

MALEBOGO NGOEPE

"Computational modelling of thrombosis in cerebral aneurysms"

Thrombosis is a condition which is closely linked to cerebral aneurysms. The presence of a clot in a cerebral aneurysm can reduce rupture risk by stabilising the sac, or it can accelerate the time to rupture by furthering vascular degradation. In the last decade, computational models of clotting under physiological conditions have proven to be a useful tool for understanding some of the features of this complex process. Few models of clotting under pathological conditions have been developed. A computational model capable of predicting thrombus growth in cerebral aneurysms is presented. The model accounts for realistic, patient-derived geometries, flow, biochemistry and the impact of the clot on the flow field. It is used to examine clotting outcomes in different patients and to examine some of the features of cerebral aneurysm thrombosis.



Malebogo Ngoepe is a lecturer in the Department of Mechanical Engineering at the University of Cape Town. She currently works on aneurysm thrombosis and myocardial infarction therapies. She completed her PhD on cerebral aneurysm thrombosis at the University of Oxford, UK and subsequently completed a postdoctoral fellowship at the Mechanobiology Lab, University of Cape Town.

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