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How to select the right patient for Antegrade approach

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Conflicts of Interest

Speaker's name : Wasan Udayachalerm, MD, FAPSIC

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Affiliation/Financial Relationship

Consulting Fees/Honoraria
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Intec, Boston, B. Braun, Biosensors,
Biotronik, Daiichi Sankyo,
Medtronic, Terumo

Astrazeneca, Medtronic



To select patient(s) for antegrade approach

- **Patient:** should benefit from CTO PCI
 - ✓ Symptomatic
 - ✓ Demonstrable ischemia (> 10% of LV)
- **Angiogram:** favorable anatomy for antegrade CTO
- **Operator:** Good preparation & technique

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Severe, Refractory Angina Symptoms

Yes

No

Normal wall motion or hypokinesis in CTO territory

Akinesis or dyskinesis in CTO territory

Normal wall motion or hypokinesis in CTO territory

Viability Present?

Ischemic Burden?

Yes

No

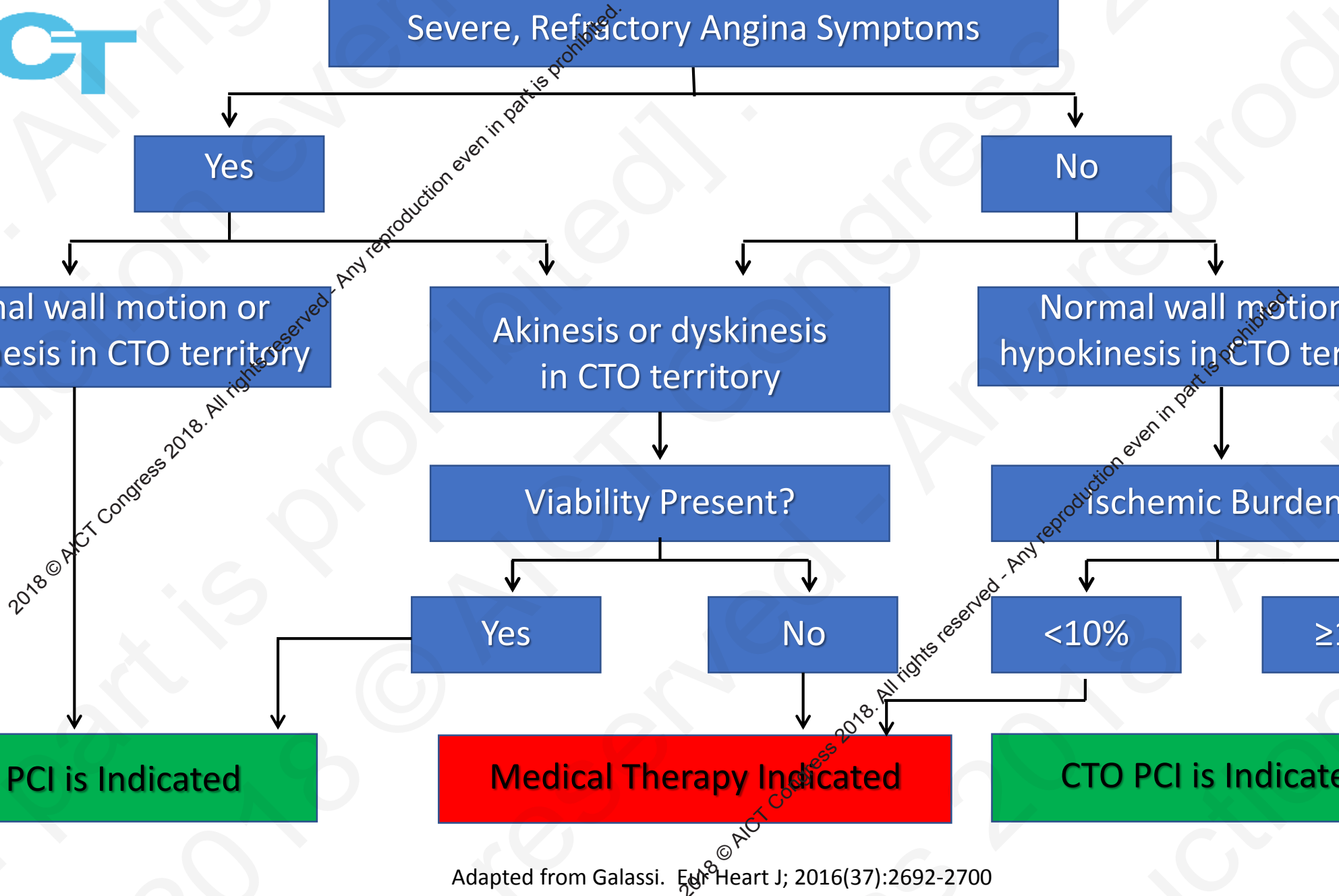
<10%

≥10%

CTO PCI is Indicated

Medical Therapy Indicated

CTO PCI is Indicated



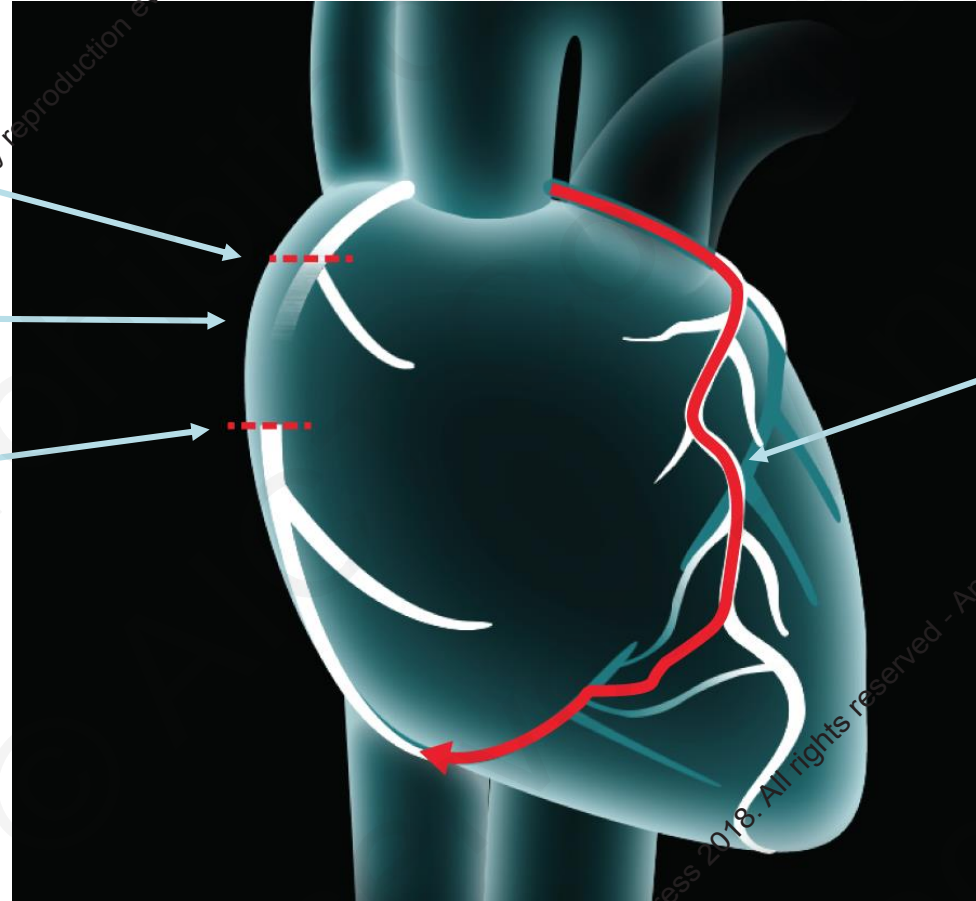
Angiographic evaluation

Proximal cap

Lesion length

Distal cap

Collaterals

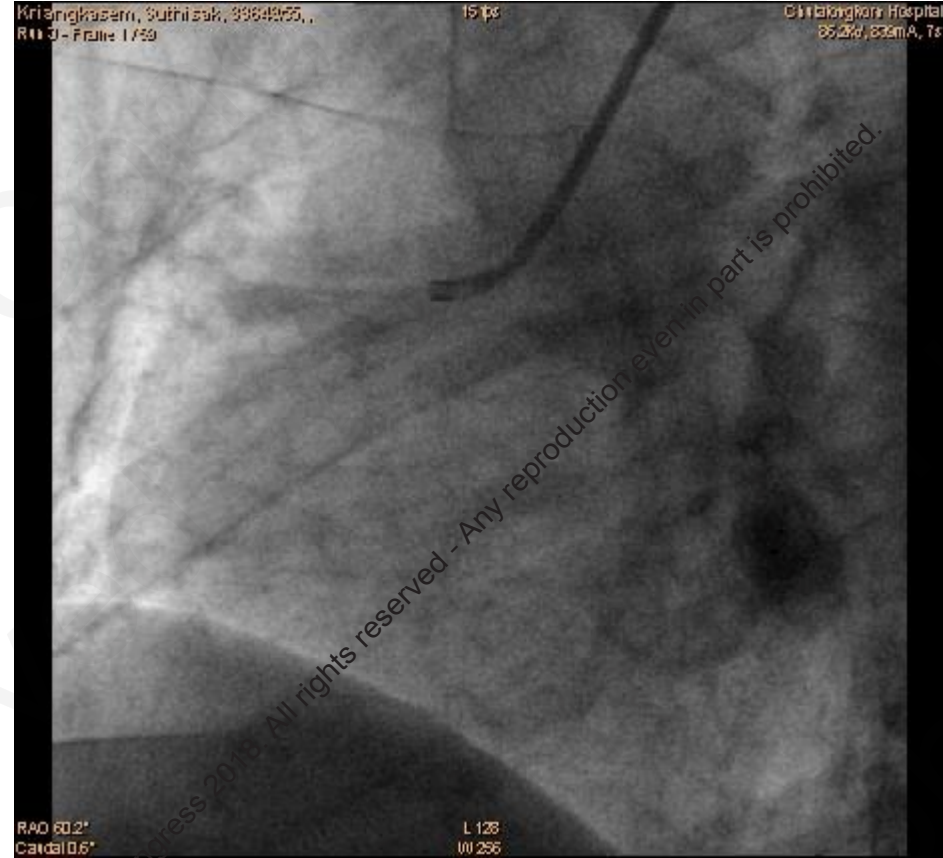


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Proximal cap

- Ambiguous or unambiguous?
- Blunt or tapered?
- Side-branch at pCap?
- Calcified?



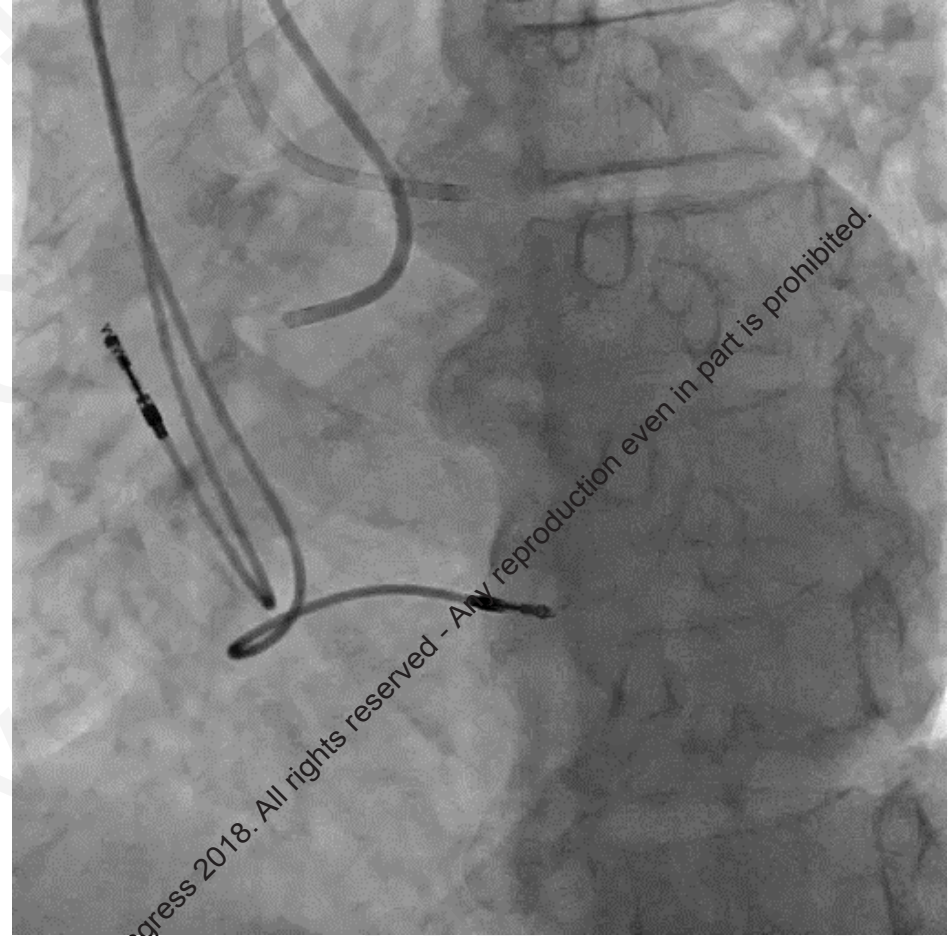
Distal cap

- Ambiguous or unambiguous?
- Blunt or tapered?
- dCap at bifurcation?
- Size of distal vessel/disease beyond dCap?



Occlusion length

- Length $<$ or $>$ 20 or 40mm?
[Predicts your ability to wire]



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Collateral Assessment

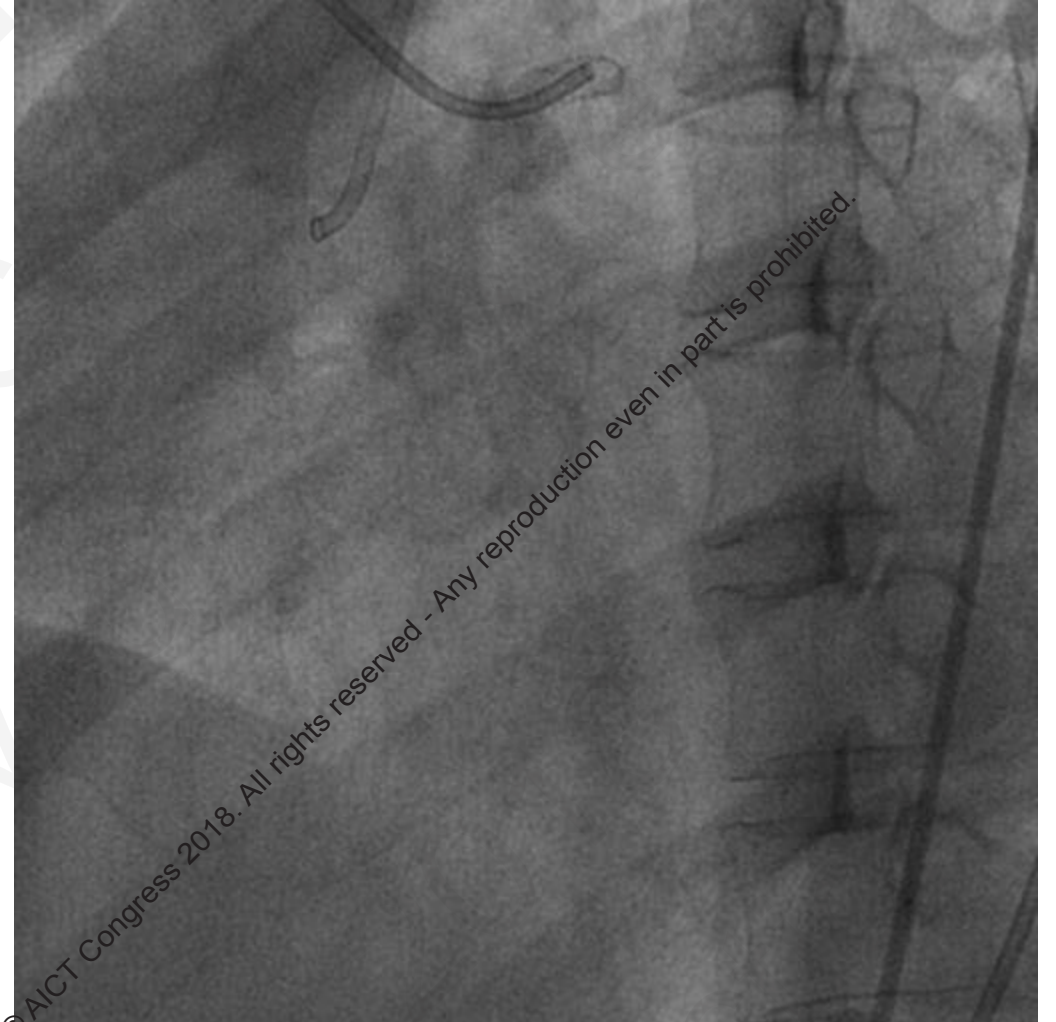
- *What collateral pathways are likely to be available?*
 - ✓ *Septal collaterals*
 - ✓ *Epicardial collaterals*
- *Is the collateral anatomy adverse or favorable for retrograde access?*

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Avoid antegrade?

- Difficult antegrade approach
 - No stump
 - Unknown distal entry point or bent point
 - Long CTO (>40 mm)
 - Heavy calcium



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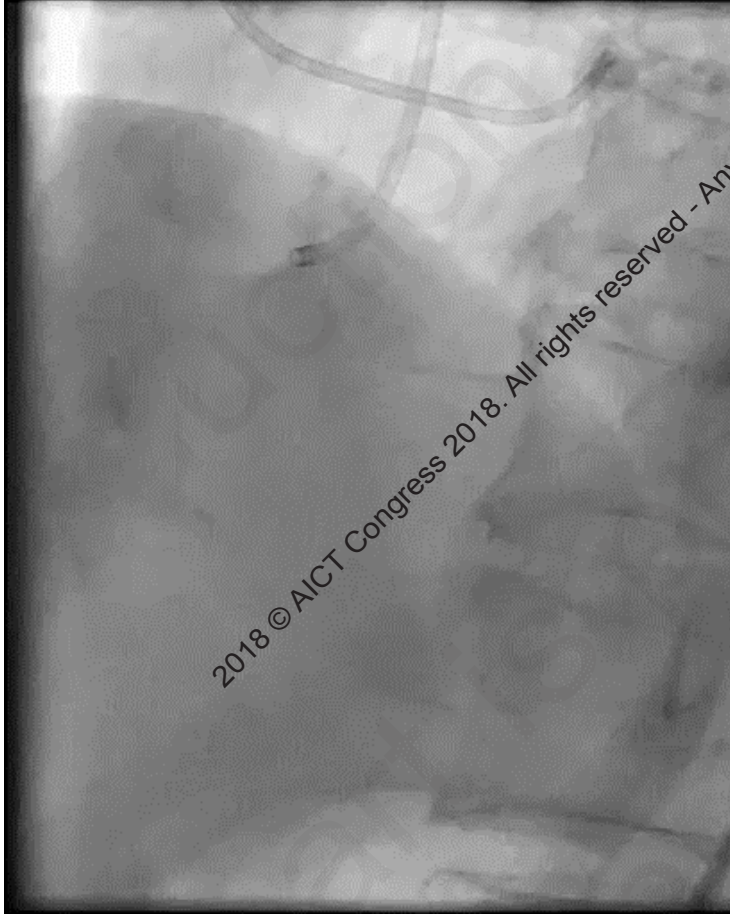
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- Good preparation
- Good technique(s)

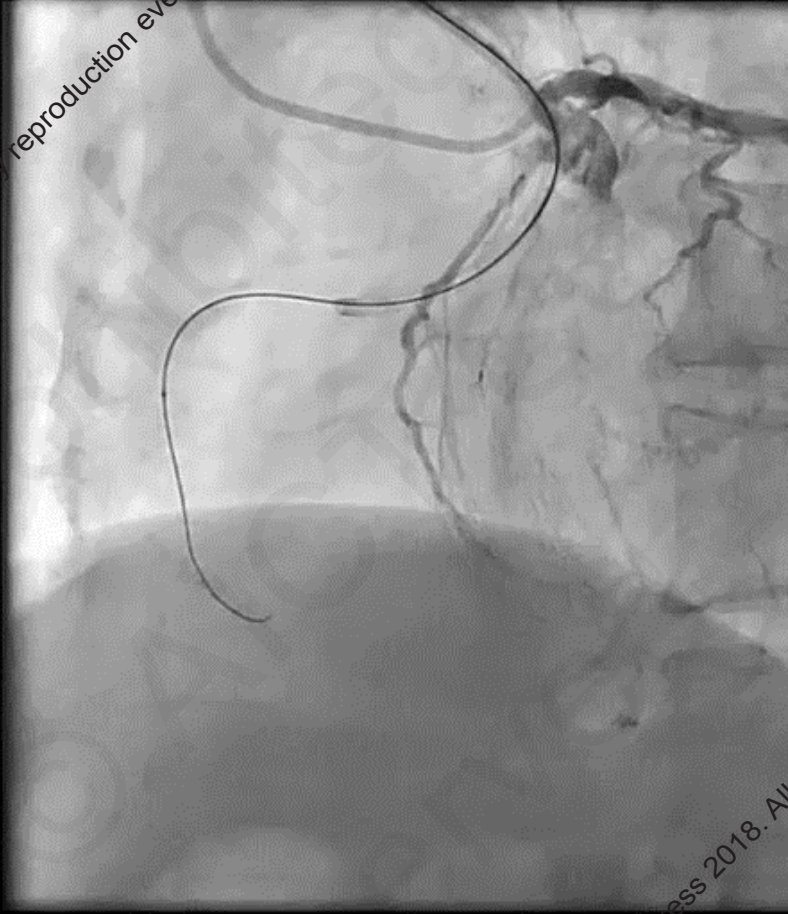


- Sufficient baseline angiographic images of the entire coronary artery anatomy
- Deliberate planning of the primary technical approach
 - Anatomic considerations
 - Non-coronary variables
 - renal function
 - prior attempts
 - overall health of the patient
- Biplane system if possible
- Review of Cath Lab inventory - do you have everything you need on the shelf and in the room?
- Stopping rules - x-ray dose and contrast volume

- Contralateral injections
- Guiding techniques
 - ✓ Passive & active backup
 - ✓ Guiding extension: mother & child catheter, guideliner
- Microcatheter(s)
 - ✓ Better support
 - ✓ Special microcatheters: cozair, double lumen
- Guidewire shaping
- Wire manipulation



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