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Cirtec Medical Systems Introduction Script

Science fiction often features human characters with superhuman physical or mental abilities derived from medical technology. In the 21st century technologies that were once the domain of science fiction are within sight, if not already in use.

Retinal implants, or "bionic eyes", have been approved to restore rudimentary sight in persons with certain types of blindness. By combining miniature cameras with wireless technology, patients use their remaining undamaged retinal cells to form low-resolution images, allowing them to perform daily activities.

Cochlear implants can provide a sense of sound to deaf or severely hard of hearing persons by stimulating the auditory nerve directly, bypassing damaged parts of the ear. Although hearing with a cochlear implant is not the same as normal hearing, it allows people to recognize and understand sounds in their environment.

Advanced research funded by the U.S. Department of Defense has resulted in brain-interfacing prosthetic devices that can be manipulated by thinking. A computer interprets muscle contraction patterns as commands for movement—such as "open the hand" or "bend the elbow".

A number of devices are commonly implanted to improve the lives of people with heart disease, including mechanical valves, pacemakers, stents, defibrillators, left ventricular assist devices and even total artificial hearts. The challenge for the future is to create smaller, more efficient devices through research into novel biocompatible materials, electronic circuit miniaturization, sealing technology and power sources.