

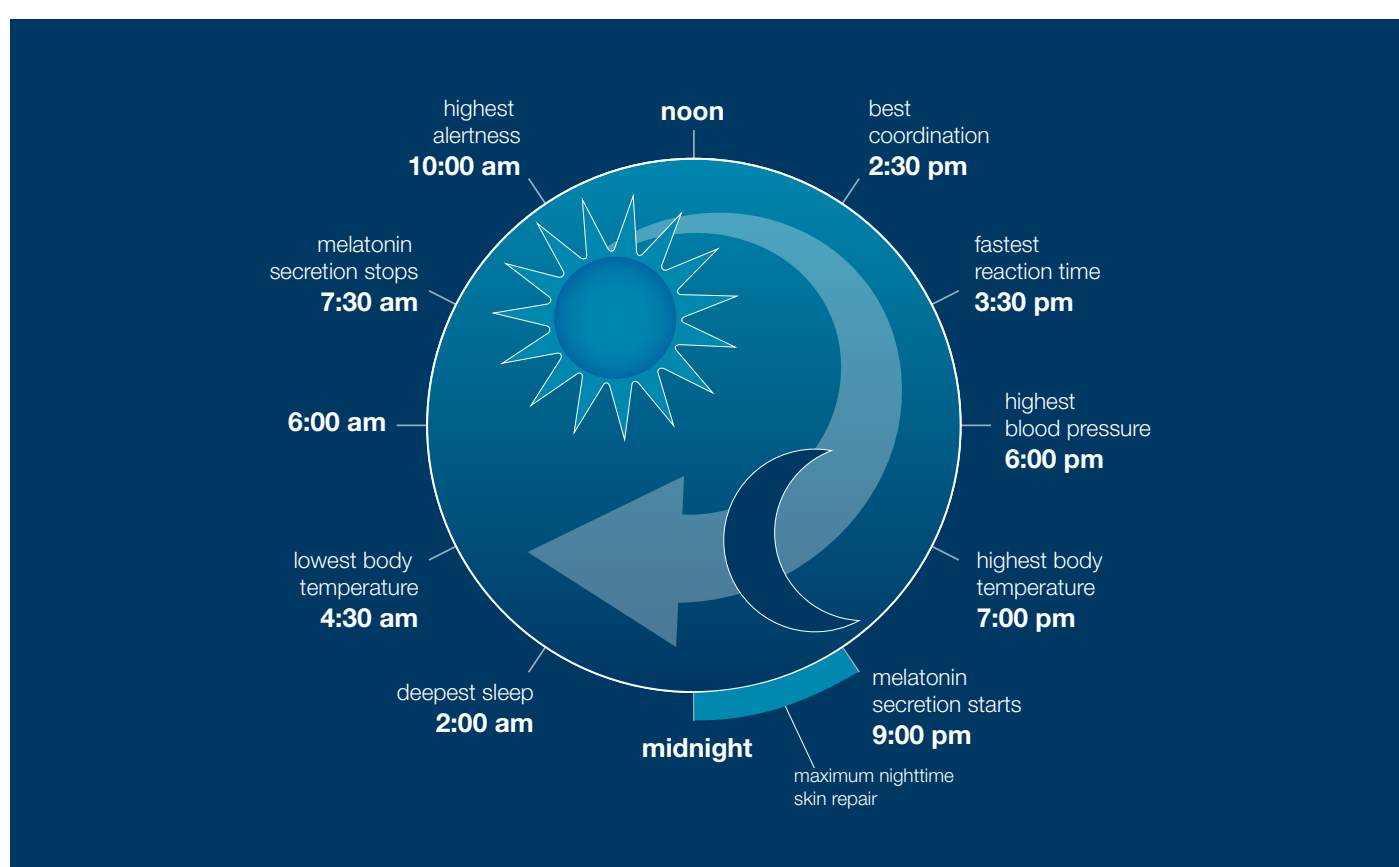
the science of sleep (and skin)

Not sleeping enough? Your skin is suffering. Here's what to do about it.

It's common knowledge that most of us don't get enough sleep. What most people don't realize is that the hours we spend asleep are actually among our most constructive: certain areas of your brain work their hardest during sleep, and **skin is best able to repair and regenerate itself at night.**

In short, quality sleep is crucial to both skin health and your overall health. Here's what you need to know to make the most of it.

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a.m. defense mode

- Cells defend against UV light
- Natural antioxidant protection
- Peak hours: 7:00 am – 11:00 am



p.m. regeneration mode

- Skin renewal rate almost doubles
- Collagen production rises
- Cell damage reverses
- Body temperature rises, causing more water loss through skin
- Melatonin production rises, repairing UV-induced damage
- Peak hours: 9:00 pm – midnight

active sleep and circadian rhythms

Circadian rhythms are periods of biological activity that occur when you're awake and asleep, controlled by the way the body's biological clock responds to light and dark.

During the day skin cells are in defense mode, working to protect themselves from UV exposure and free radical damage. When the sun goes down, your mind and body switch into an active regeneration mode – repairing daytime damage and boosting the production of substances that protect and renew. Here's what happens:

- The brain clears out waste products like amyloid beta (a substance associated with the development of Alzheimer's disease).
- Production of protective brain cells called oligodendrocytes ramps up.
- Memories are consolidated to enhance problem-solving and creativity.
- Melatonin, known for its antioxidant (a.k.a. anti-aging) properties, is produced at night.
- Levels of the stress hormone cortisol fall during sleep, which helps skin repair daytime damage.
- The body makes more collagen, which minimizes fine lines.
- More human growth hormone is released, increasing muscle mass and strengthening skin.