

The “Z” Factor Part II - Slumber dynamic

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Abstract

After last month's article I sincerely hope you have a better understanding on the necessity of a good night's sleep! If you haven't read it you can access it [here](#). I can't emphasize enough how important getting sufficient, quality sleep is to making consistent gains from all your efforts in the gym. Not to mention all the extensive, hardcore, dieting tactics you use.

After all we spend one-third of our lives sleeping so use it to your advantage!

It's the goal of these series of articles to reach out to an aspect of body building that is being reduced to a sub-standard of training and nutrition; to refuel you on the importance of a dynamic slumber. Make no mistake about it our mortal foe, homeostasis, is using this latest tactic to rob you of gains and take away what is rightfully yours...More MASS!

A defeated enemy

The enemy is literally underfoot! Homeostasis is a defeated foe! Don't let him rear his ugly head in your body building life! He knows that, hey you may have the training and dieting aspect of bodybuilding down pat, but if he can get you through sleep deprivation, and steal your growth, he will. Don't even let him talk to you!

"Go ahead, stay up another few hours, it won't hurt you!"

"What? You're going to have a long day and won't be getting much sleep? Don't worry about the fact that your protein shake could be more anabolic if you ate clean. Not to mention the fact that your lack of sleep will cause your body to enter a much more catabolic state after a workout. Have that piece of cake!"

This is the same inner voice that says,

"I know you could get another rep out on that set of squats but re-rack the bar, it hurts too much!", or

"Oh no, not another protein shake!"

If you hear these temptations, stomp them out! Remember you have the power to deny that punk! Don't let his sly gestures enter your mind!

The sleep cycle

Going through your bodies desired number of sleep cycles is vital to a wholesome nights sleep. Last month we dealt mostly with the sleep cycle and its value to a nourishing night's snooze.

In summary of the sleep cycle, there are five distinct sleep stages that can be measured by polysomnography:

Sleep includes two important segments: 1. Non-rapid eye movement (NREM) sleep and 2. Rapid eye movement (REM) sleep. These phases alternate in cycles about every 90 to 110 minutes. This cycle is repeated an average of 4 to 6 times per night.

Segment 1.

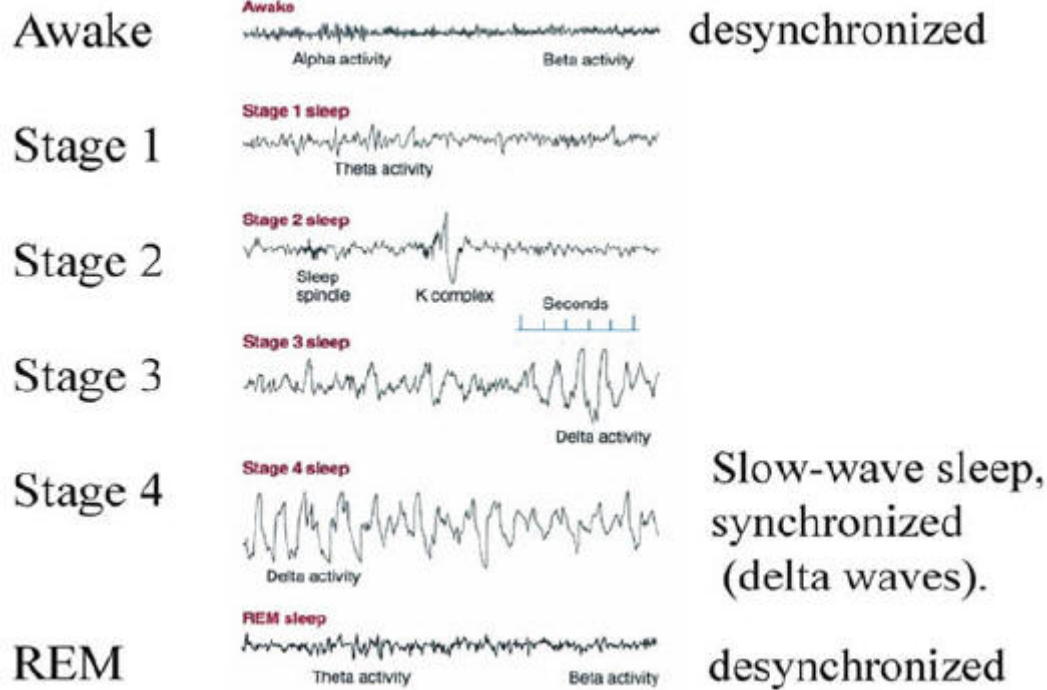
NREM, also called the "quiet state", can be broken down into several smaller stages:

- Stage 1: Transitional stage; no recovery or restorative value. Small brain waves are produced, the muscles of the body relax, and breathing becomes smooth.
- Stage 2: Beginning to drift into sound sleep; fragmented thoughts; images pass through mind; can't see, even if eyes open. Bodily functions continue to slow and larger, slower brain waves are produced.
- Stages 3 & 4: Delta or slow wave sleep; deepest sleep; restorative sleep. True rest is achieved, as the brain produces its slowest, largest waves, called delta waves, critical for physical rejuvenation. Stage 4 is the deepest, most restorative sleep stage. Mental recovery; blood directed to brain. Growth hormones, protein synthesis, immune function maintenance.

Segment 2.

REM sleep, the important sleep phase where dreaming occurs, occupies 20-25% of a normal sleep period. REM is the most critical time for mental rejuvenation.

The diagram below shows brain waves that are associated with that particular stage of sleep:



What is a slumber dynamic?

Simply put it's a state your body is in when you're batteries are fully charged. It's when your body is fully rested, revved up and ready to go! It's the feeling you have when you want to tear down the gym doors and soar to new heights at the squat rack, or pick up those dumbbells that were "just too heavy" last month. It's that feeling that "All things are possible, to those that believe", that motivates you to tear down boundaries and reach for new heights!

I have tons of confidence that adequate sleep can bring you those feelings of conquest on a regular basis. Last month we covered the backbone of sleep, its essence so to speak. This month I want to give you tactics for slumber dynamic. These will better help you reach new heights in your training, and new anabolic stages in your dieting.

I contemplated several ways to go about this. In my search I went through some older articles of Beyond Failure (A great source for inspiration for writing or just looking for motivation when getting ready to hit the gym) and decided the best way to tackle this issue was through one of Jacob's infamous styles, a hardcore question and answers session.

Several board members have asked me specific questions about sleep, many of the questions were general, basic questions about sleep; while others were more complicated and specific. However, they are all important and awesome questions! I began compiling all these questions and sought out the answers. This article will be a compilation of those questions and the answers to them. And for all those that PM'd me regarding sleep questions the answers given here have been expanded on quite a

bit! A few of the questions are ones that I just added in as I felt they were important for understanding certain concepts.

I have no doubt they will be of major importance to increasing the quality of your slumber dynamic!!!!

Hardcore questions and answers...Everything you wanted to know about sleep and MORE!

Q1. How much sleep should I get every night?

A. The answer to this question varies for each individual. On average, people need somewhere between 7 and 10 hours of sleep each night. Young people (ages 12-25) need even more, probably between 8.5 and 9.25 hours per night. For hardcore bodybuilders the average should be higher, ranging from 8 to 9.25 every night!

A good way to find out how much sleep you need is to go to sleep at the same time each night and see what time you naturally wake up without an alarm.

Q2. What are some symptoms of sleep deprivation?

A. Many people are tempted to pull an all-nighter to finish work, study for an exam or prepare for an important presentation. Here are some symptoms of sleep deprivation that may help you think twice about skipping sleep before an important event.

Daytime drowsiness and nodding off during sedentary activities (micro sleeps- these are times during the day in which you just drift off into sleep, or **brief episodes of unintended sleep**. If you are getting adequate sleep these should never occur.)

Weight gain through consumption of high-sugar foods.

Mood shifts, including depression, increased irritability, lack of interest in socializing

Stress, anxiety and loss of sense of humor

Reduced immunity to disease and viral infection

Impaired memory functioning

Reduced ability to handle complex tasks

Reduced ability to think logically, critically

Reduced ability to analyze new information

Reduced decision-making skills and vocabulary

Weight gain through consumption of high-sugar foods.

Reduced motor skills and coordination

Reduced productivity is the result, including losing the ability to concentrate, remember, handle complex tasks, and think logically, assimilate and analyze new information, make decisions, communicate, think creatively. Motor skills and coordination are also reduced. You can just imagine the impact this is having on your gym sessions!

A recent study proved that sleep is critical in righting disease! Dr. Michael Irwin, at the Veterans Affairs Medical Center in San Diego, studied a group of healthy individuals who stated they usually slept at least seven hours each night. Tests indicated that each individual had normal white blood cell counts. Irwin disrupted the sleep patterns of the group by waking them at 3:00 a.m. He kept them awake until 7:00 a.m., then again measured their white blood cell counts. These natural infection and disease-fighting cells dropped 28 percent!

Q. 3. How do you know if you are sleep deprived?

A. The Following are some good indicators that you are, in fact, sleep deprived:

Needing an alarm clock to wake up (more on that coming later!)

Getting out of bed in the morning is a struggle

Feeling tired, irritable, or generally stressed out

Trouble with concentration or remembering

Falling asleep while watching TV in the day time, in meetings, lectures, or warm rooms. Now I don't mean day dreaming but actual micro-sleeps.

Falling asleep after heavy meals

Falling asleep within 5 minutes of going to bed

Needing to sleep extra hours on the weekend

If any of these variables describe your behavior, chances are you're probably sleep deprived. You may feel that you are performing effectively, and cannot afford to get more sleep because of the requirements of your busy daily routine. However, the consequences of sleep deprivation are very real, and being motivated to overcome its effects is just not enough.

Dr. Maas (professor and past chairman, Department of Psychology, Cornell University, a renowned sleep expert) says that "**often we are totally unaware of our own reduced capabilities because we become habituated to low levels of alertness.**"

When I first read that I got a new respect for sleep! We can become so "used" to little sleep that we don't even know we aren't performing at our max! Just imagine with enough sleep you might add weight and reps to all your exercises literally overnight!

Q.4. How can I get more quality sleep?

A. People can sleep in all kinds of settings, but creating an environment in your bedroom that is favorable for sleep can actually have an impact on the quality of your sleep. Think of your bed as a growth focal point and treat it as such!

Make sure your bedroom is free of loud or disturbing noises. Any sound that surpasses seventy decibels can stimulate your nervous system and reduce your rest, and sudden noises can elevate your blood pressure. Sounds that increase or decrease in intensity cause your heart rate to rise. Some common culprits are leaky faucets, sirens, late-night parties, and barking dogs. You can have sound and sleep, in fact this is a great way to help beat insomnia, but the sounds should be low and consistent to promote better sleep.

Too much light can prevent you from getting better sleep too. Try to prevent light from leaking into the bedroom as much as possible, either through the use of curtains or mini-blinds. Heat can also be a problem. The ideal sleeping temperature is about 65 degrees. If your bedroom is too warm, or for that matter, too cold, sleep can be disturbed. Rooms that are too warm can even induce nightmares! Weird huh!

Make sure that what you wear to bed is comfortable and appropriate to the season. Bed sheets should be clean, cool, and soft. It is best to buy the highest thread count sheets you can afford, because the higher the thread count, the better the fabric, and the more comfortable you will feel!

Pillows are very important to sleep, both for comfort, and for helping you maintain a comfortable, healthy sleep posture. It should support your neck and head properly, and since the type of support needed will vary based on your size, sleep positions, and mattress, it is best to purchase a pillow that allows you to shape it to your unique contours. Feather pillows are the most comfortable and durable, and make a good long-term investment.

Finally, your mattress may have the biggest impact of all on how well you sleep. If your mattress shows signs of aging by having soils, stains, and tears, is uncomfortable compared to a new mattress, it is time to get a replacement.

Q. 5. How can I become more alert, productive, and energetic through sleep?

A. The following golden rules of sleeping can help you get the most out of your slumber dynamic patterns!

Get an adequate amount of sleep every night.

Chances are you are NOT getting a sufficient amount of sleep. Research shows that most people need to get a minimum of sixty to ninety minutes more than they get

now. When volunteers in a recent study were allowed to sleep uninterrupted, they consistently slept an hour or more than usual.

How to determine your required amount of nightly sleep:

The amount of sleep you need is determined mostly by heredity. Most people need at least eight hours, although a very small percentage will need less. You can determine how much you need by going to bed at least eight hours before you need to wake up for a week. Slowly up the total amount of sleep you get until you don't need an alarm clock to wake up on time, you never find it difficult to get out of bed in the morning, and you are not tired during the day. That is your optimum amount of sleep.

Establish a regular sleep schedule.

Going to bed at the same time every night, and waking up at the same time every morning, is important for setting and stabilizing your internal sleep-wake clock. If you begin establishing a regular sleeping pattern, the time you spend sleeping will synchronize with the "sleepy phase" of your biological sleep clock, leading to increased alertness during the day.

Studies have shown that people who keep a regular sleep schedule are significantly more alert than those who sleep the same amount of time, but at differing hours across the week. They also show that people with irregular sleep schedules are more likely to experience not only lower levels of alertness, but more mood shifts as well.

Although it is tempting, don't change your sleep schedule on the weekends. You will just be giving yourself a form of jet lag just in time for Monday morning, and increase the chances of experiencing insomnia. If you do stay up later for a social event, get up at your regular time and tackle the sleep debt with a nap.

Don't worry if it takes a while to get into a sleep routine. Routines take time. Think of it as a body building routine. You have to work up to it. You may need up to four weeks. Change takes time. Sleep on it!

Make up for lost sleep.

Getting one less hour of sleep per night for seven days will have the same effect as staying awake for twenty-four hours once a week! That blew me away the first time I read that! Also, sleep debt is cumulative, and needs to be paid back. Think of it like a bank account that always has to stay balanced.

You cannot replace lost sleep all at once. You can realistically increase your total sleep time by two to four hours per day. When you are sleeping longer to catch up, try to do so by going to bed earlier rather than sleeping later. You do not want to shift the waking time your biological clock has established, because you will have to shift it back, and you will also find it difficult to go to bed at a reasonable hour.

Do not plan to make up for the week's sleep debt by sleeping more on the weekends. It doesn't work, and will only disrupt your sleeping patterns all over again. If you are paying back a sleep debt by napping, try to nap every day, and do not nap too long.

Get continuous sleep.

For sleep to be able to work its growth magic, you need to get it in a continuous block. Disrupted sleep is not restorative because you do not proceed through the sleep cycles in the same way, and may not get enough deep, delta-wave sleep, or REM sleep. This may sound crazy, but six hours of continuous sleep is actually better than eight hours of fractured sleep!

Q. 6. Is napping beneficial?

I firmly believe power napping can have great benefit to a body builder!

- The risk of heart disease and diseases in general can be decreased by regular thirty-minute naps.
- Naps enhance your ability to pay attention to details and to make decisions. "Should I go for that extra rep or not?"
- Naps taken about eight hours after you wake are better than adding that time to already adequate nocturnal sleep. So if you're getting enough sleep at night, its better to get extra sleep through naps than just adding the time to your regular sleeping patterns.
- Naps improve mood and alertness. Both of which can affect your lifting!
- FYI- Europeans and Latin Americans, most of who nap regularly, score better on stress tests than Americans. And we all know how stressful life can be! If I'm having a stressful day, I find a quick 25 minute nap works miracles!

You should nap for twenty to thirty minutes. Otherwise, you will enter deep sleep and find it difficult to wake up. If your sleep debt is so great that you require a longer nap, or just want some extra recovery time try to sleep for at least ninety minutes to complete a full sleep cycle.

If you have difficulty falling asleep at night, napping is probably not the best idea, because it increases the likelihood that you will have insomnia (an inability to sleep).

However, if you are having difficulty getting enough sleep at night, regular napping may be a possible solution. Or if you are bulking and want to give your body the extra rest, napping is awesome when combined with an adequate nights sleep!

Many people in many cultures nap every day some time between one and four in the afternoon, and studies show that the human body is inclined to rest in the afternoon as well as at night. There is a drop in body temperature and alertness in the afternoon that is smaller but very similar to what occurs at night. **The afternoon drop occurs approximately twelve hours after the middle of your night's sleep.**

This also leads me to believe that this time of your day may not be the optimal time to train, as you will be drowsier! If you've been training at this time and have been feeling more exhausted or less motivated try working out later or earlier!

Try not to nap past four to seven in the afternoon/evening. Late napping will delay your falling asleep at night, and make it more difficult to wake up in the morning.

Napping regularly is important. If there are days when you cannot nap because you are too alert, or you don't have a space to nap, try to relax or lie down with your eyes closed. This will be beneficial in restoring energy, and will not disrupt the pattern.

If you know you will be up late and will get less sleep than you normally do, nap ahead of time. Studies show that students who nap before an all-night study session have higher performance the next day than those who don't.

If you are in an emergency situation that requires long periods of wakefulness, try napping for fifteen minutes every four hours; this has been shown to increase alertness and help for short periods.

Any nap over three minutes is better than none. A ten minute nap can have amazing restorative power. If you're going to nap longer an hour and a half long nap is excellent as long as you don't wake too abruptly during the wrong level of sleep.

Q. 7. How can I establish my optimal napping time period?

Here is a hardcore message for those serious about napping!

Through experimentation I have learned how to establish my own optimal power napping time! I have determined that optimal naps occur when I go through one complete sleep cycle. As you "practice" napping you can begin to learn how long your personal sleep cycle is. If you feel like you're in a "dreamy" state of mind after a 90 minute nap, try sleeping an extra 5 minutes the next time you nap. If this isn't enough add 5 more minutes the next time you nap. Repeat this until you find your desirable nap time. If you wake up and feel "dreamy-minded" or "out of it", this means you were probably in REM sleep when you woke and may have needed a few minutes to complete one cycle. Normally if you've had a good nap, it should only take you a minute or two to be fully alert!

Write down in a log how long you napped and how you felt when you wake up. Over time this will help you establish your sleep cycle length. Remember for most it takes 90-110 minutes to complete one full sleep cycle.

Several ten minute naps can be just as effective as a longer uninterrupted nap. Once you get into a pattern your body learns to maximize the restorative power of your nap cycles. But you have to be consistent. Don't fool with Mother Nature.

Just as an interesting fact, studies of individuals who sailed across the Atlantic on sailboats show that you can actually get by for days at a time just taking naps. You can also "store sleep" in advance of a period where you know you'll be going without sleep by sleeping a little extra a few days prior to the time you'll be unable to sleep.

Knowing how and when to nap can greatly reduce your chances of falling into chronic sleep debt, with all its negative consequences, and sensible use of napping can increase your alertness and productivity.

As far as when to nap, that is dependent on each person. I personally like to slip a power nap in after a workout if at all possible or sometime in the early afternoon on an "off" day from the gym.

I also think a great time to power nap is right before a workout! Especially if I've had a long day at work! This is great for those of us that have very physically demanding jobs. But jobs that require lots of thinking can be very draining mentally! And I don't have to tell you how mental this sport is. So for a boost, slip in a 30 minute nap before you workout, accompanied by 200mg of caffeine for a sure fire way to jump start and refresh you for a brutal gym session!

Q. 8. Can a lack of sleep cause weight gain or an inability to lose weight?

A. In a word YES!

Numerous recent sleep deprivation studies have shown that lack of sleep contributes to weight gain, premature aging, stress, and also reduces the effectiveness of the immune system!

Studies show that sleep deprivation lessens the release of Growth Hormone. Your body needs Growth Hormone to effectively process its fuel: glucose.

Growth Hormone is released during SWS sleep. If you don't get enough sleep and go through all your required sleep cycles, the amount that is released is less and your ability to metabolize glucose is lowered significantly.

Without enough Growth Hormone, glucose is stored as fat. Lowered levels of Growth Hormone are related to fat tissue and reduced muscle mass and exercise capacity. University of Chicago professor Eve Van Cauter, Ph.D. says that people who only get 6-7 hours of sleep have to work twice as hard to process the same amount of fuel, making it twice as hard to lose weight. People who do not get enough sleep show hormone levels that characterize a pre-diabetic state and are on their way to weight gain.

Many studies also found that people who did not get enough sleep had increased levels of cortisol the next day. Cortisol is a catabolic (breakdown) hormone that causes hypertension and stress. Increased levels of cortisol can cause memory impairments, restrict muscle repair and growth, and insulin resistance.

So basically if you're running on little sleep your more catabolic all day, it's harder to lose weight, and you'll have less energy in the gym.

These factors can slash the best training and nutrition efforts in half!

That's why I firmly believe sleep is as important as training and nutrition.

Q. 9. Is there any way to get used to less sleep than I need?

A. Despite widespread belief, there are no proven methods of reconditioning the body to get by on less sleep than a person needs. A person who chronically sleeps less than their optimal amount is not training their body to get by on less sleep; in fact the sleep deprivation will build over time, creating a sizable "sleep debt." Think of the withdrawal example again...Sleep debt can be viewed like monetary debt in that it must be paid back, and the size of the sleep debt is directly related to the amount of sleep lost.

Every person has a specific daily sleep requirement. This is the amount of sleep that must be obtained each day on the average to avoid becoming sleep deprived. If the needed amount of sleep is not reached, the lost sleep builds up more and more and accumulates as larger and larger sleep debt.

Most people think that a big meal, a warm room, a comfortable chair, a boring lecture, an alcoholic beverage will cause sleepiness. None of these things cause sleepiness. Rather, these things unmask sleep deprivation! If you do not have a sizable sleep debt, you will never get sleepy in the daytime! Yes, you heard that right! Sleep experts agree that if you are getting enough sleep, you shouldn't ever feel sleepy in the daytime!

The longest laboratory study of restricted sleep (to 4 hours per day) was 14 consecutive days. In this study, the impairment and fatigue of the subjects was continuing to increase. There was no evidence of a plateau. Until proven otherwise, it must be understood that we can build up an indefinite sleep debt.

Q. 10. OK, so what is the biological clock?

A. First I'd like to discuss The True Nature of Sleep.

Sleep is not rest for the brain. The brain is restored during REM sleep, but the brain never "sleeps". The one extremely major difference between being awake and being asleep is this: When awake, we are conscious of the real world and guide ourselves through its many challenges. At the moment of sleep, our consciousness of the real world is completely shut off. However, sleep isn't like death, it is just an alternative to our perception.

OK, so what is the Biological Clock?

The biological clock is a term applied to the brain process which causes us to have 24-hour fluctuations in body temperature, hormone secretion, and a host of other bodily activities. Its most important function is to foster the daily alternation of sleep and wakefulness. The biological clock is housed in a pair of tiny bilateral brain areas called the suprachiasmatic nuclei. Awesome how all this stuff works huh!

Clock-Dependent Alerting (CDA).

The major role of the biological clock in the regulation of sleep and wakefulness is to provide an internal and very powerful wake-up signal to the rest of the brain. We call this signal clock-dependent alerting. CDA promotes combined periods of peak alertness, high energy, and optimal mental performance at specific times during the day. When CDA subsides at the end of the day, we are "given permission" to fall asleep.

Sleep is regulated homeostatically.

This means that if you get less sleep than you need, the tendency to fall asleep in the daytime will become progressively stronger; if you get more sleep than you need, the tendency to fall asleep in the daytime will become progressively weaker.

Q. 11. What is drowsiness, and what causes it?

A. The beginning of drowsiness is the moment when staying awake requires a conscious and deliberate effort, which usually results in an effort to keep the eyes open. This moment is the last step in falling asleep, not the first. Strong external and internal stimulation during wakefulness can cover up a large sleep debt and a strong inclination to fall asleep. If drowsiness occurs soon after a shift from being active and moving about to a sedentary situation such as driving, your sleep debt is very likely huge and dangerous.

If we are paying attention, most of us know when we are about to fall asleep. We know because we feel "drowsy." Most of us associate "drowsiness" with heavy eyelids, difficulty keeping the eyes open, and difficulty concentrating, or just a feeling of general tiredness.

Drowsiness means a large sleep debt is winning the battle for your mind and brain. If this happens to you on a regular basis, I suggest seriously evaluating your sleep. Start taking your sleep as important as your training and diet.

Q. 12 How does caffeine affect sleep?

A. 90% of Americans use some form of caffeine to fight the feeling of drowsiness. Caffeine has a profound effect on the central nervous system by blocking adenosine receptors, which holds drowsiness at bay. Besides coffee, caffeine is found in soda as well as in chocolate and tea.

As an arousal drug, caffeine may cause insomnia. Caffeine will suppress REM sleep and this is why it should never be taken 6-7 hours before sleep (caffeine's half-life is about 6 hours). Consistent use of caffeine tends to drive many people into a vicious circle. You drink it, you get a boost in adrenaline, you feel more energetic, you get a boost in dopamine, you feel better, and you feel you can stay up late, you sleep less, and you are sleepier the next day. Shortly afterwards you will need more caffeine, due to down-regulation, to get the same energetic feeling and you will continue to increase the dosage.

Don't take this the wrong way. Caffeine can be a powerful aid in getting through hardcore workouts. But don't come to depend on it to wake up in the morning. I find I get the best results from using it only on the workouts that need more attention. For example if calves and deltoids are my weak points I would reserve my caffeine use for those workouts. As Jacob points out in his review of caffeine ([you can access that here](#)), your receptors will be more responsive to its effects if you wait three days in between supplementing with caffeine.

Caffeine and caffeine related products (ECA stacks and the likes) can be of great advantage in a workout, but keep it for the hardcore days, and don't abuse them.

This rule goes for anything in general you put in your body! Use it in moderation and don't depend on it for "waking up" in the morning. To maximize its effects in the gym, cut out any products that contain caffeine throughout the rest of the week.

Q. 13. How does alcohol affect sleep?

A. Alcohol has numerous affects on the body. However, to keep in context of this article, I'm only going to cover how it affects sleep.

Recall that 60-90% of your daily release of Growth Hormone happens during sleep.

Growth Hormone is principally released from the Anterior Pituitary during moments of Slow Wave Sleep (SWS).

Therefore, anything that interferes with SWS will likewise interfere with Growth Hormone release.

Alcohol, in particular, suppresses SWS and consequently inhibits GH release. It also has a tendency to produce sleep fragmentation.

The other principle time GH is released is after a work out. However this is also the time when cortisol levels are at their highest, which is why a post-workout anabolic shake is so vital. Believe me natural levels of cortisol are high enough but...

Alcohol actually leads to increased levels of cortisol the next day. The increased levels last all day long, even after your body has gotten rid of the alcohol!

To compound that, sleep deprivation, causes heightened cortisol levels as well. Therefore the interference alcohol has on the sleep cycle, along with the alcohol itself increasing cortisol levels, you will essentially be more catabolic all day long, and three times as much post-workout!

Alcohol is pretty much Growth Hormones worst enemy! It's essentially a triple whammy as it defeats its release during SWS and makes cortisol levels higher after a workout causing more muscle breakdown and reducing the effectiveness of post-workout GH release.

Now, I'm not saying you can't ever drink again. The decision about drinking is up to you. But as a bodybuilder it should be more selective, and preferably not at all.

Q. 14. Is it possible to manipulate the sleep cycle in such a way that I can get more SWS and cut out REM sleep?

A. Hardcore question bro!

Don't make any mistake about it! You need REM sleep!

It is primarily responsible for restoring mental properties, and being severely deprived of it can actually kill you! (OK, that's in the extreme case! LOL)

REM sleep is very vital to bodybuilders, and not getting enough will just create a sleep debt. So, if you fragment your sleep you will just slip into REM sleep faster the next time you crash. Just remember, you can't cheat the sleep cycle! Yeah, you'll go through the initial sleep stages again, but the time will be harshly shortened and you'll go into REM very quickly after you fall asleep and stay in that particular stage longer. You will complete it eventually, but interrupting sleep will only delay it, and more than likely make you drowsy all day.

Q.15. Does working out affect sleep?

A. Exercise can have positive effects on a person's subjective sleep quality. This is most likely because exercise may help to reduce mental stress and simply makes you "feel better" about yourself. Also, your body will crave for more rest due to the extreme conditions you are putting it under.

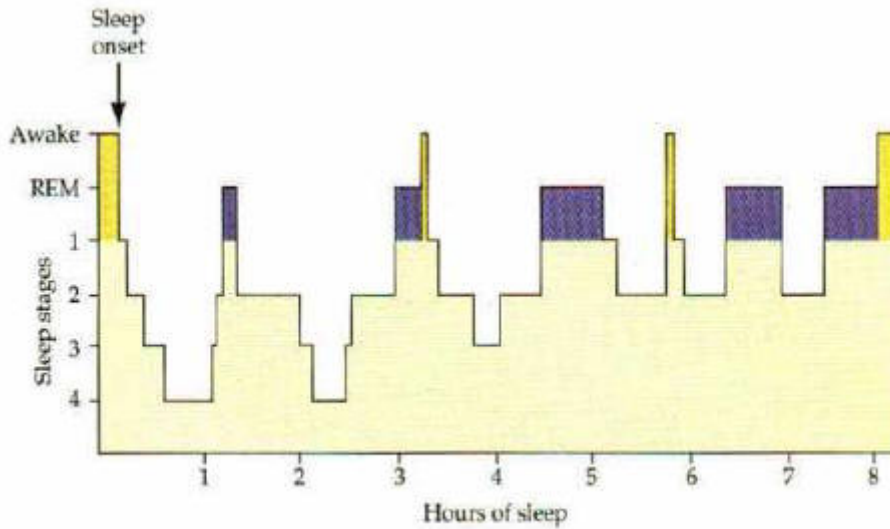
However, the timing of hardcore training and cardio is an important issue to consider in regards to sleep. I recommend avoiding exercise for three hours prior to bedtime, mainly because this may cause physiological and metabolic arousal that hinders sleep. In the period just prior to bedtime, some forms of inactivity, especially lying in a warm bath or taking a hot shower, listening to light music, or listening to books on tape (one of my favs- thanks JW!) can be relaxing and very conducive to sleep.

Q. 16. We learned a great deal about Slow Wave Sleep in the last article, but why is REM sleep so important?

A. Excellent question.

REM sleep, named for the characteristic rapid eye movements that accompany it, is the final sleep stage in each cycle, occurring four to six times a night for the average person. During REM sleep, blood flow to your brain increases, your pulse, breathing, and blood pressure increase, and your body temperature rises. Theta brain waves are blended together with alpha waves. REM sleep is marked by dreaming, and completely relaxed, motionless muscles. (Dreaming can occur in all stages of sleep, but is most common during REM sleep.)

The first REM stage lasts about nine minutes, after which you descend through Stages 1-4 again, before backing through the stages to more REM sleep. The cycle repeats itself about every 90-110 minutes, with some differences to the cycles. For example, after the second cycle, Stages 3 and 4 are minimal or nonexistent, and Stage 2 dominates non-REM sleep. With each successive cycle, the time spent in REM increases from twenty to as much as sixty minutes.



This is important to remember. Notice stages 3 and 4 are practically nonexistent after the second cycle, which is why the prescribed sleep stack in Z factor part I is so important to getting the most of your Growth Hormone release!

However, what does getting enough REM sleep mean for our daily lives? REM sleep has been shown to play "a major role in facilitating memory storage and retention, organization, and reorganization, as well as new learning and performance." says Dr. James Maas.

When we learn or experience something, certain neurons in our brain form specific connections with other neurons. These chains of neurons, called neural networks or memory traces, are spread throughout the brain and are repositories for our knowledge. It is during REM sleep that much of the growth of specific neural connections to physically hold memories in the brain takes place. REM-sleep neuronal stimulation causes strengthening of memory circuits and is vital to memory consolidation. Man! Isn't the human brain is a work of art!?

In order for long-term memory to take hold, the brain must organize and reorganize ideas for maximum storage efficiency. It is likely from the evidence that has been gathered that during REM sleep, ideas are organized into neural networks of associated ideas already in the brain, efficiently connecting new learning to older information. This reorganization may also be responsible for the phenomenon of people solving problems in their sleep and waking up with an answer they had not previously thought of. That's a mind blowing hypothesis in my opinion!

Memory prioritization also takes place, with important memories being strengthened, and trivial events discarded or simply not stored, making room for new information to be absorbed the next day. REM is also vital to new learning and retention, because the neurotransmitters necessary to these functions are replenished during REM sleep.

Getting enough REM sleep is clearly vital to many of our most important brain functions, and that means getting enough continuous sleep so that the REM cycles can occur and lengthen over the night.

REM dreams can have elaborate story lines, often recalled upon awakening. REM sleep may be needed to sort through short-term memory storage, deleting unnecessary data, laying down important information in long-term memory. Psychoactive drugs, including alcohol, hinder REM sleep. Continued loss of REM sleep creates anxiety, emotional difficulties until sleep debt is erased. Insomniacs tend to spend less time in REM sleep than in other stages.

With all that in mind REM sleep is the time of your slumber dynamic where mental rejuvenation occurs. This sport is so mentally demanding that you will need all your wits about you and then some! So don't go skimpy on the sleep! Your brain needs it!

Sweet Dreams!

I hope I've accomplished my objective with these two articles! The goal being, how important sleep is to a body builder!

If you've begun to realize how important sleep is, and you have decided to get more hardcore in this area then you're on your way to a more massive frame!

There is no doubt in my mind that sleep is just as hardcore as training and nutrition. It takes more dedication than most people think to stick to a regular sleeping pattern and it takes sacrifice to sleep more and sleep better. But the pay off is more size, more mental toughness, more energy, more ambition, and a higher state of anabolism. Just remember, the gym is the pain zone, the dinner table is the anabolic zone, but the bed is the GROWTH ZONE!

Keep it hardcore!

Old School.