

The Way Up from Down – in 6 easy steps

If you find yourself becoming enthusiastically negative, not happy most of the time, stuck in a black hole, not enjoying your life and not seeing a way forward read on to discover the six essentials to improve your mood.

A staggering, and increasing number of people feel like this, with one in six being prescribed anti-depressants. We strongly believe the combination of psychological and nutritional solutions is the way up from down, not drugs. The biggest problem with anti-depressants, apart from their poor effectiveness compared to some of the natural agents we'll be discussing, is if you can't get off them. According to Professor John Read from the International Institute for Psychiatric Drug Withdrawal, up to 86% of people experience withdrawal effects, half of which are severe, not uncommonly for several months – and GPs have no idea how to help them.¹

On the psychological front depression is often anger with enthusiasm, and it is important to examine if you are living your life true to yourself. If you are stuck in a circumstance – a job, relation or situation – that doesn't support your growth towards your full potential no amount of omega-3 or B vitamins is going to change that. We often recommend people read the book *Lost Connections* by Johann Hari, which explores very well all the psychological and social avenues that lead to feeling down. The book, however, completely ignores nutrition and its profound impact on the chemistry of mood. Having rightly dissed anti-depressants as the answer, the author then dismisses the whole idea that brain chemistry has anything to do with it. As we will show you, brain chemistry, and what you eat has everything to do with how you feel, your 'get up and go' and both your physical and mental energy and ability to think straight. In fact, you cannot separate psychology from brain chemistry. Social media addiction, for example, which can be a cause of depression, with everyone creating a 'false self' that looks fantastic, reinforcing the idea that you are a loser, or cyber-bullying as an extreme example of this, depletes the 'reward' system of the brain that runs on dopamine. When you run out of dopamine you feel down. Dopamine is made directly from the amino acid tyrosine. More on this in a minute..

At the Brain Bio Centre in Richmond, Surrey many people come out of low mood back by tuning up their brain chemistry, not with drugs but nutrients. *Gabrielle*, who had suffered from extreme lethargy and mood swings for decades, is a case in point 'I've been trying to feel like this for 25 years – I'm over the moon!' she says. *Fran*, who had suffered from debilitating depression, lack of confidence and fatigue and was unable to work turned around in a few months on the nutritional programme. 'I am back in work, feeling my old self again – feeling fantastic. Your approach genuinely saved and transformed my life'. *Holly*, who had been plagued with anxiety, low moods and indecisiveness for years derived clear benefit from a nutritional upgrade. 'It's made a substantial difference. I feel much more balanced and have a much more positive, rather than negative, outlook on life.'

How did these people turn around? By correcting one of six critical factors. Let's start at the beginning.

1. Omega-3 and marine food nutrients.

In case you didn't know we are human because, about 6 million years ago split from other apes (gorillas, chimpanzees, bonobo) and our hominid ancestors started to exploit the water's edge. We became upright wading in water, developed our diving reflex, love of water, ability to hold our breath, which cause a drop in the larynx, a precursor for language development, and had a diet full of omega-3 fats, notably DHA, as well as iodine, selenium, B12, vitamin D which are all rich in a marine food diet. The whole story you've been told, that our ancestors came out of the trees onto the savannah and stood up to see better is baloney. If you don't believe this read the book *The Waterside Ape* by Peter Rhys-Evans. DHA (docosahexanoic acid) was the critical omega-3 fat that originally converted solar energy into nerve power in the first rudimentary eye cell, leading to the formation of the nervous system and ultimately brain in the ocean. Think about it – DHA turns light into energy. It is 'enlightening'.

That's the history. The science says, beyond a shadow of doubt, quoting the most comprehensive study of all studies to date "the use of omega-3 fats is effective' both in patients with major depressive disorder and milder depression'. The lowest level of effect was in supplements providing 300mg of combined EPA and DHA, while 1,000mg a day was the 'optimal' dose. But it isn't just a mood improver. Study after study have shown that the combination of EPA and DHA means less aggression, less emotional and physical outbursts and, generally, a calmer outlook. By the way, the conversion of the type of omega-3, called ALA, in plant foods such as chia and flax, into DHA is 0.05% so there is no possibility of achieving these levels on a plant-based diet, without supplements. Ideally supplement at least 500mg (DHA plus EPA) as well as eating oily fish (salmon, mackerel, sardines, herrings, taramasalata) three times a week. if you're vegan you can get vegan DHA and EPA.

2. Serotonin – the enlightener

How does omega-3 improve your mood? The best evidence to date is that it improves how brain cells (neurons) communicate and raises serotonin, which is the brain's feel good neurotransmitter. The mechanism of almost all anti-depressants lies in manipulating serotonin to increase levels. Serotonin is what's called a tryptamine. From it we also make melatonin, another tryptamine, that controls the sleep/wake cycle but, in effect, keeps you in sync with the earth's day/night cycle. Since drugs, to make obscene amounts of money, have to have a patent, they have to be based on something artificial not natural since pre-occurring natural nutrients can't be patented. SSRI anti-depressants (the Prozac generation) block the re-uptake or recycling of serotonin, which gives you more in the gap between neurons, where serotonin sends its feel good message, but gradually depletes your serotonin stores. That is why withdrawal effects are so severe. The new SNRI (serotonin and noradrenalin reuptake inhibitors) do the same thing but also manipulate noradrenalin, made from tyrosine (see factor xx below). But what is serotonin, melatonin and all the brain's tryptamines made from? The answer is the naturally occurring, unpatentable amino acid tryptophan, and specifically a form of this called 5-hydroxytryptophan or 5-HTP for short. Animals given tryptophan show a clear increase over the next few hours in brain levels of both 5-HTP and serotonin.² People, deprived of tryptophan, become depressed, and depressed people given 5-HTP get significant relief, as good as if not better than anti-depressants, but with a fraction of the side effects and no withdrawal problems. There have been 29 studies using 5-HTP for the treatment of depression, involving 1050 people to date, most of which proved effective.³ Why not take 5-HTP instead of anti-depressant drugs? Why not indeed. The bottom line is it's not

patentable, hence not sufficiently profitable. Big pharma is, however, looking at adding it to patentable drugs (the combo could be patentable) to increase efficacy.⁴

Are there any downsides? Most serotonin is made in the gut from tryptophan, or 5-HTP, and some people experience mild to moderate nausea or stomach cramps when starting to take 5-HTP. This often resolves if they continue or lower the dose. Two studies report that enteric coated or slow-release 5-HTP capsules substantially reduces gastrointestinal adverse events.⁵ This suggests a direct irritating effect of 5-HTP on the stomach. The slow release form also has the added advantage of increasing the length of time 5-HTP is effective.⁶

The other concern has been the theoretical possibility of ‘serotonin syndrome’ – an overload of serotonin – if 5-HTP is taken with anti-depressant drugs. But, according to the most recent comprehensive review ‘5-HTP has never been associated with serotonin syndrome in humans’ and ‘Even in combination with anti-depressants it has a low propensity to cause severe adverse events in humans.’⁷ Even so, I generally advise people not to take with anti-depressants but certainly to start weaning in 5-HTP when you are weaning out anti-depressants, and take a decent dose (300mg daily) on stopping an anti-depressant. The lowest viable amount is 100mg which I recommend taking twice a day, in the morning and evening.. Since 5-HTP helps make melatonin, which helps you to sleep, there is a good reason to take it an hour before bedtime if you have difficulty sleeping, or don't appear to dream. There is some debate about whether it is better absorbed on an empty stomach, as for other amino acids, so it would be wise to take the first supplement at least 15 minutes before breakfast and the last an hour before bed.

3. Tyrosine – the motivator

The reason the new generation of ‘SNRI’ anti-depressants are serotonin AND NORADRENALIN reuptake inhibitors is that, when noradrenalin, made from dopamine, becomes depleted you lose motivation or drive. While low serotonin is associated with the ‘black hole’ of depression low dopamine or noradrenalin is associated with the lack of drive to do something to make yourself feel better. We know that almost any addiction – social media, gambling, sugar, alcohol, sex, cocaine etc is associated with dopamine depletion because they target the brain’s ‘reward’ system to make you feel good about yourself. That’s why marketing is aimed at triggering this response. Overuse, as in too much sugar, alcohol, caffeine, Facebook, Instagram and so on leads to a burnt out reward system then life seems pointless, nothing floats your boat. This is a major driver, I believe of the big increase in teenage suicide, although we do also know that suicidal ideation is a not uncommon side-effect of anti-depressant drugs.

But, instead of blocking the noradrenalin reuptake channel with an SNRI drug, which one assumes will ultimately lead to even less available noradrenalin/dopamine, and consequently even worse withdrawal effects, why not provide the nutrient from which dopamine and noradrenalin are made? Why not indeed. This is the naturally occurring amino acid tyrosine. While we love the combo of 5-HTP with tyrosine there’s not a lot of point taking tyrosine if you keep eating loads of sugar, drinking loads of coffee, being addicted to social media and using alcohol to calm down and go numb in the evening. Although we won’t go into here eating a low GL diet, eating in this way, as explained in the ‘low GL’ domain, and weaning yourself of dependency to coffee and

alcohol, is the way to go.

4. Chromium – the instant anti-depressant?

Anyone who knows about blood sugar control knows that the essential mineral chromium (which has no RDA) is vital for insulin function and blood sugar control. But few know that it has been shown to relieve depression in 6 out of ten people in placebo controlled trials suffering from ‘atypical’ depression⁸. What is also remarkable about chromium is that it tends to work within 3 days, if not 3 hours.

Two other studies have reported significant mood improvements: one giving chromium to women with premenstrual mood disorders and another to women prone to binge eating. Both reported clear benefits. The second found ‘greater reductions in bingeing, weight, and depression’ on chromium versus placebo.⁹ The lowest amount I’d recommend is 100mcg, although most studies have used 600mcg

5. Methyl magic and B vitamins

The word you often here in relation to feeling down is ‘disconnected’ – in terms of social connection, love connection, spiritual connection, meaning of life connection and feel part of life, friends and society. The biochemical equivalent of connection is methylation.. it’s a process that is occurring a billion times every few seconds that fine-tunes your brain’s chemistry, making important neurotransmitters such as serotonin and dopamine, as well as neurons themselves (all provided you have the raw materials – amino acids and fatty acids). Methylation is dependent on B vitamins, especially B6, B12 and folate, each of which, if deficient, with depression and each of which, if supplemented, have been shown to improve mood. This is explained in details in the B VITAMIN domain.

You can measure whether or not you’re doing methylation properly using a blood test called homocysteine. If homocysteine is high that means a person is not doing methylation well and needs more B vitamins. Actually, zinc and TMG (tri-methyl glycine) are also vital. So, keeping your intake of all these nutrients high, ideally both by eating wholefoods and supplements. B12, especially if you’re vegetarian, is key to supplement.. The RDA of 2.5mcg is far too low. You want to be taking in at least 10mcg a day.

6. Vitamin D – the sunshine vitamin

Generally speaking, the lower your vitamin D the worse your mood which makes vitamin D especially important to supplement from October to March when the angle of the sun is too low and you’re less likely to get outdoors exposing your skin to sunlight. It’s best to assume that we are all deficient in winter, unless you travel to the sun, and need to supplement at least 15mcg (600iu) up to 75mcg (3,000iu) in the winter, and to correct deficiency.

Some studies show that supplementing vitamin D improves mood¹⁰, but not all.¹¹ But it isn't just vitamin D we need - it's sunlight. Canadian researchers compared the effects of an anti-depressant (fluoxetine), placebo or 30 minutes daily of light therapy as soon as possible on waking for people with major depression. Light therapy was both superior to placebo and anti-depressants, which were also no better than placebo.¹² I have a full spectrum light in my study, which I put on in the winter, when I'm writing in the early morning, before the sun comes up.

In summary, the way up from down is to eat a low GL diet, with plenty of oily fish, avoid sugar, cut back on stimulants and alcohol, and make sure your daily supplements include omega-3, vitamins B, D, zinc, chromium, plus the amino acids 5-HTP, tyrosine and TMG.

¹ J. Davies & J. Read *Addictive Behaviors*, 2019; 97:111-121

² Audhya T et al., *Biochim Biophys Acta*. 2012;1820(10):1496-501

³ Turner E et al., *Pharmacology&Therapeutics* 2006; 109(3):325-38; Jangid P, *Asian J Psychiatry* 2013;6(1):29-34.

⁴ J Jacobsen et al., *Trends Pharmacol Sci*. 2016 37(11): 933–944

⁵ See (4) above.

⁶ See (5) above.

⁷ See (5) above.

⁸ J Davidson et al, *Biological Psychiatry* 2003; 53(3): 261-4; see also J Docherty et al, *Journal of Psychiatric Practice* 2005;11(5): 302-314.

⁹ Brownley KA et al , *J Diet Suppl*. 2013;10(4):345-56; see also Brownley, KA et al., *J Psychosom Res*. 2013;75(1):36-42

¹⁰ R. Jorde et al, *Archives of general psychiatry*, 2008;65(5):508-12; C. Shipowick et al, *Applied Nursing Research*, 2009;22(3):221-5Lansdowne AT, *Psychopharmacology*,1998; 135: 319–323

¹¹ E. de Koning et al., *Am J Clin Nutr*. 2019 [Epub ahead of print]

¹² R. Lam *JAMA Psychiatry*, Nov 2015 R

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