Abbott Coronary Microvascular Dysfunction Algorithm User Guide

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Catheter Engagement

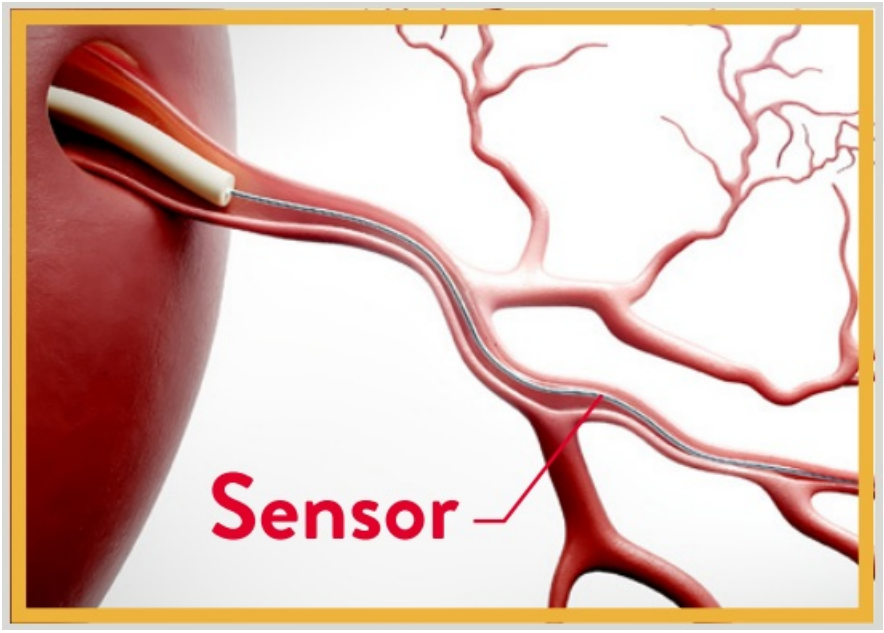
(c)

- Flush thoroughly 1
- Coaxial guide engagement 1
- Ensure no damping1

(A)

Advance Wire

- Interrogate LAD unless there is a specific territory of interest 2
- Advance wire sensor 2/3 distally in vessel 3
- Administer GTN/NTG1

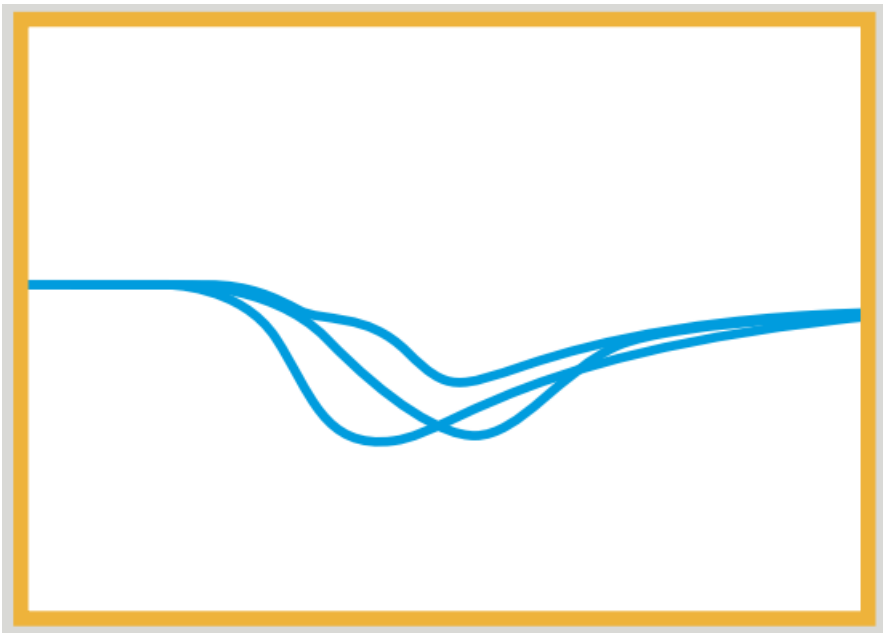


(T)

Transit Time at Rest

- Flush/purge pre-Tmn rest to clear any blood and contrast 3
- Room temperature saline 3
- Brisk 3 mL x 3 injections 3
- Address outliers (± 0.25s) before proceeding 4*

  * Repeat measurement of Tmn rest



(H)

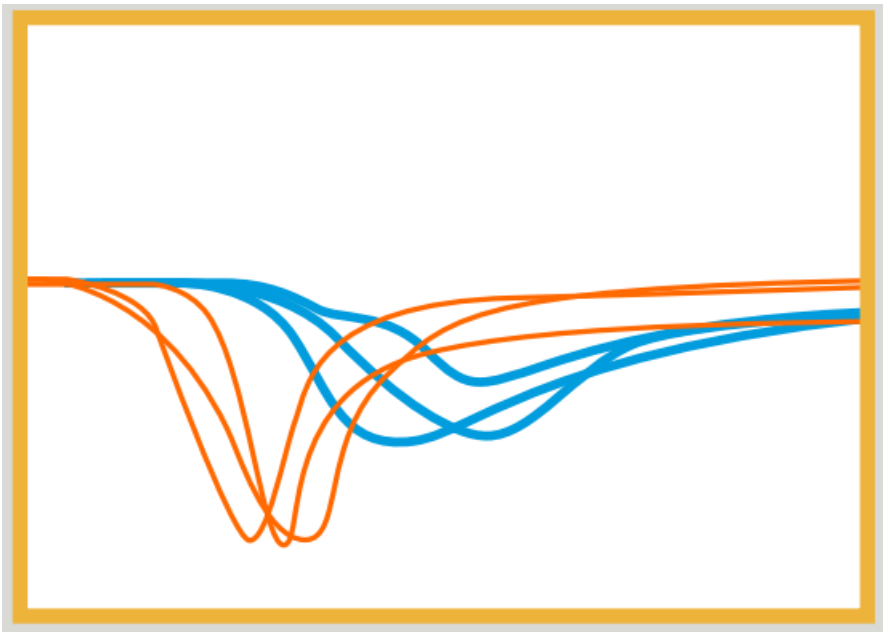
Hyperemic Transit Time

- Induce hyperemia 5
- Confirm hyperemia*6

- Flush/purge pre-Tmn hyp to clear any blood and contrast 6
- Room temperature saline 6
- Brisk 3 mL x 3 injections 6
- Address outliers (± 0.15s) before proceeding 4**

  * Decrease in pressure, patient symptoms, FFR drop *

  *Repeat measurement of Tmn hyp

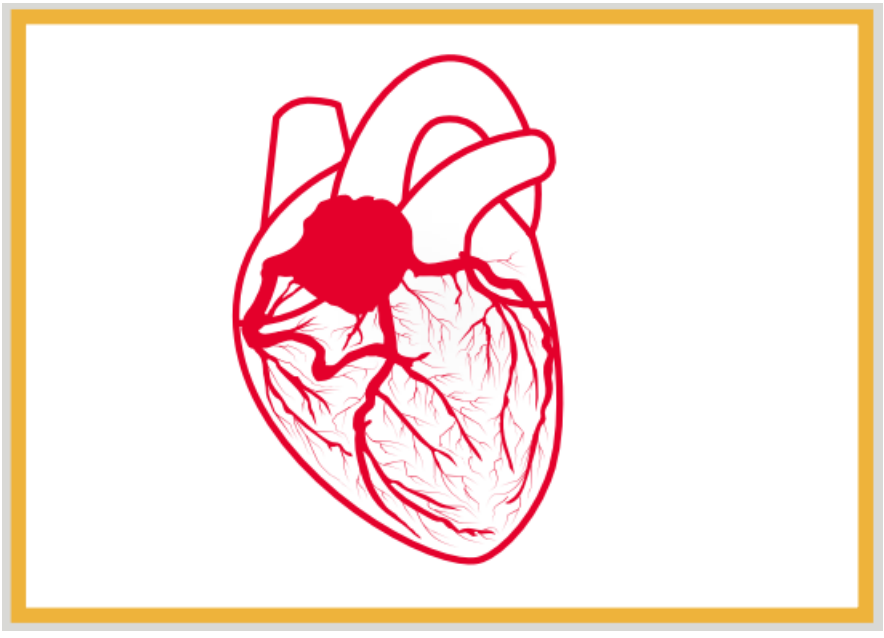


(C)

Coronary Flow Reserve (CFR)

- CFR <2.5*4
- CFR grey zone 2.0-2.4*

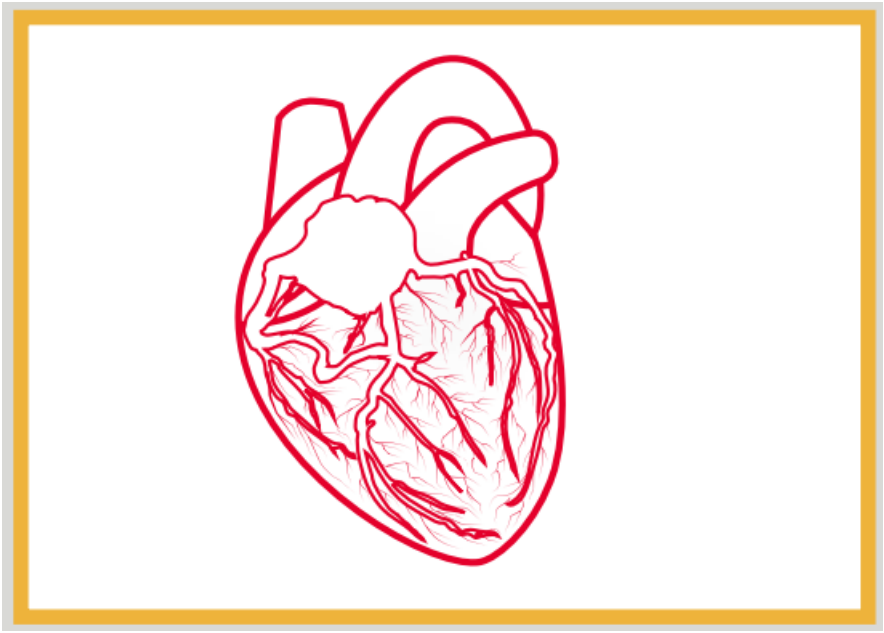
  * Evolving consensus



(M)

Index of Microcirculatory Resistance (IMR)

- IMR ≥252
- Use IMRcorr if FFR ≤0.807

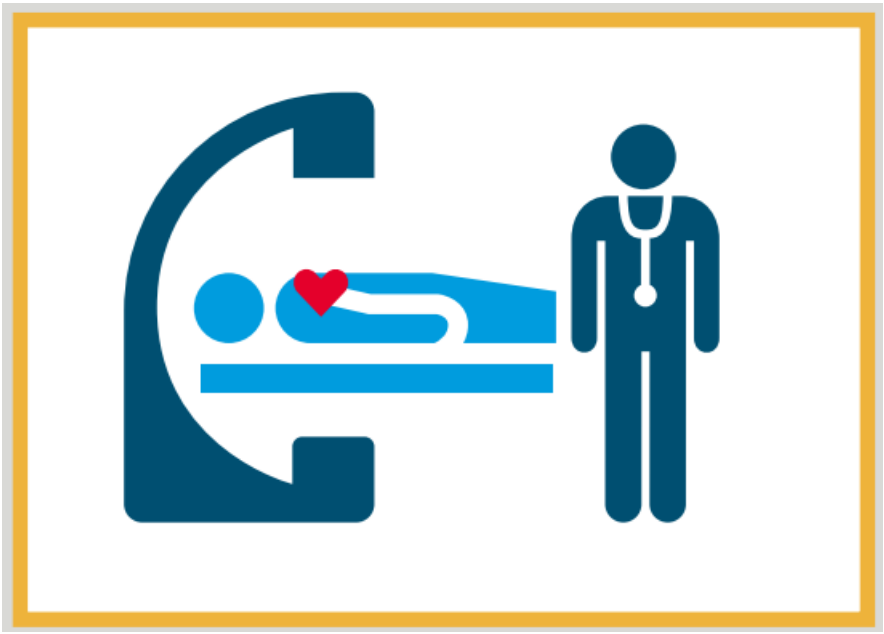


(D)

Diagnosis

- Diagnosis of CMD based on IMR ≥25 and CFR <2.5*2,4
- CFR grey zone 2.0-2.4*
- Refer to guidelines and consensus document2,4, 8-9

  * Evolving consensus



GTN (glyceryl trinitrate) |
NTG (nitroglycerin) |
LAD (left anterior descending) |
FFR (fractional flow reserve) |

IMRcorr (IMR corrected) |
CMD (coronary microvascular dysfunction) |
Tmnrest (resting transit mean time) |
Tmnhyp (hyperemic transit mean time)

References:

1. Berry C. Fractional Flow Reserve, Coronary Flow Reserve and the Index of Microvascular Resistance in Clinical Practice. Radcliffe Cardiology. 2014, 1-6.
2. Kunadian V, et al. EAPCI Expert Consensus Document on Ischaemia with Non-Obstructive Coronary Arteries. EHJ. 2020; 0, 1-21.
3. Fearon W, et al. Invasive Assessment of the Coronary Microvasculature: The Index of Microcirculatory Resistance. Circ Cardiovasc Interv. 2017; 10:e005361
4. Perera D, et al. Invasive coronary physiology in patients with angina and non-obstructive coronary artery disease. Heart. 2022; 0, 1-8.
5. Ford T, et al. Stratified Medical Therapy Using Invasive Coronary Function Testing in Angina: The CorMicA Trial. JACC. 2018, 72, 2841-55.
6. Ang D, et al. Interventional Diagnostic Procedure: a Practical Guide for the Assessment of Coronary Vascular Function. JOVE 2022; 181, e2265.
7. Yong A, et al. Calculation of the Index of Microcirculatory Resistance Without Coronary Wedge Pressure Measurement in the Presence of Epicardial Stenosis. JACC: Cardiovasc Interv. 2013; 6, 53-8.
8. Knuuti J, et al. ESC guidelines. EHJ. 2020; 41, 407-477.
9. Gulati M, et al. 2021 Chest Pain Guideline, Circulation. 2021; 144, e368-e454.

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Documents / Resources

	**Abbott Coronary Microvascular Dysfunction Algorithm** [pdf] User Guide Coronary Microvascular Dysfunction Algorithm, Microvascular Dysfunction Algorithm, Dysfunction Algorithm, Algorithm
	**Abbott Coronary Microvascular Dysfunction Algorithm** [pdf] Instruction Manual Coronary Microvascular Dysfunction Algorithm, Microvascular Dysfunction Algorithm, Dysfunction Algorithm, Algorithm

References

- User Manual