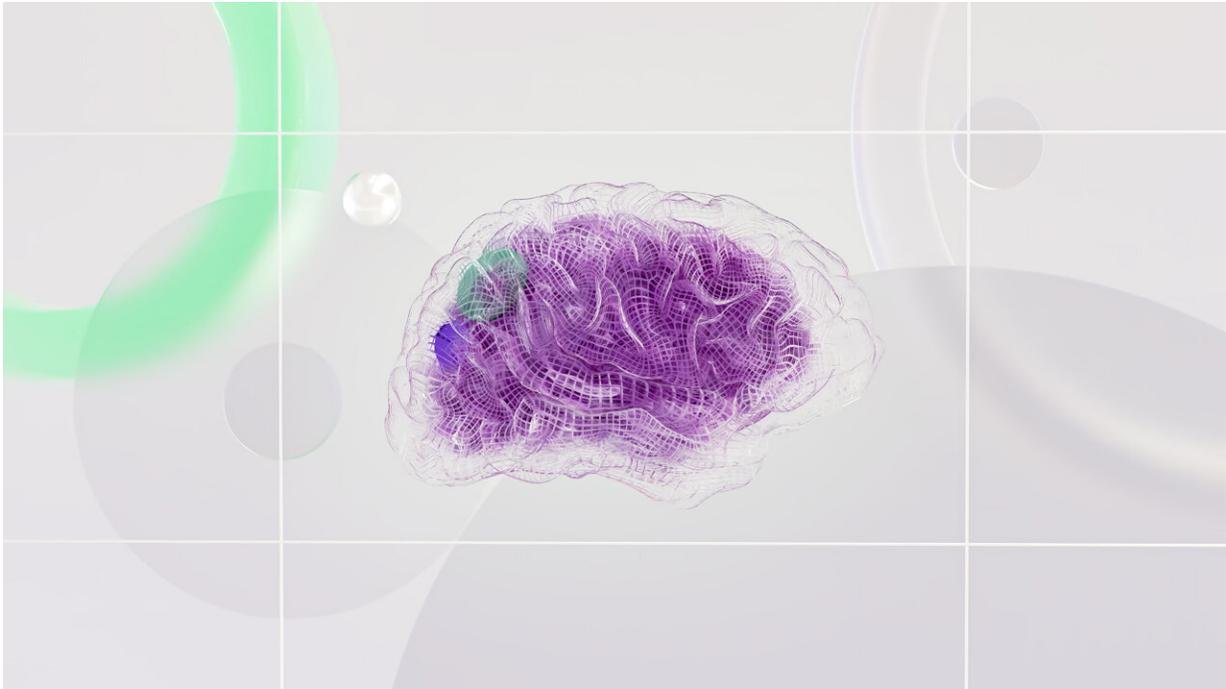


# How to train your brain to lucid dream

June 20 2019, by Achilleas Pavlou

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Credit: Google DeepMind from Pexels

Dreams can often be [confusing and blurry experiences](#). Reduced critical thinking, little to no access to our true memories and heightened impulsivity and emotions during normal dream states often make for head-scratching moments when our eyes first open in the morning.

But dreams don't always play out this way. [More than half](#) of us have at least once in their lifetime experienced awareness of dreaming in the

moment and, in some cases, the ability to direct a dream like a sleepy Steven Spielberg. Nearly a quarter of us report [lucid dreaming](#) once a month or more.

Two key changes in the brain appear responsible for these states. The frontotemporal cortex, which controls our higher cognitive abilities and is inhibited during normal dreams, shows [higher activation](#) during lucid dreams. Researchers also observe an [increase in gamma waves](#), synchronized firing by groups of neurons at a frequency implicated with [conscious awareness and executive functions](#) such as voluntary action and decision-making.

Scientists are interested in how to influence the brain to enter into these states—and not just for the fun of it. They hope that lucid dreaming will provide valuable insight into [how consciousness is formed](#), as well as being of practical use in many settings.

For example, lucid dreaming therapy holds great potential as a treatment for [sufferers of chronic nightmares](#) and [Post-Traumatic Stress Syndrome \(PTSD\)](#). People afflicted with PTSD usually experience recurrent nightmares which are usually centred around a single traumatic event. These recurrent nightmares are so terrifying that they cause anxiety, insomnia and disturbed sleep, which then negatively impacts daytime functioning. With lucidity, nightmare sufferers can realize that what they are experiencing is not real and subsequently turn the nightmare into a positive or a neutral dream.

Lucid dreaming also offers opportunities to [improve motor skills](#) through visualization. Using mental imagery to rehearse [motor skills](#) has been shown to improve the performance of [sportspeople](#), [medical practitioners](#) and [musicians](#), as well as [aiding the rehabilitation](#) of hand control and other motor tasks, for example after nervous system damage. The [technique](#) works because imagining performing a motor action

[activates almost the same neural structures](#) as actually performing it—and the same goes for [dreamed actions](#).

## **Becoming lucid**

[Various techniques](#) have been developed and tested to induce lucid dreams in recent years, but as yet none are reliably and consistently successful across individuals. That's not to say that they won't work on you though—while research in this area is in its infancy, some techniques already hold real promise. Here are the techniques with the most potential, most of which you can try at home.

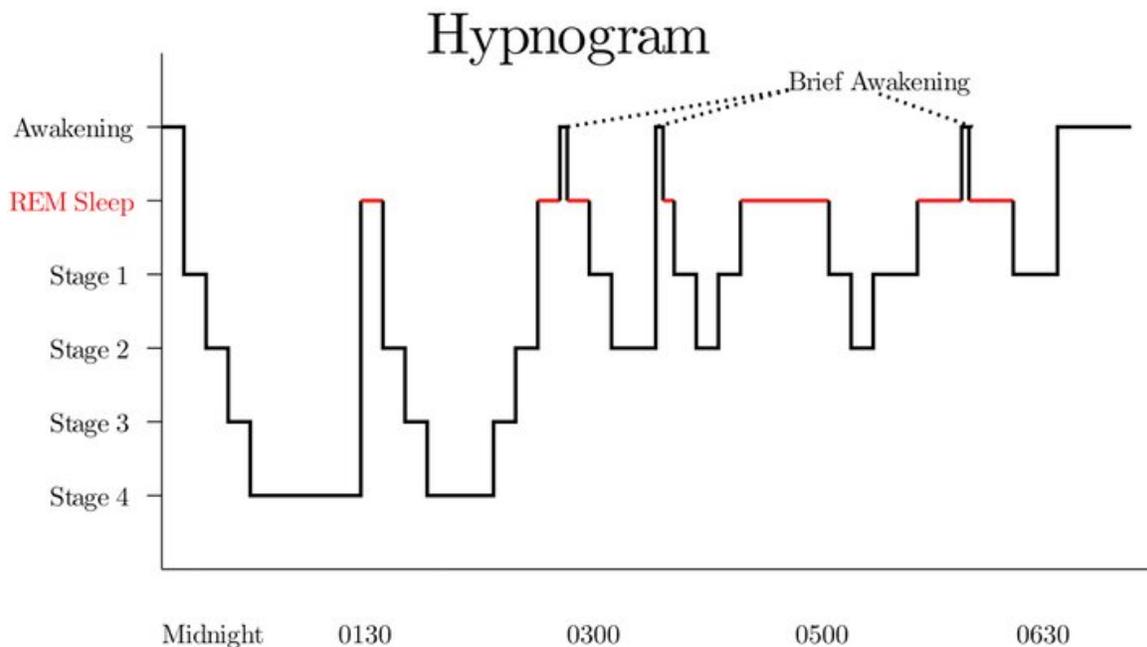
Cognitive techniques are activities that are performed during the day or while falling asleep. Thus far, this type of approach has been most successful at inducing lucid dreams. According to a recent study of [169 Australian participants](#), a combination of three techniques induce lucid dreams most successfully: reality testing, Mnemonic Induction Lucid Dreaming and Wake-Back-to-Bed.

The [reality testing method](#) involves habitually asking your waking self whether you're dreaming, and performing an action that helps you to find out. The popular film Inception references this technique with a spinning top, which would normally eventually stop rotating but continues eternally when dreaming. If you don't fancy keeping a spinning top in your pocket, you can hold your nose and perform the normally impossible task of breathing through it. Repeated checks throughout the day make you more likely to do the same checks while dreaming, and thus become lucid to the freer dreamworld in which you can breathe through a blocked nose.

In the [Mnemonic Induction Lucid Dream \(MILD\)](#) technique, one rehearses a dream and visualizes becoming lucid while repeating a mantra expressing the same intention, such as: "Next time I'm dreaming

I want to remember that I am dreaming." For best results, it should be performed while returning to slumber during the [Wake-Back-To-Bed \(WBTB\)](#) technique, whereby one sets their alarm clock to one or two hours before their normal waking time, gets up for a few minutes, and then goes back to sleep.

This brief awakening is thought to [increase cortical activation](#) in the key brain areas implicated in lucid dreaming when one slips back into rapid eye movement (REM) sleep, the stage during which vivid dreaming occurs. Unsurprisingly, [pressing the snooze button](#) multiple times before finally waking also appears to increase the chances of lucid dreaming.



Rapid eye movement sleep stages progressively increase in duration after each sleep cycle. Credit: [RazerM/Wikimedia Commons](#), [CC BY-SA](#)

Of course, these strategies require sustained effort to have an effect. In search of an easier route to lucid dreams, various [wearable technology companies](#) have developed contraptions that flash light, vibrate, or play sounds during REM sleep. The idea is that they'll be incorporated into the dream content and thereby alert the dreamer that they are dreaming.

But both the [literature](#) and my own experiences at the University of Essex's sleep lab suggest that such external stimulation techniques need to be handled with care. If presented in the wrong way, stimuli will either not be incorporated into the dream—or worse, cause people to wake up. Some people are lighter sleepers than others, so the intensity of stimuli should be [tailored](#) to the specific threshold at which each individual wakes up. They should also be delivered in specific moments of REM sleep when the brain is most receptive. Current wearable technology does not take these factors into account, and research is yet to fully unravel how such stimuli can be effectively deployed.

Recent research suggests drug interventions may hold promise. For example, [galantamine](#), an enzyme inhibitor that is typically used to treat Alzheimer's disease, has been [shown](#) to significantly increase lucid dream induction rates when used in conjunction with the WBTB and MILD techniques. This prescription drug should be left alone by aspiring lucid dreamers though—research is in its early stages and the drug can have side effects.

Caution should also be exercised with other supplements and herbs that claim to increase [dream](#) lucidity—they are [not backed](#) by scientific evidence and, as with all drugs, there is the risk of allergic reactions and side-effects.

Our understanding of [lucid dreams](#) has advanced significantly in the last decade. There is still much work to be done, but it hopefully won't be too long before we figure out how to reliably and consistently induce

them. Watch this space.

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