

Supplementary Table S1. Studies included in the scoping review (n=108).

Study ID	Publication year	Domain assessed	Full reference
S1	2011	Digital ulcers, microvascular	MATUCCI-CERINIC M, DENTON CP, FURST DE <i>et al.</i> : Bosentan treatment of digital ulcers related to systemic sclerosis: results from the RAPIDS-2 randomised, double-blind, placebo-controlled trial. <i>Ann Rheum Dis</i> 2011; 70(1): 32-8. https://doi.org/10.1136/ard.2010.130658
S2	2021	Microvascular	HERRICK AL, HEAL C, WILKINSON J <i>et al.</i> : Temperature response to cold challenge and mobile phone thermography as outcome measures for systemic sclerosis-related Raynaud's phenomenon. <i>Scand J Rheumatol</i> 2021; 50(6): 479-84. https://doi.org/10.1080/03009742.2021.1907926
S3	2008	Raynaud's phenomenon	OSTOJIC P, DAMJANOV N: Indices of the Scleroderma Assessment Questionnaire (SAQ) can be used to demonstrate change in patients with systemic sclerosis over time. <i>Joint Bone Spine</i> 2008; 75(3): 286-90. https://doi.org/10.1016/j.jbspin.2007.06.014
S4	2011	Microvascular	SEBASTIANI M, MANFREDI A, VUKATANA G <i>et al.</i> : Predictive role of capillaroscopic skin ulcer risk index in systemic sclerosis: a multicentre validation study. <i>Ann Rheum Dis</i> 2012; 71(1): 67-70. https://doi.org/10.1136/annrheumdis-2011-200022
S5	2012	Telangiectasias	MURRAY AK, MOORE TL, RICHARDS H, ENNIS H, GRIFFITHS CE, HERRICK AL: Pilot study of intense pulsed light for the treatment of systemic sclerosis-related telangiectasias. <i>Br J Dermatol</i> 2012; 167(3): 563-9. https://doi.org/10.1111/j.1365-2133.2012.11019.x
S6	2013	Microvascular	SEBASTIANI M, MANFREDI A, LO MONACO A <i>et al.</i> : Capillaroscopic Skin Ulcers Risk Index (CSURI) calculated with different videocapillaroscopy devices: how its predictive values change. <i>Clin Exp Rheumatol</i> 2013; 31(2 Suppl 76): 115-7.
S7	2015	Microvascular	DEL PAPA N, DI LUCA G, SAMBATARO D <i>et al.</i> : Regional implantation of autologous adipose tissue-derived cells induces a prompt healing of long-lasting indolent digital ulcers in patients with systemic sclerosis. <i>Cell Transplant</i> 2015; 24(11): 2297-305. https://doi.org/10.3727/096368914X685636
S8	2016	Digital ulcers	MURRAY AK, MOORE TL, WRAGG E <i>et al.</i> : Pilot study assessing pathophysiology and healing of digital ulcers in patients with systemic sclerosis using laser Doppler imaging and thermography. <i>Clin Exp Rheumatol</i> 2016; 34 8Suppl. 100): S100-5.
S9	2016	Raynaud's phenomenon, microvascular	NEGRINI S, SPANÒ F, PENZA E <i>et al.</i> : Efficacy of cilostazol for the treatment of Raynaud's phenomenon in systemic sclerosis patients. <i>Clin Exp Med</i> 2016; 16(3): 407-12. https://doi.org/10.1007/s10238-015-0370-5
S10	2017	Digital ulcers, Raynaud's phenomenon, microvascular	ANDRIGUETI FV, EBBING PCC, ARISMENDI MI, KAYSER C: Evaluation of the effect of sildenafil on the microvascular blood flow in patients with systemic sclerosis: a randomised, double-blind, placebo-controlled study. <i>Clin Exp Rheumatol</i> 2017; 35 (Suppl. 106): S151-8.
S11	2018	Microvascular	WILKINSON JD, LEGGETT SA, MARJANOVIC EJ <i>et al.</i> : A multicenter study of the validity and reliability of responses to hand cold challenge as measured by laser speckle contrast imaging and thermography: outcome measures for systemic sclerosis-related Raynaud's phenomenon. <i>Arthritis Rheumatol</i> 2018; 70(6): 903-911. https://doi.org/10.1002/art.40457
S12	2019	Digital ulcers, microvascular	HUGHES M, MOORE T, MANNING J <i>et al.</i> : A feasibility study of a novel low-level light therapy for digital ulcers in systemic sclerosis. <i>J Dermatolog Treat</i> 2019; 30(3): 251-257. https://doi.org/10.1080/09546634.2018.1484875
S13	2020	Microvascular	BOURNIA VK, KOTTAS K, PANOPOULOS S <i>et al.</i> : Differential performance of nailfold video capillaroscopic parameters in the diagnosis and prognosis of systemic sclerosis. <i>Clin Exp Rheumatol</i> 2020; 38 (Suppl. 125): S29-39.
S14	1999	Raynaud's phenomenon	WATSON HR, ROBB R, BELCHER G, BELCH JJ: Seasonal variation of Raynaud's phenomenon secondary to systemic sclerosis. <i>J Rheumatol</i> 1999; 26(8): 1734-7
S15	2010	Digital ulcers	AU K, MAYES MD, MARANIAN P <i>et al.</i> : Course of dermal ulcers and musculoskeletal involvement in systemic sclerosis patients in the scleroderma lung study. <i>Arthritis Care Res (Hoboken)</i> 2010; 62(12): 1772-8. https://doi.org/10.1002/acr.20320
S16	2017	Digital ulcers, microvascular	AVOUAC J, LEPRI G, SMITH V <i>et al.</i> : Sequential nailfold videocapillaroscopy examinations have responsiveness to detect organ progression in systemic sclerosis. <i>Semin Arthritis Rheum</i> 2017; 47(1): 86-94. https://doi.org/10.1016/j.semarthrit.2017.02.006
S17	1995	Raynaud's phenomenon	BELCH JJ, CAPELL HA, COOKE ED <i>et al.</i> : Oral iloprost as a treatment for Raynaud's syndrome: a double blind multicentre placebo controlled study. <i>Ann Rheum Dis</i> 1995; 54(3): 197-200. https://doi.org/10.1136/ard.54.3.197

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S18	2002	Digital ulcers, Raynaud's phenomenon, microvascular	BELLO RJ, COONEY CM, MELAMED E <i>et al.</i> : The therapeutic efficacy of botulinum toxin in treating scleroderma-associated Raynaud's phenomenon: a randomized, double-blind, placebo-controlled clinical trial. <i>Arthritis Rheumatol</i> 2017; 69(8): 1661-1669. https://doi.org/10.1002/art.40123
S19	2002	Digital ulcers, Raynaud's phenomenon	BETTONI L, GERI A, AIRÒ P <i>et al.</i> : Systemic sclerosis therapy with iloprost: a prospective observational study of 30 patients treated for a median of 3 years. <i>Clin Rheumatol</i> 2002; 21(3): 244-50. https://doi.org/10.1007/pl00011223
S20	1998	Digital ulcers	BIASI D, CARLETTO A, CARAMASCHI P <i>et al.</i> : Iloprost as cyclic five-day infusions in the treatment of scleroderma. An open pilot study in 20 patients treated for one year. <i>Rev Rhum Engl Ed</i> 1998; 65(12): 745-50.
S21	1998	Digital ulcers, Raynaud's phenomenon	BLACK CM, HALKIER-SØRENSEN L, BELCH JJ <i>et al.</i> : Oral iloprost in Raynaud's phenomenon secondary to systemic sclerosis: a multicentre, placebo-controlled, dose-comparison study. <i>Br J Rheumatol</i> 1998; 37(9): 952-60. https://doi.org/10.1093/rheumatology/37.9.952
S22	1996	Digital ulcers, microvascular	CIOMPI ML, BAZZICHI L, MELCHIORRE D, DE GIORGIO F, BONDI F, PUCCHETTI L: A placebo-controlled study on urokinase therapy in systemic sclerosis. <i>Biomed Pharmacother</i> 1996; 50(8): 363-8. https://doi.org/10.1016/s0753-3322(96)89669-7
S23	2014	Digital ulcers	BLAISE S, ROUSTIT M, CARPENTIER P, SEINTURIER C, IMBERT B, CRACOWSKI JL: The digital thermal hyperemia pattern is associated with the onset of digital ulcerations in systemic sclerosis during 3 years of follow-up. <i>Microvasc Res</i> 2014; 94: 119-22. https://doi.org/10.1016/j.mvr.2014.06.005
S24	2006	Microvascular	CARAMASCHI P, BIASI D, CANESTRINI S <i>et al.</i> : Evaluation of finger skin temperature in scleroderma patients cyclically treated with iloprost. <i>Joint Bone Spine</i> 2006; 73(1): 57-61. https://doi.org/10.1016/j.jbspin.2005.04.006
S25	2019	Digital ulcers, microvascular	DEL PAPA N, DI LUCA G, ANDRACCO R <i>et al.</i> : Regional grafting of autologous adipose tissue is effective in inducing prompt healing of indolent digital ulcers in patients with systemic sclerosis: results of a monocentric randomized controlled study. <i>Arthritis Res Ther</i> 2019; 21(1): 7. https://doi.org/10.1186/s13075-018-1792-8
S26	2017	Digital ulcers, Raynaud's phenomenon	DENTON CP, HACHULLA É, RIEMEKAŠTEN G <i>et al.</i> : Efficacy and safety of selezipag in adults with Raynaud's phenomenon secondary to systemic sclerosis: a randomized, placebo-controlled, phase II study. <i>Arthritis Rheumatol</i> 2017; 69(12): 2370-9. https://doi.org/10.1002/art.40242
S27	2019	Microvascular	DHALIWAL K, GRIFFIN MF, SALINAS S, HOWELL K, DENTON CP, BUTLER PEM: Optimisation of botulinum toxin type A treatment for the management of Raynaud's phenomenon using a dorsal approach: a prospective case series. <i>Clin Rheumatol</i> 2019; 38(12): 3669-76. https://doi.org/10.1007/s10067-019-04762-4
S28	2014	Telangiectasias	DINSDALE G, MURRAY A, MOORE T <i>et al.</i> : A comparison of intense pulsed light and laser treatment of telangiectasies in patients with systemic sclerosis: a within-subject randomized trial. <i>Rheumatology (Oxford)</i> 2014; 53(8): 1422-30. https://doi.org/10.1093/rheumatology/keu006
S29	2017	Microvascular	CESTELLI V, MANFREDI A, SEBASTIANI M <i>et al.</i> : Effect of treatment with iloprost with or without bosentan on nailfold videocapillaroscopic alterations in patients with systemic sclerosis. <i>Mod Rheumatol</i> 2017; 27(1): 110-114. https://doi.org/10.1080/14397595.2016.1192761
S30	2021	Digital ulcers	CHANG SH, JUN JB, LEE YJ <i>et al.</i> : A clinical comparison of an endothelin receptor antagonist and phosphodiesterase type 5 inhibitors for treating digital ulcers of systemic sclerosis. <i>Rheumatology (Oxford)</i> 2021; 60(12): 5814-5819. https://doi.org/10.1093/rheumatology/keab147
S31	2014	Digital ulcers, microvascular	CUTOLO M, RUARO B, PIZZORNI C <i>et al.</i> : Longterm treatment with endothelin receptor antagonist bosentan and iloprost improves fingertip blood perfusion in systemic sclerosis. <i>J Rheumatol</i> 2014; 41(5): 881-6. https://doi.org/10.3899/jrheum.131284
S32	2007	Digital ulcers	FERRI C, GIUGGIOLI D, SEBASTIANI M, COLACI M: Treatment of severe scleroderma skin ulcers with recombinant human erythropoietin. <i>Clin Exp Dermatol</i> 2007; 32(3): 287-90. https://doi.org/10.1111/j.1365-2230.2007.02363.x
S33	2009	Digital ulcers	FIORI G, GALLUCCIO F, BRASCHI F <i>et al.</i> : Vitamin E gel reduces time of healing of digital ulcers in systemic sclerosis. <i>Clin Exp Rheumatol</i> 2009; 27 (Suppl. 54): S51-4.

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S34	2020	Digital ulcers	FRANTZ C, HUSCHER D, AVOUAC J <i>et al.</i> : Outcomes of limited cutaneous systemic sclerosis patients: results on more than 12,000 patients from the EUSTAR database. <i>Autoimmun Rev</i> 2020; 19(2): 102452. https://doi.org/10.1016/j.autrev.2019.102452
S35	2019	Digital ulcers	FRIEDRICH S, LÜDERS S, GLIMM AM <i>et al.</i> : Association between baseline clinical and imaging findings and the development of digital ulcers in patients with systemic sclerosis. <i>Arthritis Res Ther</i> 2019; 21(1): 96. https://doi.org/10.1186/s13075-019-1875-1
S36	2008	Digital ulcers, Raynaud's phenomenon	GARCÍA DE LA PEÑA-LEFEBVRE P, RODRÍGUEZ RUBIO S, VALERO EXPÓSITO M <i>et al.</i> : Long-term experience of bosentan for treating ulcers and healed ulcers in systemic sclerosis patients. <i>Rheumatology</i> (Oxford) 2008; 47(4): 464-6. https://doi.org/10.1093/rheumatology/ken001
S37	2012	Digital ulcers	GIUGGIOLI D, COLACI M, MANFREDI A, MARIANO M, FERRI C: Platelet gel in the treatment of severe scleroderma skin ulcers. <i>Rheumatol Int</i> 2012; 32(9): 2929-32. https://doi.org/10.1007/s00296-011-2038-0
S38	2016	Digital ulcers, Raynaud's phenomenon	HACHULLA E, HATRON PY, CARPENTIER P <i>et al.</i> : Efficacy of sildenafil on ischaemic digital ulcer healing in systemic sclerosis: the placebo-controlled SEDUCE study. <i>Ann Rheum Dis</i> 2016; 75(6): 1009-15. https://doi.org/10.1136/annrheumdis-2014-207001
S39	2014	Microvascular	HERRICK AL, MURRAY AK, RUCK A <i>et al.</i> : A double-blind, randomized, placebo-controlled crossover trial of the α 2C-adrenoceptor antagonist ORM-12741 for prevention of cold-induced vasospasm in patients with systemic sclerosis. <i>Rheumatology</i> (Oxford) 2014; 53(5): 948-52. https://doi.org/10.1093/rheumatology/ket421
S40	2008	Digital ulcers, Raynaud's phenomenon	KAWALD A, BURMESTER GR, HUSCHER D, SUNDERKÖTTER C, RIEMEKAŠTEN G: Low versus high-dose iloprost therapy over 21 days in patients with secondary Raynaud's phenomenon and systemic sclerosis: a randomized, open, single-center study. <i>J Rheumatol</i> 2008; 35(9): 1830-7.
S41	2013	Digital ulcers, Raynaud's phenomenon	KUMAR U, SANKALP G, SREENIVAS V, KAUR S, MISRA D: Prospective, open-label, uncontrolled pilot study to study safety and efficacy of sildenafil in systemic sclerosis-related pulmonary artery hypertension and cutaneous vascular complications. <i>Rheumatol Int</i> 2013; 33(4): 1047-52. https://doi.org/10.1007/s00296-012-2466-5
S42	2016	Digital ulcers, Raynaud's phenomenon	KHANNA D, DENTON CP, MERKEL PA <i>et al.</i> : Effect of macitentan on the development of new ischemic digital ulcers in patients with systemic sclerosis: DUAL-1 and DUAL-2 randomized clinical trials. <i>JAMA</i> 2016; 315(18): 1975-88. https://doi.org/10.1001/jama.2016.5258
S43	2004	Digital ulcers	KORN JH, MAYES M, MATUCCI CERINIC M <i>et al.</i> : Digital ulcers in systemic sclerosis: prevention by treatment with bosentan, an oral endothelin receptor antagonist. <i>Arthritis Rheum</i> 2004; 50(12): 3985-93. https://doi.org/10.1002/art.20676
S44	2017	Digital ulcers	LESCOAT A, COIFFIER G, ROUIL A <i>et al.</i> : Vascular evaluation of the hand by power Doppler ultrasonography and new predictive markers of ischemic digital ulcers in systemic sclerosis: results of a prospective pilot study. <i>Arthritis Care Res</i> (Hoboken) 2017; 69(4): 543-51. https://doi.org/10.1002/acr.22965
S45	2015	Digital ulcers, microvascular	MEIJS J, VOSKUYL AE, BLOEMSAAT-MINEKUS JP, VONK MC: Blood flow in the hands of a predefined homogeneous systemic sclerosis population: the presence of digital ulcers and the improvement with bosentan. <i>Rheumatology</i> (Oxford) 2015; 54(2): 262-9. https://doi.org/10.1093/rheumatology/keu300
S46	2019	Digital ulcers, Raynaud's phenomenon	NAGARAJA V, SPINO C, BUSH E <i>et al.</i> : A multicenter randomized, double-blind, placebo-controlled pilot study to assess the efficacy and safety of riociguat in systemic sclerosis-associated digital ulcers. <i>Arthritis Res Ther</i> 2019; 21(1): 202. https://doi.org/10.1186/s13075-019-1979-7
S47	2010	Raynaud's phenomenon	NGUYEN VA, EISENDLE K, GRUBER I, HUGL B, REIDER D, REIDER N: Effect of the dual endothelin receptor antagonist bosentan on Raynaud's phenomenon secondary to systemic sclerosis: a double-blind prospective, randomized, placebo-controlled pilot study. <i>Rheumatology</i> (Oxford) 2010; 49(3): 583-7. https://doi.org/10.1093/rheumatology/kep413
S48	2006	Raynaud's phenomenon	MILIO G, CORRADO E, GENOVA C <i>et al.</i> : Iloprost treatment in patients with Raynaud's phenomenon secondary to systemic sclerosis and the quality of life: a new therapeutic protocol. <i>Rheumatology</i> (Oxford) 2006; 45(8): 999-1004. https://doi.org/10.1093/rheumatology/kei038
S49	2018	Microvascular	MITROPOULOS A, GUMBER A, CRANK H, AKIL M, KLONIZAKIS M: The effects of upper and lower limb exercise on the microvascular reactivity in limited cutaneous systemic sclerosis patients. <i>Arthritis Res Ther</i> 2018; 20(1): 112. https://doi.org/10.1186/s13075-018-1605-0

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S50	2014	Digital ulcers, Raynaud's phenomenon, microvascular	PARISI S, BRUZZONE M, CENTANARO DI VITTORIO C, LAGANÀ A, PERONI CL, FUSARO E: Efficacy of bosentan in the treatment of Raynaud's phenomenon in patients with systemic sclerosis never treated with prostanooids. <i>Reumatismo</i> 2014; 65(6): 286-91. https://doi.org/10.4081/reumatismo.2013.691
S51	2016	Digital ulcers, Raynaud's phenomenon	MOTEGI S, YAMADA K, TOKI S <i>et al.</i> : Beneficial effect of botulinum toxin A on Raynaud's phenomenon in Japanese patients with systemic sclerosis: a prospective case series study. <i>J Dermatol</i> 2016; 43(1): 56-62. https://doi.org/10.1111/1346-8138.13030
S52	2017	Digital ulcers, Raynaud's phenomenon	MOTEGI SI, UEHARA A, YAMADA K <i>et al.</i> : Efficacy of botulinum toxin B injection for Raynaud's phenomenon and digital ulcers in patients with systemic sclerosis. <i>Acta Derm Venereol</i> 2017; 97(7): 843-850. https://doi.org/10.2340/00015555-2665
S53	2017	Digital ulcers	MOUTHON L, CARPENTIER PH, LOK C <i>et al.</i> : Controlling the digital ulcerative disease in systemic sclerosis is associated with improved hand function. <i>Semin Arthritis Rheum</i> 2017; 46(6): 759-766. https://doi.org/10.1016/j.semarthrit.2017.01.001
S54	2009	Digital ulcers, Raynaud's phenomenon	ROSATO E, BORGHESI F, PISARRI S, SALSANO F: The treatment with N-acetylcysteine of Raynaud's phenomenon and ischemic ulcers therapy in sclerodermic patients: a prospective observational study of 50 patients. <i>Clin Rheumatol</i> 2009; 28(12): 1379-84. https://doi.org/10.1007/s10067-009-1251-7
S55	2009	Raynaud's Phenomenon	ROSATO E, LETIZIA C, PROIETTI M <i>et al.</i> : Plasma adrenomedullin and endothelin-1 levels are reduced and Raynaud's phenomenon improved by daily tadalafil administration in male patients with systemic sclerosis. <i>J Biol Regul Homeost Agents</i> 2009; 23(1): 23-9.
S56	2012	Microvascular	ROSSI M, BAZZICHI L, GHIADONI L, MENCARONI I, FRANZONI F, BOMBARDIERI S: Increased finger skin vasoreactivity and stimulated vasomotion associated with simvastatin therapy in systemic sclerosis hypercholesterolemic patients. <i>Rheumatol Int</i> 2012; 32(12): 3715-21. https://doi.org/10.1007/s00296-011-2183-5 .
S57	2018	Microvascular	ROTONDO C, NIVUORI M, CHIALÀ A <i>et al.</i> : Evidence for increase in finger blood flow, evaluated by laser Doppler flowmetry, following iloprost infusion in patients with systemic sclerosis: a week-long observational longitudinal study. <i>Scand J Rheumatol</i> 2018; 47(4): 311-318. https://doi.org/10.1080/03009742.2017.1397187
S58	2015	Digital ulcers, microvascular	RUARO B, SULLI A, SMITH V, PAOLINO S, PIZZORNI C, CUTOLO M: Short-term follow-up of digital ulcers by laser speckle contrast analysis in systemic sclerosis patients. <i>Microvasc Res</i> 2015; 101: 82-5. https://doi.org/10.1016/j.mvr.2015.06.009
S59	2019	Microvascular	PIGNATARO F, MAGLIONE W, MINNITI A <i>et al.</i> : NEMO score in nailfold videocapillaroscopy is a good tool to assess both steady state levels and overtime changes of disease activity in patients with systemic sclerosis: a comparison with the proposed composite indices for this disease status entity. <i>Arthritis Res Ther</i> 2019; 21(1): 258. https://doi.org/10.1186/s13075-019-2032-6
S60	2001	Digital ulcers, Raynaud's phenomenon	SCORZA R, CARONNI M, MASCAGNI B <i>et al.</i> : Effects of long-term cyclic iloprost therapy in systemic sclerosis with Raynaud's phenomenon: a randomized controlled study. <i>Clin Exp Rheumatol</i> 2001; 19(5): 503-8.
S61	2010	Digital ulcers, Raynaud's phenomenon	SHENOY PD, KUMAR S, JHA LK <i>et al.</i> : Efficacy of tadalafil in secondary Raynaud's phenomenon resistant to vasodilator therapy: a double-blind randomized cross-over trial. <i>Rheumatology</i> (Oxford) 2010; 49(12): 2420-8. https://doi.org/10.1093/rheumatology/keq291
S62	2015	Digital ulcers	SILVA I, TEIXEIRA A, OLIVEIRA J, ALMEIDA I, ALMEIDA R, VASCONCELOS C: Predictive value of vascular disease biomarkers for digital ulcers in systemic sclerosis patients. <i>Clin Exp Rheumatol</i> 2015; 33(Suppl. 91): S127-30.
S63	2017	Digital ulcers, microvascular	SILVA I, TEIXEIRA A, OLIVEIRA J, ALMEIDA R, VASCONCELOS C: Endothelial dysfunction, microvascular damage and ischemic peripheral vasculopathy in systemic sclerosis. <i>Clin Hemorheol Microcirc</i> 2017; 66(2): 117-130. https://doi.org/10.3233/CH-150044
S64	2001	Digital ulcers, Raynaud's phenomenon	SAMBO P, AMICO D, GIACOMELLI R <i>et al.</i> : Intravenous N-acetylcysteine for treatment of Raynaud's phenomenon secondary to systemic sclerosis: a pilot study. <i>J Rheumatol</i> 2001; 28(10): 2257-62
S65	2018	Raynaud's phenomenon	SANDQVIST G, WOLLMER P, SCHEJA A, WILDT M, HESSELSTRAND R: Raynaud's phenomenon and its impact on activities in daily life during one year of follow-up in early systemic sclerosis. <i>Scand J Rheumatol</i> 2018; 47(3): 206-209. https://doi.org/10.1080/03009742.2017.1350745
S66	2014	Digital ulcers, microvascular	TAKAGI G, MIYAMOTO M, TARA S <i>et al.</i> : Therapeutic vascular angiogenesis for intractable macroangiopathy-related digital ulcer in patients with systemic sclerosis: a pilot study. <i>Rheumatology</i> (Oxford) 2014; 53(5): 854-9. https://doi.org/10.1093/rheumatology/ket432

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S67	2009	Raynaud's phenomenon	SCHIOPU E, HSU VM, IMPENS AJ <i>et al.</i> : Randomized placebo-controlled crossover trial of tadalafil in Raynaud's phenomenon secondary to systemic sclerosis. <i>J Rheumatol</i> 2009; 36(10): 2264-8. https://doi.org/10.3899/jrheum.090270
S68	2012	Raynaud's phenomenon, microvascular	SPORBECK B, MATHISKE-SCHMIDT K, JAHR S <i>et al.</i> : Effect of biofeedback and deep oscillation on Raynaud's phenomenon secondary to systemic sclerosis: results of a controlled prospective randomized clinical trial. <i>Rheumatol Int</i> 2012; 32(5): 1469-73. https://doi.org/10.1007/s00296-011-1882-2
S69	2012	Microvascular	SULLI A, PIZZORNI C, SMITH V, ZAMPOGNA G, RAVERA F, CUTOLO M: Timing of transition between capillaroscopic patterns in systemic sclerosis. <i>Arthritis Rheum</i> 2012; 64(3): 821-5. https://doi.org/10.1002/art.33463
S70	2013	Microvascular	SULLI A, RUARO B, SMITH V <i>et al.</i> : Progression of nailfold microvascular damage and antinuclear antibody pattern in systemic sclerosis. <i>J Rheumatol</i> 2013; 40(5): 634-9. https://doi.org/10.3899/jrheum.121089
S71	2008	Microvascular	SULLI A, SECCHI ME, PIZZORNI C, CUTOLO M: Scoring the nailfold microvascular changes during the capillaroscopic analysis in systemic sclerosis patients. <i>Ann Rheum Dis</i> 2008; 67(6): 885-7. https://doi.org/10.1136/ard.2007.079756
S72	2008	Digital ulcers	TOFFOLO SR, FURTADO RN, KLEIN A, WATANABE S, ANDRADE LE, NATOUR J: Measurement of upper limb ulcers in patients with systemic sclerosis: reproducibility and correlation with pain, function, and quality of life. <i>Nurs Res</i> 2008; 57(2): 84-92. https://doi.org/10.1097/01.NNR.0000313480.32132.db
S73	2009	Digital ulcers	TSIFETAKI N, BOTZORIS V, ALAMANOS Y, ARGYRIOU E, ZIOGA A, DROSOS AA: Bosentan for digital ulcers in patients with systemic sclerosis: a prospective 3-year follow-up study. <i>J Rheumatol</i> 2009; 36(7): 1550-2. https://doi.org/10.3899/jrheum.080992
S74	1994	Digital ulcers, Raynaud's phenomenon, microvascular	WIGLEY FM, WISE RA, SEIBOLD JR <i>et al.</i> : Intravenous iloprost infusion in patients with Raynaud phenomenon secondary to systemic sclerosis: a multicenter, placebo-controlled, double-blind study. <i>Ann Intern Med</i> 1994; 120(3): na199-206. https://doi.org/10.7326/0003-4819-120-3-19940210-00004
S75	1998	Raynaud's phenomenon	WIGLEY FM, KORN JH, CSUKA ME <i>et al.</i> : Oral iloprost treatment in patients with Raynaud's phenomenon secondary to systemic sclerosis: a multicenter, placebo-controlled, double-blind study. <i>Arthritis Rheum</i> 1998; 41(4): 670-7. <a href="https://doi.org/10.1002/1529-0131(199804)41:4<670::AID-ART14>3.0.CO;2-I">https://doi.org/10.1002/1529-0131(199804)41:4<670::AID-ART14>3.0.CO;2-I
S76	2014	Raynaud's phenomenon	UPPAL L, DHALIWAL K, BUTLER PE: A prospective study of the use of botulinum toxin injections in the treatment of Raynaud's syndrome associated with scleroderma. <i>J Hand Surg Eur Vol</i> 2014; 39(8): 876-80. https://doi.org/10.1177/1753193413516242
S77	1999	Digital ulcers, microvascular	VAYSSAIRAT M; FRENCH MICROCIRCULATION SOCIETY MULTICENTER GROUP FOR THE STUDY OF VASCULAR ACROSYNDROMES: Preventive effect of an oral prostacyclin analog, beraprost sodium, on digital necrosis in systemic sclerosis. <i>J Rheumatol</i> 1999; 26(10): 2173-8.
S78	2018	Digital ulcers, Raynaud's phenomenon, microvascular	WALKER UA, JAEGER VK, BRUPPACHER KM <i>et al.</i> : Prospective evaluation of the capillaroscopic skin ulcer risk index in systemic sclerosis patients in clinical practice: a longitudinal, multicentre study. <i>Arthritis Res Ther</i> 2018; 20(1): 239. https://doi.org/10.1186/s13075-018-1733-6
S79	2020	Digital ulcers, microvascular	REZUS E, BURLUI AM, GAFTON B <i>et al.</i> : A patient-centered approach to the burden of symptoms in patients with scleroderma treated with bosentan: a prospective single-center observational study. <i>Exp Ther Med</i> 2020; 19(3): 1739-1746. https://doi.org/10.3892/etm.2019.8361
S80	2016	Digital ulcers, microvascular	TROMBETTA AC, PIZZORNI C, RUARO B <i>et al.</i> : Effects of longterm treatment with bosentan and iloprost on nailfold absolute capillary number, fingertip blood perfusion, and clinical status in systemic sclerosis. <i>J Rheumatol</i> 2016; 43(11): 2033-2041. https://doi.org/10.3899/jrheum.160592
S81	2016	Digital ulcers	KÜÇÜKŞAHİN O, YILDIZGÖREN MT, GEREDE DM, MARAŞ Y, ERTEN Ş: Bosentan for digital ulcers in patients with systemic sclerosis: single center experience. <i>Arch Rheumatol</i> 2016; 31(3): 229-233. https://doi.org/10.5606/ArchRheumatol.2016.5811
S82	2014	Digital ulcers, Raynaud's phenomenon	CHUNG L, BALL K, Yaqub A, LINGALA B, FIORENTINO D: Effect of the endothelin type A-selective endothelin receptor antagonist ambrisentan on digital ulcers in patients with systemic sclerosis: results of a prospective pilot study. <i>J Am Acad Dermatol</i> 2014; 71(2): 400-1. https://doi.org/10.1016/j.jaad.2014.04.028

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S83	2023	Digital ulcers, Raynaud's phenomenon	DI BATTISTA M, DA RIO M, LOGIACCO A, BARSOTTI S, DELLA ROSSA A, MOSCA M: Kinetics of response to iloprost evaluated by laser speckle contrast analysis in systemic sclerosis. <i>Scand J Rheumatol</i> 2023; 52(3): 302-5. https://doi.org/10.1080/03009742.2022.2099630
S84	2024	Digital ulcers, Raynaud's phenomenon	PAULING JD, YU L, FRECH TM <i>et al.</i> : Construct validity and reliability of the Assessment of Systemic Sclerosis-Associated Raynaud's Phenomenon (ASRAP) questionnaire. <i>Rheumatology</i> (Oxford) 2024; 63(5): 1281-1290. https://doi.org/10.1093/rheumatology/kead371
S85	2025	Digital ulcers, Raynaud's Phenomenon	PHAT TN, LUONG VH, MINH VN <i>et al.</i> : Bosentan versus nifedipine in the treatment of vasculopathy in systemic sclerosis patients: a randomized control trial. <i>Asian Pac J Allergy Immunol</i> 2025; 43(3): 706-711. https://doi.org/10.12932/AP-070722-1406
S86	2022	Digital ulcers, Raynaud's Phenomenon	SEYEDMARDANI SM, AGHDASHI MA, SOLTANI S, ZONOUZ GK: Evaluation of botulinum toxin type A and its potential effect on exacerbated Raynaud's phenomenon in hospitalized scleroderma patients. <i>Curr Rheumatol Rev</i> 2022; 18(1): 48-57. https://doi.org/10.2174/1573397117666211012105611
S87	2023	Digital ulcers, Raynaud's Phenomenon	XU B, YU Y, LIANG J <i>et al.</i> : Efficacy of adjunctive ambrisentan treatment for digital ulcers in patients with systemic sclerosis: a case series study. <i>J Dermatolog Treat</i> 2023; 34(1): 2276046. https://doi.org/10.1080/09546634.2023.2276046
S88	2022	Digital ulcers	JOKAR MH, BAGHBANI B, GERAYLOW KR <i>et al.</i> : Efficacy of botulinum toxin type A injection for Raynaud's phenomenon and digital ulcers in patients with systemic sclerosis. <i>Reumatologia</i> 2022; 60(6): 392-398. https://doi.org/10.5114/reum.2022.120757
S89	2024	Digital ulcers, Raynaud's phenomenon	DE LORENZIS E, KAKKAR V, DI DONATO S <i>et al.</i> : Clinical trajectories of hand function impairment in systemic sclerosis: an unmet clinical need across disease subsets. <i>RMD Open</i> 2024; 10(1): e003216. https://doi.org/10.1136/rmdopen-2023-003216
S90	2022	Digital ulcers, Raynaud's phenomenon, microvascular	DU W, ZHOU M, ZHANG C, SUN Q: The efficacy of botulinum toxin A in the treatment of Raynaud's phenomenon in systemic sclerosis: a randomized self-controlled trial. <i>Dermatol Ther</i> 2022; 35(7): e15529. https://doi.org/10.1111/dth.15529
S91	2022	Digital ulcers, Raynaud's phenomenon	GHEORGHIU AM, CONEA I, VRANCIANU C <i>et al.</i> : Long-term evolution of bosentan treatment in systemic sclerosis patients: the experience of a prescribing centre from Bucharest, Romania. <i>Farmacia</i> 2022; 70(3): 495-501.
S92	2023	Digital ulcers, Raynaud's phenomenon	HUGHES M, DI DONATO S, GJELOSHI K <i>et al.</i> : MRI Digital Artery Volume Index (DAVIX) as a surrogate outcome measure of digital ulcer disease in patients with systemic sclerosis: a prospective cohort study. <i>Lancet Rheumatol</i> 2023; 5(10): e611-e621. https://doi.org/10.1016/S2665-9913(23)00189-3
S93	2023	Digital ulcers, Raynaud's phenomenon, microvascular	IGLESIAS M, TORRE-VILLALVAZO I, BUTRÓN-GANDARILLAS P <i>et al.</i> : Adipose derived stromal vascular fraction and fat graft for treating the hands of patients with systemic sclerosis: a randomized clinical trial. <i>PLoS One</i> 2023; 18(8): e0289594. https://doi.org/10.1371/journal.pone.0289594
S94	2022	Digital ulcers, Raynaud's phenomenon	KAYMAZ S, KARASU U, ALKAN H <i>et al.</i> : Efficacy of local oxygen-ozone therapy for the treatment of digital ulcer refractory to medical therapy in systemic sclerosis: a randomized controlled study. <i>Mod Rheumatol</i> 2022; 32(6): 1102-1107. https://doi.org/10.1093/mr/roab117
S95	2025	Microvascular	KERSTEN BE, LEMMERS JMJ, VANHAECKE A <i>et al.</i> : Efficacy of methylprednisolone in very early systemic sclerosis: results of the 'Hit Hard and Early' randomized controlled trial. <i>Rheumatology</i> (Oxford) 2025; 64(3): 1261-1269. https://doi.org/10.1093/rheumatology/keae156
S96	2023	Telangiectasias	KOTTLER D, DUPECHEZ L, MARTIN SILVA N <i>et al.</i> : Efficacy, tolerance and acceptability of pulsed dye laser on facial and neckline telangiectasias in systemic scleroderma: a prospective open-label monocentric study in 21 patients. <i>J Cosmet Laser Ther</i> 2023; 25(5-8): 77-85. https://doi.org/10.1080/14764172.2024.2313472
S97	2022	Microvascular	OMARJEE L, METAIRIE A, TUEGUEM MOYO T <i>et al.</i> : Performance of finger systolic blood pressure measurement to detect digital occlusive arterial disease in systemic sclerosis. <i>Rheumatology</i> (Oxford) 2022; 61(3): 1115-1122. https://doi.org/10.1093/rheumatology/keab497
S98	2022	Digital ulcers	SCATURRO D, GUGGINO G, TERRANA P <i>et al.</i> : Rehabilitative interventions for ischaemic digital ulcers, pain, and hand functioning in systemic sclerosis: a prospective before-after study. <i>BMC Musculoskelet Disord</i> 2022; 23(1): 193. https://doi.org/10.1186/s12891-022-05145-8

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S99	2023	Digital ulcers	SCATURRO D, MORETTI A, VITAGLIANI F <i>et al.</i> : Immersion ultrasound therapy in combination with manual therapy in the treatment of ischemic digital ulcers in systemic sclerosis. <i>Medicina</i> (Kaunas) 2023; 59(7): 1335. https://doi.org/10.3390/medicina59071335
S100	2023	Raynaud's phenomenon	SENET P, MAILLARD H, DIOT E <i>et al.</i> : Efficacy and safety of botulinum toxin in adults with Raynaud's phenomenon secondary to systemic sclerosis: a multicenter, randomized, double-blind, placebo-controlled study. <i>Arthritis Rheumatol</i> 2023; 75(3): 459-467. https://doi.org/10.1002/art.42342
S101	2022	Digital ulcers, Raynaud's phenomenon, microvascular	SHENAVANDEH S, SEPASKHAH M, DEHGHANI S, NAZARINIA M: A 4-week comparison of capillaroscopy changes, healing effect, and cost-effectiveness of botulinum toxin-A vs prostaglandin analog infusion in refractory digital ulcers in systemic sclerosis. <i>Clin Rheumatol</i> 2022; 41(1): 95-104. https://doi.org/10.1007/s10067-021-05900-7
S102	2025	Raynaud's phenomenon, Microvascular	TORNILING G, EDENIUS C, PAULING JD <i>et al.</i> : A phase 2 trial investigating the efficacy and safety of the mPGES-1 inhibitor vipoglanstat in systemic sclerosis-related Raynaud's. <i>Rheumatology</i> (Oxford) 2025; 64(2): 704-713. https://doi.org/10.1093/rheumatology/keae049
S103	2023	Raynaud's phenomenon	WATANABE A, SHIMA Y, TAKAHASHI H <i>et al.</i> : Arm heating to relieve Raynaud's phenomenon in systemic sclerosis: a single-arm multicentre prospective clinical trial. <i>Mod Rheumatol</i> 2023; 33(5): 968-974. https://doi.org/10.1093/mr/roac116
S104	2024	Digital ulcers, microvascular, telangiectasias	WILDT M, ANDRÉASSON K, HAMBERG V, HESSELSTRAND R, WUTTGE DM: Treatment with mycophenolate mofetil is associated with improved nailfold vasculature in systemic sclerosis. <i>Rheumatology</i> (Oxford) 2024; 63(2): 385-391. https://doi.org/10.1093/rheumatology/kead207
S105	2022	Digital ulcers, Raynaud's phenomenon	DAUMAS A, MAGALON J, JOUVE E <i>et al.</i> : Adipose tissue-derived stromal vascular fraction for treating hands of patients with systemic sclerosis: a multicentre randomized trial. <i>Rheumatology</i> (Oxford) 2022; 61(5): 1936-1947. https://doi.org/10.1093/rheumatology/keab584
S106	2023	Digital ulcers	GRIFFITHS-JONES DJ, GARCIA YS, RYDER WD <i>et al.</i> : A phase II randomized controlled trial of oral prednisolone in early diffuse cutaneous systemic sclerosis (PRedSS). <i>Rheumatology</i> (Oxford) 2023; 62(9): 3133-3138. https://doi.org/10.1093/rheumatology/kead012
S107	2023	Microvascular	HERRICK AL, BATTAR, OVERBECK K <i>et al.</i> : A phase 2 trial investigating the effects of the angiotensin II type 2 receptor agonist C21 in systemic sclerosis-related Raynaud's. <i>Rheumatology</i> (Oxford) 2023; 62(2): 824-828. https://doi.org/10.1093/rheumatology/keac426
S108	2023	Raynaud's phenomenon	LIEM SIE, HOEKSTRA EM, BONTE-MINEUR F <i>et al.</i> : The effect of silver fibre gloves on Raynaud's phenomenon in patients with systemic sclerosis: a double-blind randomized crossover trial. <i>Rheumatology</i> (Oxford) 2023; 62(SI): S174-S181. https://doi.org/10.1093/rheumatology/keac243