

Pre-operative planning of total hip replacement: from anatomical navigation to simulation-based planning.

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要旨

The original HipOp surgical planner for total hip replacement was released in 1999 by a small group of researchers born out of the collaboration between the Istituto Ortopedico Rizzoli, the CINECA supercomputing centre, and the University of Bologna. Initially intended as a research tool to capture surgical variability, HipOp quickly became the CT-based pre-operative planning environment of choice for many surgeons in Europe and in Japan. Today, when the next release of HipOp (version 3.0) is in preparation, it is the right time to discuss this 10-years experience, and to see how the original idea is going to evolve in the next years in relation to the new generation of patient-specific modelling technologies, that should add to the anatomical planning a new dimension: functional outcome prediction. The seminar will introduce the HipOp system and its fundamental philosophy, and will summarise the extensive validation work that has been done over the years on this planning software. Then, we shall present the next version of the software, and will discuss how recent research achievements could be translated into the program in future versions.



主催: 東京大学グローバルCOEプログラム「機械システム・イノベーション国際拠点」事務局
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