

1. Record Nr.	UNINA9910592287303321
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Titolo	Modelling the human cardiac fluid mechanics. 2nd ed
Pubbl/distr/stampa	KIT Scientific Publishing, 2006
Descrizione fisica	1 electronic resource (39 p. p.)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	<p>In the second edition of the article a virtual heart modelsimulating the flow in the active left human ventricle andatrium is presented. Because in vivo myocardium data is notavailable, the movement of the active ventricle and its atriumis given by three-dimensional, time-dependent invivo image dataof a nuclear spin MRI tomograph. The passive part of the virtualheart model consists of a model aorta and of two-dimensionallymodelled heart valves. As the flow is actively driven by theventricle and atrium, a coupling off low and structure isnecessary to take into account the deviation of the aorta andthe closing and opening of the heart valves. This coupling isreplaced by the movement given by MRI tomograph and ultrasonicDoppler echocardiography, since we focus on the flow simulationin the left pumping ventricle. The flow simulation is performedby a validated commercial software package that uses the finitevolume method. The flow resistance of the circulation throughthe body is taken into account with a simplified circulationmodel. The article shows how the virtual heart model can be usedto predict flow losses and flow structures due to pathologicalventricle contraction defects. It provides as an example theflow simulation of an unhealthy human ventricle with ananeurysm. The flow structure and flow losses are consideredbefore and after surgery.</p>