Special Issue

Computer-Assisted Methods and 3D Printing in Orthopedics

Message from the Guest Editors

Computer-assisted systems were introduced in orthopedic surgery in the 1990s to guide and improve surgical accuracy. From their first applications, the evolution of computer-assisted systems has led to robot platforms, next-generation surgical navigation systems with intraoperative CT scans, augmented reality systems, 3D printing solutions, custom implants, and the first applications of artificial intelligence. These solutions have developed rapidly in recent years, and are changing the face of orthopedic surgery rooms as the presence of the engineers and their interaction with the surgeon becomes increasingly relevant. The surgeons should understand the technologies that they will use during the surgery (including their advantages and limitations) and improve their interaction with the engineers and the technical aspects. Computer-assisted systems also play an important role in young surgeons' education. Although results have been encouraging, further studies are still needed to investigate long-term outcomes, implant survival, and revision rates and causes.

Guest Editors

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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