

Complex and High-risk PCI: how should it be defined and who should be doing it?

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“Complex and Higher-Risk”

- Complex
 - “Its probably going to be technically demanding”
- Higher-Risk
 - “Adverse outcomes are more likely”

Definitions

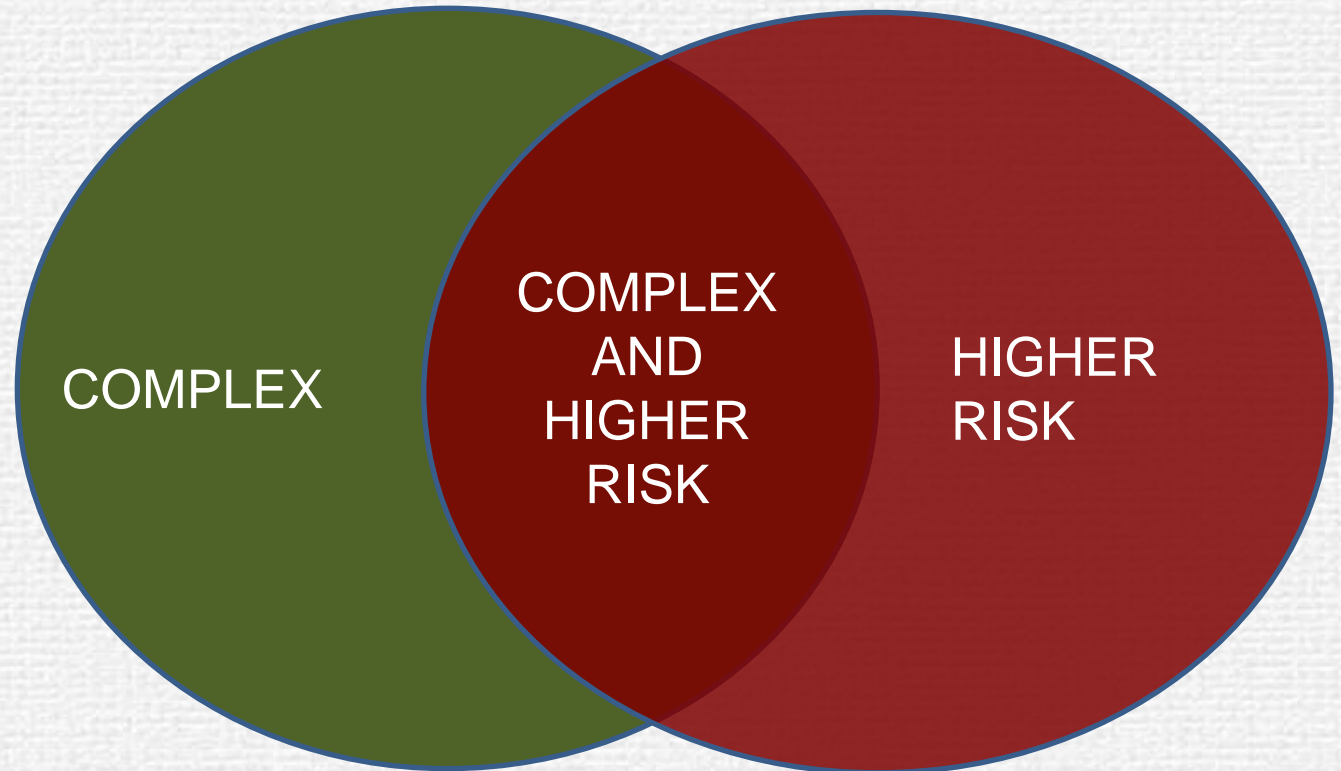
- Complex PCI is usually defined by Anatomical Factors
 - Calcification
 - Tortuosity
 - Occlusions
 - Angulations
 - Bifurcations

Definitions

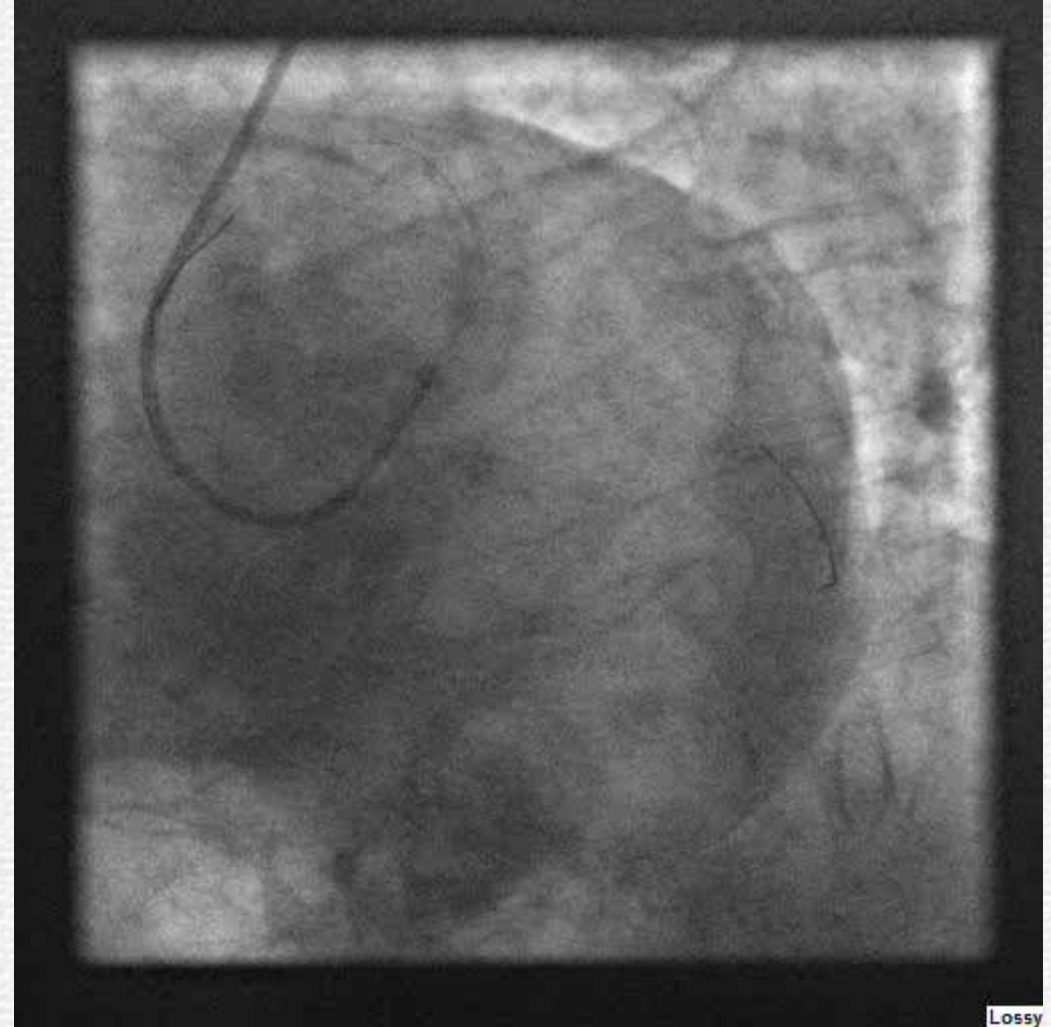
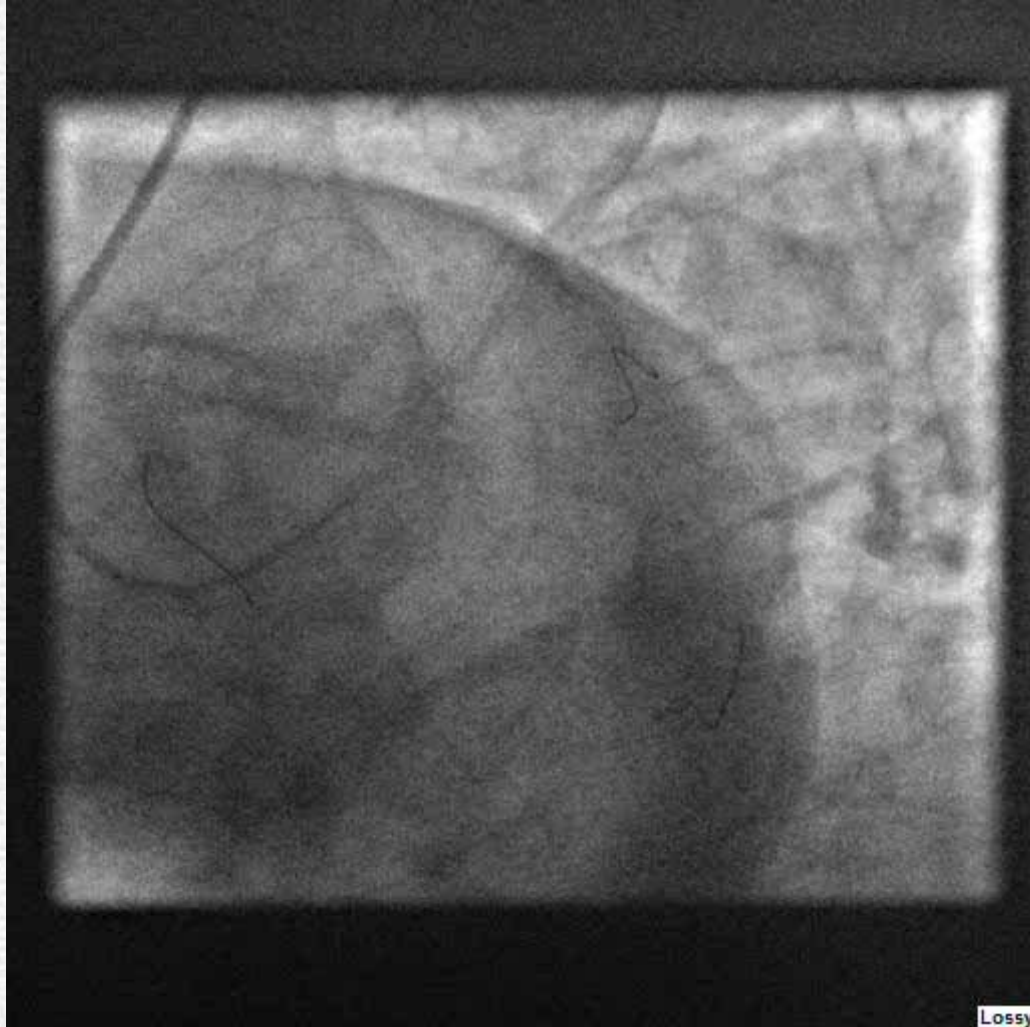
- Higher-Risk PCI can be defined by
 - Patient factors (age; mobility; compliance; weight)
 - Heart anatomical factors (poor LV; last remaining vessel; critical branches)
 - Comorbidities (renal function; lung function; blood dyscrasias)
 - Vascular access concerns

Definitions

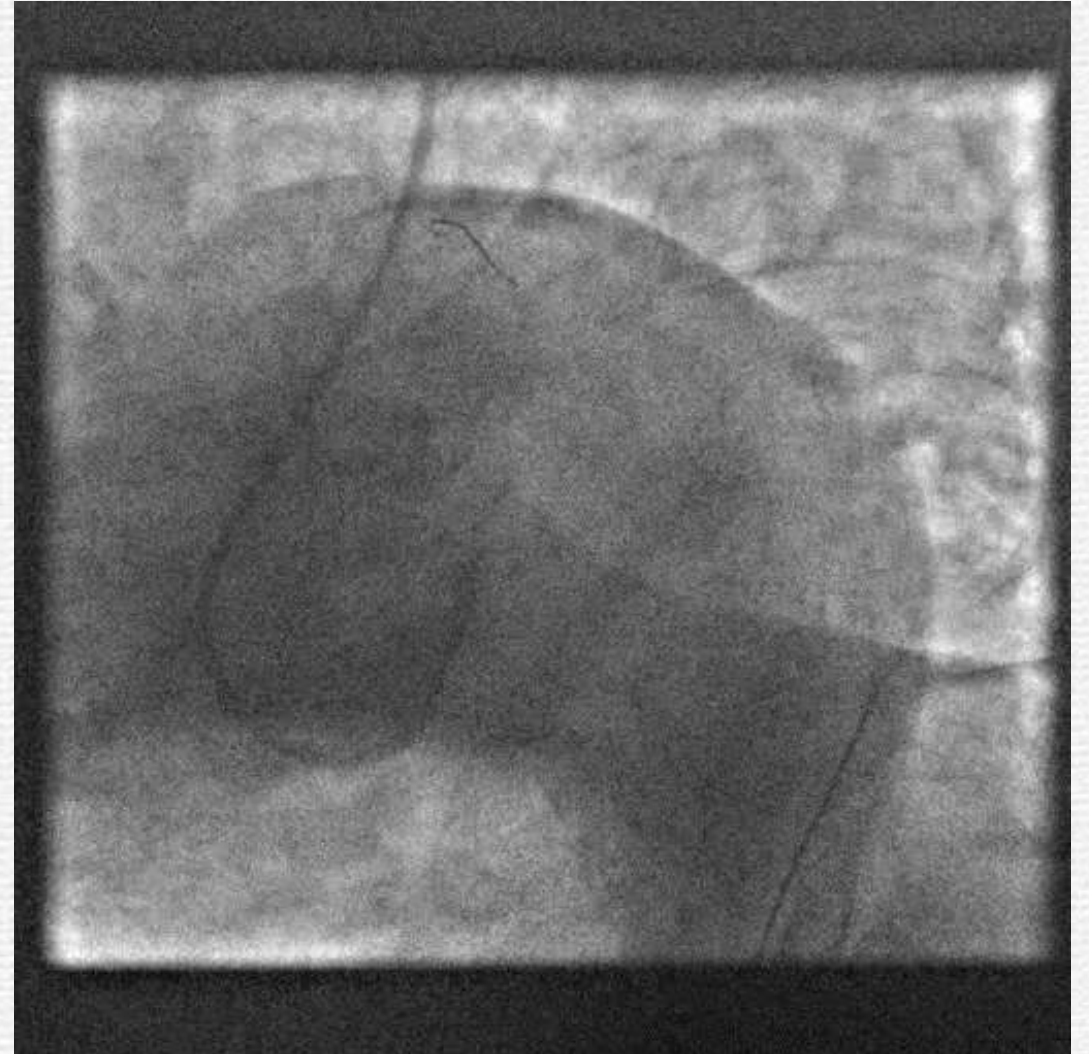
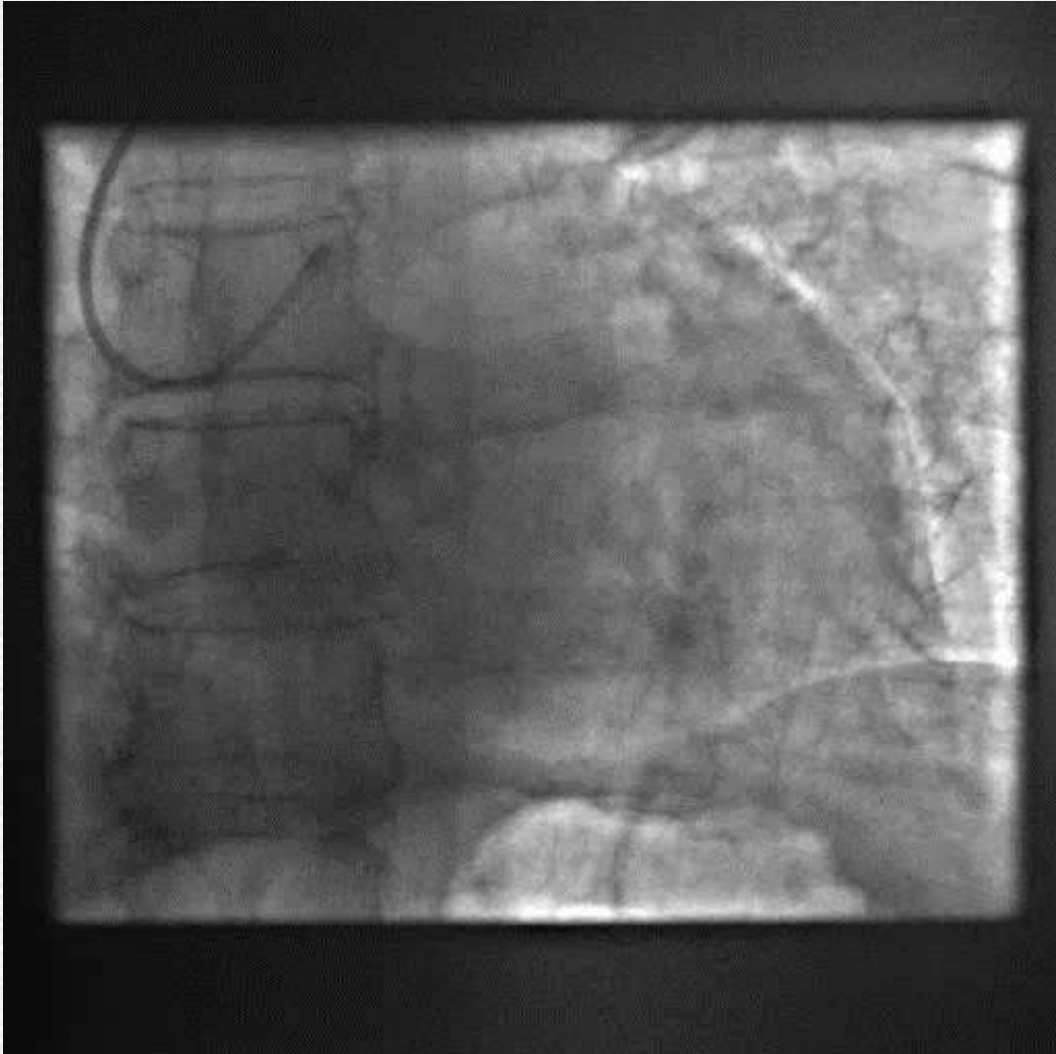
- High Risk may not be Complex
- Complex may not be High Risk



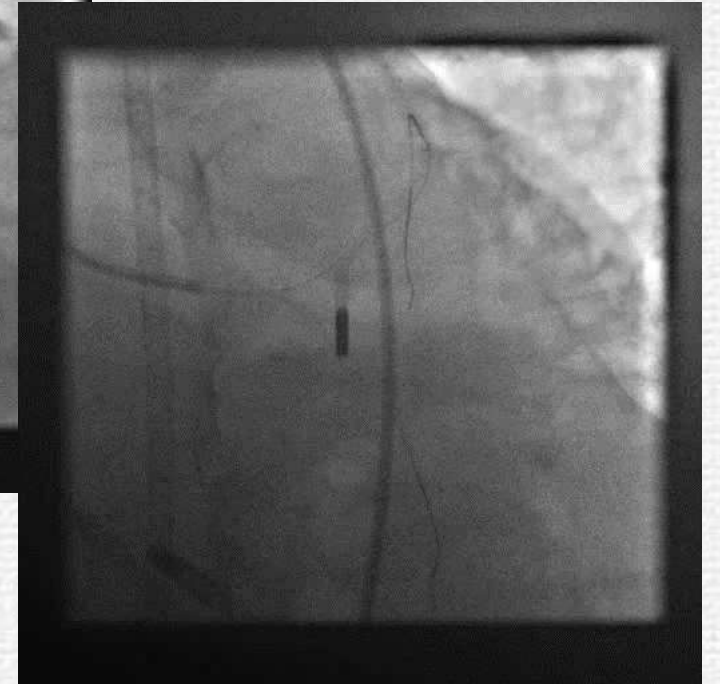
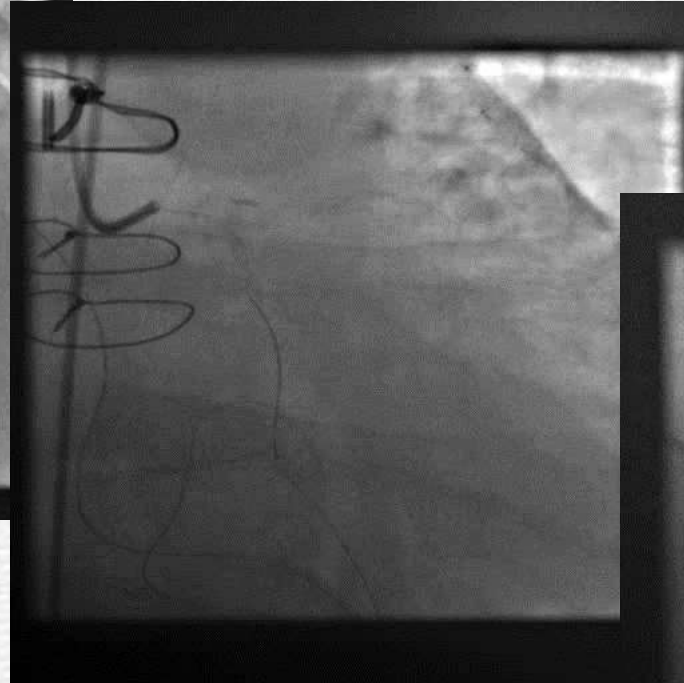
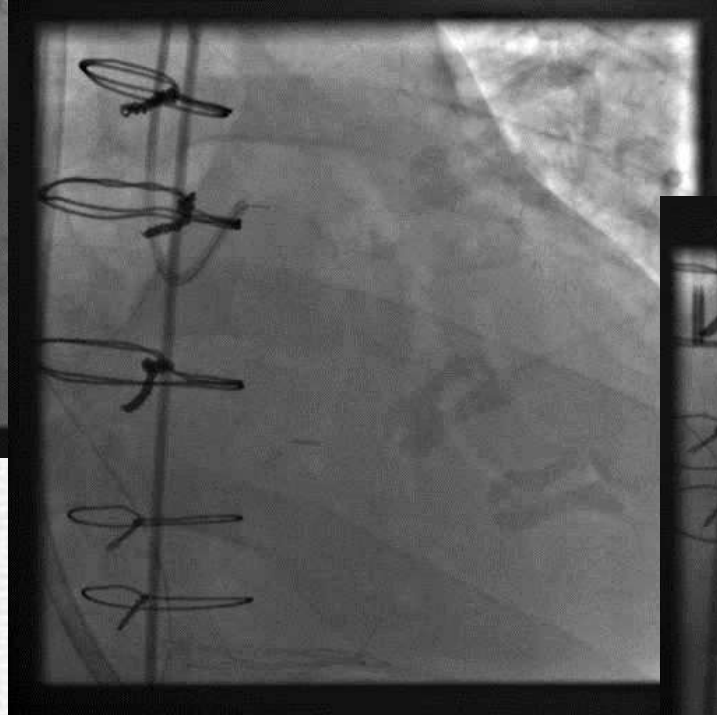
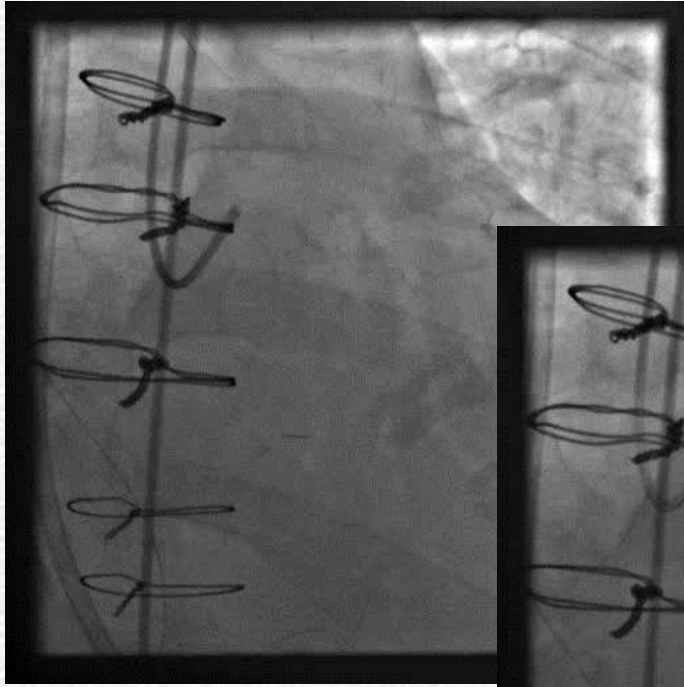
Complex or High-Risk?



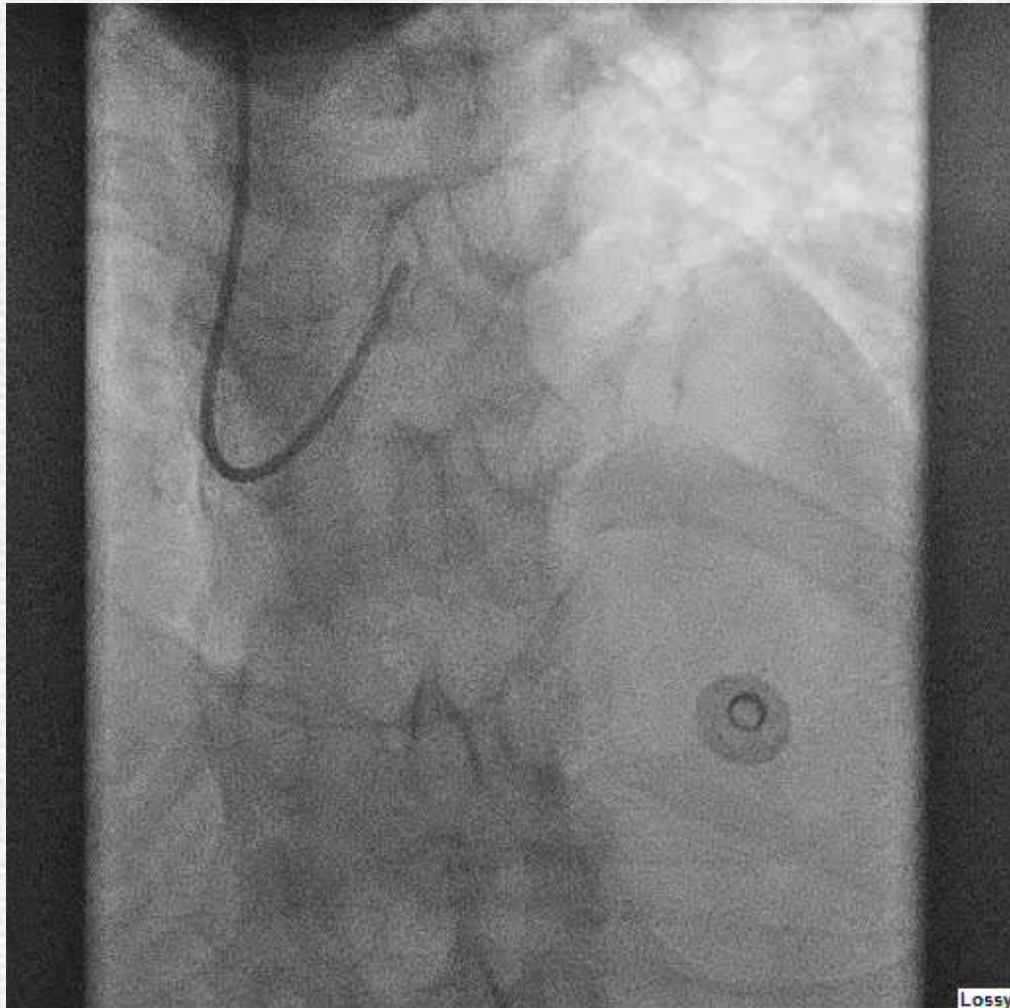
Higher Risk



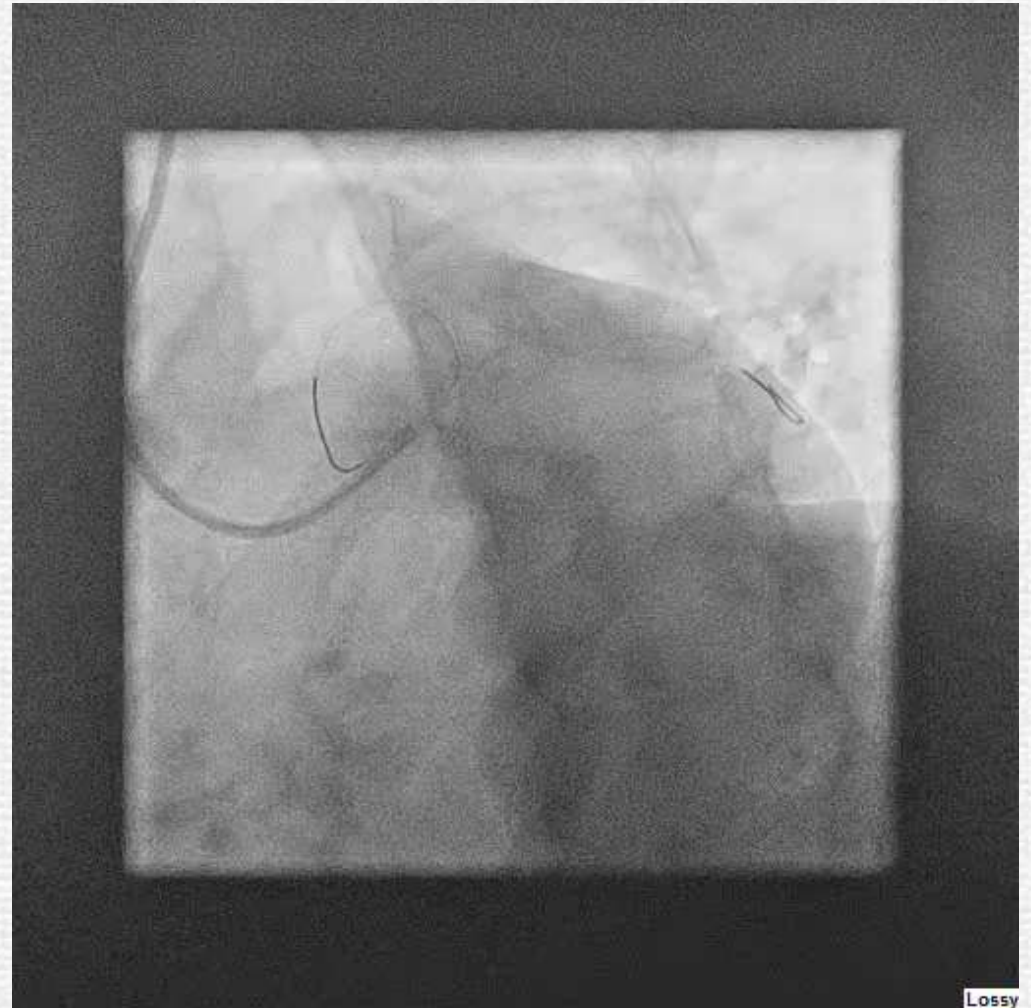
Definitely higher risk



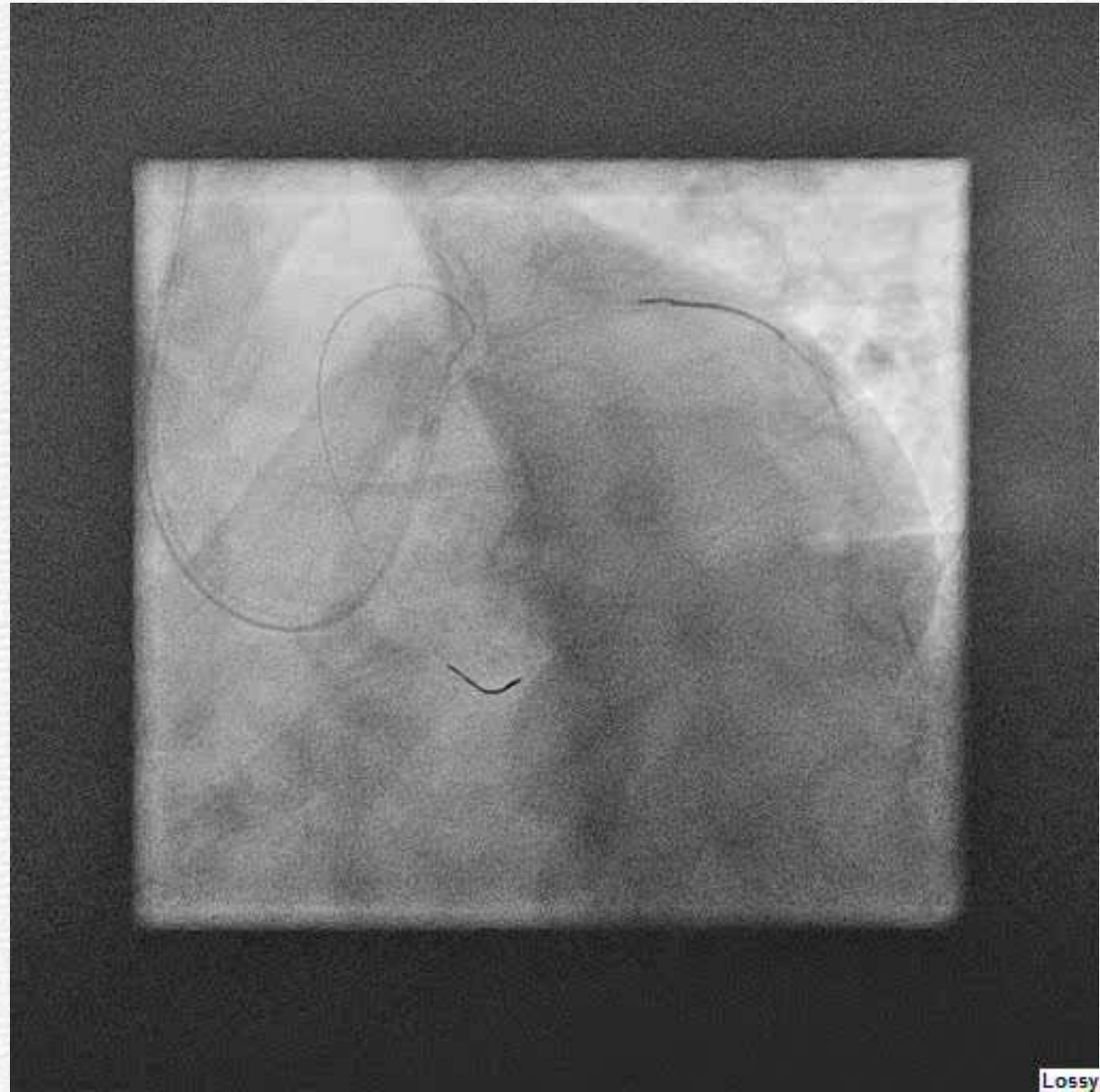
Complex or High-Risk?



Lossy



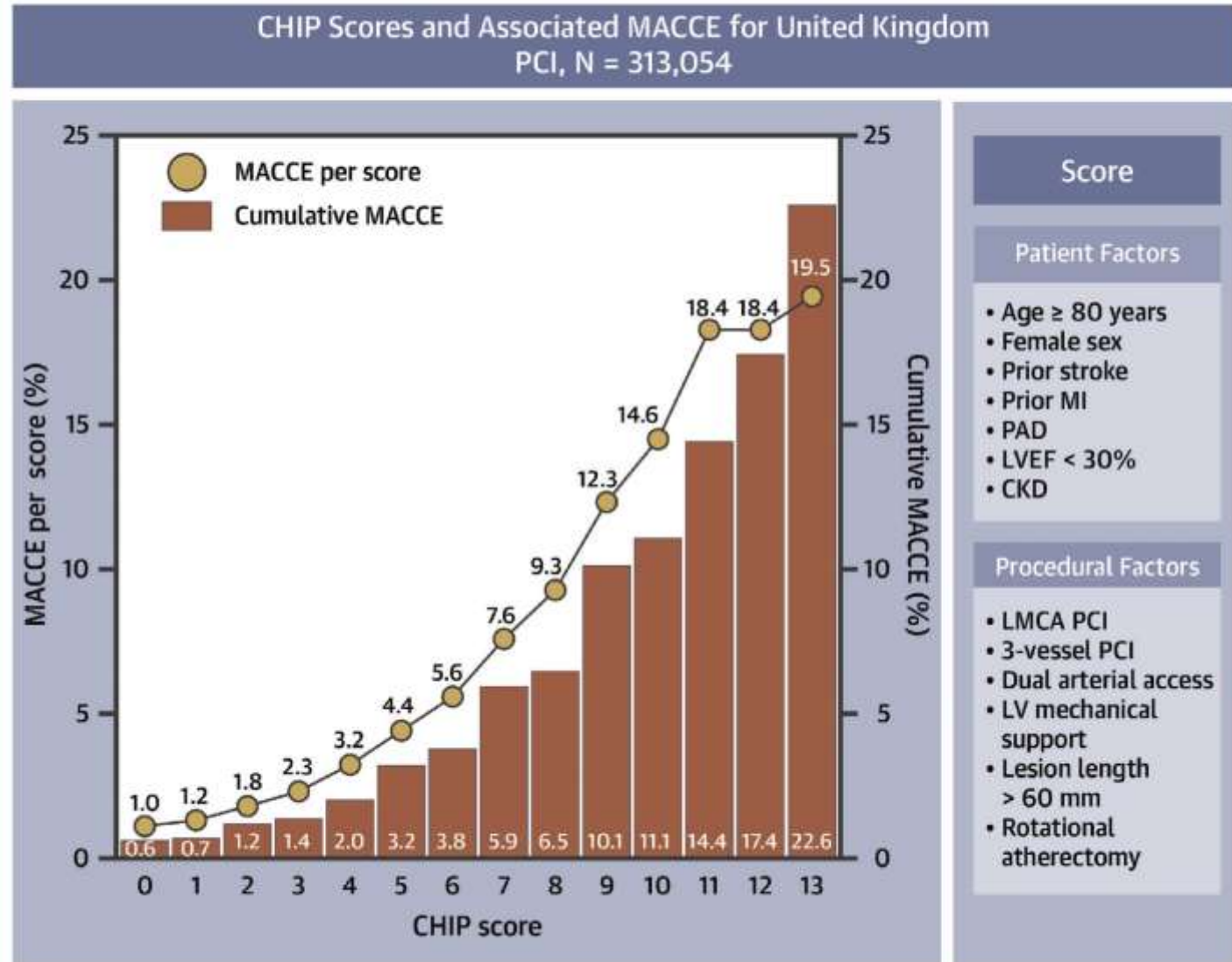
Lossy



Lossy

Defining complexity can be complex!

CENTRAL ILLUSTRATION: In-Hospital Major Adverse Cardiac or Cerebrovascular Events



Protty, M. et al. J Am Coll Cardiol Intv. 2022;15(1):39-49.

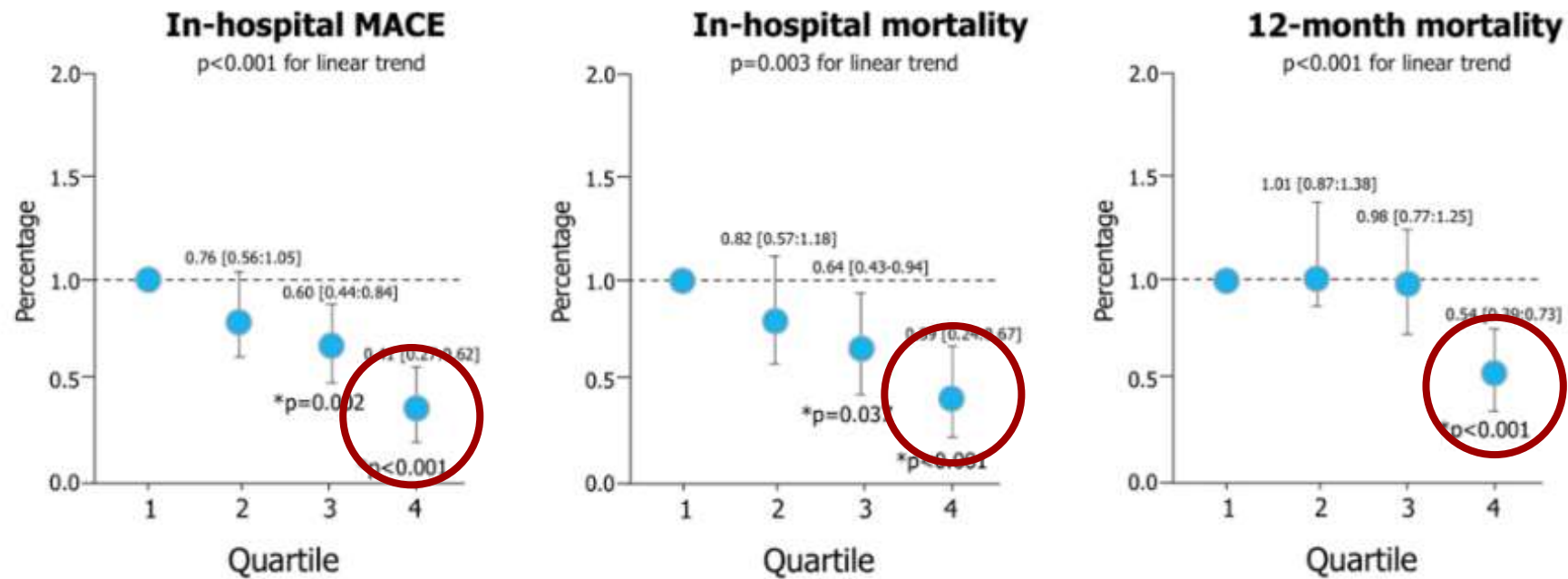
....and who should be doing it?

- Always a vexed question
- Telling people what they can and can't do rarely goes down well



High volume for complex cases

Operator volume and adjusted clinical outcomes after uLMS-PCI in England and Wales 2012-2014



* comparison vs. Q1

Kinnaird et al, *Circulation: Cardiovascular Interventions* 2020

....and who should be doing it?

- High volume operators (>200 PCI/year)
- Experienced operators (>2000 PCI volume)
- Operators who devote most of their time to PCI?
- Good operators

Good operator

Patient-Centeredness

Good Judgment

Quick thinking

Persistence

Mental Stamina

Resilience

Calmness Under
Pressure

Creativity

Clear Thinking

Courage

Confidence

Humility

Variability in Practice Should be Taken into Account: The SYNTAX Trial

