Blue Light Special:  
The “dark” side of phone use at night

The use of technology has increased our ability to communicate, do business, and be more efficient and effective with our time overall. However, how much is too much? We are all guilty of checking our e-mail, texting, or utilizing social media apps late into the night or right before we try to fall asleep. Do we know the danger we are putting ourselves in?

The common culprits of this danger are our cell phones. The light that our cell phones and other pieces of technology (i.e. tablets/iPads) emit is often referred to as “blue-light”.

“Blue light” poses significant threats to our health because of how the brain interprets it. This specific wavelength of light increases brain activity and therefore, when we utilize it prior to bedtime or as we are trying to calm our brains for rest, it is counterproductive. Our brains will be effectively “turned on” while we are sleeping and thus we will not reach the deepest sleep; the REM cycle. Without adequate time in the REM cycle, our bodies will be unable to produce enough HGH for adequate physical recovery and repair.

DID YOU KNOW?

The retinohypothalamic tract in the eye is the most sensitive to blue light stimulation because of the short wavelength of the light. The short wavelength of blue light appears relatively bright to the human eye, therefore impacting the circadian rhythm of our daily lives and sleep cycles.
STEPS FOR SNOOZE TIME

It is essential to develop a bedtime routine so that your body understands it is time to rest and relax. Follow these simple steps for the added benefit of rest.

• Follow a routine of the same actions each night prior to sleep

• Relax; start to turn “off” your brain

• Stretching before bedtime can be a good way to increase flexibility and recover.

• Hydrate; increasing appropriate fluids prior to bedtime can help filter and eliminate toxins from your body.

• Do not eat more than 2 hours prior to going to bed

• Elite athletes require 9-10 hours of sleep for optimum recovery

• Turn off technology; reduce screen time

• Utilize apps/programs like F.lux to filter the blue light from our screens

We already do not get enough sleep as it is and now we reduce the actual quality of that sleep by polluting our brains with “blue light”. Poor sleep quality and increased brain activity are two reasons why it is important to dramatically reduce or eliminate the use of technology screen time when recovering from a traumatic brain injury (TBI) or concussion.

Lastly, as our brain continues to comprehend these “blue light” waves, we are resetting our internal clock also known as our circadian rhythm. The brain “sees” these wavelengths as a very bright, pure light and associates it with awakening and alertness. If we continue to absorb blue light at night by utilizing technology, our body will reset our sleep cycles, which can lead to fatigue and in the long term; heart disease and uncertain death.

What can be done? We cannot (or will not) quit the use of technology all together so how can we use it more appropriately and safely in terms of our health? See the column on the right for tips on how to adopt a healthy bedtime routine for the highest quality and most quantity of sleep.
Endicott boasts one of the top Strength and Conditioning staffs at the Division III level with four full-time certified coaches. There are very few Division III schools in America with that amount. Endicott’s commitment to the development of their student-athletes is apparent and will only continue to grow with time.

Philosophy:
- Develop strength and speed
- Prevention of injury
- Build team chemistry/competition
- Master movements

Following the first 6-week period of our new pre-season strength program, Endicott Gulls have increased their strength astronomically. Female athletes have increased their maximum efforts in back squat, power clean, and bench press by 15% in six weeks. Male athletes have increased by 9%. Gulls are getting stronger during their seasons as well; with a 7% increase in maximal efforts in-season.

Our ability to throw weights around is improving. However, the development of student-athletes will come to a standstill if the behaviors and actions outside of the weight room do not change. Student-athletes need to fuel their bodies differently from others. Endicott Strength’s mission is to not only motivate and teach lifts, but to educate on the proper ways to fuel and rest. Keep eating. Keep hydrating. Put down the phone. Get more sleep. Invest your time in your bodies.

Content by Greg Hadley
Coke and a Smile?

WHAT HAPPENS ONE HOUR AFTER DRINKING A CAN OF COKE

1. FIRST 10 MINUTES
   10 teaspoons of sugar hit your system. (100% of your recommended daily intake.) You don’t immediately vomit from the overwhelming sweetness because phosphoric acid cuts the flavor allowing you to keep it down.

2. 20 MINUTES
   Your blood sugar spikes, causing an insulin burst. Your liver responds to this by turning any sugar it can get its hands on into fat. (There’s plenty of that at this particular moment)

3. 40 MINUTES
   Caffeine absorption is complete. Your pupils dilate, your blood pressure rises, as a response your livers dumps more sugar into your bloodstream. The adenosine receptors in your brain are now blocked preventing drowsiness.

4. 45 MINUTES
   Your body ups your dopamine production stimulating the pleasure centers of your brain. This is physically the same way heroin works, by the way.

5. 60 MINUTES
   The phosphoric acid binds calcium, magnesium and zinc in your lower intestine, providing a further boost in metabolism. This is compounded by high doses of sugar and artificial sweeteners also increasing the urinary excretion of calcium.

6. 60 MINUTES
   The caffeine’s diuretic properties come into play. (It makes you have to pee.) It is now assured that you’ll evacuate the bonded calcium, magnesium and zinc that was headed to your bones as well as sodium, electrolyte and water.

7. 60 MINUTES
   As the rave inside of you dies down you’ll start to have a sugar crash. You may become irritable and/or sluggish. You’ve also now, literally, pissed away all the water that was in the Coke. But not before infusing it with valuable nutrients your body could have used for things like even having the ability to hydrate your system or build strong bones and teeth.

TheRenegadePharmacist.com
Content based on article by Wade Meredith