

Abstract Submitted
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Experimental study of physiological flow in a cerebral saccular tip aneurysm¹ WILLIAM TSAI, OMER SAVAS, University of California, Berkeley, JASON ORTEGA, DUNCAN MAITLAND, Lawrence Livermore National Laboratory, DAVID SALONER, University of California San Francisco — Allowed to grow unchecked, a cerebral aneurysm may hemorrhage, leading to possible brain damage or death. Preventive treatment can alleviate this risk. The research presented will focus on cerebral saccular aneurysms. Flow visualization and particle image velocimetry are used at physiological input flow conditions in a simplified model geometry of a basilar artery bifurcation with a tip aneurysm. The results show the formation of vortical structures at the neck which impinge near the fundus and travel along the walls of the aneurysm. The goal of this research is to aid in the development of the implementation of laser-activated shape memory polymer devices for treatment. Future work on this project includes fluid flow and temperature studies during and post treatment.

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