

# iFR Scout Case Review: Continuous iFR Recording by Pullback Technique

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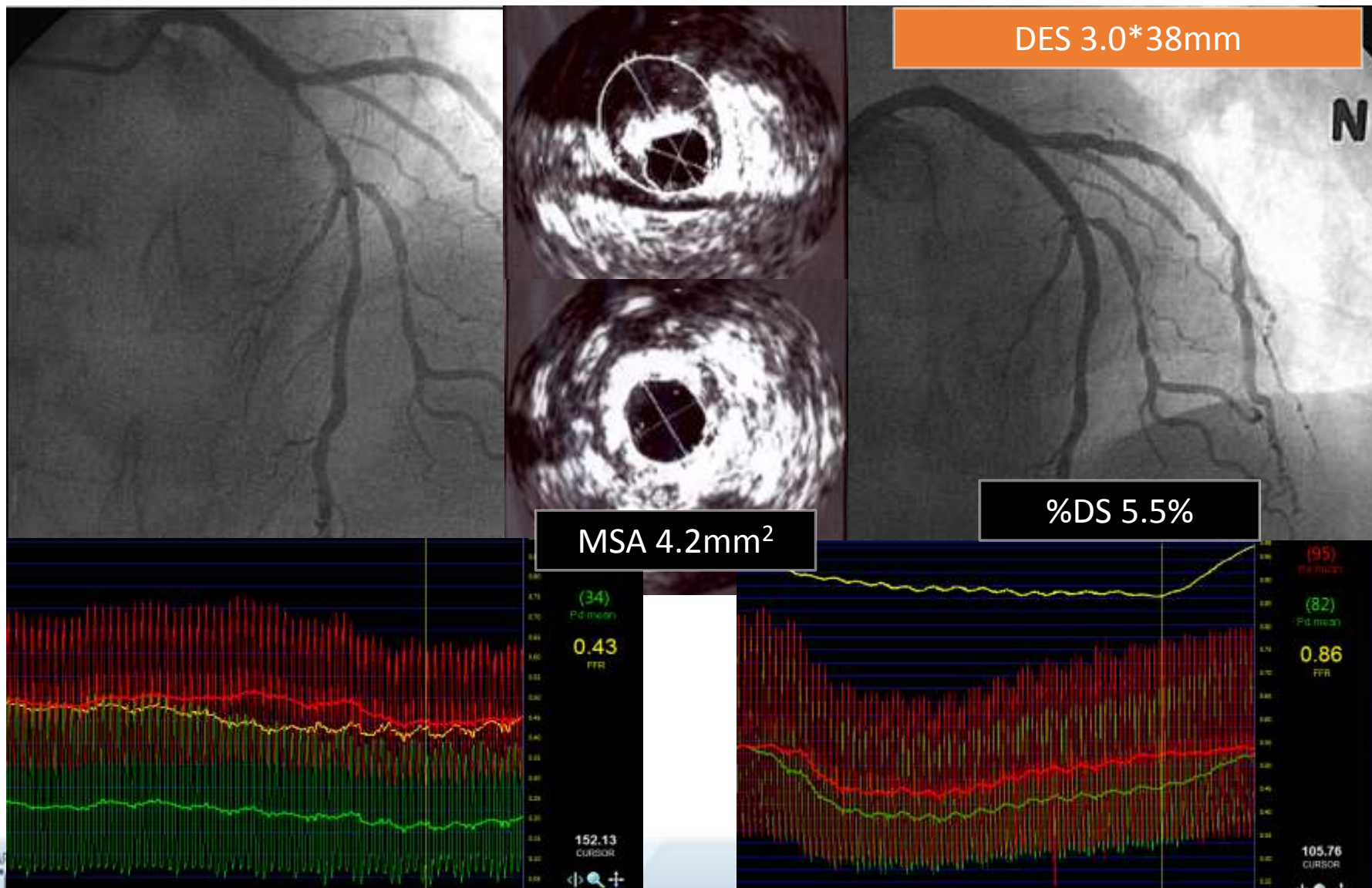
Professor, Inje University Ilsan Paik Hospital

Goyang, Korea

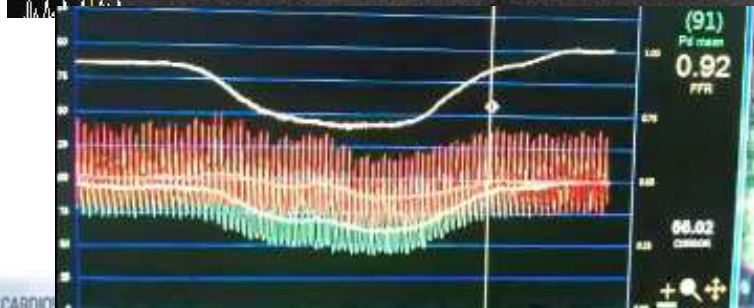
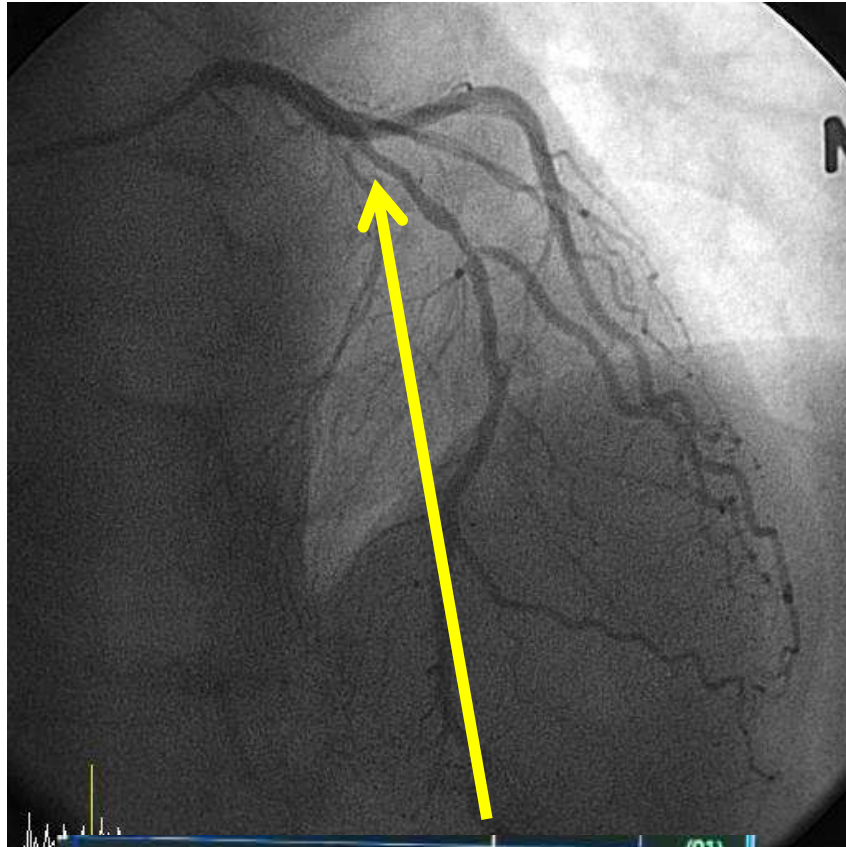
# FFR hyperemic pullback recording can discriminate,

- Focal problem in- or peri-stent
- Presence of diffuse disease
- Both pre-interventional and post-interventional procedure

# Presence of diffuse disease and low post stent FFR with pressure pullback curve



# FFR pullback measurement require hyperemia



# iFR (Instantaneous Wave-Free Ratio) Scout: continuous iFR measurement with (automatic) pullback technique

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## Pre-Angioplasty Instantaneous Wave-Free Ratio Pullback Provides Virtual Intervention and Predicts Hemodynamic Outcome for Serial Lesions and Diffuse Coronary Artery Disease



Sukhjinder S. Nijjer, MB ChB,\* Sayan Sen, MBBS, PhD,\* Ricardo Petraco, MD,\* Javier Escaned, MD, PhD,† Mauro Echavarría-Pinto, MD,† Christopher Broyd, MBBS,\* Rasha Al-Lamee, MBBS,\* Nicolas Foin, PhD,\* Rodney A. Foale, MD,\* Iqbal S. Malik, MBBS, PhD,\* Ghada W. Mikhail, MBBS, MD,\* Amarjit S. Sethi, MBBS, PhD,\* Mahmud Al-Bustami, MD,\* Raffi R. Kaprielian, MBBS, MD,\* Masood A. Khan, MB BChir, MA,\* Christopher S. Baker, MBBS, PhD,\* Michael F. Bellamy, MBBS, PhD,\* Alun D. Hughes, PhD,‡ Jamil Mayet, MB ChB, MD,\* Darrel P. Francis, MB BChir, MA, MD,\* Carlo Di Mario, MD, PhD,§ Justin E.R. Davies, MBBS, PhD\*

# iFR (Instantaneous Wave-Free Ratio) Scout: continuous iFR measurement with (automatic) pullback technique

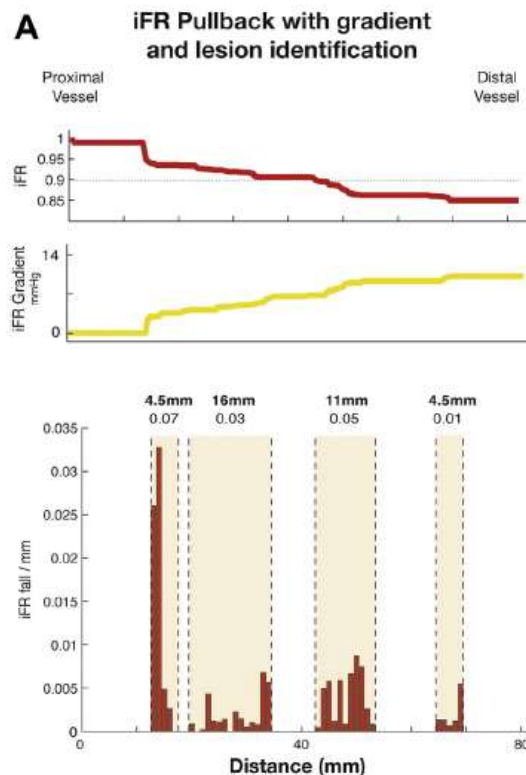
iFR measurements during continuous resting pressure wire pullback provide a physiological map of the entire coronary vessel.

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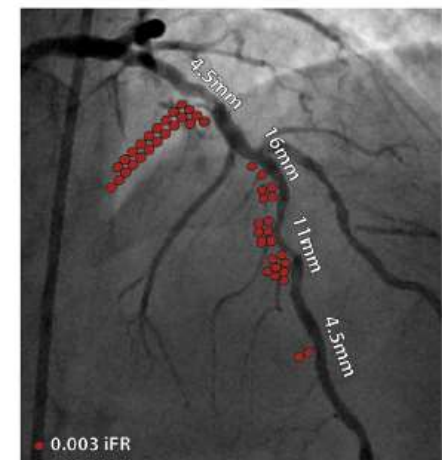
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**B iFR fall per millimetre integrated onto coronary angiography**



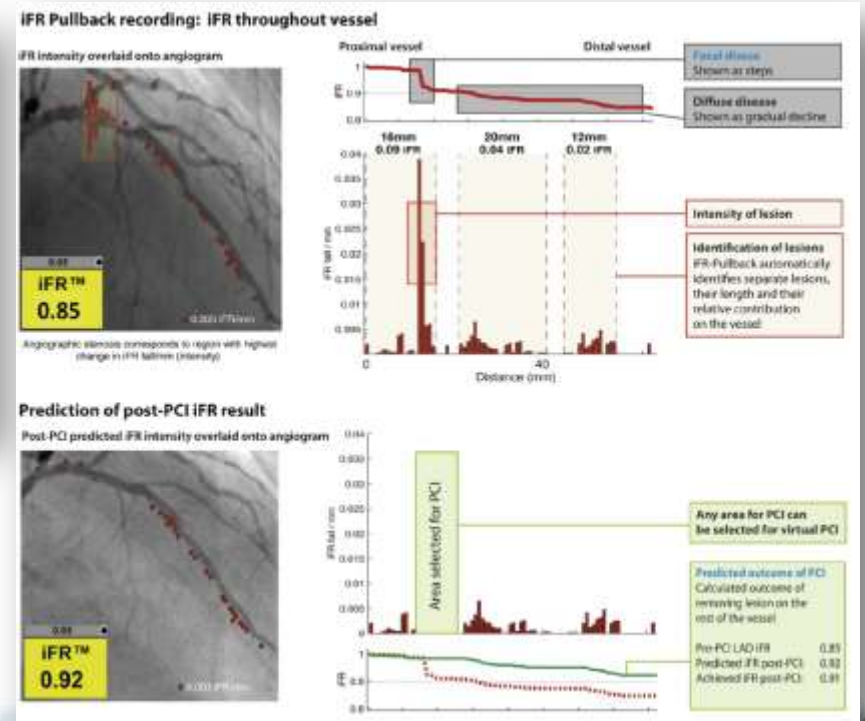
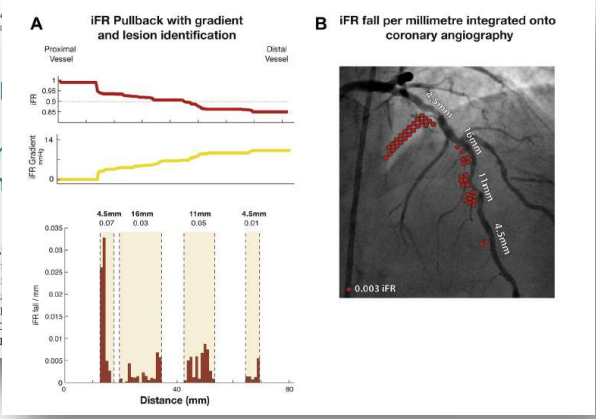
# iFR (Instantaneous Wave-Free Ratio) Scout: continuous iFR measurement with (automatic) pullback technique

Before a PCI, the iFR pullback can predict the hemodynamic consequences of stenting specific stenoses and thereby may facilitate the intervention and stenting strategy.

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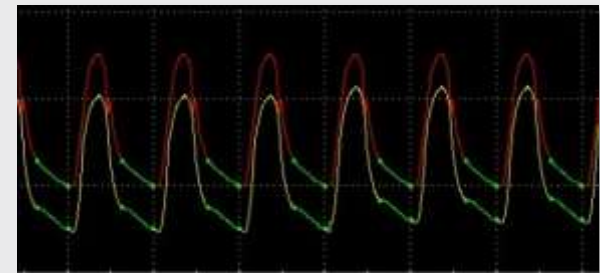
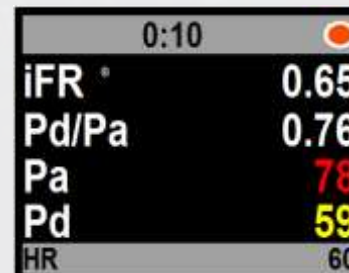
**Pre-Angioplasty Wave-Free Virtual Intervention Hemodynamic and Diffuse**

Sukhjinder S. Nijjer, MB ChB, Mauro Echavarría-Pinto, MD, Rodney A. Foale, MD,\* Iqbal Mahmud Al-Bustami, MD,\* R Christopher S. Baker, MBBS, J Janil Mayet, MB ChB, MD,\* I Justin E.R. Davies, MBBS, PhD



# iFR Scout™ Pullback Software

- Provides the benefits of pullback measurements without the need for hyperemia
- Significant features
  - Pullback assessment of multiple lesions
  - Live display of single-cycle iFR value
  - Highlighting of the Wave-Free Period



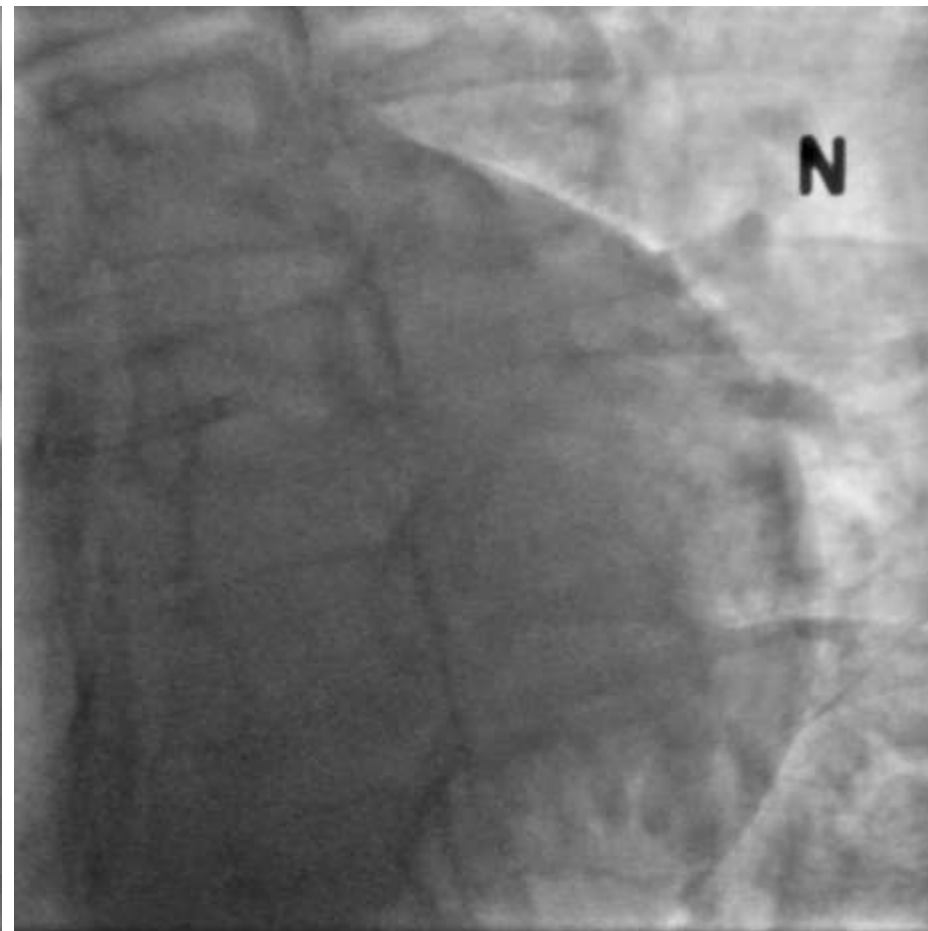
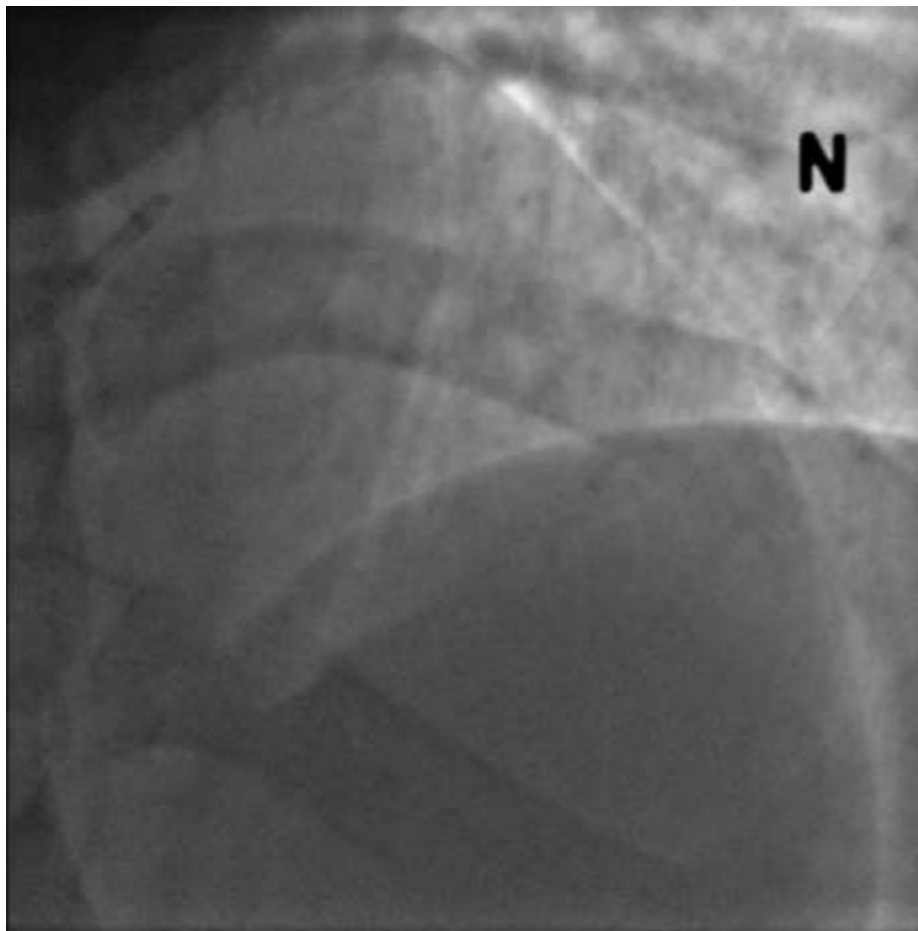
iFR Scout Operator's Manual, 505-0101.27



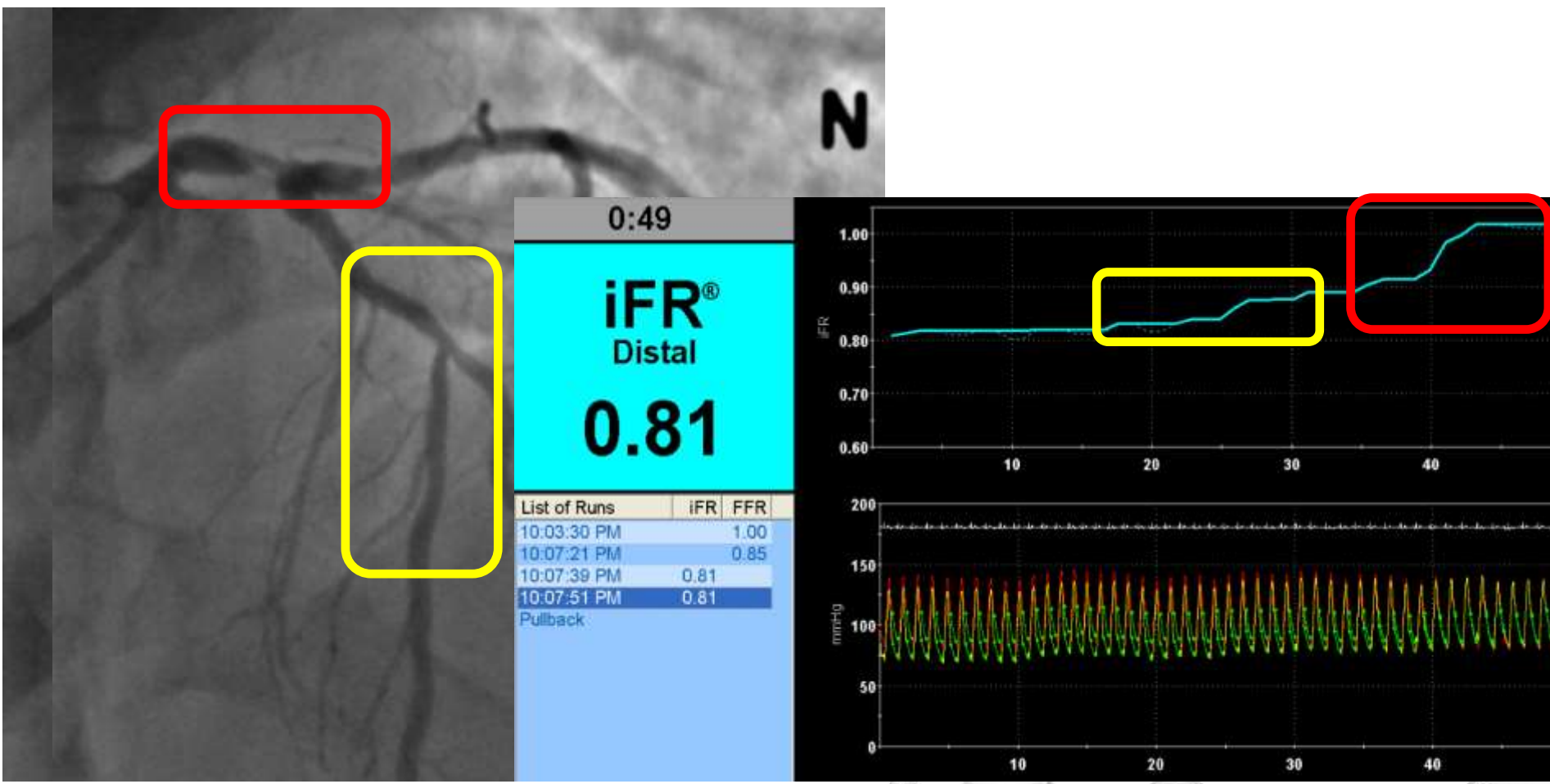


# CASE

# Case M/51, effort angina



# Case M/51, effort angina



# Case M/51, effort angina, PCI for LM



1:08

**FFR 0.74**

**Pd/Pa 0.74**

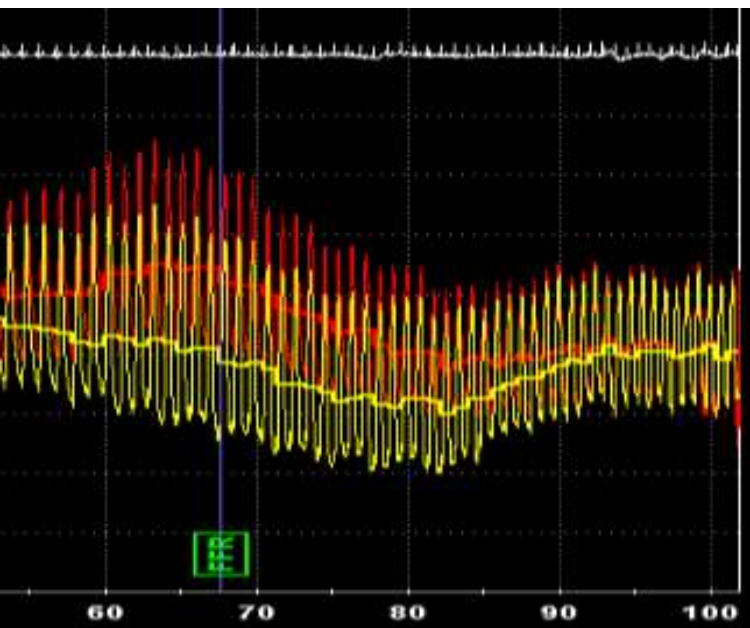
**Pa:iPa 104: 93**

**Pd:iPd 77: 81**

**Pa-Pd(m) 27**

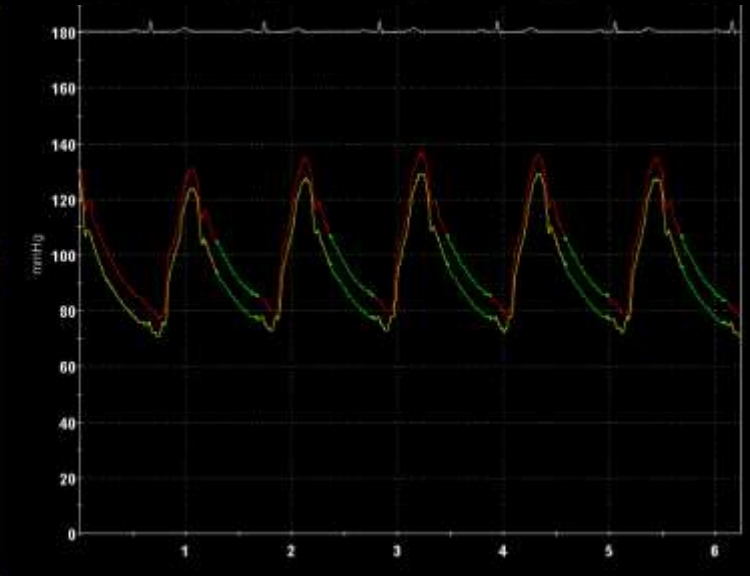
**HR 63**

List of Runs	iFR	FFR
10:38:13 PM	0.99	
10:39:35 PM	0.91	
10:39:50 PM	0.90	
10:40:17 PM	0.91	
10:40:29 PM	0.91	
Pulback		
10:43:08 PM	0.74	

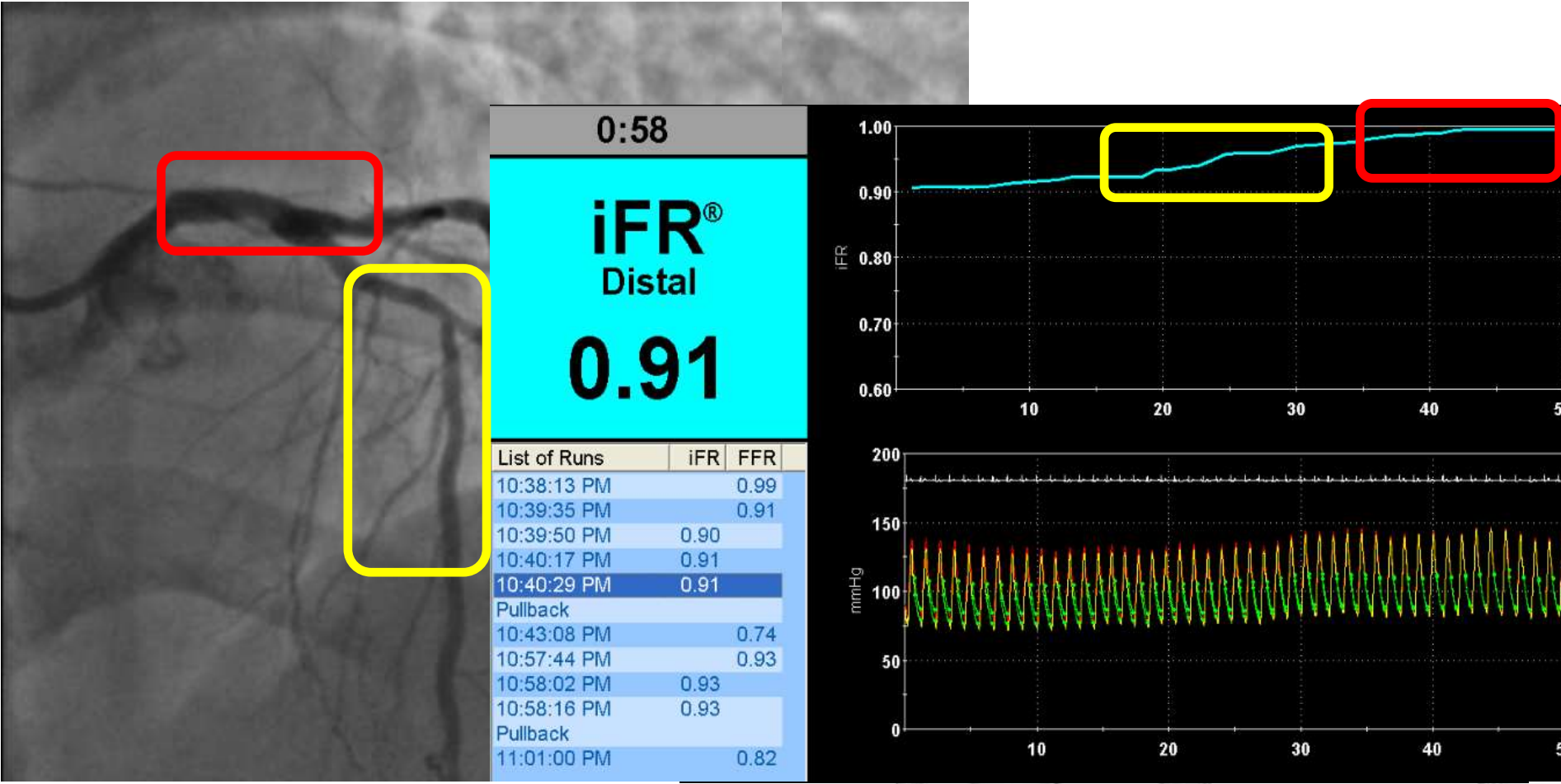


**iFR<sup>®</sup> 0.90**

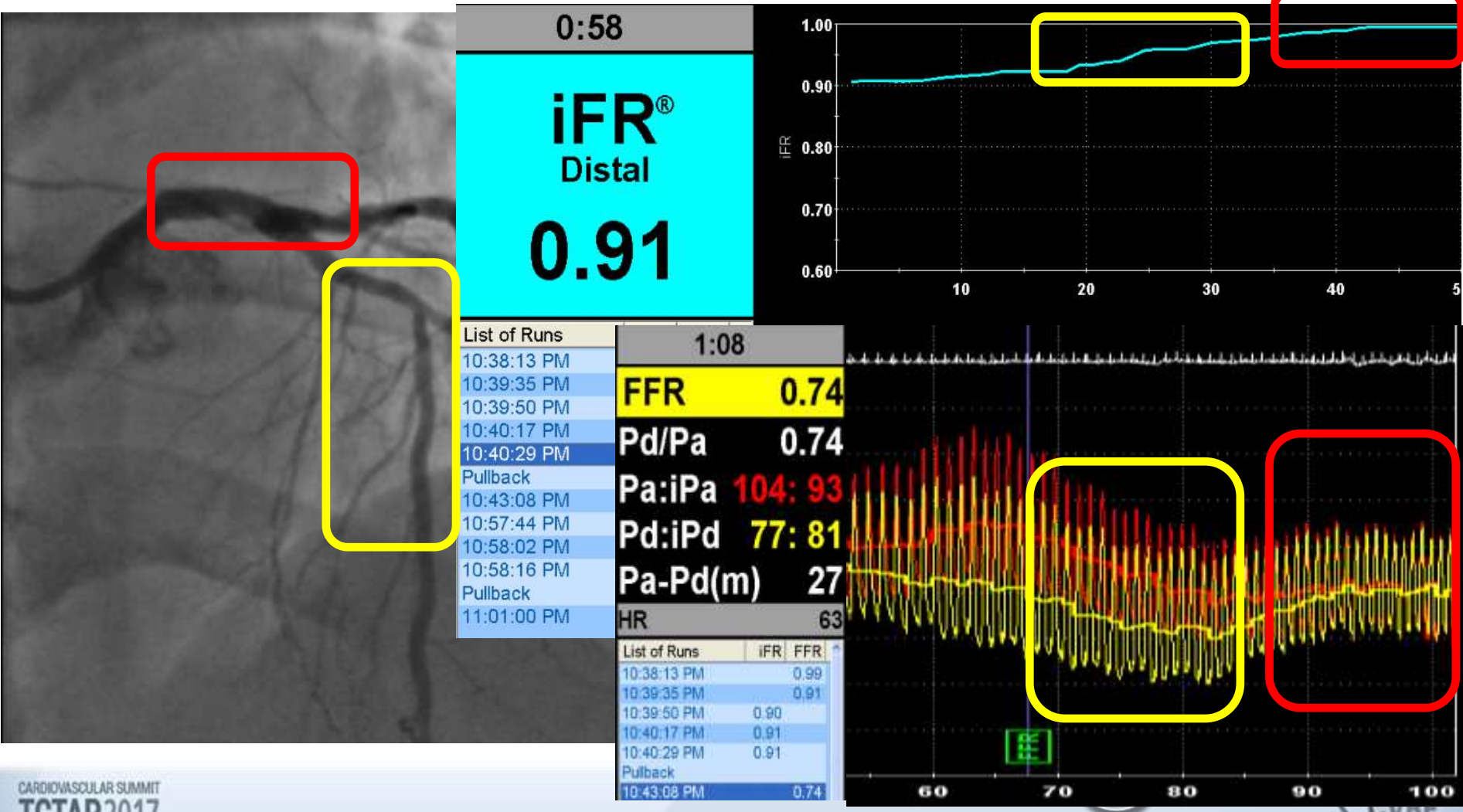
List of Runs	iFR	FFR
10:38:13 PM	0.99	
10:39:35 PM	0.91	
10:39:50 PM	0.90	
10:40:17 PM	0.91	
10:40:29 PM	0.91	
Pulback		
10:43:08 PM	0.74	
10:57:44 PM	0.93	
10:58:02 PM	0.93	
10:58:16 PM	0.93	
Pulback		
11:01:00 PM	0.82	



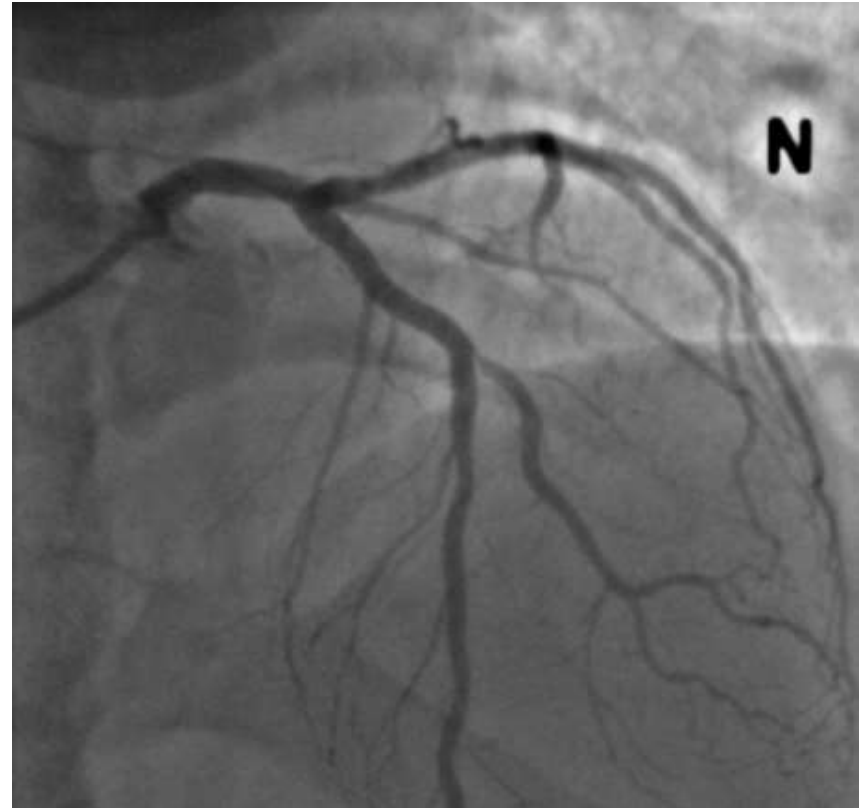
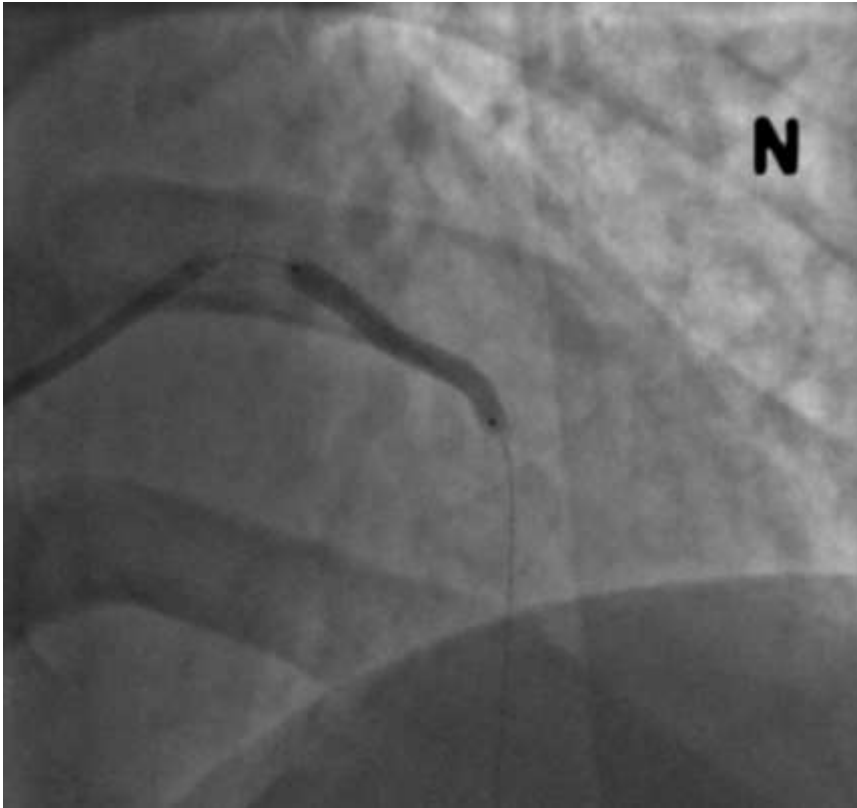
# Case M/51, effort angina, PCI for LM



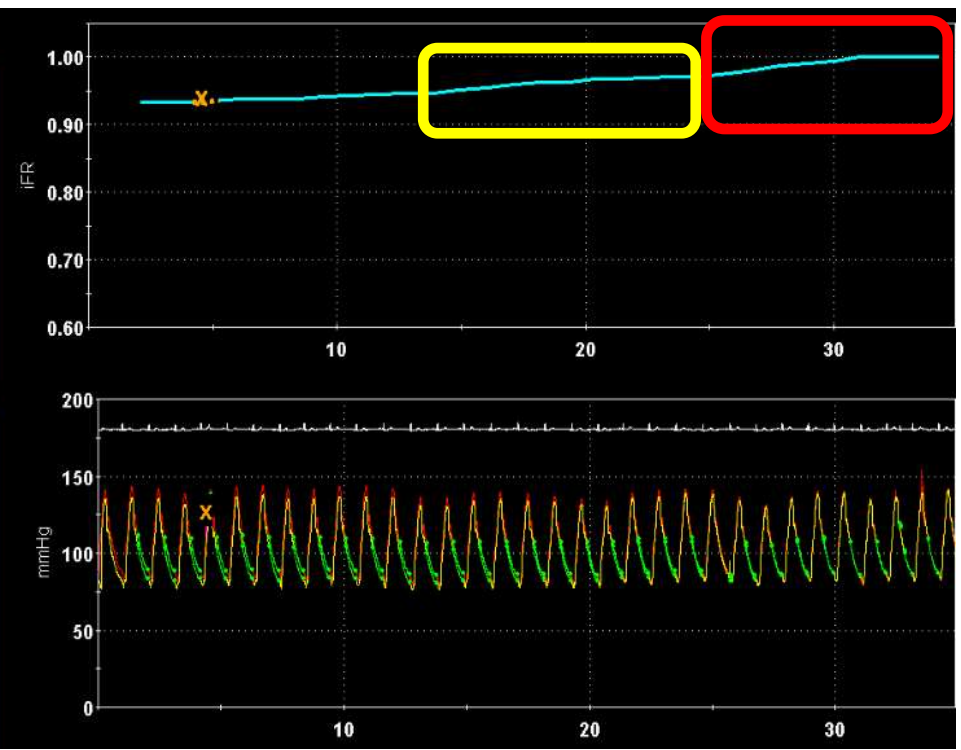
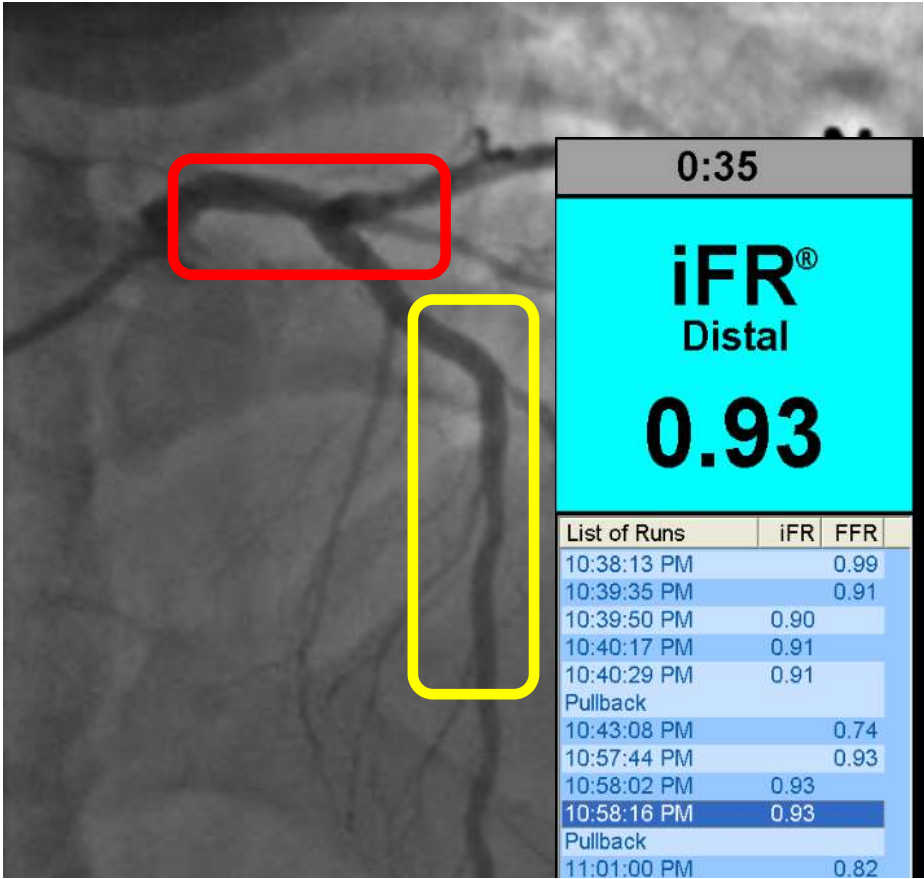
# Case M/51, effort angina, PCI for LM



# Case M/51, effort angina PCI for mLAD

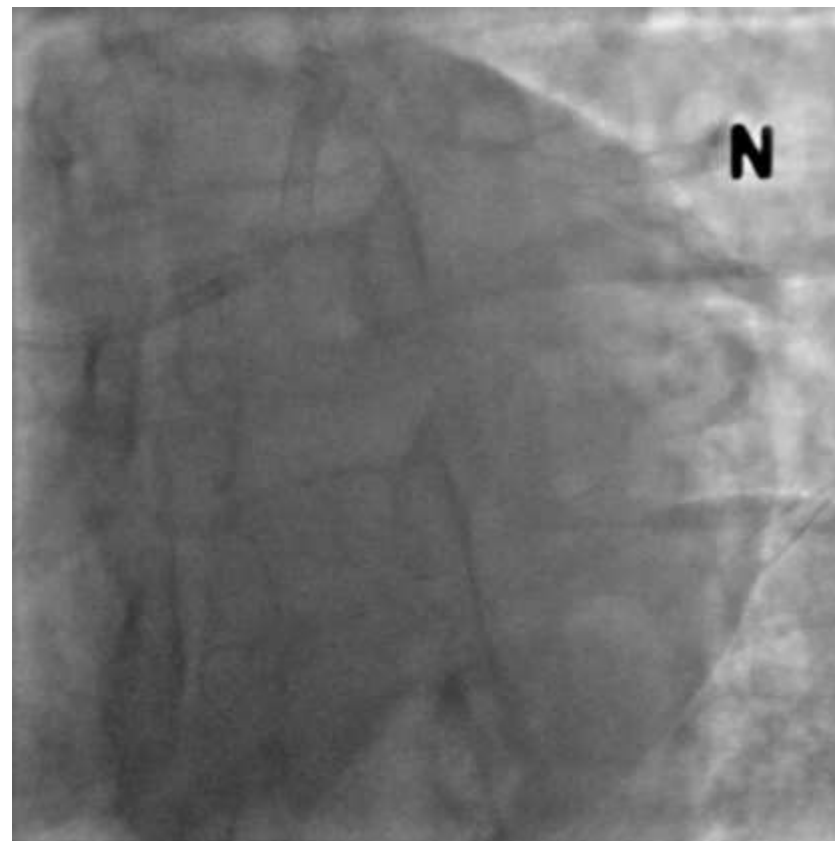
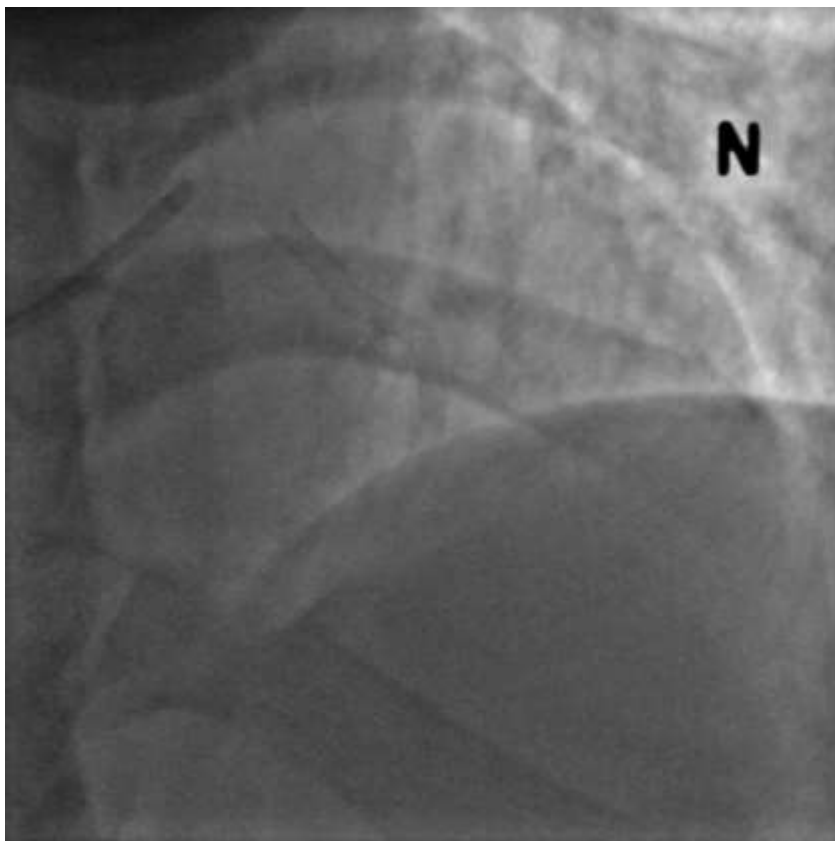


# Case M/51, effort angina PCI for mLAD





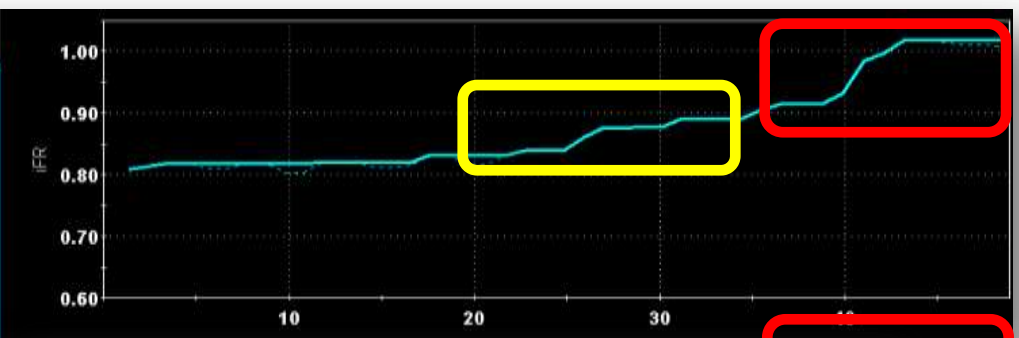
# Case M/51, final angiogram



# Pre-interventional iFR pullback may predict post PCI physiologic gain without hyperemia

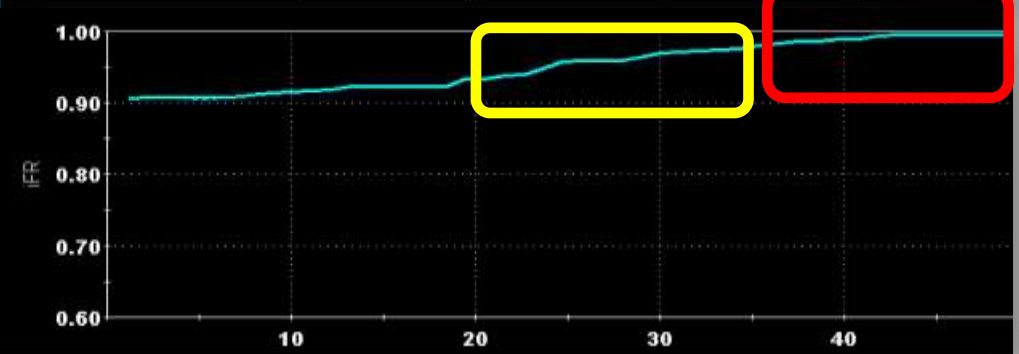
Pre

0:49  
iFR<sup>®</sup>  
Distal  
**0.81**



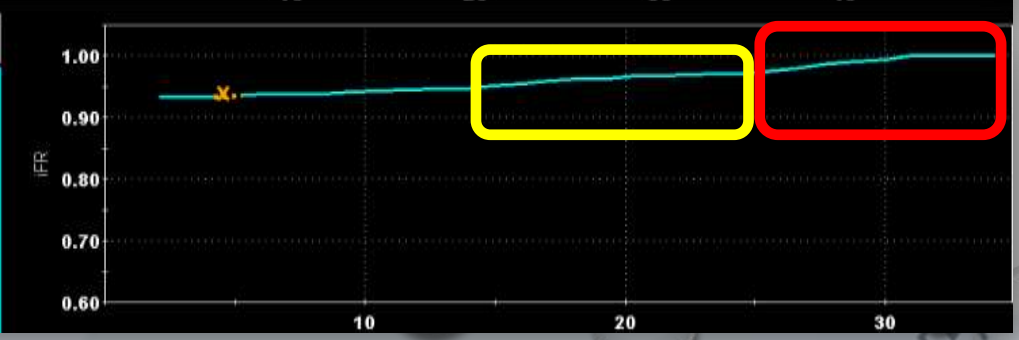
Post LM stent

0:58  
iFR<sup>®</sup>  
Distal  
**0.91**



Post LAD stent

0:35  
iFR<sup>®</sup>  
Distal  
**0.93**



# Summary

- iFR Scout: continuous iFR measurement by (automatic) pullback technique offer easy way to assess physiologic continuum of diseased coronary artery without hyperemic FFR measurement.
- Pre-interventional iFR pullback may help to predict post-PCI physiologic gain without hyperemia.

22<sup>nd</sup> CARDIOVASCULAR SUMMIT  
**TCTAP 2017**

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**Thank you for your attention**