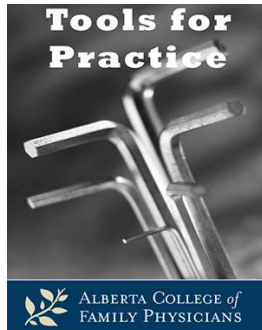


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Trouble Sleeping: Spend less time in Bed?

Clinical Question: For people with primary insomnia (not related to other conditions), can sleep restriction therapy improve outcomes?

Bottom Line: Sleep restriction therapy (SRT) improves time to fall asleep by 12 minutes and time asleep while in bed by 5-10%. Sleep restriction will improve sleep for one in every two to six patients compared to sleep hygiene alone.

Evidence:

Two systematic reviews: Missed studies and not combined.^{1,2}

- Seven Randomized Controlled Trials (RCTs):³⁻⁹ 20-179 patients (overall 35% male, mean age 62), follow-up 4-24 weeks, mostly compared to sleep hygiene^{4-6,8,9} and mostly self-reported outcomes. Findings:
 - Sleep efficiency (time asleep while in bed): In four of six studies, SRT statistically significantly improved over control:
 - Attained 79-87% with SRT versus 68-79% with control.
 - Sleep latency (delay getting to sleep): In three of six studies, SRT statistically significant:
 - Falling asleep 6-19 minutes faster than control.
 - Other outcomes:
 - Total time asleep generally not statistically different from control,^{3,4,6} but may be slightly lower with SRT in first eight weeks.⁹
 - Response, remission or "better" (variably defined):^{3-5,8} Number Needed to Treat (NNT)=2 for any improvement⁸ to NNT=6 for remission.³
 - Stopping hypnotic medications:⁶ 53% with SRT versus 15%, NNT=3.
 - Adverse events not reported.
 - Benefits persisted 6-12 months.^{3,4,6}
- Best RCT (highest quality and used primary care patients): All 97 patients got sleep hygiene advice and half randomized to SRT.⁴
 - SRT included sleep prescription from general practitioner given with one follow-up (then self-administered).
 - Results similar to above, plus:
 - Sleep quality score (0-21, mean 10.4): SRT improved score 3.9 versus 2.2 (clinically meaningful difference=3).

- Improved fatigue score 18% more than control.
 - Harms: Accidents 14% SRT versus 29% control, not statistically different.
- Multiple issues (examples): Studies underpowered,⁵⁻⁹ many outcomes analyzed,^{3,4,6-9} baseline characteristics unbalanced.^{3,8,9}

Context:

- Self-reported outcomes are frequently worse than results from actigraphy.^{3,4}
- Cognitive Behavioral Therapy (CBT) (with multi-components) is highly effective for insomnia.¹⁰
 - For example: CBT improves sleep efficiency 10%.
 - Comparing indirectly, z-drugs¹¹ improve sleep efficiency ~5%.
- SRT trims time in bed to time asleep. Full details are available in hand-outs for patients^{12,13} or for practitioners to complete with them.¹³⁻¹⁵

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Disclosure:

Authors do not have any conflicts of interest to declare.

References:

1. Kyle SD, Aquino MR, Miller CB, *et al.* Sleep Med Rev. 2015; 23:83-8.
2. Brasure M, MacDonald R, Fuchs E, *et al.* AHRQ Publication No.15(16)-EHC027-EF. Rockville, MD: Agency for Healthcare Research and Quality. December 2015. Available at: <https://www.effectivehealthcare.ahrq.gov/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productid=2164> . Last accessed: April 19, 2017.
3. Epstein DR, Sidani S, Bootzin RR, *et al.* Sleep. 2012; 35:797-805.
4. Falloon K, Elley CR, Fernando A 3rd, *et al.* Br J Gen Pract. 2015; 65:e508-15.
5. Fernando A, Arroll B, Falloon K. J Prim Health Care. 2013; 5(10):5-10.
6. Taylor DJ, Schmidt-Nowara W, Jessop CA, *et al.* J Clin Sleep Med. 2010; 6:169-75.
7. Lichstein KL, Riedel BW, Wilson NM, *et al.* J Consult Clin Psychol. 2001; 69:227-39.
8. Edinger JD, Sampson WS. Sleep. 2003; 2:177-82.
9. Friedman L, Benson K, Noda A, *et al.* J Geriatr Psychiatry Neurol. 2000; 13:17-27.
10. Trauer JM, Qian MY, Doyle JS, *et al.* Ann Intern Med. 2015; 163:191-204.
11. Lindblad A, Allan GM. Tools for Practice. Available at: https://www.acfp.ca/wp-content/uploads/tools-for-practice/1416848644_z-drugsfv.pdf. Last accessed: April 6, 2017.
12. Sleep restriction therapy. Kaiser Permanente Thrive. Available at: https://thrive.kaiserpermanente.org/care-near-you/northern-california/sanjose/wp-content/uploads/sites/7/2015/10/sleep-restriction-rev2_tcm28-557887.pdf. Last accessed: March 7, 2017.
13. Insomnia management toolkit: Bedtime restriction therapy. Drug and Alcohol Services South Australia. Available at: <https://www.sahealth.sa.gov.au/wps/wcm/connect/b4ccb7004033fe2599bcbbd30eb2c8cd/7+-+Bedtime+Restriction+Therapy-DASSA-April2014.pdf?MOD=AJPERES&CACHEID=b4ccb7004033fe2599bcbbd30eb2c8cd>. Last accessed: March 7, 2017.
14. Sleep restriction hand-out. Available at: http://supp.apa.org/books/Pediatric-Sleep-Problems/Sleep_Restriction.pdf. Last accessed: March 7, 2017.
15. Gofreed DL. Sleep restriction hand-out. Arlington Sleep Medicine. Available at: http://www.arlingtonsleepmedicine.com/pdf_files/ASM%20Sleep%20Restriction%20Therapy.pdf. Last accessed: March 7, 2017.

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