

MANAGEMENT OF FATIGUE/INSOMNIA IN PATIENTS WITH CHRONIC KIDNEY DISEASE

Fatigue is reported by 70% - 97% of people with chronic kidney disease^{1,2} Rates in the non-dialysis population are similar to rates in the end-stage renal disease population³ Causes are usually multi-factorial. Non-pharmacological strategies are recommended for at least 2 - 4 weeks before attempting pharmacological options.

Assessment

- Sleep symptoms (latency, total sleep time, early and/or frequent waking, daytime impact) and duration.
- Sleep hygiene assessment.
- Medical history for exacerbating conditions. e.g., obstructive sleep apnea, restless legs, pruritus, pain, mood disorder.
- Medication history for medications that may cause insomnia.
 - Minimize or substitute offending medications* if possible (see list below)
 - Discuss caffeine, alcohol, nicotine intake or recreational drugs

Non-pharmacological Strategies

- Promote good sleep hygiene measures:
 - Avoid caffeine after lunch.
 - Avoid alcohol and smoking, particularly during the evening.
 - Try not to eat a large meal close to bedtime.
 - Avoid using screens that give off light before bed. e.g. tablet, smart phone, ebook.
 - Create a sleep environment that is quiet, very dark and cool.
 - Do not go to bed until feeling sleepy.
 - Develop a regular and relaxing bedtime routine.
 - Follow a regular sleep schedule (wake up at the same time every morning and avoid napping during the day).
 - For more ideas, go to <https://sleepfoundation.org/ask-the-expert/sleep-hygiene>.
- Promote physical activity, both aerobic and resistance exercise.
- Consider referring to cognitive-behavioral therapy.⁵
- Acupressure therapy has been shown to improve sleep quality and duration.⁵
- If obstructive sleep apnea possible cause, refer for assessment and treatment.
- See BCPRA patient teaching tool on “Fatigue/Insomnia”.

Pharmacologic Options (Insomnia)

- Consider melatonin, 3 mg po HS⁶.
 - Note that there is NO standardization or regulation on natural health products in Canada.
- If fatigue/difficulty sleeping persists, refer to primary care provider for risk/benefit discussion

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re: short-term use of sleeping aids (i.e., 3 - 4 weeks). (Note: Prescription sleep aids such as trazodone, zopiclone, lorazepam, oxazepam do not require dose adjustment in CKD).

- Consider one of these sedatives:
 - Zopiclone 3.75-5 mg po HS PRN (do not exceed 5 mg dose in elderly, patients with hepatic or renal impairment or patients receiving potent cytochrome 3A4 inhibitor)
 - Trazodone 25-100 mg po HS PRN (if no orthostatic hypotension)
 - Short acting benzodiazepines: Temazepam 15-30 mg po HS PRN, Lorazepam 0.5-2 mg po HS PRN or Oxazepam 10-30 mg po HS PRN
 - **For Home HD patients on nocturnal dialysis, sedatives should be avoided.**
- Go to www.bcrenalagency.ca (Health Professionals > CKD) for information on costs of medications and whether coverage may be available through BCPRA, Pharmacare or Palliative Care benefit plans.

References

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2. Jhamb M, Weisbord SD, Steel JL, Unruh M. Fatigue in patients receiving maintenance dialysis: a review of definitions, measures and contributing factors. *Am J Kid Dis* 2008; 52: 353-365.
3. Jhamb M, Liang K, Yabes J, Steel JL, Dew MA, Shah N, Unruh M. Prevalence and correlates of fatigue in chronic kidney disease and end-stage renal disease: Are sleep disorders a key to understanding fatigue? *Am J Nephrol*, 2013; 38: 489-495.
4. Zalai D, Bohra M. Fatigue in chronic kidney disease: Definition, assessment and treatment. *CANNT J* 2016; 26: 39 - 44.
5. Yang B, Xu H, Xue Q, Wei T, Xu J, Ye C, et al. Non-Pharmacological interventions for improving sleep quality in patients on dialysis: systematic review et meta-analysis. *Sleep Med Rev* 2015; 23: 68-82.
6. Koch BC, Nagtegaal JE, Hagen EC, L Vander Westerlaken MM, Boringa JBS, Kerkhof GA et al. The effects of melatonin on sleep-wake rhythm of daytime haemodialysis patients: a randomized, placebo-controlled, crossover study (EMSCAP) *Br J Clin Pharmacol* 2009; 67: 68-75.

This randomized, double-blind placebo controlled trial involved melatonin 3 mg vs. placebo po HS for 6 weeks in 20 hemodialysis patients. Patients reported reduced sleep latency from 44.5 to 15.5 minutes (p=0.002) and improve sleep efficiency from 67.3% to 73.1% (p=0.01) after melatonin treatment.

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General References

- a) Bonner A, Caltabiano M, Berlund, L. Quality of life, fatigue and activity in Australians with chronic kidney disease: A longitudinal study. *Nurs Health Sci* 2013; 15: 360-367.
- b) Gusbeth-Tatomir P, Boisteanu D, Seica A, Buga C, Covic A. Sleep disorders: a systematic review of an emerging major clinical issue in renal patients *Int Urol Nephrol* 2007; 39: 1217-26.
- c) Novak M, Shapiro CM, Mendelsson D, Mucsi I. Diagnosis and management of insomnia in dialysis patients. *Sem Dial* 2006; 19: 25-31.