

# Exercise & Sleep



**FIT TO THRIVE / F2T**

## How Does Exercise Help Sleep?

- **Thermoregulation:** Exercise increases core body temperature, and the subsequent post-exercise cooling mimics the natural temperature drop that occurs before sleep, promoting sleep onset and deeper sleep [\[1\]](#).
- **Circadian rhythm regulation:** Exercise acts as a zeitgeber (biological time cue) to help regulate circadian rhythms, including enhanced melatonin secretion and decreased cortisol (a stress hormone) [\[2\]](#).
- **Reduction of stress and anxiety:** Physical activity reduces psychological stress, which is a major contributor to insomnia and sleep disturbances [\[3\]](#).
- **Increased sleep pressure:** Exercise increases energy expenditure, which enhances homeostatic sleep pressure – the body's natural need for sleep. Greater exertion typically increases the sleep drive [\[4\]](#).
- **Anti-inflammatory and immune effects:** Physical activity enhances immune function and reduces inflammatory markers associated with poor sleep [\[5\]](#).

## When Is The Best Type And Intensity Of Exercise For Sleep?

Many studies have shown that a wide range of physical activities can improve sleep outcomes. Aerobic activity (e.g., brisk walking), resistance training, Tai Chi, and many other recreational activities have all been associated with improved sleep, regardless of whether the activity was completed independently, supervised, or in a group setting [\[6\]](#). Moreover, both moderate- and vigorous-intensity exercise have consistently been shown to improve sleep quality and reduce the need for sleep medication among those diagnosed with sleep disorders [\[6\]](#).

**The evidence is clear – physical activity, whatever the type or intensity, can help you sleep better.**

## When Is The Best Time Of Day To Be Active To Improve Sleep?

The best time of day is whenever suits you. If you've got time and energy before a shift, do it then. If you find it easier to accumulate activity at the station throughout the day (e.g., a 10-minute walk post-meal, a short bodyweight circuit), that's good too. If you have protected exercise time at a certain point or prefer working out late at night, go for it!

Concerns that exercise close to bedtime increases arousal and disrupts subsequent sleep are not supported by the evidence. In fact, research has found that evening exercise does not disturb sleep, and that exercising before bed may improve sleep outcomes such as sleep efficiency, time spent in deep sleep, and sleep onset latency [\[7, 8\]](#) – even when performed at high intensity [\[9, 10, 11\]](#).

The best way to make exercise a regular part of your routine, including your sleep routine, is to make it fit with your lifestyle. For fire fighters, this can be especially challenging. Shift work and unpredictable emergency calls throughout the night can limit when and how consistently exercise can happen at the station.

**The best part is that no matter what time you choose to be active, it'll help you sleep better.**

