Origami BioBandage Software Solution: An Advanced Tool for Personalized Treatment and Simulating Therapies Available on the Market through Including Patient's Medical Case

Jurek, Joanna
Bakalarz, Dominika

In the end of 2015 was noted by the US government that 1000 people died every day due to medical mistake and 4000 were permanently harmed by receiving inappropriate treatment. The main reason for this has been the absence of a recognised tool to effectively simulate a particular treatment, before they are administered to the patient. The Origami BioBandage addresses these deficiencies by providing an innovative software solution, which provides an advisory, patient-specific computational model of the injury, based on which a clinician might test the treatment materials or drugs, before administering them to the patient. The tool is based on a prepared by software, which uses a multi-scale computational modelling to provide the most effective and safe diagnosis of treatment for individual patients with the bone injuries. The software uses medical data obtained from current diagnosis/research methods, such as confocal microscopy(CM) /computed tomography (CT), blood tests and medical interview to construct patient-specific computational model. This model reflects cells behavior in real tissue, what is very important in case of reliability of the obtained results. Moreover, computational model used by us is extremely innovative and outstanding: it is hybrid formulated, highly scalable, multi-scale individual-based model. Regarding to applied an innovative approach in the Origami BioBandage, solution will revolutionize the process for testing and planning personalized treatments for bone fractures using new medical materials (such drugs and implants). The product will support clinicians around the world and allow them to test new medical materials through clinical trials.

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