

REFERENCES

1. Levey AS, Coresh J. Chronic kidney disease. Lancet. 2012; 379: 165-80.
2. Menon V, Sarnak MJ. The epidemiology of chronic kidney disease stages 1 to 4 and cardiovascular disease: a high-risk combination. Am J Kidney Dis. 2005; 45: 223-32.
3. Mana GL, Pizza F, Persici E, Baraldi O, Comai G, Cappuccilli ML. Restless legs syndrome enhances cardiovascular risk and mortality in patients with end-stage kidney disease undergoing long-term hemodialysis treatment. Nephrol Dial Transplant. 2011; 26: 1976-83.
4. Mucsi I, Molnar MZ, Ambrus C, Szeifert L, Kovacs AZ, Zoller R, et al. Restless legs syndrome, insomnia and quality of life in patients on maintenance dialysis. Nephrol Dial Transplant. 2005; 20: 571-7.
5. Gamaldo CE, Earley CJ. Restless legs syndrome: a clinical update. Chest. 2006; 130: 1596-604.
6. Al-Jahdali HH, Al-Qadhi WA, Khogeer HA, Al-Hejaili FF, Al-Ghamdi SM, Al Sayyari AA. Restless legs syndrome in patients on dialysis. Saudi J Kidney Dis Transpl. 2009; 20: 378-85.
7. Kawauchi A, Inoue Y, Hashimoto T, Tachibana N, Shirakawa S, Mizutani Y, et al. Restless legs syndrome in hemodialysis patients: health-related quality of life and laboratory data analysis. Clin Nephrol. 2006; 66: 440-6.
8. Unruh ML, Hartunian MG, Chapman MM, Jaber BL. Sleep quality and clinical correlates in patients on maintenance dialysis. Clin Nephrol. 2003; 59: 280-8.
9. Winkelman JW, Chertow GM, Lazarus JM. Restless legs syndrome in end-stage renal disease. Am J Kidney Dis. 1996; 28: 372-8.

10. Unruh ML, Levey AS, D'Ambrosio C, Fink NE, Powe NR, Meyer KB. Restless legs symptoms among incident dialysis patients: association with lower quality of life and shorter survival. *Am J Kidney Dis.* 2004; 43: 900-9.
11. Unruh M. Sleep Disorder in Chronic Kidney Disease. *Primary Psychiatry.* 2008;15: 57-63.
12. Johansen KL, Shubert T, Doyle J, Soher B, Sakkas GK, Kent-Braun JA. Muscle atrophy in patients receiving hemodialysis: effects on muscle strength, muscle quality, and physical function. *Kidney Int.* 2003; 63: 291-7.
13. Larsson BW, Kadi F, Ulfberg J, Aulin KP. Skeletal muscle morphology in patients with restless legs syndrome. *Eur Neurol.* 2007; 58: 133-7.
14. Giannaki CD, Sakkas GK, Karatzafiri C, Hadjigeorgiou GM, Lavdas E, Liakopoulos V, et al. Evidence of increased muscle atrophy and impaired quality of life parameters in patients with uremic restless legs syndrome. *PLoS One.* 2011; 6: e25180.
15. Painter P. Physical functioning in end-stage renal disease patients: update 2005. *Hemodial Int.* 2005; 9: 218-35.
16. Everson CA, Crowley WR. Reductions in circulating anabolic hormones induced by sustained sleep deprivation in rat. *Am J Physiol Endocrinol Metab.* 2004; 286: 1060-70.
17. Van Cauter E, Spiegel K, Tasali E, Leproult R. Metabolic consequences of sleep and sleep loss. *Sleep Med.* 2008; 9: 23-8.
18. Schlesinger I, Erikh I, Avizohar O, Sprecher E, Yarnitsky D. Cardiovascular risk factors in restless legs syndrome. *Mov Disord.* 2009; 24: 1587-92.
19. สุภาพร ณนกอม. โครงการวิจัย การประมาณความชุกของโรคไตรอร์บในประเทศไทย. สมาคมโรคไตรอร์บแห่งประเทศไทย
2552.

20. Haynes R, Winerls C. Chronic kidney disease. Basic science. 2010; 28: 525-9.
21. Levy J, Morgan J, Brown E. Oxford handbook of dialysis. Britain G, editor. Oxford University Press Inc; 2001.
22. Young E. Chronic renal failure. Shayman J, editor.: Philadelphia: J.B. Lippincott company; 1995.
23. Kallenbach J, Gutch C, Stoner M, Corea A. Review of hemodialysis for nurses and dialysis personnel. 2nd, ed. USA: Elsevier Mosby; 2005.
24. Krishnan AV, Kiernan MC. Neurological complications of chronic kidney disease. Nat Rev Neurol. 2009; 5: 542-51.
25. Vilar E, Frarrington K. Hemodialysis. CRF. 2011; 39: 429-33.
26. USRDSU 2004. Annual Data Report: Atlas of End-Stage Renal Disease in the United States. Bethesda, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases; 2004.
27. Nissenson A, Fine R. Dialysis therapy. 2nd ed. Philadelphia: Hanley & Belfus; 1993.
28. Painter P. End-Stage Renal Disease. In: Ehrman J, Gordon P, Visich P, Keteyian S, editors. Clinical exercise physiology. USA: Human Kinetics; 2003. p. 185-200.
29. Moore GE, Parsons DB, Stray-Gundersen J, Painter PL, Brinker KR, Mitchell JH. Uremic myopathy limits aerobic capacity in hemodialysis patients. Am J Kidney Dis. 1993; 22: 277-87.
30. Moore GE, Brinker KR, Stray-Gundersen J, Mitchell JH. Determinants of VO₂peak in patients with end-stage renal disease: on and off dialysis. Med Sci Sports Exerc. 1993; 25: 18-23.

31. Painter P, Messer-Rehak D, Hanson P, Zimmerman SW, Glass NR. Exercise capacity in hemodialysis, CAPD, and renal transplant patients. *Nephron*. 1986; 42: 47-51.
32. Kouidi E, Albani M, Natsis K, Megalopoulos A, Gigis P, Guiba-Tziampiri O, et al. The effects of exercise training on muscle atrophy in haemodialysis patients. *Nephrol Dial Transplant*. 1998; 13: 685-99.
33. Painter P, Carlson L, Carey S, Paul SM, Myll J. Physical functioning and health-related quality-of-life changes with exercise training in hemodialysis patients. *Am J Kidney Dis*. 2000; 35: 482-92.
34. Trenkwalder C, Paulus W, Walters AS. The restless legs syndrome. *Lancet Neurol*. 2005; 4: 465-75.
35. Sriphatphiriyakun T. Restless legs syndrome in uremic patients on chronic hemodialysis. *Med J*. 2008; 22: 496-504.
36. Winkelmann JW. Considering the causes of RLS. *Eur J Neurol*. 2006; 13 Suppl 3: 8-14.
37. Trenkwalder C, Paulus W. Why do restless legs occur at rest?- pathophysiology of neuronal structures in RLS. *Neurophysiology of RLS (part 2)*. *Clin Neurophysiol*. 2004; 115: 1975-88.
38. Bjorklund A, Skagerberg G. Evidence for a major spinal cord projection from the diencephalic A11 dopamine cell group in the rat using transmitter-specific fluorescent retrograde tracing. *Brain Res*. 1979; 177: 170-5.
39. Cervenka S, Palhagen SE, Comley RA, Panagiotidis G, Cselenyi Z, Matthews JC, et al. Support for dopaminergic hypoactivity in restless legs syndrome: a PET study on D2-receptor binding. *Brain*. 2006; 129: 2017-28.
40. Earley CJ, Connor JR, Beard JL, Malecki EA, Epstein DK, Allen RP. Abnormalities in CSF concentrations of ferritin and transferrin in restless legs syndrome. *Neurology*. 2000; 54: 1698-700.

41. Mizuno S, Mihara T, Miyaoka T, Inagaki T, Horiguchi J. CSF iron, ferritin and transferrin levels in restless legs syndrome. *J Sleep Res.* 2005; 14: 43-7.
42. Allen RP, Barker PB, Wehrl F, Song HK, Earley CJ. MRI measurement of brain iron in patients with restless legs syndrome. *Neurology.* 2001; 56: 263-5.
43. Earley CJ, P BB, Horska A, Allen RP. MRI-determined regional brain iron concentrations in early- and late-onset restless legs syndrome. *Sleep Med.* 2006; 7: 458-61.
44. Beard JL, Connor JR. Iron status and neural functioning. *Annu Rev Nutr.* 2003; 23: 41-58.
45. Allen RP, Earley CJ. Restless legs syndrome: a review of clinical and pathophysiologic features. *J Clin Neurophysiol.* 2001; 18: 128-47.
46. Walters AS, Ondo WG, Zhu W, Le W. Does the endogenous opiate system play a role in the Restless Legs Syndrome? A pilot post-mortem study. *J Neurol Sci.* 2009; 279: 62-5.
47. New trends in restless legs syndrome research. *Sleep.* 2006; 10: 147-51.
48. Ohayon MM, O'Hara R, Vitiello MV. Epidemiology of restless legs syndrome: A synthesis of the literature. *Sleep.* 2012; 16: 283-95.
49. Ondo WG, Vuong KD, Wang Q. Restless legs syndrome in monozygotic twins: clinical correlates. *Neurology.* 2000; 55: 1404-6.
50. Ekbom K, Ulfberg J. Restless legs syndrome. *J Intern Med.* 2009; 266: 419-31.
51. Allen RP, Picchietti D, Hening WA, Trenkwalder C, Walters AS, Montplaisi J. Restless legs syndrome: diagnostic criteria, special considerations, and epidemiology. A report from the restless legs syndrome diagnosis and epidemiology workshop at the National Institutes of Health. *Sleep Med.* 2003; 4: 101-19.

52. Walters AS. Toward a better definition of the restless legs syndrome. *Mov Disord.* 1995; 10: 634-42.
53. Merlino G, Valente M, Serafini A, Gigli GL. Restless legs syndrome: diagnosis, epidemiology, classification and consequences. *Neurol Sci.* 2007; 28: 37-46.
54. Montplaisir J, Boucher S, Poirier G, Lavigne G, Lapierre O, Lesperance P. Clinical, polysomnographic, and genetic characteristics of restless legs syndrome: a study of 133 patients diagnosed with new standard criteria. *Mov Disord.* 1997; 12: 61-5.
55. Montplaisir J, Boucher S, Nicolas A, Lesperance P, Gosselin A, Rompre P, et al. Immobilization tests and periodic leg movements in sleep for the diagnosis of restless leg syndrome. *Mov Disord.* 1998; 13: 324-9.
56. Michaud M, Poirier G, Lavigne G, Montplaisir J. Restless Legs Syndrome: scoring criteria for leg movements recorded during the suggested immobilization test. *Sleep Med.* 2001; 2: 317-21.
57. Michaud M, Lavigne G, Desautels A, Poirier G, Montplaisir J. Effects of immobility on sensory and motor symptoms of restless legs syndrome. *Mov Disord.* 2002; 17: 112-5.
58. Michaud M, Paquet J, Lavigne G, Desautels A, Montplaisir J. Sleep laboratory diagnosis of restless legs syndrome. *Eur Neurol.* 2002; 48: 108-13.
59. Haba-Rubio J, Sforza E. Test-to-test variability in motor activity during the suggested immobilization test in restless legs patients. *Sleep Med.* 2006; 7: 561-6.
60. Sadeh A, Hauri PJ, Kripke DF, Lavie P. The role of actigraphy in the evaluation of sleep disorders. *Sleep.* 1995; 18: 288-302.
61. Aukerman MM, Aukerman D, Bayard M, Tudiver F, Thorp L, Bailey B. Exercise and restless legs syndrome: A randomized controlled trial. *J Am Board Fam Med.* 2006; 19: 487-93.

62. Sakkas GK, Hadjigeorgiou GM, Karatzafiri C, Maridaki DM, Giannaki CD, Mertens RP, et al. Intradialytic aerobic exercise training ameliorates symptoms of restless legs syndrome and improves functional capacity in patients on hemodialysis: a pilot study. *ASAIO*. 2008; 54: 185-90.
63. Russell M. Massage therapy and restless legs syndrome. *Jbmt*. 2007; 11: 146-50.
64. Bjorvatn B, Leissner L, Ulfberg J, Gyring J, Karlsborg M, Regeur L, et al. Prevalence, severity and risk factors of restless legs syndrome in the general adult population in two Scandinavian countries. *Sleep Med*. 2005; 6: 307-12.
65. Bhowmik D, Bhatia M, Gupta S, Agarwal SK, Tiwari SC, Dash SC. Restless legs syndrome in hemodialysis patients in India: a case controlled study. *Sleep Med*. 2003; 4: 143-6.
66. Holley JL, Nespor S, Rault R. Characterizing sleep disorders in chronic hemodialysis patients. *ASAIO Trans*. 1991; 37: M456-7.
67. Winkelmann J, Stautner A, Samtleben W, Trenkwalder C. Long-term course of restless legs syndrome in dialysis patients after kidney transplantation. *Mov Disord*. 2002; 17: 1072-6.
68. Caspersen CJ, Powell KE, Christenson GM. Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. *Public Health Rep*. 1985; 100: 126-31.
69. Maud PJ, Fater C. Physiological assessment of human fitness. USA: Human kinetics; 1995.
70. Studenski S, Perera S, Wallace D, Chandler JM, Duncan PW, Rooney E, et al. Physical performance measures in the clinical setting. *J Am Geriatr Soc*. 2003; 51: 314-22.
71. Greenberg JS, Dintiman GB, Oakes BM. Physical fitness and wellness. USA: Joseph E. Burns; 1988.

72. Prentice WE. Fitness and wellness for life. USA: The McGraw-Hill; 1999.
73. Hoeger WWK, Hoeger SA. Principles and labs for physical fitness. Canada: Peter Marshall; 2002.
74. Johansen KL, Chertow GM, da Silva M, Carey S, Painter P. Determinants of physical performance in ambulatory patients on hemodialysis. *Kidney Int*. 2001; 60: 1586-91.
75. Johansen KL, Chertow GM, Ng AV, Mulligan K, Carey S, Schoenfeld PY, et al. Physical activity levels in patients on hemodialysis and healthy sedentary controls. *Kidney Int*. 2000; 57: 2564-70.
76. Beasley CR, Smith DA, Neale TJ. Exercise capacity in chronic renal failure patients managed by continuous ambulatory peritoneal dialysis. *Aust N Z J Med*. 1986; 16:5-10.
77. DeOreo PB. Hemodialysis patient-assessed functional health status predicts continued survival, hospitalization, and dialysis-attendance compliance. *Am J Kidney Dis*. 1997; 30: 204-12.
78. Curtin RB, Lowrie EG, DeOreo PB. Self-reported functional status: an important predictor of health outcomes among end-stage renal disease patients. *Adv Ren Replace Ther*. 1999; 6: 133-40.
79. Bohannon RW, Smith J, Barnhard R. Grip strength in end stage renal disease. *Percept Mot Skills*. 1994; 79: 1523-6.
80. Nitz JC, Burns YR, Jackson RV. Sit-to-stand and walking ability in patients with neuromuscular conditions. *Physiotherapy*. 1997; 83: 223-7.
81. Headley S, Germain M, Mailloux P, Mulhern J, Ashworth B, Burris J, et al. Resistance training improves strength and functional measures in patients with end-stage renal disease. *Am J Kidney Dis*. 2002; 40: 355-64.

82. Segura-Orti E, Martinez-Olmos FJ. Test-retest reliability and minimal detectable change scores for sit-to-stand-to-sit tests, the six-minute walk test, the one-leg heel-rise test, and handgrip strength in people undergoing hemodialysis. *Phys Ther.* 2011; 91: 1244-52.
83. Etnyre B, Thomas DQ. Event standardization of sit-to-stand movements. *Phys Ther.* 2007; 87: 1651-66.
84. Janssen WG, Bussmann HB, Stam HJ. Determinants of the sit-to-stand movement: a review. *Phys Ther.* 2002; 82: 866-79.
85. ATS statement: guidelines for the six-minute walk test. *Am J Respir Crit Care Med.* 2002; 166: 111-7.
86. Zugck C, Kruger C, Durr S, Gerber SH, Haunstetter A, Hornig K, et al. Is the 6-minute walk test a reliable substitute for peak oxygen uptake in patients with dilated cardiomyopathy? *Eur Heart J.* 2000; 21: 540-9.
87. Enright PL, Sherrill DL. Reference equations for the six-minute walk in healthy adults. *Am J Respir Crit Care Med.* 1998; 158: 1384-7.
88. Limpawattana P, Tiamkao S, Sawanyawisuth K, Thinkhamrop B. Can Rowland Universal Dementia Assessment Scale (RUDAS) Replace Mini-Mental State Examination (MMSE) for Dementia Screening in a Thai Geriatric Outpatient Setting?. *American journal of Alzheimer's disease and other dementias.* 2012; 27: 254-9.
89. Koufaki P, Mercer TH, Naish PF. Effects of exercise training on aerobic and functional capacity of end-stage renal disease patients. *Clin Physiol Funct Imaging.* 2002; 22: 115-24.
90. Endo F, Asakawa Y, Usuda S, Yamamoto T. Effects of daily walking exercise on chronic hemodialysis outpatients. *J Phys Ther Sci* 1996; 8: 1-4.
91. Painter P. Physical functioning in end-stage renal disease patients: update 2005. *Hemodial Int.* 2005; 9: 218-35.

92. The RLS Foundation Medical Advisory Board. Understanding iron and restless legs syndrome : A guide to help you control and manage your RLS. Restless Legs Syndrome Foundation. 2010; 13-4.
93. Mizuno S, Mihara T, Miyaoka T, Inagaki T, Horiguchi J. CSF iron, ferritin and transferrin levels in restless legs syndrome. J Sleep Res. 2005; 14: 43-7.
94. Deborah AB, Keith S, George MH. Physiological effects of exercise. The Board of Management and Trustees of the British Journal of Anaesthesia. 2004; 4: 185-8.