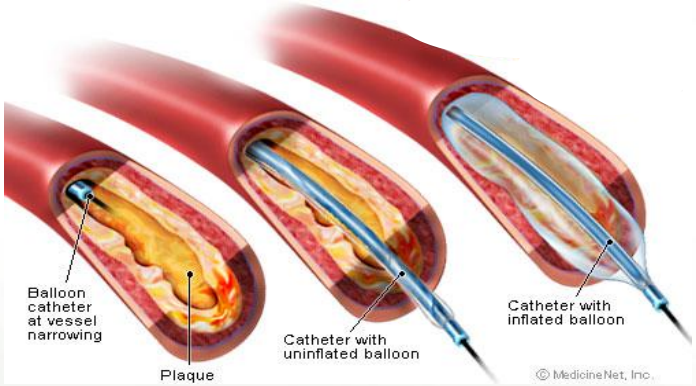
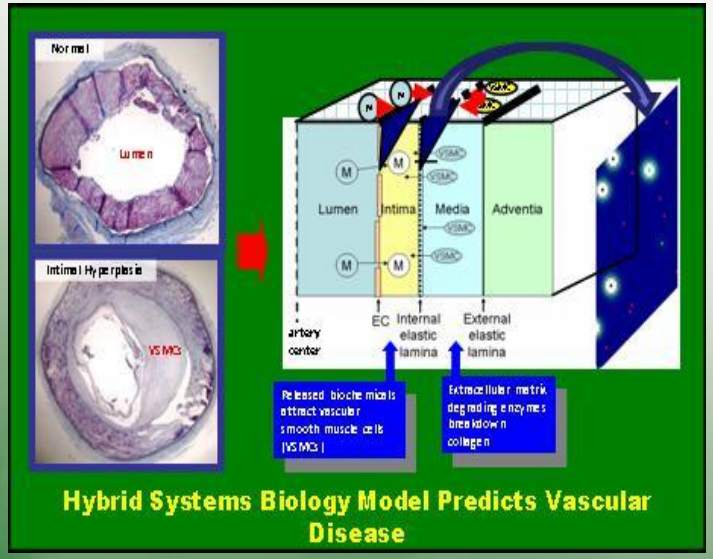
Predictive Modeling of Vascular Pathologies

Modeling and Simulation Group

Computational Sciences & Engineering Division



http://www.medicinenet.com/coronary_angioplasty/article.htm



Problem Statement:

- **Atherosclerotic disease is the leading cause of death among menopausal age women who are taking hormone replacement therapy & have undergone vascular reconstructive surgery.**

Technical Approach:

- **MSG & the UT Graduate School of Medicine are developing computer models that will help unravel the biological processes that lead to atherosclerotic disease. This software suite will be a surrogate for a living laboratory; it will permit *in silico* experiments that would otherwise be infeasible. By comparing model outcomes with clinical data, it will be possible to establish the contribution of disease processes to the development of atherosclerotic disease.**

Benefit:

- **By creating a digital laboratory for studying the development & treatment of atherosclerotic disease, we anticipate dramatically improved health care for women who are at risk for developing atherosclerotic disease following vascular reconstructive surgery.**

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