

Abstract Submission Form - Bioengineering 2012
6th - 7th September, Saïd Business School, Oxford

Please indicate for which stream(s) you would like your abstract considered:

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| <input type="checkbox"/> Biomaterials and Tissue Engineering | <input type="checkbox"/> Instrumentation in Telemedicine and Telecare |
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Abstract Text: 300 words Font/size: Arial, 11

Title:

Effect of stent position on flow characteristics in a cerebral aneurysm

Abstract:

The position of an intracranial stent in relation to the ostium of a cerebral aneurysm can significantly affect the blood flow characteristics through the ostium and inside the aneurysm. An idealised cerebral artery and aneurysm were simulated with a pulsatile flow. Simulation results show that the effect on mass inflow between two stent positions is about 20% whereas the difference in the porosity effect of the pattern at these two positions is around 3%. The remainder may be attributed to differences in flow velocity profile across the stent into the aneurysm. The implications for clinical practice are an important consideration as the surgeon may place the stent in any position between the two investigated and hence this will lead to markedly different stent performance. Therefore, computational tools that take into account the variability of stent placement will be valuable for assisting surgical planning.

Images:

