



Special Issue Reprint

Biomechanics of Contemporary Implants and Prosthesis: Modeling, Experiments, and Clinical Application

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Modern medicine is now more oriented towards patient-based treatments. Taking into account individual biological features allows for increasing the quality of the healing process. Opportunities for modern hardware and software allow not only the complex behavior of implants and prostheses to be simulated, but also take into account any peculiarities of the patient. Moreover, the development of additive manufacturing expands the opportunities for materials. Technical limits for composite materials, biomaterials, and metamaterials are decreasing. On the other hand, there is a need for more detailed analyses of biomechanics research. A deeper understanding of the technological processes of implants, and the mechanobiological interactions of implants and organisms will potentially allow us to raise the level of medical treatment. Modern trends of the biomechanics of contemporary implants and prostheses, including experimental and mathematical modeling and clinical application, are discussed in this book.



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