

HOW TO COPE WITH PULLING AN ALL NIGHTER AND EXTENDED PERIODS OF SLEEP DEPRIVATION

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RESILIENT NUTRITION

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How to cope with extended periods of sleep deprivation

The purpose of this guide is to give you some practical tips you can use to reduce the negative effects of sleep disruption when your sleep schedule is disrupted and unpredictable over several weeks.

Key takeaways

- The longer you have been awake, the sleepier you are and the worse your alertness, reaction time, focus, ability to remember things, and ability to learn. Sleep deprivation also increases risk of accidents, worsens mood, degrades immune function and blood sugar control, amplifies pain, and worsens physical stamina and coordination.
- If you know you will be going a period without sleep or with few opportunities to sleep, you should try to “bank” sleep before. During this phase, your aim should be to spend an additional 1 to 2 h in bed, primarily as a result of sleeping in in the morning. You should minimize your caffeine intake and spend plenty of time in daylight during this phase.
- During an all-nighter, make the following changes:
 - Once a day, include [Switch On](#) by Resilient Nutrition.
 - 3 times a day, include 5 g creatine monohydrate. Capsules are easiest to use on the move and we recommend [this product](#) (4 capsules = 5 g).
 - Beginning when you start to feel sleepy on day 1, aim to take 50 mg caffeine every couple of hours until 4 hours before you get to sleep the following day. Caffeinated gum is an easy and practical way to consume caffeine on the move. We recommend [Blockhead](#) (1 piece of gum = 50 mg caffeine). You can also use caffeine in other forms, such as instant or brewed coffee (there is about 50 mg caffeine per cup of instant coffee)
 - Move your body. Physical activity has a variety of effects that promote alertness and health. Try doing squats or running on the spot for 30 seconds or so when you feel drowsy. If you can't move, just tensing your muscles should help.
 - Expose yourself to high-intensity light, if feasible. The best light at this time appears to be white, green, or blue.
 - Nap opportunistically and whenever you have a safe moment grab even a few minutes to close your eyes. Even just a brief nap of 10 mins or so can meaningfully improve your ability to cope with sleep deprivation.

How sleep deprivation affects you

Sleep deprivation dose-dependently impairs your brain function—the longer you have been awake, the sleepier you are and the worse your alertness, reaction time, focus, ability to remember things, and ability to learn. These changes dramatically increase risk of accidents.

Multiple days without sleep can lead to more severe consequences. For example, after staying awake for 48 hours straight, about 2/3rds of us experience visual hallucinations and imagine we can feel we have been physically touched when we haven't. About a third of us will also imagine hearing things that aren't real at the 48-h mark.

Sleep deprivation has a variety of other negative effects too, including the following:

- Lowered mood and increased anxiety.
- Increased susceptibility to infections, such as the common cold.
- Increased blood pressure.
- Worsened blood sugar control.
- Amplified feelings of pain.
- Impaired physical endurance and coordination.

The purpose of this guide is therefore to give you some practical tips you can use to reduce the negative effects of sleep deprivation when you must go without sleep or only get very brief sleep opportunities.

What to do before any period of extended sleep disruption

If you know or think you might be in for losing sleep or facing sleep disruption, the primary goal is to “bank” as much sleep as possible ahead of time, which will help you better cope with subsequent sleep loss, reducing the negative effects of sleep deprivation on your brain and body.

During this sleep banking phase, your aim should be to spend an additional 1 to 2 h in bed, primarily as a result of sleeping in in the morning.

To bank sleep, do the following, ideally for at least 1 week before the period of sleep loss if you have the opportunity:

- **Get outside for at least 30 mins for a walk (or exercise) within 2 hours of getting out of bed.** This will help you feel sleepy early the following evening, which is helpful at this time - if you can nod off earlier, you might be able to get more sleep.
- **Spend at least 1 hour outdoors in daylight in total**—more is better—ideally in the first half of your waking day.
- **Reduce your caffeine intake or stop consuming it entirely.** If you're a tea and/or coffee addict, switch to decaff. The most important thing is to avoid caffeine late in the day, so don't have any caffeine from after about 12 h before your planned bedtime. This will help you go to sleep earlier and sleep deeply.
- **Aim to go to bed 30 mins to 1 hour earlier than you usually do.**
- **Reduce your exposure to light in the 2 hours before your planned bedtime**—dim any overhead lights or turn them off and use lamps.
- **Turn off screens of non-essential devices (computer, laptop, TV, etc.) at least 30 mins before your planned bedtime.** Do something relaxing at this time—perhaps read or listen to relaxing music
- **Don't use an alarm clock.** If you must use one, set it as late as possible.

What to do to cope with an all-nighter

The goal when remaining awake through the night is primarily to support alertness and other aspects of brain function.

In the example below the person is habitually awake from 6AM to 11PM, so the all-nighter entails remaining awake from 6AM on day 1 to 11PM on day two.

Because we each have different sleep-wake schedules, you may need to adjust the hours in this model. If, for instance, your normal sleep schedule is more like 9AM to 2AM, that's fine—you'd just adjust the schedule below by 3 h (so 11PM below would be 2AM for you).

What you'll see in the following sections is that there are 3 core changes to make to your nutrition during the all nighter:

- **Once a day, include a sachet of [Switch On](#) by Resilient Nutrition. You can consume it as a hot or cold drink, in a smoothie or mixed with foods like yoghurt.**
- **3 times a day, include 5 g creatine monohydrate.** It's easiest to take capsules, so try [this product](#) (4 capsules = 5 g).
- **Beginning around your bedtime on day 1, take 50 mg caffeine every couple of hours until 4 h before you get to sleep.** This equates to 15g-20g of [Energise](#) or [Energise & Rebuild](#) Long Range Fuel or a piece of [Blockhead gum](#).

Day 1

6AM (wake up time) to 11PM

This initial period of wakefulness will coincide with when you'd habitually be awake anyway (i.e., the daytime). You don't need to do much differently from normal at this time, other than the following:

- At around 7AM, take 5 g creatine monohydrate with food.
- At around 12PM, take 5 g creatine monohydrate with food.
- At around 5PM, take 5 g creatine monohydrate with food.
- At around 9PM or 2 hours before your usual bedtime, have one sachet of [Switch On](#) by Resilient Nutrition.
- At 11PM usual bedtime, take 50 mg caffeine. The easiest way to take this is in the form of [Energise](#) or [Energise & Rebuild](#) Long Range Fuel or as a caffeinated chewing gum, if you want the caffeine to take action faster.

Basically, taking 50 mg caffeine every 2 hours for much of the rest of the time you are awake.

Day 2

Midnight to 5AM

This period coincides with when you would habitually be asleep, and you will therefore be especially prone to sleepiness at this time. To cope with this, try the following:

- At around 1 AM take 50 mg caffeine as [Energise](#) or [Energise & Rebuild](#) Long Range Fuel or as a piece of [caffeinated chewing gum](#).
- At around 3 AM take another 50 mg caffeine.
- At around 5 AM take another 50 mg caffeine.

6AM to 11PM

This period coincides with when you would habitually be awake. Despite this, you will be sleepier than usual, and you will likely feel this most around lunchtime (when people get the “post-lunch slump”, which is often between about 1PM and 3PM). To cope with this, try the following:

- At around 7 AM or 1 hour after your usual wake time, have another sachet of [Switch On](#), by Resilient Nutrition.
- At around 9 AM, take a further 50 mg caffeine as [Energise](#) or [Energise & Rebuild](#) Long Range Fuel or as a piece of [caffeinated chewing gum](#).
- At around 11 AM, do the same. Also take 5 g creatine monohydrate with food, it’s easiest to take capsules, so try [this product](#) (4 capsules = 5 g).
- At around 1 PM take a further 50 mg caffeine as [Energise](#) or [Energise & Rebuild](#) Long Range Fuel or as a piece of [caffeinated chewing gum](#).
- At around 3 PM repeat this again. Also take 5 g creatine monohydrate with food, it’s easiest to take capsules, so try [this product](#) (4 capsules = 5 g).
- At around 5 PM take a further 50 mg caffeine.
- At around 7 PM take 50 mg caffeine. Assuming you can sleep at 11 PM, this would be your final dose. Also take 5 g creatine monohydrate with food.

Other nutrition tips

You might expect that staying awake causes you to burn a lot more calories than being asleep. The difference is actually very small though: Assuming you're not moving your body much at this time, sleep deprivation only requires a very small additional amount of energy to stay awake. This said, if you are being very physically active during the night (e.g., you move around a lot), the extra physical activity will require some extra energy. This has the following implications:

- **If you are pulling an all-nighter but remain quite sedentary at this time, you don't really need to change the foods you eat**—just implement the changes listed above.
- **If, however, you are pulling an all-nighter and are very active through the night (moving, carrying things, etc.), you will need to eat and drink a bit more.** To do this, you can just add a couple of small snacks during the nighttime. For example, you could add 2 x 100-g pouches of [Rebuild Long Range Fuel by Resilient Nutrition](#).

Non-nutrition strategies to use to support brain function during the all-nighter

There are also non-nutrition strategies you can use to support your alertness and other aspects of the function of your brain and body during the all-nighter. These include the following:

- **Move your body.** Physical activity has a variety of effects that promote alertness and health. Very brief bouts of high-intensity activity are likely to have particularly strong effects. Try doing squats or running on the spot for 30 s or so when you feel drowsy. If you can't move, just tensing your muscles should help.
- **Expose yourself to high-intensity light.** This might not be feasible, but when it is, exposing your eyes to intense light can strongly increase alertness. The best type of light for this effect mimics daylight: it comes from overhead, it is intense, and it is rich in short-wavelength light. This tends to be true of light that appears to be white, green, or blue.
- **Nap, if possible.** Even just a brief nap of 20 mins or so can meaningfully improve your ability to cope with sleep deprivation. Naps over 20 mins are more restorative but are also more likely to lead to "sleep inertia"—that grogginess and brain fog you sometimes get straight after you wake up. Fortunately, caffeine reduces sleep inertia.

Nutrition tips to help when exposed to multiple weeks of sleep disruption

There are 3 core changes you should make to your nutrition during the weeks in which your sleep will be disrupted:

- **Around breakfast, include [Switch On](#) by Resilient Nutrition.**
- **3 times a day, include 5 g creatine monohydrate.** It's easiest to take capsules, so try [this product](#) (4 capsules = 5 g). This said, powders are cheaper, so an alternative is to use a powder such as [this one](#). If you use a powder, you can mix it into a hot drink or food.
- **Whenever you feel sleepy and need a quick boost in alertness, take 50 mg caffeine.**
 - For fast-acting caffeine, use [this product](#) (1 piece of gum = 50 mg caffeine).
 - You can also use caffeine in other forms, such as coffee (about 50 mg caffeine per cup of instant coffee) or [Energise](#) or [Energise & Rebuild](#) Long Range Fuel (each contain 300 mg caffeine per 100-g pouch).

Other nutrition tips

You might expect that staying awake causes you to burn a lot more calories than being asleep. The difference is actually very small though: Assuming you're not moving your body much, sleep deprivation only requires a very small additional amount of energy to stay awake. This said, if you are being very physically active during the night (e.g., you move around a lot), the extra physical activity will require some extra energy. This has the following implications:

- **If you are awake through the night but remain quite sedentary at this time, you don't really need to change the foods you eat**—just implement the changes listed above.
- **If, however, you are very active through the night (moving, carrying things, etc.), you will need to eat and drink a bit more.** To do this, you can just add a couple of small snacks during the night time. For example, you could add 2 x 100-g pouches of [Rebuild Long Range Fuel by Resilient Nutrition](#).
- **If you're unsure about your ability to access nutritious food, you might want to use a multivitamin and multimineral.** [This product](#) is a good option.

To the extent that this is possible, it's also best to try and keep the timing of your food intake relatively consistent from day to day. This will help you keep your body's clock functioning well, which will have all sorts of positive effects on how you feel. This said, I understand that your eating will likely be opportunistic, so this tip is only relevant if you have some control over your schedule.

Non-nutrition strategies to use to support brain function

There are also non-nutrition strategies you can use to support your alertness and other aspects of the function of your brain and body during the all-nighter. These include the following:

Move your body

Physical activity has a variety of effects that promote alertness and health. Very brief bouts of high-intensity activity are likely to have particularly strong effects. **Try doing squats or running on the spot for 30 s or so when you feel drowsy.** If you can't move, just tensing your muscles should help.

Expose yourself to high-intensity light

This might not be feasible, but when it is, **exposing your eyes to intense light can strongly increase alertness.**

The best type of light for this effect mimics daylight: it comes from overhead, it is intense, and it is rich in short-wavelength light. This tends to be true of light that appears to be white, green, or blue.

Some portable lights provide this kind of light—for example, the light therapy lamps used by people who experience seasonal affective disorder. Of these products, LUMIE ones such as [this product](#) are effective, but you'll have to decide if they are practical. If a light therapy lamp isn't practical, the kinds of small bright lights some people use for “selfies” (e.g., [this product](#)) might be helpful once you get past their usual use cases. They are small, quite bright, and easy to charge. But they're not nearly as bright as light therapy lamps.

Nap opportunistically

Even just a brief nap of 20 mins or so can meaningfully improve your ability to cope with sleep deprivation.

Naps over 20 mins are more restorative but are also more likely to lead to “sleep inertia”—that grogginess and brain fog you sometimes get straight after you wake up. Fortunately, caffeine reduces sleep inertia.

If you are in a safe place with others, you might find that wearing an eye mask and/or ear plugs helps you nap. The eye mask is most helpful if you are napping the bright light of day, and the ear plugs are most helpful if it's noisy. [This eye mask](#) is a good product and is inexpensive, as are [these ear plugs](#).

Next, if you decide to nap and want to speed how quickly you relax, you might want to try a simple breathing exercise in which you breath slowly through your nose, making your exhales longer than your inhales (e.g., 5.5 s exhale, 4.5 s inhale). There are smartphone apps you can use to teach you this type of breathing (e.g., Breathe Easy app [for iPhones](#) or [Android](#)). You could also try progressive muscle relaxation, a technique that involves tensing your muscles one body part at a time before relaxing and exhaling. [Here is a script](#) that teaches this technique.



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Resilient Nutrition is a British company with a background in research and development, human performance programme delivery and a deep understanding of the science physical and cognitive performance uniquely combined with extensive training and operational experience with the military, police, and emergency services.

As well as providing advisory services to our clients, we have developed a range of products that combine the best of whole foods with innovative functional ingredients to optimize nutrition around the clock, support long term health and positively impact mission outcome.

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