



# Meet your feel-good chemicals

*Like the weather, your moods are complex and ever-changing. Meet the brain chemicals that can help create more sunny days than storm clouds — and the natural, healthy ways to get them flowing.*

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Your brain is a mysterious, complex, incredible thing — and so are your moods. It's natural to feel a whole spectrum of emotions. Some light you up and make you feel electric and bright. Some are more serene and flowing. And some hurt, leaving you feeling flat and sorrowful.

Our moods can be influenced by so many things, and we can't control them all. We lose loved ones, suffer heartbreaks, face health challenges or financial stress or global pandemics. And if you're living with a mental health condition like depression or anxiety, it's definitely not as simple as trying to "cheer up" or "look on the bright side".

But while it might not be a quick fix, there are lots of healthy and natural things we can do to help boost our mood and feel brighter and calmer. And understanding some of the basics of our brain chemistry can give us some powerful clues.

## The chemistry of happiness

When it comes to feeling good, there are four main brain chemicals experts talk about: dopamine, serotonin, oxytocin and endorphins.

Your brain is designed to seek these chemicals. From an evolutionary perspective, this was essential for human survival, explains Loretta Breuning in her book *Habits of a Happy Brain*.

"You have inherited a brain that is focused on survival," Breuning writes. "When a happy-chemical spurt is over, you feel like something is wrong. You look for a reliable way to feel good again, fast. Anything that worked before built a pathway in your brain."

So what are these happy chemicals, and how do they make you feel good? To take a closer look, we talked to psychologist Christine Bagley-Jones, director of Plenish Mind Health in Brisbane.

## Dopamine, the reward chemical

That intoxicating surge when you achieve a goal, receive a reward or even just anticipate something exciting: that's dopamine, a chemical that plays a big role in your brain's reward system and your feelings of motivation.

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Dopamine is a neurotransmitter, one of the brain's chemical messengers that helps nerve cells in the brain talk to each other. "When we have a surge of dopamine, we often get a rush of pleasure and satisfaction — and that reward makes us want it more," Bagley-Jones says. "It allows us to feel good, and it can motivate us to repeat behaviours that we've learned give us that rush."

Unfortunately, things like drugs and alcohol can also give us this feeling, and dopamine can play a role in addiction. Bagley-Jones says it's important to learn ways to achieve this desired effect naturally, like through exercise, enjoying good food or hanging out with friends.

Feeling motivation and pleasure is one big effect of dopamine, but it also plays some other important roles in the brain and body.

"Dopamine also helps with getting good sleep, assisting us with our learning and concentration and building good memory," Bagley-Jones says.

## How to boost your dopamine

When it comes to releasing a dopamine rush, there are lots of healthy things you can try.

- Enjoy pleasurable activities. Eating a delicious meal, listening to music, meditating, spending time with friends or other activities that feel good can all release dopamine, Bagley-Jones says.
- Get moving. Exercise is a great way to release a number of feel-good chemicals, including dopamine. If you can take your workout outdoors, a small dose of glorious sunlight can help too.
- Work towards your goals. You get that rush when you accomplish something, so setting small, achievable goals [which could add up to bigger goals] can help give you that sense of satisfaction. Ticking things off a to-do list and celebrating each small win can be a quick and easy way to get that feeling.
- Eat a healthy diet, and try including foods rich in L-tyrosine. Foods like almonds, bananas, eggs, avocados, tofu, chicken and beef contain L-tyrosine, the protein needed to make dopamine. Some research suggests enjoying more of these foods as part of a healthy diet may help boost your dopamine levels.

## Serotonin, the mood stabiliser

Like dopamine, serotonin is also a neurotransmitter, meaning its job is

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to send messages between nerve cells. It's found all over the body, but mostly in the gut, blood and brain.

Serotonin plays an important role in your mood. It also contributes to things like your sleep-wake cycles, appetite, digestion and sexual desire. "Serotonin is kind of like the friend our body needs to stabilise our mood and allow consistent feelings of wellbeing and happiness," Bagley-Jones says.

Low levels of serotonin can leave you feeling flat and anxious, and are thought to contribute to depression, which is why it's common to treat depression with medication that aims to improve serotonin levels.

"Naturally maximising serotonin levels through things like good sleep, clean diet, exercise and uplifting relationships is one of the best ways to feel better," Bagley-Jones

says. "When serotonin levels are consistent and optimal, you will feel more focused, you'll feel more emotionally stable, you'll be happier and you'll be more calm."

#### How to boost your serotonin

Need a mood boost? Try a few of these things to help lift your serotonin levels.

- Get active. Again, exercise is one of the best things you can do to release feel-good chemicals like serotonin, along with dopamine and endorphins. Plus, exercise can help support brain connections, boost your energy and lift your confidence, so there are lots of reasons to get moving for your mood.
- Enjoy the sunlight. Research suggests getting outdoors in the natural light can help trigger the release of serotonin, making you feel brighter.

- Meditate. Relaxation techniques like meditation or mindfulness, where you quieten your mind and bring your attention to the present moment, are thought to help boost happy chemicals like serotonin.
- Eat a healthy diet, and try including tryptophan-rich foods. Tryptophan, a protein needed to create serotonin, can be found in foods like nuts and seeds, eggs, salmon, turkey, dark leafy greens, milk and tofu.
- Support your gut health. There's lots of new research exploring a link between gut health and our mood. In fact, around 95 per cent of serotonin is produced in our gut. To support your gut health and serotonin production, eat a healthy diet rich in fibre, prebiotics and probiotics — think lots of fruits and vegetables, nuts, seeds, whole grains and fermented foods.

#### Oxytocin, the love chemical

Oxytocin is responsible for that warm, lovestruck feeling you get when you hug or kiss someone, cradle a baby, make a new friend or play with a pet. It's a hormone that acts as a neurotransmitter in the

brain, influencing our feelings of love, connection, trust and loyalty.

"Oxytocin is a fancy, lovely drug," Bagley-Jones says. "It's highly addictive, and that's why people often really enjoy the honeymoon phase of relationships, because you're riding high with oxytocin released every time you're close to the person you're feeling love towards. It can also help alleviate symptoms of depression and anxiety, so that's why a lot of psychologists look at one's relationships when trying to guide and help someone to feel better."

Oxytocin also plays an important role in reproduction, not only by making us seek out and enjoy sexual intimacy, but also in helping with things like childbirth contractions and breastfeeding.

#### How to boost your oxytocin

There are lots of easy ways to get that happy, loving feeling.

- Stay socially connected. Enjoying good company and being connected to people is one of the best ways to get more oxytocin. Make time for friends and family, and look for ways to strengthen relationships in your life. If you feel that you're lacking in social connections, you could try taking a class, volunteering or looking for local clubs or interest groups to join.
- Enjoy physical touch. Sexual intimacy gives you a surge of oxytocin that makes you want to bond. But it's not all about sex — you can also get oxytocin from hugging, holding hands and other kinds of physical touch that we share every day with friends and family.
- Get a massage. Relax and let your stress melt away. Research suggests a massage can help boost your oxytocin levels, as well as lowering your stress hormones, leaving you feeling calmer and happier.
- Spend time with a pet. Good news for pet lovers. Research shows patting, cuddling or playing with a furry friend can increase oxytocin — and they'll love it too.

#### Endorphins, the runner's high

As Reese Witherspoon famously explains in *Legally Blonde*: "Exercise gives you endorphins. Endorphins make you happy. Happy people don't kill their husbands — they just don't."

Endorphins are our body's natural pain relievers, flooding us with good feelings in response to discomfort or stress on the body. With a burst of endorphins, we often feel exhilarated and energised, capable of taking on the world.

"Our body creates endorphins when we do things that exert ourselves," Bagley-Jones says. "In fact, people talk about experiencing a 'runner's high' — which is

## Meet your stress hormone

When we think about the influence of feel-good chemicals on our mood and body, we also need to look at some of the not-so-feel-good ones. Our main "stress hormone" is cortisol.

"Cortisol is a hormone that influences our mood, motivation and fear levels," Christine Bagley-Jones says. "It helps us during our 'fight or flight' moments in life — and it's powerful. We need it for rare situations when we might need to act fast to respond from some kind of risk, which could be physical or emotional."

#### Cortisol and the body

While a quick burst of cortisol can play a useful role, too much stress can wreak havoc on us.

"You don't want cortisol firing off all the time so that it becomes your natural way of operating — because that can create anxiety and fatigue and fluctuations in mood," Bagley-Jones says.

Over time, high cortisol levels can also contribute to more serious health issues like depression, weight gain, sleep problems, lowered immunity, high blood pressure, diabetes and heart disease.



#### How to lower your cortisol

The good news is, many of the healthy habits that increase our feel-good chemicals also help lower our stress hormones, Bagley-Jones says.

Exercise, good sleep, relaxation techniques, healthy food, laughing and social connection can all help lower cortisol and reduce feelings of stress.

essentially just a burst of endorphins after a lot of exercise. It lifts mood, reduces stress, relieves pain and gives you that lovely rush. They're one of the easier-to-access chemical experiences that we can generate naturally in our body."

Endorphin levels can also increase in response to activities that feel good or give us rewards, like enjoying delicious food or having sex.

#### How to boost your endorphins

Ready for a feel-good rush? Try a few of these activities.

- Get sweaty. Exercise is your sure-fire way to get that endorphin rush, along with serotonin and dopamine. Scientists think that "exercise high" is part of the reason why working out can be addictive. Any kind of exercise is good for you, but some research suggests a moderate or high-intensity workout may release more endorphins — so that's a good reason to challenge yourself if you can.
- Laugh out loud. They say laughter is the best medicine, and research

suggests it can release endorphins. Watch some comedy, listen to a funny podcast or spend time with friends and enjoy that happy rush.

- Indulge a little. Enjoy things that bring you bliss, like a delicious meal with friends, or watching your favourite TV show, or getting a massage. Some research also suggests that small amounts of dark chocolate and red wine may help trigger endorphins.
- Listen to music. Music can have a powerful effect on your mood, and one reason may be an increase in endorphins.

Feeling good might not always be simple, especially in darker times. But creating small, daily habits that support the flow of happy chemicals can go a long way in helping us feel just a little bit brighter.

References available on request.

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