

Dawn Simulator

A morning sunrise improves depression and energy

It's not natural to wake up to sound. Alarm clocks were invented 500 years ago, but the brain's mechanism for waking developed long before that, when sunrise was the signal that set the body's clock. When that clock is working well, you should wake up gradually, passing from deep sleep, to light sleep, to full awakening over about 30 minutes.

In contrast, alarm clocks can jolt people suddenly out of deep sleep. That's a very rude awakening, particularly for people with depression. Depression causes sleep inertia, which slows down the transition from deep sleep to full wakefulness, so people with depression need extra help to wake up smoothly in the morning.

A dawn simulator improves this problem by creating a virtual sunrise in your room. Studies have found that these devices help energy, depression, and concentration throughout the day. They are particularly helpful in the winter when morning light is already scarce.

Choosing a Product

Dawn simulators are not regulated by the Food and Drug Administration, so it can be difficult to know which ones are effective. A good resource is the Center for Environmental Therapeutics, a non-profit group that tests light therapy devices. You can find the latest recommendations on their website (www.cet.org, [click Store](#)). Currently they recommend the PER2LED, which looks like a bedside lamp and uses LED lights to create a color spectrum that imitates morning light (\$50-90 on Amazon).



Dawn Simulators improve energy, depression, and alertness. At left is the PER2LED, which takes its name from the PER genes that run the biological clock.

If you like the look of your existing bedside lamp, you could use a device that slowly turns that lamp on. The downside of this is that it may not get bright enough (ideally 250 lux) to treat depression, and these timers won't work with energy-efficient bulbs. You can find other options on the back – including smart bulbs and apps – but these have not yet been clinically tested.

A consumer site that reviews products is: sunriseclocks.org.

Dawn Simulators	
Lamps with timers	PER2LED: Recommended by research group, \$50-90. Philips Morning Wake-Up Light HF3500, HF3510, HF3520: Recommended by the National Sleep Foundation, \$97. Lumie Bodyclock: Used in research, \$225.
Timers for existing lamps	These work with your existing lamp, but require incandescent bulbs: LightenUp, windhovermfg.com , \$20-40. SunRise Controller BioBrite, \$40-50
Smart bulbs	These can be programmed to turn on gradually through a smart phone, e.g. Phillips Hue \$200.
Apps	These are low-cost and portable. They may help but probably aren't bright enough to treat depression. Make sure to get one that turns on gradually, e.g. Rise & Shine, Lichtwecker.

Temperature

Light is not the only signal that helps people wake up. The body also responds to a rise in temperature. If you have a programmable thermostat, set it so to rise in temperature about 1 hour before you plan to wake up. Sleeping in a colder room will deepen sleep quality, so you can set the thermostat to cool down during the night and then rise back to a comfortable room temperature in the morning. How cool should it go at night? This depends on your comfort and may take some experimenting. Sleep doctors recommend as low as 60-65° degrees to improve sleep.

Alarms are being developed that wake people up by adjusting the temperature in their bed. Currently the only available option is BedJet, which is rather expensive (\$300).

Getting out of bed

A dawn simulator can wake you up, but it won't get you out of bed. If that last step is still difficult, consider a novel alarm clock like the ones at right. The investment may be worthwhile: getting out of bed at regular times significantly improves depression.

Aromatherapy is a gentler approach. Mint, citrus, and rosemary help energy and alertness. Try plugging an oil diffuser into a programmable socket timer and set it to turn on 15 minutes before you wake up.

Music can also waken the senses. For morning playlist ideas check: moodtreatmentcenter.com/moodmusic.pdf

Further Reading

Brisk Awakening, a technique to reduce depression
moodtreatmentcenter.com/briskawakening.pdf

Blue light filters for insomnia and depression
moodtreatmentcenter.com/bluelight.pdf

—Chris Aiken, MD, adapted from
Bipolar, Not So Much
 (Aiken & Phelps, WW Norton, 2017)

Novel Alarm Clocks	
Clucky, Tocky, Blowfly	These alarm clocks run or fly away as they sound off, requiring you to get up and chase them down.
Smart Alarm Mat	An alarm that only turns off when you get out of bed and stand on a mat.
Shape Up Dumbbell Alarm Clock	A dumbbell-shaped alarm that will get you moving. It only shuts off after you've completed 30 curls.
IQ Alarm by Yanko	Requires you to answer a few brain teasers before shutting the alarm off.
Smiley Alarm	Start your day with a smile. This app uses facial recognition software and only turns off the alarm if you smile. Research shows that the act of smiling actually lifts mood, even when the smile is fake.
Sleep If U Can, Alarmy, Morning Routine	These apps require you to get up and scan or photograph objects in your house before their alarm shuts off.
Alarm Clock Xtreme, Mathe Alarm Clock, Puzzle Alarm	These app make you solve puzzles or math problems before turning off.
Wake N Shake	An app that only shuts off the alarm when you vigorously shake the phone.