**CT Enhancement with Fibrin-Targeted Nanoparticles**

**Molecular Imaging of Human Thrombus With Computed Tomography**

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**Background**
Recognition of early atherosclerotic plaque disruption, heralded by mural microthrombus formation, could trigger early intervention and prophylaxis against myocardial infarction or stroke. Although fast, multi-slice CT is emerging as a high-resolution modality for angiographic detection of coronary stenosis, it lacks the sensitivity to resolve subtle mural disease. In this study, we report the first targeted CT contrast agent for sensitive detection of thrombus.

**Methods**
Fibrin-targeted nanoparticles incorporating iodinated, fluorocarbon (PFOB), or sallafow oil were imaged and characterized over a spectrum of clinically relevant CT parameters (resolution, tube voltage and current) alone and target to human plasma clots via anti-fibrin monoclonal antibodies.

**Results**
Both in suspension and targeted to fibrin clots, iodinated nanoparticles provided the highest x-ray attenuation regardless of resolution, tube voltage or current (Figure). Iodinated nanoparticles provided higher CNR (26 ± 3) compared to fluorocarbon nanoparticles (8 ± 1).

**Conclusions**
Fibrin-targeted, iodinated nanoparticles are the first molecular imaging agent designed to augment the noninvasive diagnosis of coronary disease with CT. Given the speed and resolution of CT angiography, the addition of sensitive early detection, localization and characterization of unstable plaque could help propel CT into a state-of-the-art initial approach for patients presenting with positive stress tests.

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**1059-1**

**Excessive Ventilation During Cardiopulmonary Resuscitation Decreases Survival Rates in a Porcine Model of Cardiac Arrest**

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**Background:** Recent data suggests that chest compressions but not active rescuer ventilation are essential for circulation and survival in the first several minutes after starting cardiopulmonary resuscitation (CPR). Yet many still believe that immediate ventilation is critical for survival. A recent study we performed with professional rescuers demonstrated that the average ventilation rate for these...