The World Journal of MEN's HEALTH

**Supplement Table 2.** Description of outcome measures

| Outcome | Description | Reference value |
|---|---|---|
| Intima-media thickness (IMT) | The IMT is measured by ultrasonography for the carotid artery (cIMT), cavernous artery (cavernous IMT), brachial artery (brachial IMT), and femoral artery (femoral IMT). | IMT <0.9 mm is considered normal, while the range of 0.9–1.2 mm is defined as increased thickness and mean IMT ≥1.3 mm is defined as plaque [1]. |
| Pulse wave velocity (PWV) | PWV is a gold standard for assessing arterial stiffness by measuring the arteries at the corresponding sites [2]. | It has a normal value that is positively correlated with age and blood pressure [3]. |
| Ankle-brachial index (ABI) | The ABI is the ratio of ankle systolic pressure to arm systolic pressure, which was proposed as a test for peripheral artery disease as early as 1950 [4]. | Although the lower limit of normal ABI is still controversial, some studies have proposed a borderline range of 0.90–0.99. Below this range, low ABI is associated with increased incidence and mortality of cardiovascular disease [5]. |
| Augmentation index (AI) | AI, equals to the ratio of augmented pressure to pulse pressure, is an important indicator of increased elastic artery stiffness [6]. | The normal range of AI is considered to be less than 3% in the general population [7]. |
| Nitrate-mediated dilation (NMD), flow-mediated dilation (FMD) | FMD and NMD are common measures used to assess endothelial function by examing brachial artery at rest and during reactive hyperemia, providing information about endothelium-dependent vasodilatation, whereas sublingual nitro-glycerin is administered to evaluate NMD [8]. | Heiss et al [9] proposed a cutoff value of 6.5% for normal FMD through a meta-analysis of 1, 579 subjects.<br>The normal range for NMD is >11.9% [10]. |
| Endothelial progenitor cells (EPCs) | EPCs are gaining interest as biomarkers of endothelial function due to their noninvasive characteristics [11]. | The lack of standardization of EPC limited their routine clinical use, leading to no consensus reference values [11]. |

## REFERENCES


1. Furberg CD, Byington RP, Borhani NA. Multicenter isradipine diuretic atherosclerosis study (MIDAS). Design features. The Midas Research Group. Am J Med 1989;86(4A):37-9.
2. Shigemura K, Arakawa S, Kamidono S, Nakano Y, Fujisawa M. Effect of sildenafil on arterial stiffness, as assessed by pulse wave velocity, in patients with erectile dysfunction. Int J Urol 2006;13:956-9.
3. Reference Values for Arterial Stiffness' Collaboration. Determinants of pulse wave velocity in healthy people and in the presence of cardiovascular risk factors: 'establishing normal and reference values'. Eur Heart J 2010;31:2338-50.
4. Criqui MH, Aboyans V. Epidemiology of peripheral artery disease. Circ Res 2015;116:1509-26. Erratum in: Circ Res 2015;117:e12.
5. Peltonen E, Laivuori M, Vakhitov D, Korhonen P, Venermo M, Hakovirta H. The cardiovascular-mortality-based estimate for normal range of the Ankle-Brachial Index (ABI). J Cardiovasc Dev Dis 2022;9:147.
6. Nichols WW, Singh BM. Augmentation index as a measure of peripheral vascular disease state. Curr Opin Cardiol 2002;17:543-51.
7. Shoskes DA, Tucky B, Polackwich AS. Improvement of endothelial function following initiation of testosterone replacement therapy. Transl Androl Urol 2016;5:819-23.
8. Kizhakekuttu TJ, Gutterman DD, Phillips SA, Jurva JW, Arthur EI, Das E, et al. Measuring FMD in the brachial artery: how important is QRS gating? J Appl Physiol (1985) 2010;109:959-65.
9. Heiss C, Rodriguez-Mateos A, Bapir M, Skene SS, Sies H, Kelm M. Flow-mediated dilation reference values for evaluation of endothelial function and cardiovascular health. Cardiovasc Res 2023;119:283-93.
10. Hamilton SJ, Chew GT, Davis TM, Watts GF. Prevalence and predictors of abnormal arterial function in statin-treated type 2 diabetes mellitus patients. Metabolism 2012;61:349-57.
11. La Vignera S, Condorelli R, Vicari E, D'Agata R, Calogero AE. Arterial erectile dysfunction: reliability of new markers of endothelial dysfunction. J Endocrinol Invest 2011;34:e314-20.