinct and don't appear to be fading. Although airforce personnel are known to have tattoos they are less commonly seen and no specific trends have been observed.

One innovative trend in the Vietnam era was the common use of blood groups and sometimes regimental numbers for identification. The blood group was usually tattooed near the cubital fossa and simply indicated the cross match necessary for transfusion or the soldier's availability as a donor. Religious motifs, particularly designs incorporating a crucifix or Star of David were personal declarations of allegiance rather than an indication of a fashion or trend. Very few Australian servicewomen are known to have obtained tattoos during this time, possibly because the era of social approval of body piercing and tattoos as adornment for both sexes was still twenty years hence.

Into the modern era - Discussion

The 1990's witnessed a revolution in fashions which included hairstyles and clothes, and almost unlimited display of flesh, with body piercing and some artistic adornment with tattoos. Today the range of tattoo designs also appears to know no bounds, from small flowers or birds favoured by young attractive females to the large and complex Maori-style patterns which cover large areas of the limbs or torso. While the Australian Defence Force has no official policy on this matter, apart from avoiding any display that may be considered offensive, it may be a fair indication of the common sense and intelligence of our recruits that very few display tattoos that would attract attention.

Tattoos, scars and birth marks are still recorded, however, on medical documents as identifying features of an individual. Fortunately we rarely see the giant cobwebs, obscene messages or facial tattoos which identify with the criminal element, many of whom regret having such marks and seek their removal.

The published results of recent surveys from the United Kingdom and United States show some general

similarities between the two countries in the prevalence of tattoos among military personnel. Findings included a high incidence of tattooing, a strong determination among new recruits to obtain tattoos, the possession of tattoos for self-esteem and self-identity reasons, and the supportive role of friends.^{7,8} More than a third of those surveyed (36% in US; 44% in UK) already had tattoos, and possibly the strongest influence they identified was a combination of social popularity and peer pressure. Drugs and alcohol were cited in a relatively minor proportion (15%).

Most were ignorant of any potential health hazards. The percentage of tattooed soldiers who regretted having tattoos exceeded 44% after the age of twenty six years. Rather surprisingly there is still a significant incidence of home-made tattoos among younger recruits in the UK. This fact, together with the large number of reported procedural bleeding (76%) from the US, must alert us to the potential danger of transmitted infection, including resistant strains of *Staphylococcus aureus*.⁹

One of the few surveys of military personnel for relevant transmissible infection was reported from Sydney in 1989.¹⁰ Over seven hundred Royal Australian Navy volunteers completed a questionnaire providing details of ethnic origin, service abroad, length of service, history of tattooing, liver disease and blood transfusions. Their serum was assayed by radioimmunoassay for the presence of Hepatitis B surface antigen and Hepatitis B antibodies. This study was performed to determine a policy for vaccination of personnel at risk or for service overseas. It is interesting to note that factors which were found to have a significant correlation with an increased prevalence of markers of Hepatitis B virus infection included tattooing (particularly if performed in Asia), age,

duration of service and service abroad. An appropriate vaccination policy and educational programmes aimed at minimizing the risk of exposure to Hepatitis B and other viral infections, as recommended by these and other authors^{10,11} have been instituted.¹²

An intense, sometimes delayed, allergic reaction to the pigments used in some Asian tattoos, has been reported in recent years.¹³ Chronic inflammatory reaction with hypersensitivity to red pigments is most common, especially those containing mercuric sulphide.

Removal of tattoos by surgical means is both time-consuming and expensive. The resulting skin grafts or scars can also be conspicuous and disfiguring. Modern Laser techniques produce better cosmetic results but may not be ideal for larger or deeply pigmented tattoos. It is obvious that the best policy regarding tattoos as a potential health hazard must be prevention. Apart from hepatitis (both B and C) a wide range of infections, both viral and bacterial, including HIV-AIDS, are possible contaminants in the tattooing process and may unwittingly be transmitted as life-threatening blood-borne diseases.^{14,15} Such dangers are indeed minimised in Australian professional tattoo studios where States and Territories impose strict infection control regulations. However, while increasing numbers of young recruits of both sexes already have tattoos when they enlist it should be a matter of educational policy within the military that all personnel be made aware of the personal risks involved.

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