Untersuchungen des thermoplastischen Shape-Memory-Effekts für die vaskuläre Anwendung

By Felix Briza

GRIN Verlag Gmbh Jun 2014, 2014. Taschenbuch. Book Condition: Neu. 211x151x11 mm. Neuware - Bachelorarbeit aus dem Jahr 2014 im Fachbereich Medizin - Biomedizinische Technik, Note: 1,3, Technische Universität München (Lehrstuhl für Medizintechnik), Sprache: Deutsch, Abstract: Ischemic heart disease is the result of reduced blood flow through thrombotic atherosclerotic coronary arteries. This disease is the leading cause of mortality in the world. Today, the two most frequent procedures for patients, which do not reply appropriately to pharmacologic therapy, are percutaneous transluminal coronary angioplasty (PTCA) and coronary artery bypass grafting (CABG). The frequent failing of long-term efficacy of these techniques and the physical stress for the patient associated with major coronary surgery have encouraged the research on new technologies, including polymer stents and new ways for an efficient implantation. The demand to understand and limit the most common mode of stenting failure - chronic restenosis - must include an understanding of the mechanical basis of arterial injury. Due to this problem, FEM simulations with ANSYS were made. Different levels of radial pressure were set upon a model of an artery with symmetric plaque and a polymer stent in the middle of the existing vessel. The aim was to gain better information...

Reviews

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