

☆ **Spotlight on Special Topics**

**INITIAL EXPERIENCE USING A NOVEL HIGH DEFINITION (HI-DEF) IMAGING SYSTEM IN INTERVENTIONAL CARDIOLOGY**

Poster Contributions  
 Posters Hall\_Hall A  
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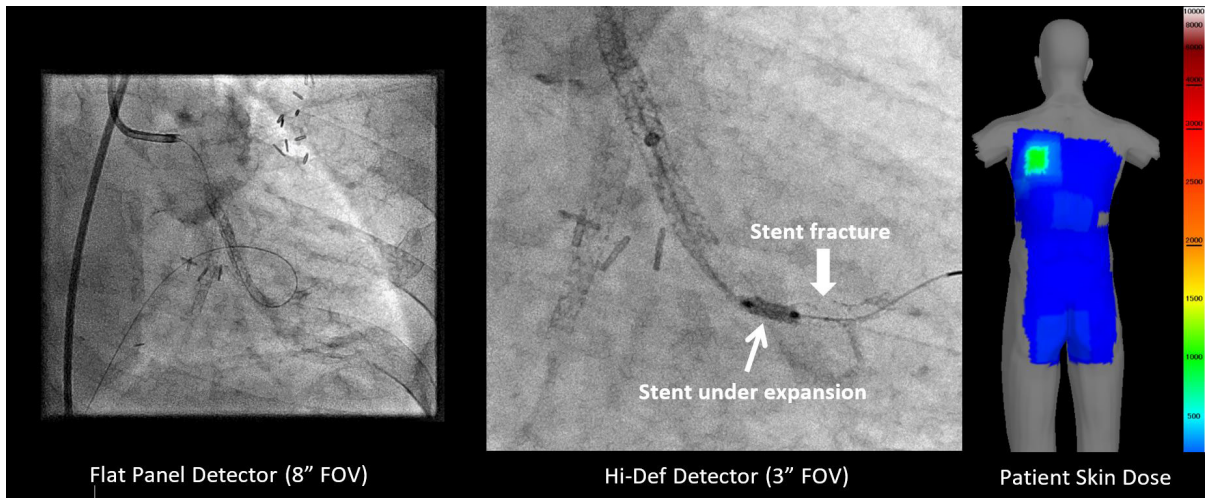
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**Background:** A newly developed hi-definition (hi-def) detector allows imaging with a resolution of 76 microns - more than twice that of standard technologies. This unique system consists of a conventional flat panel detector (FPD) with embedded high resolution modes. We report the first successful use of this novel imaging system to guide percutaneous coronary intervention (PCI).

**Methods:** A 61 year old man with known CAD presented with unstable angina. Angiography showed occlusion of a previously placed stent in an obtuse marginal artery. Hi-def imaging was utilized to enhance visibility of the prior stent and during PCI. FPD images were used for qualitative comparison. Radiation dose was measured using a real-time patient skin dose tracking system (DTS).

**Results:** The patient underwent successful PCI. Hi-def was used to aid balloon positioning and stent deployment for the majority duration of the intervention, and was able to clearly resolve individual stent struts and identify a stent fracture not seen by FPD imaging. The DTS was leveraged to minimize radiation exposure, facilitated by utilization of a smaller field of view (FOV) over the treatment area in the hi-def mode. A peak skin dose of 1.0 Gy was quantified despite irradiation and procedure times of 35 and 119 min.

**Conclusion:** Initial experience using a novel hi-def imaging system shows that it can be safely used to improve visualization of coronary arteries and interventional devices during PCI in real-time with no observable increase in patient dose.



Flat Panel Detector (8" FOV)

Hi-Def Detector (3" FOV)

Patient Skin Dose