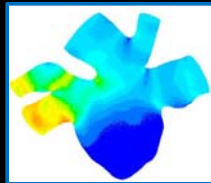


A CFD Approach to Quantifying the Hemodynamic Forces in Giant Cerebral Aneurysms



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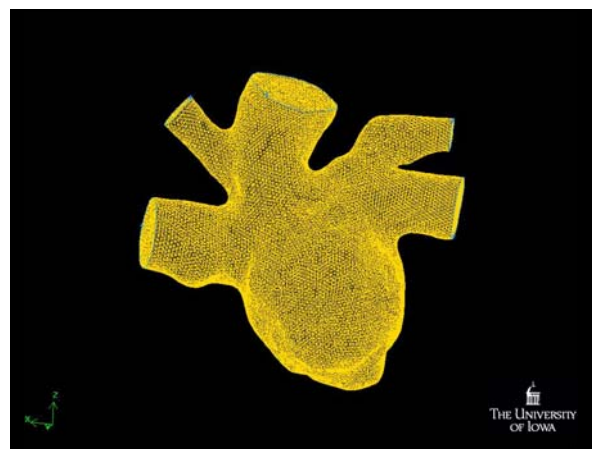
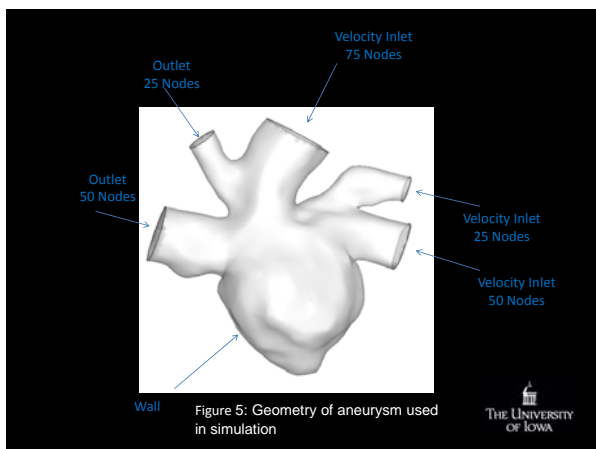
The Hemodynamics of Aneurysms

What is an aneurysm?

A localized, blood-filled dilation of a blood vessel caused by disease or weakening of the vessel wall³

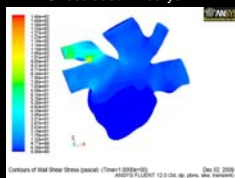
The diagnostic implications:⁴

- 1) High risk of hemorrhage
 - causing stroke or death
 - mortality rate: 68% (after 2 yrs.), 85% (after 5 yrs.)
- 2) Cerebral compression or distal thromboembolism
 - leading to progressive neurologic deficits

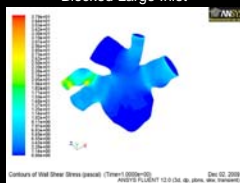


Wall Shear Stress Distribution

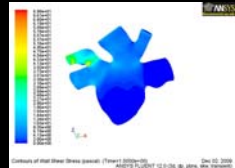
Unoccluded Aneurysm



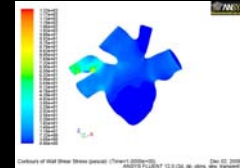
Blocked Large Inlet



Blocked Medium Inlet



Blocked Small Inlet



Velocity Distribution No Blocked Inlets

