Biohacking and Chip Implantation in the Human Hand: An Introduction

Biohacking is a term used to describe people making changes to their bodies to improve their well-being. This includes the implantation of radiofrequency identification implants. This technology for wireless communication is already incorporated into our daily lives as in the use of contactless payment and badges to open doors. Since the first radiofrequency identification implantation in a human in 1998, the possibilities of this technology have dramatically increased, and the number of persons that have been chipped is growing. The hand seems to be the most popular body part to implant these chips because it can easily be positioned close to a reader. Currently, implantation is typically not performed in a medical environment.

However, implantation of these devices in humans can result in complications, such as infection and tendon attrition, and the relevant safety implications have not been extensively studied. The scope of this review was to inform the hand surgeon community about the existence of these implants, why they are used, and to open the debate about the possible future role of the hand surgeon in safely implanting these devices and dealing with possible complications.

Biohacking refers to using biology with the mindset of a hacker to enhance your body and life. This includes commonly used applications on your smartphone or wearables that measure whether you are getting enough exercise during the day or how well you sleep. On the other end of the spectrum, there is human augmentation. Augmentation refers to adding elements to the body, for example, electronics. The goal is to upgrade your body by creating a symbiosis between the human body and technology.

It is estimated that between 50,000 and 100,000 people already have been chipped.8 These implants are available online and are delivered sterile. Presently, chip insertion is typically performed by a tattoo or piercing artist. You have to program the chip yourself with a special contactless reader, preferably before implantation, so that proper functioning can be checked. Programming is still possible after implantation. The implantation of these devices in humans and the relevant safety implications have not been extensively studied. The scope of this review was to consider the future role of the hand surgeon in placing these implants and dealing with possible complications.

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