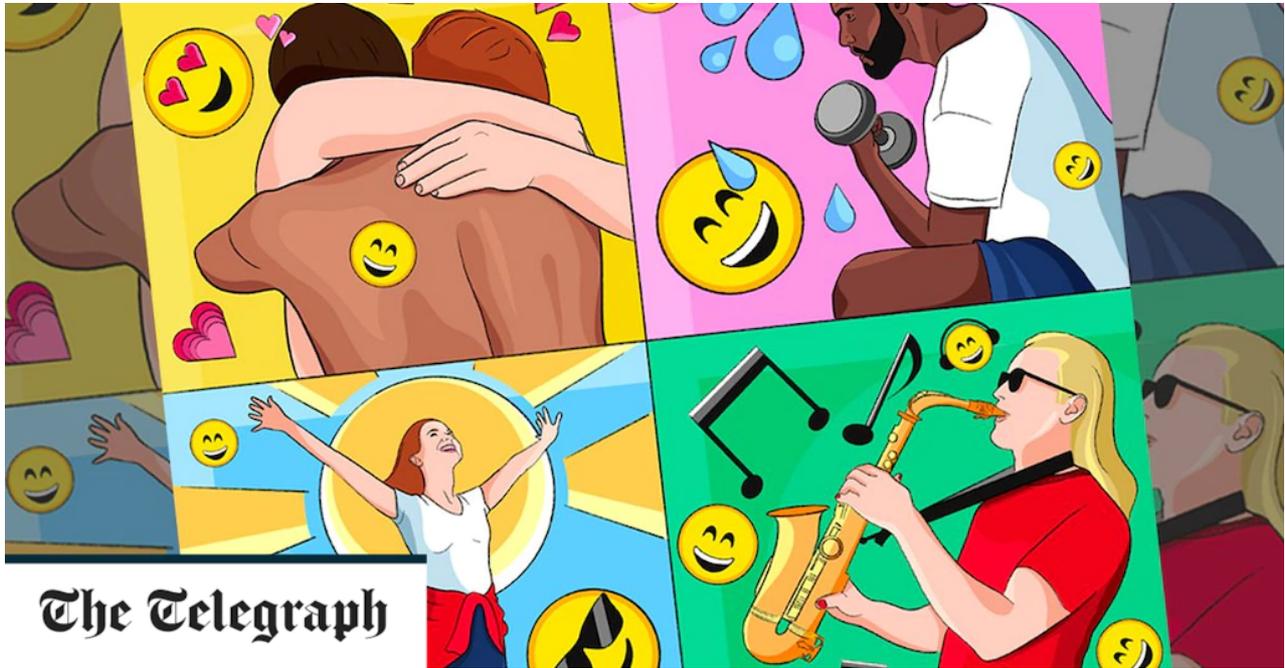


How to kickstart your happiness hormones and beat the lockdown blues

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By Helen Chandler-Wilde



Happiness is elusive at the best of times but right now, deep into a third national lockdown, it feels like a distant land (and remember, holiday plans are off the table).

Long periods of isolation, coupled with chronic stress and worry, are building up into a crisis in mental health. Calls to mental health charity Mind’s helpline doubled in January; a study this month found that one in three adults feels depressed or anxious due to Covid-19.

Humans are a social species and isolation has a major impact on our emotional state, says Dr Dean Burnett, neuroscientist and author of *The Happy Brain*.

“We have pathways [in our brain] which aren’t being stimulated as much and physical connection is such a big part of that.”

Feelings of wellbeing and happiness are largely driven by four brain chemicals – endorphins, oxytocin, dopamine and serotonin. These neurotransmitters and hormones have complex effects on our brain and body, and our lifestyles – what we eat, who we’re with, what we’re doing – can turn them up and down. At this time of national woe, we ask the experts for the best ways to kickstart them.

Endorphins

Endorphins affect the same receptors in the brain as painkillers. They relieve pain but, just like morphine, create a feeling of bliss as a welcome side-effect.

If you've ever experienced a runner's high, you'll know exactly how these chemicals work: after a gruelling session, any physical discomfort falls away and you'll feel suddenly euphoric.

The best-known way to release endorphins is through cardiovascular exercise. Research shows that if you're going at a steady pace – jogging at a pace where you can still hold a conversation – it will take an hour to get an endorphin buzz.

If you push yourself harder, they're released faster. However, don't overdo it; high-intensity exercise causes the release of the stress hormone cortisol, which might erode some of your good mood. A small 2017 study on men in Finland suggests that an hour of moderate exercise is better than HIIT for a happiness hit.

The key to an endorphin rush is to go out of your comfort zone a little, but there are other routes besides getting sweaty. In fact, you could try the exact opposite. Several studies have shown that cold water exposure – for example, cold showers – boost mood; the theory being that the body releases endorphins to counteract the discomfort. “It's like exercising the brain – it ramps everything up and kickstarts the pathways”, says Burnett, who recommends starting slowly – gradually turning down the temperature in the shower until it feels a little cold and standing under it for a few seconds.

Regular cold showers help the brain to cope with stress by teaching it that suffering is temporary, adds Dr Tara Swart, neuroscientist and author of *The Source*. She recommends a brief blast of cold water, followed by a warm shower, which will initially spike cortisol levels before rapidly bringing them down again.

If it's too much to bear on a February morning, you could always eat your way to endorphin euphoria with a curry. Capsaicin, the compound responsible for the burning sensation in chillies, is thought to trigger endorphin release as the brain tries to numb the pain in your mouth. Or try singing – the physical exertion involved in filling your lungs and working the vocal cords has been shown to release endorphins in a similar way to exercise. Little wonder so many people have sung from their balconies during lockdowns.

Oxytocin

Oxytocin is known for its role in childbirth but it's involved in almost all forms of human bonding. It causes the warm fuzzy feeling after sex, the contentment of being with close friends and the joy of cuddling your pet. If you've ever had missed meals when you're falling in love, that's oxytocin, too: in high doses it suppresses your appetite.

Hugging, or any close physical contact with people you love – such as holding hands or massage – will deliver oxytocin and boost your mood – so do it as much as possible, says Burnett. Unsurprisingly, sex has a strong effect on several chemicals that are linked with happiness, including dopamine, endorphins and oxytocin. Sex with someone you're in love with releases more oxytocin than a one-night fling, says Swart.

Of course, the restrictions we are living under mean many are being denied the physical touch that humans naturally crave – hence the rise of “skin hunger” – but connecting with others online can still give an oxytocin hit. Research by Paul Zak at the Center for Neuroeconomics Studies in California has shown that while in-person interactions give a better oxytocin release than social media conversations, video conferencing can be 80 per cent as effective.

“Talking through Zoom is better than nothing”, says Burnett.

Taking a bath may help too: studies show that oxytocin levels rise in response to warmth, and a German study in 2018 found hot baths were as effective as exercise for lifting mood in adults with depression.

A hot bath could therefore be a happiness-booster for people who are isolated in the pandemic, says Swart. “Your skin is immersed in the warm which is the closest thing to a hug you can get if you’re alone.”

Dopamine

People commonly say that they get a “dopamine rush” when doing things that give them immediate pleasure, like getting social media updates or eating. In fact, the neurotransmitter dopamine is more closely linked to the anticipation of reward and driving you to seek out things you enjoy. Without it we would enjoy something once and never be motivated to do it again.

A lack of it is serious – it’s what causes the movement problems in people with Parkinson’s and it’s also thought to be involved in aspects of depression like anhedonia, the experience of being unable to find joy in life.

If you have found yourself lacking motivation in lockdown, it might be due to disruption in the dopamine pathways of your brain: we have lost routines like Friday night at the pub or a lunchtime gym class which were trusted to make us feel good.

To get some zeal back, you could try to rewire your reward circuits with a technique called behavioural activation, according to Dr Ciara McCabe, an associate professor of psychology at the University of Reading.

“It’s a part of cognitive behavioural therapy which increases enjoyment and pleasure by asking people to schedule rewarding activities,” she says. The technique helps you out of a period of low motivation by getting you to take on small, manageable tasks. As they are completed, you will feel satisfaction that will help you to gradually rebuild your drive.

She recommends thinking about practising a new or old hobby that you enjoy, like playing a musical instrument, painting or knitting. At first, practise just a little each day so the task doesn’t feel overwhelming and, over time, you will build motivation. “It’s about training yourself to seek out reward,” says McCabe.

Burnett suggests taking on a small project around the house, like clearing out a cupboard or organising your photos into albums. Demonstrating control over an aspect of life brings us happiness, particularly when the important stuff is currently out of our hands, he says.

Serotonin

This neurotransmitter can affect processes from digestion to your bone health and is important for sleep too. Its role in shaping mood isn't entirely clear, but people with depression often have low levels of serotonin.

Serotonin doesn't exactly cause happiness, but it "helps you get out of bad moods", says Burnett. Most modern antidepressants – and several recreational drugs – work by interacting with the chemical by increasing the amount of serotonin available to your brain cells.

Your body gets the chemical components of serotonin from the food that you eat and there is some evidence that eating specific foods can therefore be helpful. A 2014 double-blind study found that people were less depressed and irritable after consuming higher doses of the amino acid tryptophan, which is found in some high-protein foods like milk, tofu, oats and chicken. Eating tryptophan with carbohydrates increases its effectiveness.

The amino acid is also found in dark chocolate, which will come as no surprise to anyone who gets pleasure from eating it.

Serotonin is involved in your brain's sleep-wake cycle, with levels naturally rising when you're exposed to bright natural light. To give your brain a good shot at making enough serotonin, try to spend as long as you can outside every day to get maximum exposure to light. Make the most of your permitted one daily bit of exercise or eat lunch in the garden when it's warm enough. If you want an additional boost, you could invest in a sun-mimicking lamp and switch it on for a few hours in the morning.