

## Sleep Alteration Instructions

The initial time in bed recommendation was designed to improve your sleep quality by consolidating your sleep. The best measure of the consolidation of your sleep is your sleep efficiency. Use the following formula:

$$\text{Sleep Efficiency} = \frac{\text{Average Time You Actually Slept}}{\text{Average Time You Spent In Bed}}$$

If your average sleep efficiency is  $\geq 85\%$  and you feel that you are not getting a sufficient amount of sleep for optimal functioning during the daytime, increase your allowed Time in Bed by 15-minutes, at either end of the night. You should stay on the new schedule for at least 7 nights before making changes.

If your sleep efficiency is  $< 80\%$ , decrease your fixed Time in Bed by 15 minutes, at either end of the night. However, you should not stay in bed less than 5.5 hours. You should stay on the new schedule for at least 7 nights before making changes.

If your average sleep efficiency is between 80% and 85% continue on your current schedule. When your average sleep efficiency does meet criterion A or criterion B for 7 consecutive days, you can extend or further restrict your time in bed according to the relevant rule.

Examples:

Over the past week, Joe reported an average total sleep time (at night) of 6 hours. Following the sleep consolidation recommendations, he spent an average of 6.5 hours in bed. Therefore, 6 hours (TST) / 6.5 hours (TIB) = 92.3%. With a 92.3% sleep efficiency, Joe is then asked if he has noticed any sensations of sleepiness (not tiredness) during the day. If so, he can increase his time in bed by 15 minutes to 6.75 hours for the next week.

Jane had a rough week and reported an average total sleep time of 5.5 hours over the past week, down from 6.5 hours the previous week. She spent an average of 7.0 hours in bed hoping to get more sleep. Using the formula  $5.5 / 7.0 = 78.6\%$ . With a sleep efficiency of 78.6%, Jane should decrease her time in bed to 6.75 hours for the next week.

Over the past week, Jim reported an average total sleep time of 5.75 hours with some good nights and some bad nights. His fixed time in bed was 7 hours during the past week, for a sleep efficiency of 82.1%. Following the recommendations above, Jim should continue to keep a fixed bed time of 7 hours for the next week.