



Exercise Programming for Clients with Dysfunctional Sleep Patterns

By Jennifer Salter

Is it an urban myth that exercise improves sleep? No, according to the National Sleep Foundation's 2013 report *Sleep in America*. By polling adults aged 23-60, it was learned that:

- More than 75% of exercisers reported good or fairly good sleep in the weeks leading up to the poll, compared to 56% of the non-exercisers.

- The majority of vigorous exercisers—defined as those who participate in cycling, swimming, running, or any competitive sports—rarely experienced insomnia symptoms. Half of non-exercisers said they woke during the night, and 24% had difficulty falling asleep every night or almost every night.

- Paradoxically, the non-exercisers tended to feel the most “sleepy” on a regular basis and to have more symptoms of sleep apnea.

- Those who sat for less than eight hours per day were more likely to report “very good” sleep quality than those who sat for longer periods of time.

In the words of poll task force member Barbara A. Phillips, MD, MSPH, FCCP, “Exercise is beneficial to sleep. It’s time to revise global recommendations for improving sleep and put exercise...at the top of our list of healthy sleep habits”.

However, the relationship between sleep and exercise for clients who suffer from chronic insomnia is more complicated. Aerobic exercise performed during the day won’t translate into better sleep that same night, according to Kelly Glazer Baron, a clinical psychologist and director of the behavioural sleep program at Northwestern University Feinberg School of Medicine. “It’s a long-term relationship. You have to keep at it and not get discouraged.” Most studies on the daily effects of exercise and sleep have been done with healthy sleepers, and Dr. Baron’s research is the first to demonstrate that aerobic exercise during the day does not result in improved sleep that same night when people have pre-existing sleep problems. Moreover, while poor sleep does not alter aerobic capacity it does make exercise

feel much harder, which often prevents clients who are poor sleepers from adhering to an exercise program over the long term. Sleep and exercise have a positive influence on each other, and those who do not sleep well will probably not feel motivated to exercise.

So how does a client with insomnia reap the benefits of regular exercise on sleep patterns? *They must commit to an exercise program for 16 weeks.* Through an analysis of sleep data from women aged 57 to 70 from a 2010 clinical trial, Dr. Baron demonstrated the ability of aerobic exercise to improve sleep, mood and vitality over a 16-week period in middle-age-to-older adults with insomnia. Individuals with insomnia have a heightened level of brain activity and it takes time to re-establish a more normal level of activity that facilitates sleep. As opposed to medications which induce sleep rapidly, exercise is healthier because it may address the underlying problem. For older clients, particularly older women, who have the highest rate of insomnia of any group, implementing an exercise program may be the safest approach, because many sleep medications cause memory impairment and increase the risk of falling.

Exercise Specialist Recommendations:

- When performing an assessment, always ask the new client about sleep habits, patterns, or difficulties.
- Educate clients about the importance of recovery from exercise sessions, and make sure they understand that the adaptation process takes place during the recovery period, not during the actual exercise session. Quality sleep is an integral part of this process, as human growth hormone (which facilitates muscle fibre synthesis) is only produced during deep sleep.
- Along the same lines, make sure the client understands that sufficient sleep is required to reduce the risk of injury, and heal existing ones.
- When programming for a client with sleep challenges, take into

consideration that any type of training will feel much harder than for those who sleep well.

- Encourage seven to nine hours of sleep per night, depending on the client's individual requirements. Less than six-and-a-half hours of sleep per night leads to cumulative sleep deficit, which increases the risk of heart disease, diabetes, cancer, and more.

- Instruct clients on good sleep hygiene, which includes going to bed at roughly the same time each night, avoiding exposure to screens and bright light in the one to two hours before bedtime, sleeping in a very dark room, avoiding the consumption of large amounts of liquid in the evening, and engaging in quiet activities that promote relaxation. If the client is easily woken, earplugs are an option.

- Recommend that clients with sleep problems avoid daytime naps. If rest during the day is required, encourage quiet time with a book or magazine instead of sleep.

- Tell clients to lower the temperature before bed—a cooler room facilitates deeper sleep.

- Encourage the client with insomnia to persevere with exercise, as the impact of regular physical activity on sleep may not be realized for a few months.

Lastly, because sitting for less than eight hours per day appears to protect against sleep problems, encourage your clients to avoid long bouts of sedentary behaviour and incorporate more movement into their everyday lives.

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