The Annals of Family Medicine

Innovative biomedical devices and new technological opportunities.

Policlinico G. Martino

***Corresponding author**

Policlinico G. Martino,
Department of Biomedical and Dental Sciences.

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ABSTRACT

This editorial aims to establish prosthesis as the primary source of information for all scientists conducting research on biomedical devices and prosthetics. As we move toward the next generation of prosthetic devices, material science and the advancement of new technologies in the field of regenerative medicine highlighted a meeting point between engineering and medicine. The journal's mission is to promote research and the spread of innovative medical technology in the field of rehabilitation medicine.
Journal subjects will include everything pertaining to the use of innovative devices for human or animal rehabilitation, along with cutting-edge surgical methods and supplies.

Keywords : prosthesis; biomedicine; regenerative medicine.

EDITORIAL

Over the past few years, there has been a significant surge in the manufacture of personalized prosthetic devices.
Fundamental technical breakthrough has been made possible by the ongoing scientific and research efforts targeted at improving the quality of life for patients. The area of regenerative medicine has entered a new phase throughout the previous ten years. In order to handle prosthesis implantation in the human body, medical professionals and bioengineers now typically work together in a multidisciplinary manner.
Simple word "prosthesis" has a strong connection to the advancement and development of humanity. "Prosthesis," "prò-theis," and "protíth¯emi," its Greek roots and etymologies, signify "to position forward" or "to position in the place of." The word's origins can be traced back to the cultures of ancient Egypt and Greece.
and it has to do with military medicine and the first war, when medical professionals attempted to replace hands, arms, or other body parts lost to degenerative diseases or combat [1,2].
History teaches us that people search for solutions to problems in every field. Prosthetic technology was originally developed by the Egyptians, who lived from approximately 2750 to 2625 AD. Their crude fiber prosthetic limbs are said to have been worn mostly for decorative rather than utilitarian reasons.
On the other hand, researchers have just found what is purported to be the first prosthetic finger ever—installed on an Egyptian mummy. It appears that this prosthesis serves both an aesthetic and a practical purpose. Plino il Vecchio recorded another historical event pertaining to the development of the prosthesis (23–79 AD). He wrote about a Roman general who lost his right arm in battle during the second Punic War (218–210 BC). With an iron hand, this soldier It gave him the ability to grasp his shield and enable him to resume fighting [3,4].
Due to the large number of amputations caused by the American Civil War, prostheses became a mandated government program for Americans. The "Hanger Limb" was created by amputee James Hanger, who later received a patent for it. With their improvements to the devices' materials and mechanisms, individuals like Hanger, Selpho, Palmer, and A. A. Marchi contributed to the transformation and advancement of the prosthetic field. The First World War did not promote the development of prosthetics, in contrast to the American Civil War. In spite of the absence of advancements in technology, the army An understanding of the significance of discussing technology and advancements in prosthetics led to the creation of the American Orthotic and Prosthetic Association (AOPA) by a surgeon.
The US government arranged a deal with military businesses to improve prosthesis function and aesthetics rather than create weapons in response to veterans' demands for an improvement over the lack of technology in their devices after World War II. Modern prostheses have been developed and produced thanks to this arrangement.
These days, prostheses can be categorized as internal or exterior depending on the part of the body that needs to be healed. In order to give amputee patients more functioning equipment, modern prosthetic medical devices are constructed of composite materials, aluminum, titanium, or plastic and are significantly lighter. When creating prostheses, function and aesthetics are two factors that cannot be separated. Thus, research on human load during walking and assessment of the

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elastic modulus of individual body tissues led to a reduction in prosthetic device wear through increased integration. The new gadgets are lighter and more patient-centered due to the use of robots, computer chips, and microprocessors. These days, prostheses aim to help amputees resume their previous way of life, not just give them the necessities.

These days, advanced engineering applications indicate the completion of integration.

between mechanical computer-assisted engineering and regenerative medicine [5].

diagnostic systems for three-dimensional imaging, reverse engineering, and design software,

when combined, now provide predictable, long-term rehabilitation tailored to each patient. bespoke Fully customized prostheses incorporate considerations of ergonomics and appearance as well as factors pertaining to the biomechanical character, which the majority of physicians are worried about in the intervention for either short- or long-term adverse effects. Consequently, the finite element analysis methodologies,and one may currently virtualize a rehabilitation before it actually happens thanks to the Von Mises tests.

Even before the prosthesis is designed, take into account the mechanical strains under load. The additional facet of Recovery is intimately associated with the stages of realization that now offer a customized precision actualization via three-dimensional milling equipment or 3D printing methods.

It should be an honor for us as academics and scientists to be a part of this technological age.

Prosthesis, a biomedical publication, can serve as the primary medium for information exchange and Comparing experiences led to advancement and benefit for humanity.

An international peer-reviewed open access journal on rehabilitation is called Prosthesis (ISSN 2673-1592).

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