

# Use the 'downstate' to dissolve stress

Dr Sara Mednick tells *Miranda Levy* how understanding our natural rhythms can calm and heal us

After two years of pandemic stress, we now have back-in-the-world stress, which comes in many different flavours, and is a lot noisier. For a great number of people, Covid stress caused health anxiety, job insecurity or lockdown-induced loneliness. Now we're returning to normal, this is being replaced by (or in some cases, still coexists with) the demands of "working from work" and rebooted social relationships. None of this is exactly helped by the extra layer of worry caused by the rising cost of living.

Dr Sara Mednick is a professor of psychology at the University of California, and an expert in sleep and cognition. "Before the pandemic, we were pushing ourselves to 'do do do' as much as possible," she says. "Then the Covid period arrived, which was terrifying and debilitating for many. We were thrown off balance. Our natural rhythms were disrupted – we had to create our own schedule of work, home-schooling kids, exercise and eating, and it was stressful in a different way. Finally, we are stepping into the post-pandemic phase, we have to re-acclimatise."

Many of the slower-life lessons we've learned for the past two years have been good for us, says Mednick. "We have to find a way to hang on to these, and go back into our old lives with a new, healthier balance."

The result is Mednick's new book: *The Power of the Downstate: Recharge Your Life Using Your Body's Own Restorative Systems*. Mednick's premise is that our days are divided into two alternating states.

"We are rhythmic animals," she says. "First of all, we prioritise time and space for activity, using our muscles,

and thinking – a period of high metabolism." Mednick terms this the "upstate": rushing about, at work, exercising, on social media. Each upstate phase is inevitably followed by a period of "downstate", where a person repairs, replenishes and gets ready for the next upstate.

"The downstate refers to a wide range of recovery systems you can tap into on a daily basis to restore your most vital functions at a cellular level," says Mednick, "giving your heart, brain and metabolism a rest, repairing overtrained or inflamed tissue, and allowing yourself some time to process... your emotions, memories, and carefully made decisions."

The purest form of the downstate is sleep. During Mednick's research, she discovered a significant association between sleep and cognitive improvement. By monitoring a combination of EEG (brain) and ECG (heart) activity, her results showed clearly that her subjects woke up more alert and energised after a short nap. If sleep and autonomic activity (your body's automatic functions) had a restorative downstate, she wondered, what other systems might have them, too – so contributing to a longer, healthier life?

"My attention turned to big-picture questions about how all our rejuvenating subsystems – not just sleep, but cardiovascular, circadian (body clock) and metabolic – fit together," she says. "In particular, I wanted to figure out why these systems seem to simultaneously fall apart in older adults, and what these insights could tell us about the same, but milder, cognitive changes that occur in midlife." She also flags what many of us know already: too much

stress causes short-term mental health distress, and raises the risk of long-term physical health issues such as cardiovascular problems.

The book's major premise is that you do not have to be asleep to achieve the downstate: you can learn to behave in a way that harnesses your body's natural

restorative processes – balancing the "rev" with the "restore".

Or, as Mednick puts it: "The downstate is the time for housekeeping the brain's toxic by-products of everyday living. It's your opportunity to plug yourself into a metaphorical outlet and power back-up." The goal, she says, is make the most of our restorative processes via four systems, or "domains": our autonomic nervous system, sleep, exercise and food – then encourage them to work together to boost our overall wellbeing, helping us to live longer, and more healthily.

## DOMAIN ONE: THE AUTONOMIC NERVOUS SYSTEM

This is basically your body's unconscious control system, which regulates functions including heart rate, respiratory rate, and "fight or flight" response.

"During slow-wave sleeping, you take a 'cardiovascular holiday', but there are ways to replicate this during your waking hours," says Mednick.

The key to this downstate is proper breathing: by which we can control our heart rate. "Slow, deep breathing, defined as around 10 to 12 seconds per breath, five to six breaths per minute, is not only relaxing, but serves as the direct switch from 'rev' to 'restore'," says Mednick. "Breathing through your nose organically slows your inhale and exhale, compared with



mouth-breathing. Nasal breathing increases the oxygen capacity of your lungs, as well your energy levels."

#### DOMAIN TWO: SLEEP

"Along with clean air and water, nutrient-rich food and shelter, sleep is an essential need for human survival," says Mednick. "But, until recently, it has almost entirely been disregarded." She points to the joy of waking up to "inbox zero", after seven to eight hours in the "dreamy downstate". She says: "Our ancestors understood this, relying on sleep as their main downstate resource, but today, you are lucky if you get six hours, punctuated by a blaring smartphone alarm."

Mednick describes short-sleep nights as a "false economy" – and that paying off your "sleep debt" by lying in at weekends won't make up the shortfall. "The daily wear and tear of the upstate takes its toll," she says.

She recommends early nights – time spent asleep during the first part of the night contains the more

restorative short-wave sleep (the latter half of the night is full of REM sleep, with comes with higher brain activity). "Hold off on all liquids three hours before bed – so you won't need to get up for the bathroom – and stop caffeine early in the day," says Mednick.

#### DOMAIN THREE: EXERCISE

"Exercise better, sleep better, full stop," says Mednick. "According to a 2018 study, moderate-intensity exercise, such as walking briskly or riding a stationary bike for around 30 minutes, four days a week, is enough to help older adults with insomnia gain 75 extra minutes of sleep a night."

For those who don't have much time, Mednick recommends "exercise snacking": breaking up a longer session into multiple smaller bouts. "Taking three 10-minute walks, one after each meal – instead of one 30-minute walk – has produced greater glycaemic gains in people with type 2 diabetes," she says. "Just as

getting good sleep decreases your craving for high fat and sugary foods, exercise has similar downstream effects, improving the quality of your meals and reducing intake of carbohydrates and desserts."

#### DOMAIN FOUR: FOOD

"Those who follow more 'Old World'-type diets, heavy on produce and wholemeal grains, light on unprocessed foods, are 25 to 30 per cent less likely to experience depression," says Mednick.

As important as what you eat, is when you eat. Mednick is a fan of time-restricted eating – for example, restricting your meals to a 10-hour window (so you'd have dinner at 6pm, and not have breakfast until 10am the next day). "Cutting-edge circadian research shows you can maintain your best fitness by keeping meal times strictly to upstate hours when your organs are more prepared," she says.

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*The Power of the Downstate: Recharge Your Life Using Your Body's Own Restorative Systems* by Sara C Mednick, £12.99 ([Hay House](#))

### FOUR-WEEK RECOVERY PROGRAMME

"The most effective way is to get your downstates coincident with one another," says Mednick. "For example, exercise is an extreme version of the 'rev' state, but it will also stimulate your whole restore response, which occurs in deep sleep."

She recommends you start your programme concentrating on healthy changes within one domain, adding in another until all four run

concurrently. "This can be done within four weeks," says Mednick.

"This may seem a big deal, but each one is actually not that hard. If this feels too difficult, it's fine to take longer over each phase."

#### EXAMPLE:

- **Week one:** Slow, deep breathing for five minutes every morning or evening.

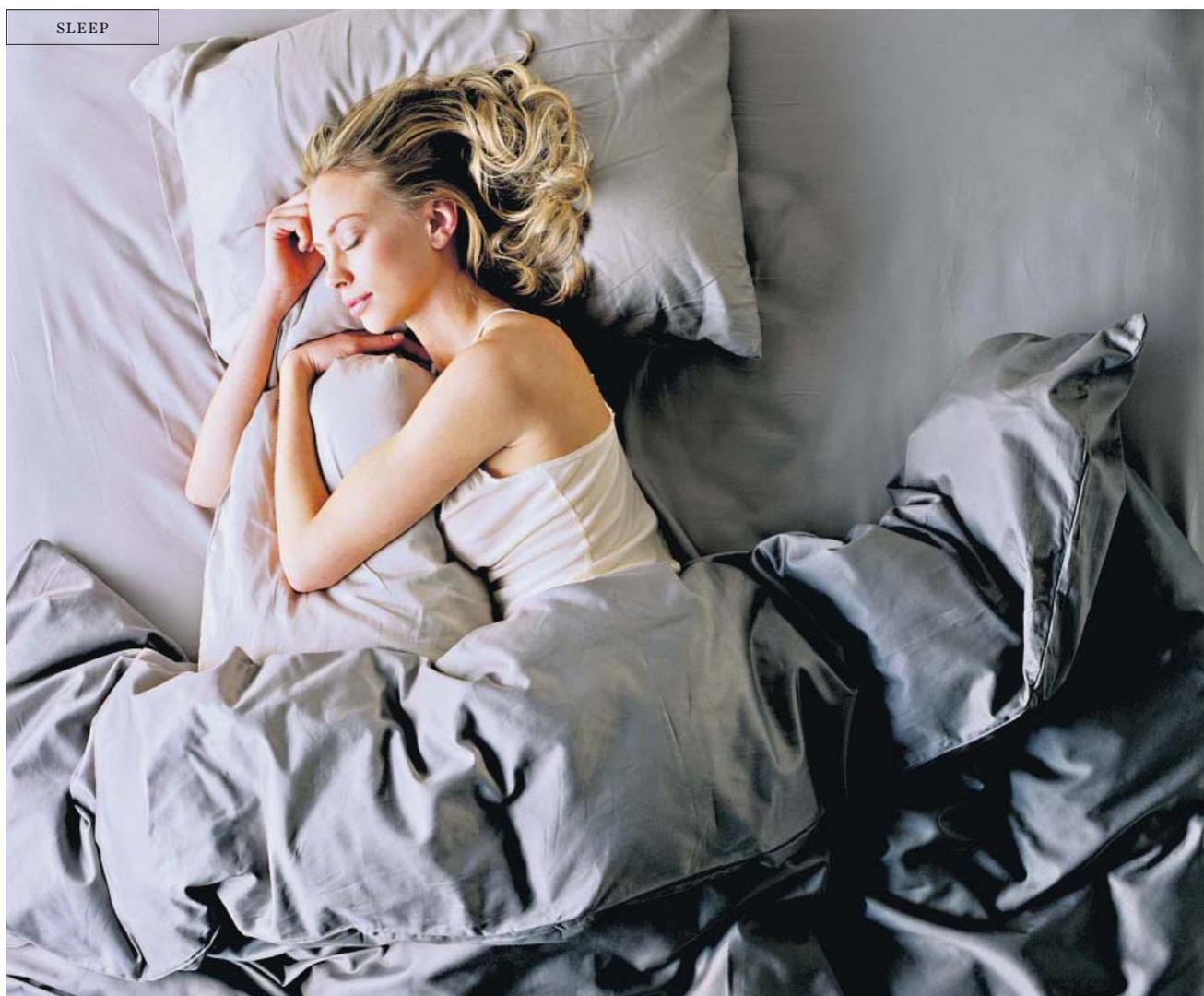
- **Week two:** Setting a bed time and wake time, that you stick to seven days a week, plus the slow breathing.

- **Week three:** Exercising at least three times a week at the same time, plus sticking to your bedtimes and breathing patterns.

- **Week four:** Scheduling your meals to occur within an eight, 10 or 12-hour window, as well as sticking to the breathing, sleeping and exercise plans.

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SLEEP



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