"Sleep that knits up the ravelled sleave of care. The death of each day's life, sore labour's bath
Balm of hurt minds, great nature's second course, Chief nourisher in life's feast..." (From
Macbeth). The argument by Shakespeare that sleep repairs, restores, prepares us to meet each
day’s challenges is now grounded in sound scientific research.

Sleep research experts (Carskadon, 2011; Durmer & Dinges, 2005) find many reasons for teens
and young adults to get the sleep they need. Even when partially deprived of sleep teens and
young adults show the following symptoms:

- Increased incidence of depressed moods, mood swings, and irritability.
- Reduced ability to deal with stress.
- Increased fatigue, sleepiness, and confusion.
- Increased likelihood for tardiness and absences.
- Impairment of memory, judgment, and inhibit creativity
- Impaired immune system function, increasing susceptibility to illness and slower recovery
  from injuries.
- Increased risk for accidents (e.g., car accidents).
- Increased risk of metabolic and nutritional deficits associated with insufficient sleep,
  including obesity.
- Earn lower grades.

**Adolescent Sleep Phase Delay** – “starting around puberty and continuing into early 20s, the
circadian rhythm experiences a shift causing teens and young adults to naturally feel alert later
at night (i.e., difficult to fall asleep before 11:00 pm). In addition, the strongest circadian “dips”
tend to occur between 3:00-7:00 am and 2:00-5:00 pm, but the morning dip (3:00-7:00 am)
can be even longer if teens haven’t had enough sleep, and can even last until 9:00 or 10:00
am.” (Carskadon, 2011)

**Natural Circadian Rhythm Dips**
Some people experience a temporary lull in alertness in the afternoon. This is known as the
post-lunch dip which is a function of a drop in body temperature / neurochemical changes at
two different times of the day: about 2:00 AM and 2:00 PM.

**Sleep and Memory**
“Several studies have shown that information is reactivated on a cellular level during sleep....
That is, neurons that fire during task activity fire in a similar manner during sleep, and this
reactivation may be an underlying mechanism of consolidation. Research has further established
that a period of sleep can consolidate declarative memory, procedural learning, and perceptual
learning.... Sleep has also been found to increase resistance to interference in declarative
memory suggesting that offline processing may strengthen memory representations. (Fenn &
Hambrick, 2012)
**Sources:**
Carpenter, S. (2001). Sleep deprivation may be undermining teen health. Monitor, 32(9), 42.


