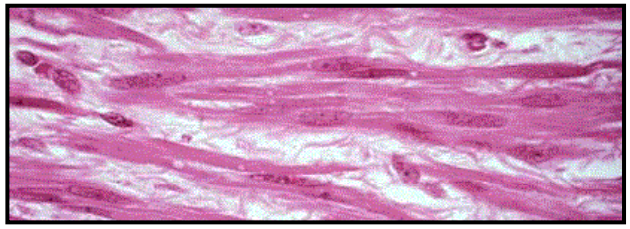
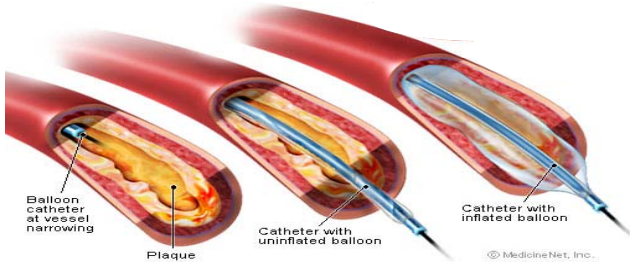
Predictive Modeling of Vascular Pathologies*

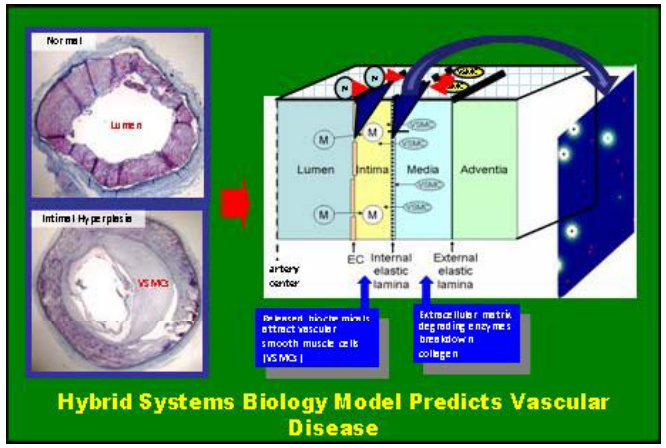
Modeling & Simulation Group



Vascular Smooth Muscle Cells



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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