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Removal of Gang-Related Tattoos

TATTOOING is commonly used among subculture groups such as youth gangs to permanently identify their members. After someone has made the decision to leave a gang, his or her physical graffito remains a stigma. Many former gang members need to move to a different city to avoid the risk of rival gang members threatening their lives. Getting a job is also a problem for those young people, as prospective employers hesitate to hire persons with gang-related tattoos on visible areas such as the hands, neck, and face. In desperation, many former gang members have resorted to home remedies for tattoo removal, such as burning them off with a cigarette or pouring acid on them.

Until recently, medical tattoo removal provided equally poor results. Dermabrasion results in severe hypertrophic scarring. Excision leaves scars and, unless the tattoo is small, requires multiple serial excisions, skin grafts, or tissue expanders. Chemical tissue destruction with caustic chemicals such as tannic acid or silver nitrate burns the skin. In the early 1960s, with the introduction of medical lasers, it was hoped that precise necrosis of tissue containing pigment would eliminate scarring. Thermal tissue destruction with the argon, carbon dioxide, and tunable dye lasers, however, also resulted in unacceptable scarring.

The Q-switched (wide pulse) lasers of the neodymium:yttrium-aluminum-garnet (Nd:YAG), alexandrite, and ruby varieties have provided technology that results in minimal to no scarring. Each requires several treatments. The Q-switched ruby laser results in hypopigmentation in more than 50% of patients; this is usually

transient, but may be permanent. It is also slow because of the limited number of pulses per second. The Q-switched Nd:YAG laser works more effectively because it can emit as many as 10 pulses per second. The 1,064 wavelength is longer and increases dermal penetration. There is less skin textural change than with the ruby laser and no hypopigmentation. The Nd:YAG laser is most effective with black ink and works well on dark-skinned persons. The 532 wavelength is good for red ink. All of these lasers break the ink up into many small pieces and stimulate the body's own macrophages to "clear" the ink. The ink is taken up by these cells. Gang-related tattoos tend to be mostly homemade, and the ink is found at varying depths in the dermis. This is in contrast to professional tattoos that are usually deeper and more uniformly placed in the dermis. Most of the gang tattoos are black ink; the commonly seen dark green color of tattoos results from metabolism of the black ink. Current laser tattoo removal requires several treatments at intervals of six to eight weeks; most gang tattoos are removed after four to five treatments; professional tattoos usually require more. Laser tattoo removal is safe, effective, and results in almost no complications.

The new lasers are costly—about \$80,000 and up. Tattoo removal can cost several thousand dollars, and often former gang members cannot afford it. Many communities around the country are setting up tattoo removal clinics with physicians volunteering their time and hospitals and clinics volunteering space and assistance. Purchasing the laser is usually the obstacle, but as the interest grows, public officials and private corporations are helping out. Proper patient selection is most important; removing tattoos should be just one step in the rehabilitation of these young people to productive society.

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