

Akasaki Y, Miyata M, Eto H, Shirasawa T, Hamada N, Ikeda Y, Biro S, Otsuji Y, Tei C. (2006) **Repeated thermal therapy up-regulates endothelial nitric oxide synthase and augments angiogenesis in a mouse model of hindlimb ischemia.**

*Circ J.* 2006 Apr; 70(4):463–70.

Bashar K, Healy D, Browne LD, Kheirleiseid EAH, Walsh MT, Moloney MC et al. (2014) **Role of far infra-red therapy in dialysis arterio-venous fistula maturation and survival: Systematic review and meta-analysis.** *PLoS ONE.* 2014 Aug.12; 9(8):e104931.doi:10.1371/journal.pone

Page | 1

Chang CF, Liu X-M, Peyton KJ, and Durante, W. (2015) **Heme Oxygenase-1 Counteracts Contrast Media-Induced Endothelial Cell Dysfunction.** *Biochem Pharmacol.* 2014 January 15; 87(2): 303–311. doi:10.1016/j.bcp.2013.11.002.

Chen TY ( 2015), Yang YC, Sha YN, Chou JR, Liu BS. **Far-Infrared Therapy Promotes Nerve Repair following End-to-End Neuroorrhaphy in Rat Models of Sciatic Nerve Injury.** *Evid Based Complement Alternat Med.* 15:207245.

Chiang JC, Teh LS, Wu S. (2007) **Preliminary experience with patch-enlarged brachial artery for hemodialysis access.** *ASAIO Journal (American Society for Artificial Internal Organs).* 2007 Sept.Oct.53 (5), 576-581.

Hartel M, Hoffmann G, Wente MN, Martignoni ME, Büchler MW, Friess H. (2006) **Randomized clinical trial of the influence of local water-filtered infrared-A irradiation on wound healing after abdominal surgery.** *Br J Surg.* 2006; 93: 952–960.

Hauswirth C (2011), Louis J, Bieuzen F, Pournot H, Fournier J, Filliard JR, Brisswalter J. **Effects of whole-body cryotherapy vs. far-infrared vs. passive modalities on recovery from exercise-induced muscle damage in highly-trained runners.** *PLoS One.* 2011; 6(12):e27749.

Huang CY, Yang RS, et al. (2009). "Phantom limb pain treated by far infrared ray." Conference Proceedings: ... Annual International Conference Of The IEEE Engineering In Medicine And Biology Society. *IEEE Engineering In Medicine And Biology Society. Conference 2009:* 1589-1591.

Huang PH, Chen JW, Lin CP, Chen YH, Wang CH, Leu HB, Lin SJ. (2012) **Far infra-red therapy promotes ischemia-induced angiogenesis in diabetic mice and restores high glucose-suppressed endothelial progenitor cell functions.** *Cardiovasc Diabetol.* 2012 Aug 15; 11:99.

Hsu YH, Chen YC, Chen TH, Sue YM, Cheng TH, et al. (2012) **Far-Infrared Therapy Induces the Nuclear Translocation of PLZF Which Inhibits VEGF-Induced Proliferation in Human Umbilical Vein Endothelial Cells** *PLoS ONE* 7(1): e30674. doi:10.1371/journal.pone.0030674  
Epub 2012 Jan 23

## FIR Therapy HD Medical References by Author

Ikeda Y, Biro S, Kamogawa Y, Yoshifuku S, Eto H, Orihara K, Yu B, Kihara T, Miyata M, Hamasaki S, Otsuji Y, Minagoe S, Tei C. (2005) **Repeated sauna therapy increases arterial endothelial nitric oxide synthase expression and nitric oxide production in cardiomyopathic hamsters.** *Circ J.* 2005; 69(6):722-729

Imamura M, Biro S, Kihara T, et al. **Repeated thermal therapy improves impaired vascular endothelial function in patients with coronary risk factors.** *J Am Coll Cardiol.* 2001;38(4): 1083-1088.

Ke YM, Ming-Chiu Ou MF, Ho CK, Lin YS, Liu HY, & WA **Effects of Somathermal Far-Infrared Ray on Primary Dysmenorrhea: A Pilot Study.** *Evid Based Complement Alternat Med.* 2012: 240314\_Published online 2012 Dec 18. doi: 10.1155/2012/240314

Kihara T , Biro S , Ikeda Y et al. (2004) **Effects of repeated sauna treatment on ventricular arrhythmias in patients with chronic heart failure .** *Circ J* 2004; 68: 1146 – 51

Kipshidze N, Nikolaychik V, Muckerheidi M, Keelan MH, Chekanov V, Maternowski M, Chawla P, Hernandez I, Iyer S, Dangas G, Sahota H, Leon MB, Roubin G, Moses JW.(2001) **Effect of short pulsed nonablative infrared laser irradiation on vascular cells in vitro and neointimal hyperplasia in a rabbit balloon injury model.** *Circulation.* 2001 Oct 9; 104(15):1850-5.

Lai CC, Fang HC, Mar GY, Liou JC, Tseng CJ, Liu CP. (2013) **Post-angioplasty far infrared radiation therapy improves 1-year angioplasty-free hemodialysis access patency of recurrent obstructive lesions.** *Eur J Vasc Endovasc Surg.* 2013 Dec; 46(6):726-32.

Lin CC, Chang CF, Lai MY, Chen TW, Lee PC, Yang WC. (2007) **Far-infrared therapy: a novel treatment to improve access blood flow and unassisted patency of arteriovenous fistula in hemodialysis patients.** *Journal of The American Society Of Nephrology.* 2007 JASN, 18(3), 985-992.

Lin CC, Liu XM, Peyton K, Wang H, Yang WC, Lin SJ, Durante W. (2008). **Far infrared therapy inhibits vascular endothelial inflammation via the induction of heme oxygenase-1.** *Arteriosclerosis, Thrombosis, And Vascular Biology* 2008. 28(4): 739-745

Lin CC. (2011) **Far Infrared Therapy Improves Endothelial Function and Access Flow of Newly-Created Arteriovenous Fistula in Patients with Stage 5 Chronic Kidney Disease.** Poster SA-OR458 presented at: Vascular Access Failure: Clinical Studies. Kidney Week 2011, of the American Society of Nephrology; 2011 Nov 10-13; Philadelphia, PA.

Lin CC, Yang WC, Chen MC, Liu WS, Yang CY, Lee PC (2013 AJKD) **Effect of far infrared therapy on arteriovenous fistula maturation: An open-label randomized controlled trial.** *Am J Kidney Dis.* 2013. 62(2):304-311.

Lin CC, Chung MY, Yang WC, Lin SJ, Lee PC. (2013 NDT) **Length polymorphisms of heme oxygenase-1 determine the effect of far-infrared therapy on the function of arteriovenous fistula in hemodialysis patients: A novel physcogenomic study.** *Nephrol Dial Transplant.* 2013 May; 28(5):1284-93.

Low J, & Reed A S R P (2000) ***Electrotherapy explained: principles and practice (3rd ed.)*** Oxford ; Boston, MA : Butterworth-Heinemann.

Malek AM, Izumo S, Alper SL.(1999). **Modulation by pathophysiological stimuli of the shear stress-induced up-regulation of endothelial nitric oxide synthase expression in endothelial cells.** *Neurosurgery* 1999;45:334

Masuda A , Miyata M, Kihara T, Minagoe S, Tei C.(2004) **Repeated sauna therapy reduces urinary 8-epi-prostaglandin F(2alpha).** (2004) *Jpn Heart J.* 2004;45(2):297-303

Miyata M, Tei C. (2010) **Waon therapy for cardiovascular disease: Innovative therapy for the 21st century.** (2010) *Circ J.* 2010; 74(4):617–21

Moore I, Adam JH, Sweeney D, et al. (2011). **Far infrared (FIR) therapy – An effective treatment for AV fistula maturation and maintenance.** *J Am Soc Nephrol* 2011; **22**: 564A (Poster FR-PO1947).

Oosterveld FG, Rasker JJ, Floors M, Landkroon R, van Rennes B, Zwijnenberg J, van de Laar MA, Koel GJ.(2009). **Infrared sauna in patients with rheumatoid arthritis and ankylosing spondylitis: A pilot study showing good tolerance, short-term improvement of pain and stiffness, and a trend towards long-term beneficial effects.** *Clin Rheumatol.* 2009; 28(1):29–34.

Park JH, Lee S, Cho DU, Park YM, Kang KH, Jo I (2013) **Far-infrared radiation acutely increases nitric oxide production by increasing Ca<sup>2+</sup> mobilization and Ca<sup>2+</sup>/calmodulin-dependent protein kinase II-mediated phosphorylation of endothelial nitric oxide synthase at serine 1179.** *Biochem Biophys Res Commun.* 2013 Jul 12; 436(4):601-6. doi: 10.1016/j.bbrc.2013.06.003. Epub 2013 Jun 10

Patrono C, FitzGerald GA. (1997) **Isoprostanes: potential markers of oxidant stress in atherothrombotic disease.** *Arterioscler Thromb Vasc Biol.* 1997 Nov;17(11):2309-15.

Rau CS, Yang JC, Jeng SF, Chen YC, Lin CJ, Wu CJ, Lu TH, Hsieh CH (2010). **Far-Infrared Radiation Promotes Angiogenesis in Human Microvascular Endothelial Cells via Extracellular Signal-Regulated Kinase Activation.** *Photochem Photobiol.* 2010 Nov 9.

Roy-Chaudhury P, Sukhatme VP, Cheung AK. **Hemodialysis vascular access dysfunction: a cellular and molecular viewpoint** *J Am Soc Nephrol*. 2006; 17(4):1112-1127.

ShIPLEY T, Sweeney D, Moore I, Fenwick S, Saheed A (2013) **Far infrared therapy for arteriovenous fistulas** *British Journal of Renal Medicine*.2013; 18(4):30-31

Shui S, Wang X, Chiang JY, Zheng L (2015) **Far-infrared therapy for cardiovascular, autoimmune, and other chronic health problems: A systematic review**. *Exp Biol Med (Maywood)*. 2015 Feb. 25. pii: 1535370215573391. [Epub ahead of print]

**Sobajima M, Nozawa T, Ihori H, Shida T, Ohori T, Suzuki T, Matsuki A, Yasumura S, Inoue H. (2012) Repeated sauna therapy improves myocardial perfusion in patients with chronically occluded coronary artery-related ischemia. *Int J Cardiol* 2012:109:100-4**

Toyokawa H, Matsui Y, Uhara J et al.(2003) **Promotive effects of far-infrared ray on full-thickness skin wound healing in rats**. (2003) *Experimental Biology and Medicine*, 2003 vol. 228, no. 6, pp. 724–729

Tu YP, Chen SC, Liu YH, Chen CF, Hour TC. (2013) **Postconditioning with far-infrared irradiation increases heme oxygenase-1 expression and protects against ischemia/reperfusion injury in rat testis**. *Life Sci*. 2013 Jan 17; 92(1):35-41.

Vatansever F and Hamblin MR. (2012) **Far infrared radiation (FIR): Its biological effects and medical applications**. *Photonics Lasers Med*. 2012 Nov. 1(4): 255–266.

Wasse H, Huang R, Naqvi N, Smith E, Wang D, Husain A. (2012). **Inflammation, oxidation and venous neointimal hyperplasia precede vascular injury from AVF creation in CKD patients**. *J Vasc Access*. 2012 Apr-Jun; 13(2):168-74. doi: 10.5301/jva.5000024

Wu CC, Wen SC, Yang CW, Pu SY, Tsai KC, et al. (2009) **Plasma ADMA predicts restenosis of arteriovenous fistula**. *J Am Soc Nephrol* 20: 213–222

Wu CC, Wen SC, Yang CW, Pu SY, Tsai KC, et al. (2010) **Baseline plasma glycemic profiles but not inflammatory biomarkers predict symptomatic restenosis after angioplasty of arteriovenous fistulas in patients with hemodialysis**. *Atherosclerosis* 209: 598–600

Wu CC, Huang PH, Lai CL, Leu HB, Chen JW, Lin SJ. **The impact of endothelial progenitor cells on restenosis after percutaneous angioplasty of hemodialysis vascular access**. *PLoS One*. 2014 Jun 25; 9(6):e101058. doi: 10.1371/journal.pone.0101058. eCollection 2014.

Yueh FR, Ko NY, Yen M. **[The Effectiveness of Far-infrared Therapy in Hemodialysis Patients With Arteriovenous Fistula: A Systematic Review]**. *Hu Li Za Zhi*. 2014 Dec;61(6):78-86. doi: 10.6224/JN.61.6.78.

## FIR Therapy HD Medical References by Author

Yu SY, Chiu JH, Yang SD, Hsu YC., Lui WY, & Wu CW. (2006) **Biological effect of far-infrared therapy on increasing skin microcirculation in rats.** *Photodermatology, Photoimmunology & Photomedicine*, 22(2), 78-86.

Page | 5

Zhang M, Malik AB, Rehman J. (2014) **Endothelial progenitor cells and vascular repair.** *Curr Opin Hematol.* 2014 May 21(3):224-8. doi: 10.1097/MOH.0000000000000041.