

Special Issue

Application of Finite Element Method in Arthroplasty Biomechanics

Message from the Guest Editor

FE method has reached significant milestones in scientific research regarding biomedical and biomechanics applications. Many papers have been published regarding complex human joints and bones implanted with prosthesis screws or analyzed from a kinetic or kinematic point of view, showing significant correspondence with reality. FE models are becoming increasingly complex, including interfaces, contacts, material laws, time-variable forces and constraints, and the typology of numerical analyses. To ensure reasonable results, all these variables must be well considered. This implies a multidisciplinary approach using other traditional tools to develop numerical inputs or calibrate the obtained results. FE method can also furnish a complete landscape, which no other kind of investigation can provide, of all the main physical quantities. This Special Issue aims to evidence, through multidisciplinary approaches, how investigations carried out on the Application of the Finite Element Method in Arthroplasty Biomechanics can produce relevant and needed results in this field. **Keywords:** implanted femur; implanted humerus; knee replacement; bony dislocations; FE modelling of human joints

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Message from the Editor-in-Chief

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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