

Title: Movahed Coronary Bifurcation Classification Should be the Preferred Classification for Left Main Bifurcation Lesions Research as it has Suffixes for large or small proximal segment of true LM bifurcation lesions important for kissing stent technique called B2-LM-S (B for bifurcation, 2 for both bifurcation ostia has disease, LM for LM, S for small prox segment) or B2 LM-L

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Running Title: The Movahed Coronary Bifurcation Classification For LM bifurcation

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With great interest, I read the paper published in the JACC Intervention Journal entitled: “Provisional Strategy for Left Main Stem Bifurcation Disease: A State-of-the-Art Review of Technique and Outcomes”¹ The authors used the Medina Bifurcation Classification that unfortunately divides true bifurcation lesions into three unnecessary groups: 111, 101 and 011. The authors should have used the Movahed classification which summarizes all true bifurcation lesions in one simple category called B 2 (B for bifurcation, 2 meaning both bifurcation ostia are diseased). The basic structure of the Movahed classification^{2,3} simplifies bifurcation lesions into three categories: If both branches are involved as mentioned above, it is called a B2 lesion,

if only the main branch is involved, is called B1m (B for bifurcation, 1m meaning only the main branch has disease) and if only side branch is involved, is called B1s lesion (B for bifurcation and 1s meaning only side branch has the disease). Another important part of this bifurcation classification is the fact that additional suffixes can be added if needed for clinical or research purposes. This comes in very handy, particularly in the left main bifurcation lesions. As the best example, the kissing stenting technique in appropriate bifurcation left main lesions can be performed very safely and quickly but it requires that the proximal segment be large enough to accommodate 2 stents and has to be at least 2/3 sum of distal bifurcation branches. In the Movahed classification, this suffix is called L (L for the large proximal segment) or S (for the small proximal segment). Furthermore, limitless additional suffixes can be added if needed such as calcium or bifurcation angle that is completely absent in the Medina classification.

The widely used Medina bifurcation classification is unfortunately too complex in describing given true bifurcation lesions in three clinically irrelevant categories and at the same time lacks important other anatomical features of a given bifurcation lesion.⁴⁻⁸ Figure 1 compares the basic structure of the Movahed classification to the Medina Classification. Figure 2 summarizes a detailed description of the Movahed classification if additional suffixes are needed.

References:

1. Paradies V, Banning A, Cao D, Chieffo A, Daemen J, Diletti R, Hildick-Smith D, Kandzari DE, Kirtane AJ, Mehran R, Park DW, Tarantini G, Smits PC, Van Mieghem NM. Provisional Strategy for Left Main Stem Bifurcation Disease: A State-of-the-Art Review of Technique and Outcomes. *JACC Cardiovasc Interv.* 2023 Apr 10;16(7):743-758.
2. Movahed MR, Stinis CT. A new proposed simplified classification of coronary artery bifurcation lesions and bifurcation interventional techniques. *J Invasive Cardiol.* 2006 May;18(5):199-204.
3. Movahed MR. Coronary artery bifurcation lesion classifications, interventional techniques and clinical outcome. *Expert Rev Cardiovasc Ther.* 2008 Feb;6(2):261-74
4. Movahed MR. Quantitative angiographic methods for bifurcation lesions: a consensus statement from the European Bifurcation Group. Shortcoming of the Medina classification as a preferred classification for coronary artery bifurcation lesions in comparison to the Movahed classification. *Catheter Cardiovasc Interv.* 2009 Nov 1;74(5):817-8.
5. Movahed MR. Studies involving coronary bifurcation interventions should utilize the most comprehensive and technically relevant Movahed coronary bifurcation classification for better communication and accuracy. *Am J Cardiol.* 2010 Apr 15;105(8):1204-5
6. Movahed MR. B2 lesions are true bifurcation lesions simply categorized as one group according to the Movahed bifurcation classification. *J Invasive Cardiol.* 2010 May;22(5):252
7. Movahed MR. Major limitations of randomized clinical trials involving coronary artery bifurcation interventions: time for redesigning clinical trials by involving only true bifurcation lesions and using appropriate bifurcation classification. *J Interv Cardiol.* 2011 Aug;24(4):295-301
8. Movahed MR. Is it time to consider the Movahed classification as the preferred classification for coronary bifurcation lesions? *EuroIntervention.* 2010 Jan;5(6):652;

Figure1: Comparison of the Movahed to the Medina coronary bifurcation classification revealing the simplicity of the basic suffix of the Movahed classification.

Movahed	Medina
B2	1.1.1, 1.0.1, 0.1.1
B1m	1.1.0, 1.0.0., 0.1.0
B1s	0.0.1

Figure 2: Details of the Movahed Bifurcation Classification with limitless optional suffixes:

