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PhD Thesis:

Project title:

Project description:

Only about 25 percent of patients who get to the hospital with a ruptured thoracic aortic aneurysm will survive. For this reason, it is crucial to treat aneurysms early, in order to prevent rupture. Although exciting efforts in the treatment of aneurysms of the thoracic aorta could be observed during the last decade due to the availability of endovascular and combined endovascular and surgical teratment options, this treatment is not without risks: stent-graft migration causing reperfusion of the aneurysm or aortic dissection following stent-graft placement have been described. A relationship between these complications and aortic movement during the heart cycle is possible. Thus, the aim of the project AortaMotion is the development and application of a computerized system to assess the cardiac cycle dependent deformation dynamics of the thoracic aorta with ECG-gated 64-row multidetector-computed tomography angiography.