

Appendix 7.7

Limiting the time spent in bed to actual sleep time

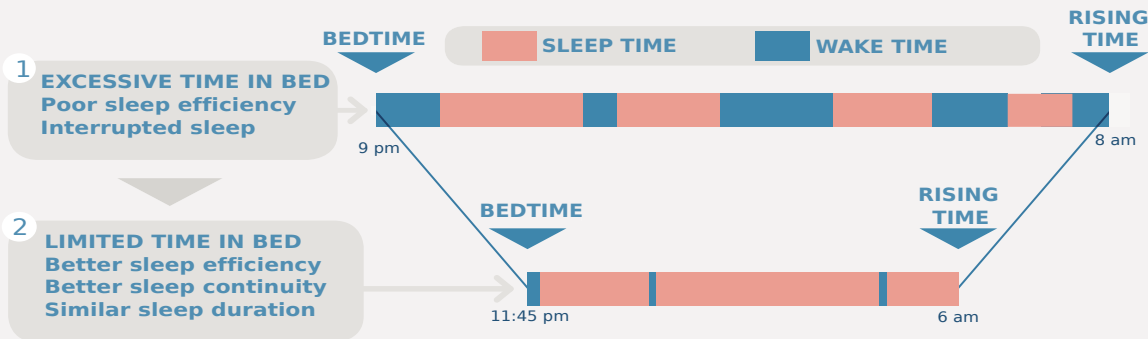


Limiting the time spent in bed to actual sleep time

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One of the strategies most commonly used to try to eliminate insomnia is to spend more time in bed, by going to bed earlier, getting up later, or taking naps. These practices can be beneficial in the short term. However, they can be detrimental in the long term: spending too much time awake in bed tends to fragment sleep and perpetuate insomnia. Indeed, while they are in bed yet not sleeping, many people start worrying or using that time to problem-solve. The solution is to limit the time spent in bed to actual sleeping time.

- This strategy is very effective for decreasing sleep fragmentation and increasing sleep quality;
- The initial effect is to produce a mild state of sleep deprivation, which makes it easier to fall asleep and improves the continuity of sleep through the night;
- In the beginning, the goal is to improve sleep quality and efficiency, but not necessarily to increase sleep duration, which can be achieved subsequently.



How to apply this strategy?

- 1 Determine the duration of your sleep window based on the amount of time slept.
- 2 Choose a set bedtime and rising time to define the sleep window.
- 3 Each week, adjust the sleep window based on your sleep efficiency and the sleepiness you experienced during the day.

Adapted from: Ouellet, M.-C., Beaulieu-Bonneau, S., Savard, J., & Morin, C. M. (2015). *Insomnie et fatigue après un traumatismecraniocérébral* : Manuel d'évaluation et d'intervention.



Limiting the time spent in bed to actual sleep time



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1 Determine the duration of your sleep window based on the amount of time slept

The sleep window is a period of time in which sleep is permitted, and outside of which sleep should be avoided.

The sleep window is defined by a set bedtime and rising time, and **it must be followed each time, whether during the week or on the weekend.**

The duration of the first sleep window is equal to the average number of hours slept each night over the past week or two weeks. You can estimate this duration based on your habits, or using the sleep diary if you have been using it.

For example:

DAYS	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
HOURS OF SLEEP	7:00	6:00	5:30	6:00	6:15	5:45	5:30

Average sleep time = (Total hours of sleep / Number of days) = (42 / 7) = 6 hours.

The first sleep window will be of six hours.



To avoid significant sleepiness during the day, the sleep window should never be less than five or six hours in duration, even if you generally sleep less than this amount.

2 Choose a set bedtime and rising time to define your sleep window.

These times will be set for at least one week: the duration between these two times will be equal to your sleep window duration as defined in Step 1.

For example, for a six-hour sleep window, possible bedtimes and rising times might include the following:

- 11:30 pm to 5:30 am
- 12 am to 6 am
- 12:30 am to 6:30 am

Apply the sleep window each night for one week.
You can subsequently readjust this window based on your sleep efficiency for the week.

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3 Each week, adjust the sleep window based on your sleep efficiency and the sleepiness you experienced during the day

After maintaining the sleep window for one week, you will need to evaluate it based on the following:

- your sleep efficiency, ideally calculated based on your sleep diary or estimated based on your actual sleep time and time spent in bed over the previous week;
- how you feel during the day (daytime sleepiness).

$$\text{SLEEP EFFICIENCY} = \frac{\text{Total sleep time (in minutes)}}{\text{Time spent in bed at night (in minutes)}} \times 100$$

If your sleep efficiency is **above 85%**
OR
 if you are very sleepy during the day (much sleepier than before you began this strategy).



Extend your sleep window by 15 to 20 minutes for the following week. You may decide to go to bed earlier or to get up later.

If your sleep efficiency is **below 80%**
AND
 you are not too sleepy during the day.



Reduce your sleep window by 15 to 20 minutes for the following week. You may go to bed later or wake up earlier, as long as you reduce the amount of time you spend in bed.

If your sleep efficiency is **between 80% and 85%**.



Maintain the same sleep window for another week.

What to expect?

- The side effect of this strategy of restricting time spent in bed is that you will feel more sleepy during the day. This is normal and temporary. After one or two weeks, you will realize that, in spite of spending less time in bed, you are functioning just as well during the day. Exercise caution if you need to drive or use hazardous machinery.
- Continue to adjust your sleep window each week until you achieve a satisfactory duration of sleep combined with good sleep efficiency (more than 85%). You may need to apply this strategy for several weeks (6 to 10) before achieving this result.

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