

Wound Healing and Limb Ischemia

1. Guo J, Dardik A, Fang K, Huang R, Gu Y. Meta-analysis on the treatment of diabetic foot ulcers with autologous stem cells. *Stem Cell Res Ther.* 2017 Oct 16;8(1):228. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5644171/>
2. Chiang KJ, Chiu LC, Kang YN, Chen C. Autologous Stem Cell Therapy for Chronic Lower Extremity Wounds: A Meta-Analysis of Randomized Controlled Trials. *Cells.* 2021 Nov 25;10(12):3307. doi: 10.3390/cells10123307. PmiD: 34943815; PMCID: PMC8699089.
3. Kirana S, Stratmann B, Prante C, Prohaska W, Koerperich H, Lammers D, GastensMH, Quast T, Negrean M, Stirban OA, Nandreaan SG, Götting C, minartz P, KleesiekK, Tschoepe D. Autologous stem cell therapy in the treatment of limb ischaemia-induced chronic tissue ulcers of diabetic foot patients. *Int J Clin Pract.* 2012Apr;66(4):384-93. <https://www.ncbi.nlm.nih.gov/pubmed/22284892>"
4. Kirimov VI, Barna IE, Dryuk NF, Dmitrenko IP. [THE TREATMENT OF PATIENTS FOR ULCERATIVE-NECROTIC DEFECTS IN CHRONIC ISCHEMIA OF THE LOWER EXTREMITY TISSUES, USING BIOTECHNOLOGICAL METHODS]. *KlinKhir.* 2015 Sep;(9):49-53. Russian. <https://www.ncbi.nlm.nih.gov/pubmed/26817087>"
5. Lu D, Chen B, Liang Z, Deng W, Jiang Y, Li S, Xu J, Wu Q, Zhang Z, Xie B, Chen S. Comparison of bone marrow mesenchymal stem cells with bone marrow-derived mononuclear cells for treatment of diabetic critical limb ischemia and foot ulcer: a double-blind, randomized, controlled trial. *Diabetes Res Clin Pract.* 2011 Apr;92(1):26-36.
6. Marino G, Moraci M, Armenia E, Orabona C, Sergio R, De Sena G, Capuozzo V, Barbarisi M, Rosso F, Giordano G, Iovino F, Barbarisi A. Therapy with autologous adipose-derived regenerative cells for the care of chronic ulcer of lower limb in patients with peripheral arterial disease. *J Surg Res.* 2013 Nov;185(1):36-44. <https://www.ncbi.nlm.nih.gov/pubmed/23773718>"
7. Jain P, Perakath B, Jesudason MR, Nayak S. The effect of autologous bone marrow-derived cells on healing chronic lower extremity wounds: results of a randomized controlled study. *Ostomy Wound Manage.* 2011 Jul;57(7):38-44. <https://www.ncbi.nlm.nih.gov/pubmed/21904014>"
8. Moon KC, Suh HS, Kim KB, Han SK, Young KW, Lee JW, Kim MH. Potential of Allogeneic Adipose-Derived Stem Cell-Hydrogel Complex for Treating Diabetic Foot Ulcers. *Diabetes.* 2019 Apr;68(4):837-846. doi: 10.2337/db18-0699. Epub 2019 Jan 24. PmiD: 30679183.

9. Lonardi R, Leone N, Gennai S, TrevisiBorsari G, Covic T, Silingardi R. Autologous micro-fragmented adipose tissue for the treatment of diabetic foot minor amputations: a randomized controlled single-center clinical trial (miFrAADiF). *Stem Cell Res Ther.* 2019 Jul 29;10(1):223. doi: 10.1186/s13287-019-1328-4. PmiD: 31358046; PMCID: PMC6664586.
10. Dong Y, Yang Q, Sun X. Comprehensive Analysis of Cell Therapy on Chronic Skin Wound Healing: A Meta-Analysis. *Hum Gene Ther.* 2021 Aug;32(15-16):787-795. doi: 10.1089/hum.2020.275. Epub 2021 May 6. PmiD: 33446038.
11. Raghuram AC, Yu RP, Lo AY, Sung CJ, Bircan M, Thompson HJ, Wong AK. Role of stem cell therapies in treating chronic wounds: A systematic review. *World J Stem Cells.* 2020 Jul 26;12(7):659-675. doi: 10.4252/wjsc.v12.i7.659. PmiD: 32843920; PMCID: PMC7415243.
12. "Ravari H, Hamidi-Almadari D, Salimifar M, Bonakdaran S, Parizadeh MR, KoliakosG. Treatment of non-healing wounds with autologous bone marrow cells, platelets, fibrin glue and collagen matrix. *Cytotherapy.* 2011 Jul;13(6):705-11. <https://www.ncbi.nlm.nih.gov/pubmed/21284564>"
13. Rogers LC, Bevilacqua NJ, Armstrong DG. The use of marrow-derived stem cells to accelerate healing in chronic wounds. *Int Wound J.* 2008 Mar;5(1):20-5. <https://www.ncbi.nlm.nih.gov/pubmed/18179555>"
14. Wettstein R, Savic M, Pierer G, Scheufler O, Haug M, Halter J, Gratwohl A, Baumberger M, Schaefer DJ, Kalbermatten DF. Progenitor cell therapy for sacral pressure sore: a pilot study with a novel human chronic wound model. *Stem Cell Res Ther.* 2014 Jan 29;5(1):18.
15. Sano H, Ichioka S, Kouraba S, minamimura A, Sato T, Sekiya N, Yasuta M. Treatment of venous ulcers with bone marrow-impregnated collagen matrix. *J Plast Surg Hand Surg.* 2012 Feb;46(1):37-44. <https://www.ncbi.nlm.nih.gov/pubmed/22455575>"
16. Mulder G, Lee DK, Faghihnia N. Autologous bone marrow-derived stem cells for chronic wounds of the lower extremity: a retrospective study. *Wounds.* 2010 Sep;22(9):219-25.
17. Han SK, Kim HR, Kim WK. The treatment of diabetic foot ulcers with uncultured, processed lipoaspirate cells: a pilot study. *Wound Repair Regen.* 2010 Jul-Aug;18(4):342-8.
18. Tanaka R, Fujimura S, Kado M, Fukuta T, Arita K, Hirano-Ito R, mita T, Watada H, Kato Y, miyauchi K, mizuno H. Phase I/IIa Feasibility Trial of Autologous Quality- and Quantity-Cultured Peripheral Blood Mononuclear Cell Therapy for Non-Healing Extremity Ulcers. *Stem*

Cells Transl Med. 2022 Mar 17;11(2):146-158. doi: 10.1093/stcltm/szab018. PmiD: 35298656; PMCID: PMC8929435.

19. Wardhana A, Liem IK, Feroniasanti L, Pudjiti DJ, Mujadid F, Kispa T, Novialdi N. Application OfAllo Mesenchymal Stem Cells On Chronic Burn Wound: Case Series Report. JurnalPlastikRekonstruksi [Internet]. 2018 Apr 10 [cited 2022 Sep 23];4(1):68-72.
20. Shiehzhadeh V, Aghmasheh F, Shiehzhadeh F, Joulae M, Kosarieh E, Shiehzhadeh F. Healing of large periapical lesions following delivery of dental stem cells with an injectable scaffold: New method and three case reports. Indian J Dent Res 2014;25:248-53
21. Valbonesi M, Giannini G, miglioni F, Dalla Costa R, Dejana AM. Cord blood (CB) stem cells for wound repair Preliminary report of 2 cases. Transfusion and Apheresis Science. 2004 Apr 1;30(2):153-6.
22. Jeschke MG, Rehou S, McCann MR, Shahrokhi S. Allogeneic mesenchymal stem cells for treatment of severe burn injury. Stem Cell Research & Therapy. 2019 Dec;10(1):1-6.
23. Ai M, Yan CF, Xia FC, Zhou SL, He J, Li CP. Safety and efficacy of cell-based therapy on critical limb ischemia: A meta-analysis. Cytotherapy. 2016Jun;18(6):712-24. doi: 10.1016/j.jcyt.2016.02.009. Epub 2016 Apr 8. Review. PubMed PmiD: 27067609."
24. Wang ZX, Li D, Cao JX, Liu YS, Wang M, Zhang XY, Li JL, Wang HB, Liu JL, Xu BL. Efficacy of autologous bone marrow mononuclear cell therapy in patients with peripheral arterial disease. Journal of Atherosclerosis and Thrombosis 2014; 21(11): 1183-1196.
25. Sun X, Ying J, Wang Y, Li W, Wu Y, Yao B, Liu Y, Gao H, Zhang X. Meta-analysis on autologous stem cell transplantation in the treatment of limb ischemic. Int J Clin Exp Med. 2015 Jun 15;8(6):8740-8. PubMed PmiD: 26309525; PubMed Central PMCID: PMC4538153.
26. Liu FP, Dong JJ, Sun SJ, Gao WY, Zhang ZW, Zhou XJ, Yang L, Zhao JY, Yao JM, Liu M, Liao L. Autologous bone marrow stem cell transplantation in critical limb ischemia: a meta-analysis of randomized controlled trials. Chin Med J (Engl).2012 Dec;125(23):4296-300. PubMed PmiD: 23217403."
27. Fadini GP, Agostini C, Avogaro A. Autologous stem cell therapy for peripheral arterial disease meta-analysis and systematic review of the literature. Atherosclerosis. 2010 Mar;209(1):10-7. doi:10.1016/j.atherosclerosis.2009.08.033. Epub 2009 Aug 21. Review. PubMed PmiD:19740466.

28. Teraa M, Sprengers RW, van der Graaf Y, Peters CE, Moll FL, Verhaar MC. Autologous bone marrow-derived cell therapy in patients with critical limb ischemia: a meta-analysis of randomized controlled clinical trials. *Ann Surg.* 2013 Dec;258(6):922-9. doi: 10.1097/SLA.0b013e3182854cf1. PubMed PmiD: 23426345.
29. Wen Y, Meng L, Gao Q. Autologous bone marrow cell therapy for patients with peripheral arterial disease: a meta-analysis of randomized controlled trials. *Expert Opin Biol Ther.* 2011 Dec;11(12):1581-9. doi: 10.1517/14712598.2011.626401. Epub 2011 Oct 6. Review. PubMed PmiD: 21973046."
30. Benoit E, O'Donnell TF, Patel AN. Safety and efficacy of autologous cell therapy in critical limb ischemia: a systematic review. *Cell Transplant.*2013;22(3):545-62. doi: 10.3727/096368912X636777. Epub 2012 Mar 28. Review. PubMed PmiD: 22490340."
31. Compagna R, Amato B, Massa S, Amato M, Grande R, Butrico L, de Franciscis S, Serra R. Cell Therapy in Patients with Critical Limb Ischemia. *Stem Cells Int.*2015;2015:931420. doi: 10.1155/2015/931420. Epub 2015 Aug 2. Review. PubMed PmiD: 26300924; PubMed Central PMCID: PMC4537766."
32. Moazzami K, Majdzadeh R, Nedjat S. Local intramuscular transplantation of autologous mononuclear cells for critical lower limb ischaemia. *Cochrane Database Syst Rev.* 2011 Dec 7;(12):CD008347. doi: 10.1002/14651858.CD008347.pub2. Review. Update in: *Cochrane Database Syst Rev.* 2014;12:CD008347. PubMed PmiD: 22161427."
33. Onodera R, Teramukai S, Tanaka S, Kojima S, Horie T, Matoba S, Murohara T, Matsubara H, Fukushima M; BMMNC Follow-Up Study Investigators; M-PBMNC Follow-Up Study Investigators. Bone marrow mononuclear cells versus G-CSF-mobilized peripheral blood mononuclear cells for treatment of lower limb ASO: pooled analysis for long-term prognosis. *Bone Marrow Transplant.* 2011 Feb;46(2):278-84. doi: 10.1038/bmt.2010.110. Epub 2010 May 17. PubMed PmiD: 20479708."
34. Liu H, Pan T, Fang Y, Fang G, Liu Y, Jiang X, Chen B, Wei Z, Gu S, Liu P, Fu W, Dong Z. Three-year outcomes of peripheral blood mononuclear cells vs purified CD34+ cells in the treatment of angiotensin-induced no-option critical limb ischemia and a cost-effectiveness assessment: A randomized single-blinded noninferiority trial. *Stem Cells Transl Med.* 2021 May;10(5):647-659. doi: 10.1002/sctm.20-0033. Epub 2021 Jan 5. PmiD: 33399273; PMCID: PMC8046046.

35. Weem SP, Teraa M, De Borst GJ, Verhaar MC, Moll FL. Bone marrow derived cell therapy in critical limb ischemia: a meta-analysis of randomized placebo controlled trials. *European Journal of Vascular and Endovascular Surgery*. 2015 Dec 1;50(6):775-83.
36. Liew A et al. Cell Therapy for Critical Limb Ischemia: A Meta-Analysis of Randomized Controlled Trials. *Angiology*. 2016 May;67(5):444-55. doi: 10.1177/0003319715595172.
37. Wahid FSA et al. Efficacy and Safety of Autologous Cell-based Therapy in Patients with No-option Critical Limb Ischaemia: A Meta-Analysis. *Curr Stem Cell Res Ther*. 2018;13(4):265-283. doi: 10.2174/1574888X13666180313141416."
38. Lu D, Chen B, Liang Z, Deng W, Jiang Y, Li S, et al. Comparison of bone marrow mesenchymal stem cells with bone marrow-derived mononuclear cells for treatment of diabetic critical limb ischemia and foot ulcer: a double-blind, randomized, controlled trial. *Diabetes Res Clin Pract*. 2011 Apr;92(1):26–36.
39. Raval AN, Schmuck EG, Tefera G, Leitzke C, Ark CV, Hei D, Centanni JM, deSilva R, Koch J, Chappell RG, Hematti P. Bilateral administration of autologous CD133+ cells in ambulatory patients with refractory critical limb ischemia: lessons learned from a pilot randomized, double-blind, placebo-controlled trial. *Cytotherapy*. 2014 Dec;16(12):1720-32. doi: 10.1016/j.jcyt.2014.07.011. Epub 2014 Sep 18. PubMed PmiD: 25239491; PubMed Central PMCID: PMC4253573."
40. Benoit E, O'Donnell TF Jr, Iafrati MD, Asher E, Bandyk DF, Hallett JW, Lumsden AB, Pearl GJ, Roddy SP, Vijayaraghavan K, Patel AN. The role of amputation as an outcome measure in cellular therapy for critical limb ischemia: implications for clinical trial design. *J Transl Med*. 2011 Sep 27;9:165. doi: 10.1186/1479-5876-9-165. PubMed PmiD: 21951607; PubMed Central PMCID: PMC3191337."
41. Iafrati MD, Hallett JW, Geils G, Pearl G, Lumsden A, Peden E, Bandyk D, Vijayaraghava KS, Radhakrishnan R, Ascher E, Hingorani A, Roddy S. Early results and lessons learned from a multicenter, randomized, double-blind trial of bone marrow aspirate concentrate in critical limb ischemia. *J Vasc Surg*. 2011 Dec;54(6):1650-8. doi: 10.1016/j.jvs.2011.06.118. Epub 2011 Oct 21. PubMed PmiD: 22019148."
42. Gupta PK, Chullikana A, Parakh R, Desai S, Das A, Gottipamula S, Krishnamurthy S, Anthony N, Pherwani A, Majumdar AS. A double blind randomized placebocontrolled phase I/II study assessing the safety and efficacy of allogeneic bone marrow derived mesenchymal stem

cell in critical limb ischemia. *J Transl Med.* 2013 Jun 10;11:143. doi: 10.1186/1479-5876-11-143. PubMed PmiD: 23758736; PubMed Central PMCID: PMC3688296."

43. Huang P, Li S, Han M, Xiao Z, Yang R, Han ZC. Autologous transplantation of granulocyte colony-stimulating factor-mobilized peripheral blood mononuclear cells improves critical limb ischemia in diabetes. *Diabetes Care.* 2005 Sep;28(9):2155-60. PubMed PmiD: 16123483."
44. Powell RJ, Comerota AJ, Berceli SA, Guzman R, Henry TD, Tzeng E, Velazquez O, Marston WA, Bartel RL, Longcore A, Stern T, Watling S. Interim analysis results from the RESTORE-CLI, a randomized, double-blind multicenter phase II trial comparing expanded autologous bone marrow-derived tissue repair cells and placebo in patients with critical limb ischemia. *J Vasc Surg.* 2011 Oct;54(4):1032-41. doi: 10.1016/j.jvs.2011.04.006. Epub 2011 Jul 31. PubMed PmiD: 21684715.
45. Amann B, Lüdemann C, Rückert R, Lawall H, Liesenfeld B, Schneider M, Schmidt-Lucke J. Design and rationale of a randomized, double-blind, placebo-controlled phase III study for autologous bone marrow cell transplantation in critical limb ischemia: the BONE Marrow Outcomes Trial in Critical Limb Ischemia (BONMOT-CLI). *Vasa.* 2008 Nov;37(4):319-25. doi: 10.1024/0301-1526.37.4.319. PubMed PmiD: 19003741."
46. Huang PP, Yang XF, Li SZ, Wen JC, Zhang Y, Han ZC. Randomised comparison of G-CSF-mobilized peripheral blood mononuclear cells versus bone marrow-mononuclear cells for the treatment of patients with lower limb arteriosclerosis obliterans. *Thromb Haemost.* 2007 Dec;98(6):1335-42. PubMed PmiD: 18064333."
47. Klepanec A, Mistrik M, Altaner C, Valachovicova M, Olejarova I, Slysco R, Balazs T, Urandova T, Hladikova D, Liska B, Tomka J, Vulev I, Madaric J. No difference in intra-arterial and intramuscular delivery of autologous bone marrow cells in patients with advanced critical limb ischemia. *Cell Transplant.* 2012;21(9):1909-18. doi: 10.3727/096368912X636948. Epub 2012 Apr 2. PubMed PmiD: 22472173.
48. Korymasov EA, Tiumina OV, Aiupov AM, Kazantsev AV, Rossiev VA, Mikheev GV, Volchikov SE, Toropovskii AN. [Use of autologous progenitor cells of the bone marrow in treatment of patients with lower-limb atherosclerosis obliterans]. *Angiol Sosud Khir.* 2009;15(3):28-31. Russian. PubMed PmiD: 20092179."

49. Zafarghandi MR, Ravari H, Aghdami N, Namiri M, Moazzami K, Taghiabadi E, Fazel A, Pournasr B, Farrokhi A, Sharifian RA, Salimi J, Moini M, Baharvand H. Safety and efficacy of granulocyte-colony-stimulating factor administration following autologous intramuscular implantation of bone marrow mononuclear cells: a randomized controlled trial in patients with advanced lower limb ischemia. *Cytotherapy*. 2010 Oct;12(6):783-91. doi: 10.3109/14653240903518163. PubMed PmiD: 20078390."
50. Li M, Zhou H, Jin X, Wang M, Zhang S, Xu L. Autologous bone marrow mononuclear cells transplant in patients with critical leg ischemia: preliminary clinical results. *Exp Clin Transplant*. 2013 Oct;11(5):435-9. doi: 10.6002/ect.2012.0129. Epub 2013 Mar 11. PubMed PmiD: 23477421."
51. Dash NR, Dash SN, Routray P, Mohapatra S, Mohapatra PC. Targeting nonhealing ulcers of lower extremity in human through autologous bone marrow-derived mesenchymal stem cells. *Rejuvenation Res*. 2009 Oct;12(5):359-66. <https://www.ncbi.nlm.nih.gov/pubmed/19929258>
52. Liu H, Pan T, Liu Y, Fang Y, Fang G, Jiang X, Chen B, Wei Z, Gu S, Liu P, Fu W, Dong Z. The peripheral blood mononuclear cells versus purified CD34+ cells transplantation in patients with angiotensin-induced critical limb ischemia trial: 5-year outcomes and return to work analysis-a randomized single-blinded non-inferiority trial. *Stem Cell Res Ther*. 2022 Mar 21;13(1):116. doi: 10.1186/s13287-022-02804-4. PmiD: 35313967; PMCID: PMC8935813.
53. Losordo DW, Kibbe MR, Mendelsohn F, Marston W, Driver VR, Sharafuddin M, Teodorescu V, Wiechmann BN, Thompson C, Kraiss L, Carman T. A randomized, controlled pilot study of autologous CD34+ cell therapy for critical limb ischemia. *Circulation: Cardiovascular Interventions*. 2012 Dec;5(6):821-30.
54. Lafrati MD et al. Early results and lessons learned from a multicenter, randomized, double-blind trial of bone marrow aspirate concentrate in critical limb ischemia. *J Vasc Surg*. 2011 Dec;54(6):1650-8. doi: 10.1016/j.jvs.2011.06.118."
55. Sharma S et al. Randomized, Double-Blind, Placebo-Controlled Trial to Evaluate Safety and Therapeutic Efficacy of Angiogenesis Induced by Intraarterial Autologous Bone Marrow-Derived Stem Cells in Patients with Severe Peripheral Arterial Disease. *J Vasc Interv Radiol*. 2021 Feb;32(2):157-163. doi: 10.1016/j.jvir.2020.09.003. Epub 2020 Nov 25. PmiD: 33248918."

56. Kirana S, Stratmann B, Prante C, Prohaska W, Koerperich H, Lammers D, et al. Autologous stem cell therapy in the treatment of limb ischaemia induced chronic tissue ulcers of diabetic foot patients. *Int J Clin Pract*. 2012 Apr;66(4):384–93.
57. Cobellis G, Silvestroni A, Lillo S, Sica G, Botti C, Maione C, Schiavone V, Rocco S, Brando G, Sica V. Long-term effects of repeated autologous transplantation of bone marrow cells in patients affected by peripheral arterial disease. *Bone Marrow Transplant*. 2008 Nov;42(10):667-72. doi:10.1038/bmt.2008.228. Epub 2008 Aug 11. PubMed PmiD: 18695661."
58. Duong Van Huyen JP, Smadja DM, Bruneval P, Gaussem P, Dal-Cortivo L, Julia P, Fiessinger JN, Cavazzana-Calvo M, Aiach M, Emmerich J. Bone marrow-derived mononuclear cell therapy induces distal angiogenesis after local injection in critical leg ischemia. *Mod Pathol*. 2008 Jul;21(7):837-46. doi:10.1038/modpathol.2008.48. Epub 2008 May 16. PubMed PmiD: 18487998."
59. Idei N, Soga J, Hata T, Fujii Y, Fujimura N, mikami S, Maruhashi T, Nishioka K, Hidaka T, Kihara Y, Chowdhury M, Noma K, Taguchi A, Chayama K, Sueda T, Higashi Y. Autologous bone-marrow mononuclear cell implantation reduces long-term major amputation risk in patients with critical limb ischemia: a comparison of atherosclerotic peripheral arterial disease and Buerger disease. *Circ Cardiovasc Interv*. 2011 Feb 1;4(1):15-25. doi: 10.1161/CIRCINTERVENTIONS.110.955724. Epub 2011 Jan 4. PubMed PmiD: 21205941."
60. Bartsch T, Brehm M, Zeus T, Kögler G, Wernet P, Strauer BE. Transplantation of autologous mononuclear bone marrow stem cells in patients with peripheral arterial disease (the TAM-PAD study). *Clin Res Cardiol*. 2007 Dec;96(12):891-9. Epub 2007 Aug 17. PubMed PmiD: 17694378."
61. De Angelis B, Gentile P, Orlandi F, Bocchini I, Di Pasquali C, Agovino A, Gizzi C, Patrizi F, Scioli MG, Orlandi A, Cervelli V. Limb rescue: a new autologous-peripheral blood mononuclear cells technology in critical limb ischemia and chronic ulcers. *Tissue Eng Part C Methods*. 2015 May;21(5):423-35. doi: 10.1089/ten.TEC.2014.0245. Epub 2015 Mar 6. PubMed PmiD: 25341088."
62. Napoli C, Farzati B, Sica V, Iannuzzi E, Coppola G, Silvestroni A, Balestrieri ML, Florio A, Matarazzo A. Beneficial effects of autologous bone marrow cell infusion and antioxidants/L-arginine in patients with chronic critical limb ischemia. *Eur J Cardiovasc Prev Rehabil*. 2008 Dec;15(6):709-18. doi:10.1097/HJR.0b013e3283193a0f. PubMed PmiD: 19050436."

63. Ozturk A, Kucukardali Y, Tangi F, Erikci A, Uzun G, Bashekim C, et al. Therapeutical potential of autologous peripheral blood mononuclear cell transplantation in patients with type 2 diabetic critical limb ischemia. *J Diabetes Complicat.* 2012 Feb;26(1):29–33.
64. Tateishi-Yuyama E, Matsubara H, Murohara T, Ikeda U, Shintani S, Masaki H, Amano K, Kishimoto Y, Yoshimoto K, Akashi H, Shimada K, Iwasaka T, Imaizumi T;Therapeutic Angiogenesis using Cell Transplantation (TACT) Study Investigators. Therapeutic angiogenesis for patients with limb ischaemia by autologoustransplantation of bone-marrow cells: a pilot study and a randomised controlledtrial. *Lancet.* 2002 Aug 10;360(9331):427-35. PubMed PmiD: 12241713."
65. Chittoria RK, Nandhagopal V, Mohapatra DP, Thiruvoth FM, Sivakumar DK, Asokan A. Autologous Bone Marrow Aspirate Therapy in Wound Healing. *Adv Wound Care (New Rochelle).* 2016 Mar 1;5(3):102-105.
66. Gupta P K et al. Administration of Adult Human Bone Marrow-Derived, Cultured, Pooled,Allogeneic Mesenchymal Stromal Cells in Critical Limb Ischemia Due to Buerger's Disease:Phase II Study Report Suggests Clinical Efficacy. *Stem Cells Transl Med.* 2017 Mar;6(3):689-699.doi: 10.5966/sctm.2016-0237."
67. Burt RK, Testori A, Oyama Y, Rodriguez HE, Yaung K, Villa M, Bucha JM, milanetti F, Sheehan J, Rajamannan N, Pearce WH. Autologous peripheral blood CD133+ cell implantation for limb salvage in patients with critical limb ischemia. *Bone Marrow Transplant.* 2010 Jan;45(1):111-6. doi: 10.1038/bmt.2009.102. Epub 2009 May 18. PubMed PmiD: 19448678; PubMed Central PMCID: PMC3951860."
68. Ishida A, Ohya Y, Sakuda H, Ohshiro K, Higashiuesato Y, Nakaema M, Matsubara S, Yakabi S, Kakihana A, Ueda M, miyagi C, Yamane N, Koja K, Komori K, Takishita S. Autologous peripheral blood mononuclear cell implantation for patients with peripheral arterial disease improves limb ischemia. *Circ J.* 2005Oct;69(10):1260-5. PubMed PmiD: 16195628."
69. Saigawa T, Kato K, Ozawa T, Toba K, Makiyama Y, minagawa S, Hashimoto S,Furukawa T, Nakamura Y, Hanawa H, Kodama M, Yoshimura N, Fujiwara H, Namura O,Sogawa M, Hayashi J, Aizawa Y. Clinical application of bone marrow implantation in patients with arteriosclerosis obliterans, and the association betweenefficacy and the number of implanted bone marrow cells. *Circ J.* 2004Dec;68(12):1189-93. PubMed PmiD: 15564705."

70. Moriya J, minamino T, Tateno K, Shimizu N, Kuwabara Y, Sato Y, Saito Y, Komuro I. Long-term outcome of therapeutic neovascularization using peripheral blood mononuclear cells for limb ischemia. *Circ Cardiovasc Interv.* 2009Jun;2(3):245-54. doi: 10.1161/CIRCINTERVENTIONS.108.799361. Epub 2009 Mar 30. PubMed PmiD: 20031722."
71. Kajiguchi M, Kondo T, Izawa H, Kobayashi M, Yamamoto K, Shintani S, Numaguchi Y, Naoe T, Takamatsu J, Komori K, Murohara T. Safety and efficacy of autologous progenitor cell transplantation for therapeutic angiogenesis in patients with critical limb ischemia. *Circ J.* 2007 Feb;71(2):196-201. PubMed PmiD: 17251666.
72. Wan J, Yang Y, Ma ZH, Sun Y, Liu YQ, Li GJ, Zhang GM. Autologous peripheral blood stem cell transplantation to treat thromboangiitis obliterans: preliminary results. *Eur Rev Med Pharmacol Sci.* 2016;20(3):509-13. PubMed PmiD: 26914127."
73. Lee KB, Kang ES, Kim AK, Kim MH, Do YS, Park KB, Park HS, Um SH, Cho SW, Kim DI. Stem cell therapy in patients with thromboangiitis obliterans: assessment of the long-term clinical outcome and analysis of the prognostic factors. *Int J Stem Cells.* 2011 Nov;4(2):88-98. PubMed PmiD: 24298340; PubMed Central PMCID: PMC3840961.
74. Nishida T, Ueno Y, Kimura T, Ogawa R, Joo K, Tominaga R. Early and Long-term Effects of the Autologous Peripheral Stem Cell Implantation for Critical Limb Ischemia. *Ann Vasc Dis.* 2011;4(4):319-24. doi: 10.3400/avd.oa.11.00047. Epub 2011 Nov 30. PubMed PmiD: 23555471; PubMed Central PMCID: PMC3614385.
75. Yang SS, Kim NR, Park KB, Do YS, Roh K, Kang KS, Kim DI. A phase I study of human cord blood-derived mesenchymal stem cell therapy in patients with peripheral arterial occlusive disease. *Int J Stem Cells.* 2013 May;6(1):37-44. PubMed PmiD: 24298372; PubMed Central PMCID: PMC3841002."
76. Kanbara T, Kurobe H, Kitaichi T, Sugano M, Nakayama T, Kinoshita H, Iwase T, Akaike M, Abe M, Sata M, Matsumoto T, Kitagawa T. Autologous peripheral blood-derived mononuclear cells induced by erythropoietin improve critical ischemic limbs. *Ann Vasc Dis.* 2012;5(1):52-60. doi: 10.3400/avd.oa.11.00070. Epub 2012 Feb 15. PubMed PmiD: 23555486; PubMed Central PMCID: PMC3595914.
77. Fujita Y, Kinoshita M, Furukawa Y, Nagano T, Hashimoto H, Hiramitsu Y, Kurimoto Y, Arakawa K, Yamazaki K, Okada Y, Katakami N, Uno E, Matsubara Y, Fukushima M, Nada A, Losordo DW, Asahara T, Okita Y, Kawamoto A. Phase II clinical trial of CD34+ cell therapy to

explore endpoint selection and timing in patients with critical limb ischemia. *Circ J*. 2014;78(2):490-501. Epub 2013 Nov 21. PubMed PmiD: 24257136."

78. Lenk K, Adams V, Lurz P, Erbs S, Linke A, Gielen S, Schmidt A, Scheinert D, Biamino G, Emmrich F, Schuler G, Hambrecht R. Therapeutical potential of blood-derived progenitor cells in patients with peripheral arterial occlusive disease and critical limb ischaemia. *Eur Heart J*. 2005 Sep;26(18):1903-9. Epub 2005 Apr 26. PubMed PmiD: 15855189.
79. Miyamoto K, Nishigami K, Nagaya N, Akutsu K, Chiku M, Kamei M, Soma T, Miyata S, Higashi M, Tanaka R, Nakatani T, Nonogi H, Takeshita S. Unblinded pilot study of autologous transplantation of bone marrow mononuclear cells in patients with thromboangiitis obliterans. *Circulation*. 2006 Dec 12;114(24):2679-84. Epub 2006 Dec 4. PubMed PmiD: 17145986.
80. Higashi Y, Kimura M, Hara K, Noma K, Jitsuiki D, Nakagawa K, Oshima T, Chayama K, Sueda T, Goto C, Matsubara H, Murohara T, Yoshizumi M. Autologous bone-marrow mononuclear cell implantation improves endothelium-dependent vasodilation in patients with limb ischemia. *Circulation*. 2004 Mar 16;109(10):1215-8. Epub 2004 Mar 8. PubMed PmiD: 15007007."
81. Schiavetta A, Maione C, Botti C, Marino G, Lillo S, Garrone A, Lanza L, Pagliari S, Silvestroni A, Signoriello G, Sica V, Cobellis G. A phase II trial of autologous transplantation of bone marrow stem cells for critical limb ischemia: results of the Naples and Pietra Ligure Evaluation of Stem Cells study. *Stem Cells Transl Med*. 2012 Jul;1(7):572-8. doi: 10.5966/sctm.2012-0021. Epub 2012 Jul 6. PubMed PmiD: 23197862; PubMed Central PMCID: PMC3659723.
82. De Vriese AS, Billiet J, Van Droogenbroeck J, Ghekiere J, De Letter JA. Autologous transplantation of bone marrow mononuclear cells for limb ischemia in a Caucasian population with atherosclerosis obliterans. *J Intern Med*. 2008 Apr;263(4):395-403. doi: 10.1111/j.1365-2796.2007.01899.x. Epub 2008 Jan 21. PubMed PmiD: 18221334."
83. Durdu S, Akar AR, Arat M, Sancak T, Eren NT, Ozyurda U. Autologous bone-marrow mononuclear cell implantation for patients with Rutherford grade II-III thromboangiitis obliterans. *J Vasc Surg*. 2006 Oct;44(4):732-9. Epub 2006 Aug 22. PubMed PmiD: 16926085."
84. Motukuru V, Suresh KR, Vivekanand V, Raj S, Girija KR. Therapeutic angiogenesis in Buerger's disease (thromboangiitis obliterans) patients with critical limb ischemia by autologous

transplantation of bone marrow mononuclear cells. *J Vasc Surg.* 2008 Dec;48(6 Suppl):53S-60S; discussion 60S. doi:10.1016/j.jvs.2008.09.005. PubMed PmiD: 19084740."

85. Murphy MP, Lawson JH, Rapp BM, Dalsing MC, Klein J, Wilson MG, Hutchins GD, March KL. Autologous bone marrow mononuclear cell therapy is safe and promotes amputation-free survival in patients with critical limb ischemia. *J Vasc Surg.* 2011 Jun;53(6):1565-74.e1. doi: 10.1016/j.jvs.2011.01.074. Epub 2011 Apr 22. PubMed PmiD: 21514773; PubMed Central PMCID: PMC3102148."
86. Arici V, Perotti C, Fabrizio C, Del Fante C, Ragni F, Alessandrino F, Viarengo G, Pagani M, Moia A, Tinelli C, Bozzani A. Autologous immuno magnetically selected CD133+ stem cells in the treatment of no-option critical limb ischemia: clinical and contrast enhanced ultrasound assessed results in eight patients. *J Transl Med.* 2015 Nov 3;13:342. doi: 10.1186/s12967-015-0697-4. PubMed PmiD: 26526721; PubMed Central PMCID: PMC4630831."
87. Early Results of Clinical Application of Autologous Whole Bone Marrow Stem Cell Transplantation for Critical Limb Ischemia with Buerger's Disease. *Sci Rep.* 2016 Jan 21;6:19690. doi: 10.1038/srep19690. PubMed PmiD: 26791280; PubMed Central PMCID: PMC4726399."
88. Saigawa T, Kato K, Ozawa T, Toba K, Makiyama Y, Minagawa S, Hashimoto S, Furukawa T, Nakamura Y, Hanawa H, Kodama M, Yoshimura N, Fujiwara H, Namura O, Sogawa M, Hayashi J, Aizawa Y. Clinical application of bone marrow implantation in patients with arteriosclerosis obliterans, and the association between efficacy and the number of implanted bone marrow cells. *Circ J.* 2004 Dec;68(12):1189-93. PubMed PmiD: 15564705."
89. Gabr H, Hedayet A, Imam U, Nasser M. Limb salvage using intramuscular injection of unfractionated autologous bone marrow mononuclear cells in critical limb ischemia: a prospective pilot clinical trial. *Exp Clin Transplant.* 2011 Jun;9(3):197-202. PubMed PmiD: 21649569."
90. Boda Z, Udvardy M, Rázsó K, Farkas K, Tóth J, Jámor L, Oláh Z, Ilonczai P, Szarvas M, Kappelmayer J, Veréb Z, Rajnavölgyi E. Stem cell therapy: a promising and prospective approach in the treatment of patients with severe Buerger's disease. *Clin Appl Thromb Hemost.* 2009 Oct;15(5):552-60. doi:10.1177/1076029608319882. Epub 2008 Sep 25. PubMed PmiD: 18818231."

91. Bura A, Planat-Benard V, Bourin P, Silvestre JS, Gross F, Grolleau JL, Saint-Lebesse B, Peyrafitte JA, Fleury S, Gadelorge M, Taurand M, Dupuis-Coronas S, Leobon B, Casteilla L. Phase I trial: the use of autologous cultured adipose-derived stroma/stem cells to treat patients with non-revascularizable critical limb ischemia. *Cytotherapy*. 2014 Feb;16(2):245-57. doi: 10.1016/j.jcyt.2013.11.011. PubMed PmiD: 24438903."
92. Amann B, Luedemann C, Ratei R, Schmidt-Lucke JA. Autologous bone marrow cell transplantation increases leg perfusion and reduces amputations in patients with advanced critical limb ischemia due to peripheral artery disease. *Cell Transplant*. 2009;18(3):371-80. Epub 2009 Apr 2. PubMed PmiD: 19500466."
93. Chochola M, Pytlík R, Kobylka P, Skalická L, Kideryová L, Beran S, Varejka P, Jiráček S, Křivánek J, Aschermann M, Linhart A. Autologous intra-arterial infusion of bone marrow mononuclear cells in patients with critical leg ischemia. *Int Angiol*. 2008 Aug;27(4):281-90. PubMed PmiD: 18677289.
94. Wang W, Liu C, Qiao T, Liu C, Huang D. [Clinical efficacy of autologous bone marrow mononuclear cell transplantation in treating lower limb thromboangiitis obliterans]. *Zhongguo Xue Fu Chong Jian Wai Ke Za Zhi*. 2010 Apr;24(4):420-3. Chinese. PubMed PmiD: 20459002."
95. Procházka V, Gumulec J, Chmelová J, Klement P, Klement GL, Jonszta T, Czerný D, Krajca J. Autologous bone marrow stem cell transplantation in patients with end-stage chronic critical limb ischemia and diabetic foot. *Vnitr Lek*. 2009 Mar;55(3):173-8. PubMed PmiD: 19378841."
96. Dong Z, Chen B, Fu W, Wang Y, Guo D, Wei Z, Xu X, Mendelsohn FO. Transplantation of purified CD34+ cells in the treatment of critical limb ischemia. *J Vasc Surg*. 2013 Aug;58(2):404-411.e3. doi: 10.1016/j.jvs.2013.01.037. Epub 2013 Apr 21. PubMed PmiD: 23611711."
97. Dou Y, Zhao J, Zhang L, Wang X, Yuan H, Yuan C. [A FOLLOW-UP STUDY ON AUTOLOGOUS BONE MARROW MONONUCLEAR CELLS TRANSPLANTATION FOR CRITICAL LOWER ARTERIOSCLEROSIS OBLITERANS IN DIABETIC PATIENTS]. *Zhongguo Xue Fu Chong Jian Wai Ke Za Zhi*. 2015 Jul;29(7):893-8. Chinese. PubMed PmiD: 26540987."
98. Dubsky M, Jirkovska A, Bem R, Fejfarova V, Pagacova L, Sixta B, Varga M, Langkramer S, Sykova E, Jude EB. Both autologous bone marrow mononuclear cell and peripheral blood

progenitor cell therapies similarly improve ischaemia inpatients with diabetic foot in comparison with control treatment. *Diabetes Metab Res Rev*. 2013 Jul;29(5):369-76. doi: 10.1002/dmrr.2399. PubMed PmiD: 23390092."

99. Franz RW, Parks A, Shah KJ, Hankins T, Hartman JF, Wright ML. Use of autologous bone marrow mononuclear cell implantation therapy as a limb salvage procedure in patients with severe peripheral arterial disease. *J Vasc Surg*. 2009 Dec;50(6):1378-90. doi: 10.1016/j.jvs.2009.07.113. Epub 2009 Oct 17. PubMed PmiD: 19837539."
100. Gu Y, Zhang J, Qi L. [Comparative study on autologous implantation between bone marrow stem cells and peripheral blood stem cells for treatment of lower limb ischemia]. *Zhongguo Xiu Fu Chong Jian Wai Ke Za Zhi*. 2007 Jul;21(7):675-8. Chinese. PubMed PmiD: 17694651."
101. Gu YQ, Zhang J, Guo LR, Qi LX, Zhang SW, Xu J, Li JX, Luo T, Ji BX, Li XF, Yu HX, Cui SJ, Wang ZG. Transplantation of autologous bone marrow mononuclear cells for patients with lower limb ischemia. *Chin Med J (Engl)*. 2008 Jun 5;121(11):963-7. PubMed PmiD: 18706241."
102. Hernández P, Cortina L, Artaza H, Pol N, Lam RM, Dorticós E, Macías C, Hernández C, del Valle L, Blanco A, Martínez A, Díaz F. Autologous bone-marrow mononuclear cell implantation in patients with severe lower limb ischaemia: a comparison of using blood cell separator and Ficoll density gradient centrifugation. *Atherosclerosis*. 2007 Oct;194(2):e52-6. Epub 2006 Sep 18. PubMed PmiD: 16982058."
103. Lara-Hernandez R, Lozano-Vilardell P, Blanes P, Torreguitart-mirada N, Galmés A, Besalduch J. Safety and efficacy of therapeutic angiogenesis as a novel treatment in patients with critical limb ischemia. *Ann Vasc Surg*. 2010 Feb;24(2):287-94. doi: 10.1016/j.avsg.2009.10.012. PubMed PmiD: 20142004."
104. Horie T, Onodera R, Akamastu M, Ichikawa Y, Hoshino J, Kaneko E, Iwashita C, Ishida A, Tsukamoto T, Teramukai S, Fukushima M, Kawamura A; Japan Study Group of Peripheral Vascular Regeneration Cell Therapy (JPRCT). Long-term clinical outcomes for patients with lower limb ischemia implanted with G-CSF-mobilized autologous peripheral blood mononuclear cells. *Atherosclerosis*. 2010 Feb;208(2):461-6. doi: 10.1016/j.atherosclerosis.2009.07.050. Epub 2009 Aug 3. PubMed PmiD: 19720375."

105. Huang PP, Li SZ, Han MZ, Xiao ZJ, Yang RC, Qiu LG, Han ZC. Autologous transplantation of peripheral blood stem cells as an effective therapeutic approach for severe arteriosclerosis obliterans of lower extremities. *ThrombHaemost.* 2004 Mar;91(3):606-9. PubMed PmiD: 14983238."
106. Boda Z, Udvardy M, Farkas K, Tóth J, Jámbo L, Soltész P, Rázsó K, Oláh Z, Ilonczai P, Szarvas M, Litauszky K, Hunyadi J, Sipos T, Kappelmayer J, Veréb Z, Rajnavölgyi E. [Autologous bone marrow-derived stem cell therapy in patients with severe peripheral arterial disorder]. *Orv Hetil.* 2008 Mar 23;149(12):531-40. doi:10.1556/OH.2008.28125. Hungarian. PubMed PmiD: 18343769."
107. Ismail AM, Abdou SM, Aty HA, Kamhawy AH, Elhinedy M, Elwageh M, Taha A, Ezzat A, Salem HA, Youssif S, Salem ML. Autologous transplantation of CD34(+) bone marrow derived mononuclear cells in management of non-reconstructable critical lower limb ischemia. *Cytotechnology.* 2016 Aug;68(4):771-81. doi:10.1007/s10616-014-9828-7. Epub 2014 Dec 16. PubMed PmiD: 25511801; PubMedCentral PMCID: PMC4960127."
108. Iso Y, Soda T, Sato T, Sato R, Kusuyama T, Omori Y, Shoji M, Koba S, Katagiri T, Kobayashi Y, Suzuki H. Impact of implanted bone marrow progenitor cell composition on limb salvage after cell implantation in patients with critical limb ischemia. *Atherosclerosis.* 2010 Mar;209(1):167-72. doi: 10.1016/j.atherosclerosis.2009.08.028. Epub 2009 Aug 21. PubMed PmiD: 19748620."
109. Kawamoto A, Katayama M, Handa N, Kinoshita M, Takano H, Horii M, Sadamoto K, Yokoyama A, Yamanaka T, Onodera R, Kuroda A, Baba R, Kaneko Y, Tsukie T, Kurimoto Y, Okada Y, Kihara Y, Morioka S, Fukushima M, Asahara T. Intramuscular transplantation of G-CSF-mobilized CD34(+) cells in patients with critical limb ischemia: a phase I/IIa, multicenter, single-blinded, dose-escalation clinical trial. *Stem Cells.* 2009 Nov;27(11):2857-64. doi: 10.1002/stem.207. PubMed PmiD: 19711453.
110. Kawamura A, Horie T, Tsuda I, Abe Y, Yamada M, Egawa H, Iida J, Sakata H, Onodera K, Tamaki T, Furui H, Kukita K, Meguro J, Yonekawa M, Tanaka S. Clinical study of therapeutic angiogenesis by autologous peripheral blood stem cell (PBSC) transplantation in 92 patients with critically ischemic limbs. *J Artif Organs.* 2006;9(4):226-33. Epub 2006 Dec 21. PubMed PmiD: 17171401.

111. Kim AK, Kim MH, Kim S, Oh W, Hong HK, Kang KS, Kim BS, Kim DI. Stem-celltherapy for peripheral arterial occlusive disease. *Eur J VascEndovasc Surg.* 2011 Nov;42(5):667-75. doi: 10.1016/j.ejvs.2011.06.026. Epub 2011 Jul 18. PubMed PmiD: 21764609."
112. Kolvenbach R, Kreissig C, Cagiannos C, Afifi R, Schmaltz E. Intraoperativeadjunctive stem cell treatment in patients with critical limb ischemia using anovel point-of-care device. *Ann Vasc Surg.* 2010 Apr;24(3):367-72. doi: 10.1016/j.avsg.2009.07.018. Epub 2009 Nov 6. PubMed PmiD: 19896796."
113. Koshikawa M, Shimodaira S, Yoshioka T, Kasai H, Watanabe N, Wada Y, Seto T, Fukui D, Amano J, Ikeda U. Therapeutic angiogenesis by bone marrow implantation for critical hand ischemia in patients with peripheral arterial disease: a pilot study. *Curr Med Res Opin.* 2006 Apr;22(4):793-8. PubMed PmiD: 16684440."
114. Kudo FA, Nishibe T, Nishibe M, Yasuda K. Autologous transplantation ofperipheral blood endothelial progenitor cells (CD34+) for therapeutic angiogenesis in patients with critical limb ischemia. *Int Angiol.* 2003Dec;22(4):344-8. PubMed PmiD: 15153817."
115. Mutirangura P, Ruangsetakit C, Wongwanit C, Chinsakchai K, Porat Y, Belleli A,Czeiger D. Enhancing limb salvage by non-mobilized peripheral blood angiogenic cell precursors therapy in patients with critical limb ischemia. *J Med Assoc Thai.* 2009 Mar;92(3):320-7. PubMed PmiD: 19301723."
116. Nizankowski R, Petriczek T, Skotnicki A, Szczeklik A. The treatment ofadvanced chronic lower limb ischaemia with marrow stem cell autotransplantation. *Kardiol Pol.* 2005 Oct;63(4):351-60; discussion 361. English, Polish. PubMed PmiD: 16273471."
117. Saito Y, Sasaki K, Katsuda Y, Murohara T, Takeshita Y, Okazaki T, Arima K,Katsuki Y, Shintani S, Shimada T, Akashi H, Ikeda H, Imaizumi T. Effect of autologous bone-marrow cell transplantation on ischemic ulcer in patients with Buerger's disease. *Circ J.* 2007 Aug;71(8):1187-92. PubMed PmiD: 17652879."
118. Skóra J, Barć P, Pupka A, Dawiskiba T, Korta K, Albert M, Szyber P. Transplantation of autologous bone marrow mononuclear cells with VEGF geneimproves diabetic critical limb ischaemia. *Endokrynol Pol.* 2013;64(2):129-38. PubMed PmiD: 23653276."
119. Subrammaniyan R, Amalorpavanathan J, Shankar R, Rajkumar M, Baskar S,Manjunath S, Senthilkumar R, Abraham S. Our experience of application ofAutologous Bone Marrow Stem

Cells in critical limb ischemia in six diabetic patients - A five-year follow-up. *J Stem Cells Regen Med.* 2011 Oct 30;7(2):97. eCollection 2011. PubMed PmiD: 24693184.

120. Talapková R, Hudecek J, Sinák I, Kubisz P, Laca L, Hlinka L, Zelenák K. [Thesalvage of ischaemic limb by therapeutical angiogenesis]. *Vnitr Lek.* 2009 Mar;55(3):179-83. Slovak. PubMed PmiD: 19378842."
121. Van Tongeren RB, Hamming JF, Fibbe WE, Van Weel V, Frerichs SJ, StiggelboutAM, Van Bockel JH, Lindeman JH. Intramuscular or combined intramuscular/intra-arterial administration of bone marrow mononuclear cells: aclinical trial in patients with advanced limb ischemia. *J Cardiovasc Surg (Torino).* 2008 Feb;49(1):51-8. PubMed PmiD: 18212687.
122. Gu YQ, Zhang J, Guo LR, Qi LX, Zhang SW, Xu J, Li JX, Luo T, Ji BX, Li XF, Yu HX, Cui SJ, Wang ZG. Transplantation of autologous bone marrow mononuclear cells for patients with lower limb ischemia. *Chin Med J (Engl).* 2008 Jun 5;121(11):963-7. PubMed PmiD: 18706241.
123. Wester T, Jørgensen JJ, Strandén E, Sandbaek G, Tjønnfjord G, Bay D, Kollerøs D, Kroese AJ, Brinchmann JE. Treatment with autologous bone marrow mononuclear cells in patients with critical lower limb ischaemia. A pilot study. *Scand JSurg.* 2008;97(1):56-62. PubMed PmiD: 18450207.
124. Yang BH, Qin JH, Zhu LQ, Chen L, Lu H, Liu FT, Li YS. [Treatment of lower limb ischemia with combination of traditional Chinese medicine and transplantation of autologous bone marrow mononuclear cells: a report of 23 cases]. *Zhong Xi Yi Jie He Xue Bao.* 2005 Jan;3(1):28-30. Chinese. PubMed PmiD: 15644156.
125. Zhang H, Zhang N, Li M, Feng H, Jin W, Zhao H, Chen X, Tian L. Therapeuticangiogenesis of bone marrow mononuclear cells (MNCs) and peripheral blood MNCs:transplantation for ischemic hindlimb. *Ann Vasc Surg.* 2008 Mar;22(2):238-47. Epub 2008 Feb 20. PubMed PmiD: 18083329.
126. Zhang HK, Li M, Feng H. [Autologous transplantation of peripheral blood stem cell in treatment of critical limb ischemia]. *Zhejiang Da Xue Xue Bao Yi Xue Ban.* 2007 Jul;36(4):360-3. Chinese. PubMed PmiD: 17717827.
127. Liang TW, Jester A, Motaganahalli RL, Wilson MG, G'Sell P, Akingba GA, FajardoA, Murphy MP. Autologous bone marrow mononuclear cell therapy for critical limb ischemia is

effective and durable. *J Vasc Surg.* 2016 Jun;63(6):1541-5. doi:10.1016/j.jvs.2016.01.022. Epub 2016 Mar 23. PubMed PmiD: 27021379."

128. Malyar NM, Radtke S, Malyar K, Arjumand J, Horn PA, Kröger K, Freisinger E, Reinecke H, Giebel B, Brock FE. Autologous bone marrow mononuclear cell therapy improves symptoms in patients with end-stage peripheral arterial disease and reduces inflammation-associated parameters. *Cytotherapy.* 2014 Sep;16(9):1270-9. doi: 10.1016/j.jcyt.2014.05.001. Epub 2014 Jun 24. PubMed PmiD: 24972744."
129. Maione C, Botti C, Coppola CA, Silvestroni C, Lillo S, Schiavone V, Sica G, Sica V, Kumar V, Cobellis G. Effect of autologous transplantation of bone marrow cells concentrated with the MarrowXpress system in patients with critical limb ischemia. *Transplant Proc.* 2013 Jan-Feb;45(1):402-6. doi:10.1016/j.transproceed.2012.10.031. PubMed PmiD: 23375329."
130. Matoba S, Tatsumi T, Murohara T, Imaizumi T, Katsuda Y, Ito M, Saito Y, Uemura S, Suzuki H, Fukumoto S, Yamamoto Y, Onodera R, Teramukai S, Fukushima M, Matsubara H; TACT Follow-up Study Investigators. Long-term clinical outcome after intramuscular implantation of bone marrow mononuclear cells (Therapeutic Angiogenesis by Cell Transplantation [TACT] trial) in patients with chronic limb ischemia. *Am Heart J.* 2008 Nov;156(5):1010-8. doi: 10.1016/j.ahj.2008.06.025. Epub 2008 Sep 19. PubMed PmiD: 19061721.
131. Gu Y, Qi L, Zhang J, Guo L, Li J, Zhang S, Yu H, Li X, Cui S, Chen B, Wu Y, Tong Z, Wang Z. [middle-term outcome of autologous bone marrow mononuclear cells transplantation for treatment of lower limb ischemia]. *Zhongguo Xiu Fu Chong Jian Wai Ke Za Zhi.* 2009 Mar;23(3):341-4. Chinese. PubMed PmiD: 19366150.
132. Lasala GP, Silva JA, Gardner PA, Minguell JJ. Combination stem cell therapy for the treatment of severe limb ischemia: safety and efficacy analysis. *Angiology.* 2010 Aug;61(6):551-6. doi: 10.1177/0003319710364213. Epub 2010 May 24. PubMed PmiD: 20498146.
133. Shukla VK, Tiwary SK, Barnwal S, Gulati AK, Pandey SS. Effect of autologous epidermal cell suspension transplantation in chronic nonhealing wounds: a pilot study. *Can J Surg.* 2010 Feb;53(1):6-10. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2810008/>
134. Lu D, Jiang Y, Deng W, Zhang Y, Liang Z, Wu Q, Jiang X, Zhang L, Gao F, Cao Y, Chen B, Xue Y. Long-Term Outcomes of BMMSC Compared with BMMNC for Treatment of Critical Limb Ischemia and Foot Ulcer in Patients with Diabetes. *Cell Transplant.* 2019 May;28(5):645-

652. doi: 10.1177/0963689719835177. Epub 2019 Mar 27. PmiD: 30917698; PMCID: PMC7103602.
135. Fang G, Jiang X, Fang Y, Pan T, Liu H, Ren B, Wei Z, Gu S, Chen B, Jiang J, Shi Y, Guo D, Liu P, Fu W, Dong Z. Autologous peripheral blood-derived stem cells transplantation for treatment of no-option angiitis-induced critical limb ischemia: 10-year management experience. *Stem Cell Res Ther.* 2020 Oct 28;11(1):458. doi: 10.1186/s13287-020-01981-4. PmiD: 33115517; PMCID: PMC7594448.
136. Mohamed SA, Howard L, McInerney V, Hayat A, Krawczyk J, Naughton S, Finnerty A, Holohan M, Duffy A, Moloney T, Kavanagh E. Autologous bone marrow mesenchymal stromal cell therapy for “no-option” critical limb ischemia is limited by karyotype abnormalities. *Cytotherapy.* 2020 Jun 1;22(6):313-21.
137. Lee HC, An SG, Lee HW, Park JS, Cha KS, Hong TJ, Park JH, Lee SY, Kim SP, Kim YD, Chung SW. Safety and Effect of Adipose Tissue-Derived Stem Cell Implantation in Patients With Critical Limb Ischemia—A Pilot Study—. *Circulation Journal.* 2012;1204091686-.
138. Gupta PC, Chukka K, Yerramsetty V, Atturu G. Long-term Results of Stem Cell Therapy for Acute and Chronic Limb Ischemia. *Journal of Vascular Surgery.* 2021;74(3):e50-e51. Available from: <https://doi.org/10.1016/j.jvs.2021.06.084>
139. Parcero J J, Perez J A, Patel A N, et al. (May 15, 2014) Autologous Adipose-derived Stromal Stem Cell Implantation to Resolve Critical Limb Ischemia: Case Report. *Cureus* 6(5): e182. doi:10.7759/cureus.182
- 140.