

Dr. Greg Wells

# Dr. Greg's Tips for World-Class Performance & Health

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# Sleep Soundly

## What does sleep do?

Sleep optimizes our brain structure, repairs damaged cells and prepares our body for another hectic day. It is a dormant state when the activity of our brain's cortex reduces by 40 percent. 75% of our night's sleep is in the NREM stage when our body and muscles relax; temperature, blood pressure, heart rate and breath rate drop; and cells and tissues grow and repair. The other 25% is called the REM stage, when our brain is active, energy is supplied to the body and our eyes dart back and forth. An adult who stays in the NREM stage for 6 hours is definitely getting a good sleep. Overall sleep duration is relative to the age of a person. A child of 3-5 years should have at least 11 to 13 hours, teenagers 8-9 hours and adults 7-8 hours of good sleep.

## Sleep better to eat Better

Lack of sleep also disrupts the hormones that control your appetite, which can lead to obesity. **People who sleep less than six hours per night have almost double the risk of obesity compared to those who sleep six hours or more.**

We are in the midst of a worldwide obesity epidemic. We are also sleeping less than we ever have in history. Amazingly, those two problems are connected. Sleep helps regulate the amount of leptin and ghrelin in your body. Those are hormones that help to control and manage your appetite and satiety. So if you sleep better, you're better able to avoid cravings for sugar and high fat foods! Want to lose body fat? Get more sleep.

## Wash your brain

One of the coolest studies I've seen in a long time was released last year by Dr. Maiken Nedergaard, co-director of the Center for Translational Neuromedicine at Rochester Medical Center. Dr. Nedergaard's team showed that during sleep, the size of neurons in the brain is reduced by up to 60%. This creates lots of space between your brain cells. Then during sleep, the glymphatic system

cleans the metabolic waste from the microscopic spaces between the neurons in your brain.

[Check out Jeff Iliff's TED talk on the subject here.](#)

## No screens before bed

The very first thing to do if you want to make sure you sleep well is to get rid of your TV – if you have one in the bedroom. I realize this can be a huge change, but having a massive light that flashes at you at 240 frames per second is a surefire way to keep you awake. 61% of people fall asleep with the TV on. And that is one main reason why we are not sleeping.

Melatonin (a hormone that helps regulate sleep) is produced by your pineal gland, which is located deep inside your brain and is very sensitive to light. Because the pineal gland responds to light via neurons that project from your eyes, you have to ensure that you are in a dark space while you sleep so that the pineal gland can release the right amount of melatonin at the right time to help you sleep better. Television, iPads, mobile phones, e-readers and other electronics all compromise your ability to fall asleep and stay asleep. So you might need to cut out the late night talk shows or YouTube clips and pick up a good book instead.

## Be careful of caffeine

Caffeine is a good option in the morning when you are getting fired up for important tasks of the day. But because it stays in your system for six hours or more, a good rule to follow is to avoid it for eight hours before you want to fall asleep – after roughly 2 p.m.

And remember to watch out for other sneaky sources of caffeine. Decaf java can have up to 20 milligrams of caffeine in a cup, and tea, pop, chocolate, weight-loss products, pain relievers, energy drinks, and even some cold and flu medications – especially the daytime kinds – are all to be avoided for a good night's sleep.

## Happy Napping

Sometimes when you take a nap, you can wake up groggy and sluggish. You might even feel worse than when you fell asleep. If you wake up while in stages 2, 3 and 4, you face “sleep inertia” (how sleep scientist Sarah Mednick describes the inability to shrug off sleep), because in these stages, the brain is working to recover and regenerate, not to function in a waking state.

So if you want to have a rejuvenating nap, go for a short 15-minute power nap so that you wake up before falling into the deeper levels of sleep. Or alternately, allow yourself the full 90 minutes to complete all the sleep cycles.

# Eat Smarter

## Get Hydrated

Water makes up 80% of your blood's volume and 75% of your brain's matter. With a fluid loss of only 2% – which is incredibly common on a typical day at the office – your cognitive function begins to decline. You experience headaches, weakened memory, impaired concentration and deteriorating problem-solving skills.

The solution? **Water your brain** – drink more! A lot more. You need at least half your body weight in ounces of water each day. For a 150lb adult, that's about 75oz or 2 litres. For a 200lb adult, that's about 100oz or 3 litres. And if you exercise, swelter in the heat, shiver with cold or experience stress, you need even more.

## Eat 5-6 times / day

Our bodies turn the food we consume into the energy we need to get us through the day, whether

catching the morning train, presenting ideas in meetings or exercising on our lunch hour. We require a continuous supply of energy throughout the day. However, research shows that North Americans eat most of their food in the evening. These calories go to waste, packed away in fat storage while we sleep. The best way to fuel your day is to eat 5-6 small meals at regular intervals (set an alarm if needed).

The bottom line is that there are many ways to eat well, but if we let ourselves get hungry, we make poor choices and tend to eat too much at night. So don't let yourself get hungry!

## Avoid simple sugars

When we're hungry, our bodies crave the quickest supply of fuel: simple sugar and starches. It's the bagels, crackers, cookies, chocolate, and muffins that make us drool when hungry. When we eat these foods, glucose quickly rises in our

bloodstream – for a short energy high – only to then be rapidly cleared away by insulin, since sugar spikes are dangerous. Insulin stores all the glucose as fat, generally faster than we can burn it for energy. Which means our blood sugar is now low, and we are hungry and tired again, even though we just had a starchy snack. The hunger-and-craving, up-and-down energy cycle is now in full swing.

As a rule, avoid food with sugar in the top five ingredients. Once you start reading labels, you'll be astounded at how many products are packed with sugar. If you cannot avoid the sugar, pair it with fat, fibre or protein to avoid the energy plummet that follows.

## Eat Nutrient Dense Food

I want to give you an easy-to-follow criteria for choosing foods that will give you the most health and performance benefit while helping you avoid the various preservatives, pesticides, genetically-modified ingredients and nutrient-poor crops out there.

Consider this formula: **H = N / C**, which means that health = nutrients per calorie consumed. Dr. Joel

Fuhrman offers this wisdom in his book *Eat to Live*, and it is a great way to think about nutrition. Your goal is to eat nutrient-dense foods while avoiding calorie-dense foods. For example, skip the muffins and bagels and choose protein and vegetables. Olympians know to do this, and it helps all of us too.

You could get a **H = N / C** tattoo. Or at least, you could write the formula on a stickie and post it on your desk. It's worth thinking about on a daily basis.

## Eat Superfoods

I recommend adding specific foods that are called "superfoods" to your diet because of their significant health benefits ranging from cancer fighting to pain relief. Here are my top 5:

### 1) Sprouts

Sprouts of lentils, clover or alfalfa have more enzymes, vitamins, minerals and amino acids than almost any other food on Earth!

### 2) Chia seeds

Nutritional analysis done on these tiny seeds reveals that they are the highest plant source of Omega 3 fatty acids that exists on the planet.

### 3) Spirulina

Spirulina is packed with minerals, and it contains every essential amino acid humans need.

#### **4) Pomegranate Seeds**

There is no other fruit with as much cardio-protective benefit as the pomegranate.

#### **5) Turmeric**

The benefits of the active ingredient, curcumin, are almost endless.



# Move More

## Exercise for your Brain

Who wants a better brain? You do!

Here are a few things we know about how exercise can improve concentration, learning, focus and memory, and can even prevent and treat mental illnesses.

1. Increasing your physical activity results in reduced stress levels and helps your body deal with the hormones that are released when you're under stress.
2. Increased blood and oxygen flow to the brain from exercise promotes the production of new cells and neural connections in the areas of the brain responsible for learning, memory, problem solving and creativity.
3. Exercise stimulates the release of endorphins in response to pain or stress. Endorphins lead to feelings of euphoria and happiness.

Harvard psychiatrist Dr. John Ratey explains these ideas in his book *Spark: The Revolutionary New Science of Exercise and the Brain* (check it out at <http://www.sparkinglife.org/>). He says, "Physical activity sparks biological changes that encourage brain cells to bind to one another. The more neuroscientists discover about this process, the clearer it becomes that exercise provides an unparalleled stimulus, creating an environment in which the brain is ready, willing, and able to learn."

## Don't just Exercise - Train

Whenever our muscles are exposed to a level of effort or exertion that is just beyond their current limit, they register it as stress. Good stress! They then respond by building new tissues that will be more capable of handling that particular stress next time.

The key here is that we adapt when we push past our current limits. We get stronger when we gradually lift heavier weights or do more reps of an exercise or extend our activity time. Our endurance increases when we walk or run an extra kilometre or two. Our flexibility improves when we go to yoga once a week

in addition to our daily stretches. No matter what you do, your fitness level will improve based on your ability to push yourself.

You don't have to be an elite athlete to push yourself!

## Why exercising outside may be better for your health

If you are increasing your exercise and activity, that's great; more physical activity will help your muscles, blood, heart and lungs – pretty much everything in your body. I find that getting outside to exercise is so much better than going to the gym. I go to the gym and I like it, but I really love running on trails. Think about running on the treadmill for an hour or going out and running trails for an hour.

What's amazing is that simply looking at pictures of nature can lower your blood pressure, stress and mental fatigue. That's how powerful nature can be. So if you're reading this at the office, change your desktop to a nature scene. And preferably a nature scene that includes water – research has shown that images containing water are more restorative than those without. See how this shot makes you feel.

But if you can get outside, by all means get out there. Here's more about why this should be part of your health, energy and performance-enhancing life.

Exercising in nature has benefits that go above and beyond the benefits you gain by exercising indoors. Research has shown improvements in mental well-being, self-esteem and can even help with depression. This might be especially important for that moody teenager in your life, and it also explains why my wife kicks me out of the house to go on a trail run when I'm stressed out from a crazy day at work. I've found that trail running seems to help me decompress much better than running on a treadmill or even on city streets, and the research backs this up as well. Being exposed to plants decreases levels of the stress hormone cortisol, decreases resting heart rate and also decreases blood pressure.

These studies are really interesting because we often think of exercise as only being good for our bodies. It turns out that exercise can be just as good for our brains and our minds, and that getting outside and exercising in nature might amplify the benefits. One of the challenges that we are faced with is staying motivated to exercise. About half of people who join a gym don't stick with it beyond the first year. But people who exercise outside tend to stick with their exercise programs more consistently than those

who train indoors, according to a study done in 2004. So if you're having trouble being consistent, consider adding an outdoor workout to your routine.

Another surprise benefit of getting outside and into nature is that exposure to plants like trees can improve your immune system. Scientists think that airborne chemicals that plants emit to protect themselves from fungus, bacteria and insects (these chemicals are called phytoncides) may also benefit humans. In a study published in 2007, people who took two-hour walks in a forest had a 50-per-cent increase in the levels of their natural killer cells. They sound scary, but they're your cells that circulate through your body and kill bacteria, viruses, fungus and other invaders.

It also turns out that, if you prefer walking and light activity to running or more intense activities, you're in luck. Walking in nature improves measures of revitalization, self-esteem, energy and pleasure, and decreases frustration, worry, confusion, depression, tension and tiredness far more than light activity indoors does, according to the latest evidence. Running outdoors, however, does not seem to have a greater impact on emotions or mood than running inside, maybe because running and more intense activities cause the release of endorphins that can cause feelings of elation and exhilaration, regardless of where you run.

So if you want to feel better, just get outside: Try gardening, heading to the beach or a lake on the weekend or going for a bike ride, and don't worry about whether or not you walk or run.

# Think Clearly

## Get Focused

There are few instances in sport that can compete with that moment when an elite pitcher and clutch hitter square off during the playoffs with a game on the line. The pitcher's eyes focus on the target while he blocks out the crowd, the TV cameras, and the crushing idea that this is a career-defining moment. The hitter breathes deeply to stay calm and relaxed while trying to remain on edge so he can deliver explosive power and energy at the precise moment. Both athletes are living entirely in the instant without thinking about the past or the future.

To perform at our best we need to make sure that we block out any space except the one we're working in and any time except the present.

## Single Tasking

Focus is a key element for success in any discipline – music, sports, drama or business. Yet we live in the age of distraction. We have e-mail, social media, text messages and YouTube all competing for our attention, not to mention the job we are supposed to be doing.

Yet we try to multitask all time. When I ask people if they can carve out one hour each day to focus completely on their most important work with no distractions, I often get panicked stares. Yet world-class performers in all disciplines make this a key part of their daily routines. That's how they stay in their Zones. Jeff Weiner, CEO of LinkedIn, takes two to three hours each day to reflect, think and focus on the strategic direction of his company. If the CEO of one of the largest social networks in the world can do it, I think we can as well.

## Use Cue Words

There are specific tools you can use to help you focus and perform better. Skier Alexandre Bilodeau used a technique sport psychologists call **cue words** at the 2010 Vancouver Olympics to help him win a gold medal. The pressure of the moment was absolutely huge. You can watch the run here: [Alexandre Bilodeau](#).

As he stood at the top of the moguls run looking down at the course, the potential for distraction was massive. To either side of him down the course were photographers and video cameras. Down at the bottom of the run were 10,000 cheering fans.

Breaking down your performance into very small manageable components and then simplifying those components so much that you can describe them in one word is a powerful way to make sure that you concentrate and focus on the elements of your life that matter to you.