Naturopath Life
WELLNESS CENTRE

BRAIN CHEMISTRY

Neurotransmitter amino acid deficiencies

Serotonin

Serotonin is the neurotransmitter associated with feeling happy and in a good stable mood. With adequate levels you should feel happy, calm, confident, relaxed, positive and easy-going. Low serotonin is most commonly associated with depression but also plays a part in anxiety.

Serotonin also affects sleep cycles, cravings, addictions, anger and PMS. Serotonin can be increased through tryptophan and 5-HTP, which is created from tryptophan. Foods high in tryptophan include eggs, turkey, cheese, pumpkin seeds, salmon and pineapple. In addition, exercise and exposure to sunshine have been shown to improve serotonin levels.

Low Serotonin Checklist

Symptoms	Common	Sometimes	Rarely
Anxiety or panic attacks			
Worry/fear			
Obsessive thoughts or behaviour			
Perfectionism			
Irritability			
SAD disorder / winter blues			
Depression			
Suicidal thoughts			
Low self-esteem and poor self-confidence			
PMS / menopausal mood swings			
Sensitivity to hot weather			
Hyperactivity			
Anger or rage			
Digestive issues			
Fibromyalgia or joint pain syndromes			
Difficulty getting to sleep by 10pm			
Insomnia or disturbed sleep			
Afternoon or evening cravings for carbs, alcohol or drugs			

GABA

GABA is an amino acid and neurotransmitter that is most heavily involved in calming. Low GABA levels are commonly associated with anxiety, poor sleep, stress and agitation. GABA is found in almonds, bananas, beef liver, broccoli, lentils, brown rice, oats, oranges, potatoes and spinach. Supplemental GABA has also been shown to assist in relieving the associated symptoms.

Low GABA Checklist

Symptoms	Common	Sometimes	Rarely
Anxiety and feeling overwhelmed or stressed			
Panic attacks			
Unable to relax or loosen up / inner tension			
Stiff or tense muscles			
Feeling stressed and burnt out			
Craving carb, alcohol, or drugs to relax or calm down			

Catecholamines

Catecholamines are hormones produced by the adrenal glands and brain in response to stress. The main catecholamines are epinephrine (adrenalin), norepinephrine (noradrenalin) and dopamine. Deficiencies can cause issues with focus and attention, cravings (sugar, drugs, caffeine and alcohol), low motivation and depression. Stress depletes catecholamines, and supplementation of tyrosine can improve mood, memory and your tolerance to stress. Foods high in tyrosine include beef, lamb, pork, cheese, eggs, seeds and nuts, dairy and whole grains.

Low Catecholamines checklist

Symptoms	Common	Sometimes	Rarely
Depression and apathy			
Easily bored			
Lack of energy			
Lack of focus			
Lack of drive and low motivation			
Attention deficit disorder (ADD)			
Procrastination and indecisiveness			
Cravings for carbs, alcohol, caffeine or drugs for energy			

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Endorphins

Endorphins are neurotransmitters that reduce physical and emotional pain. Endorphins allow us to feel love, joy, pleasure etc. They give you that high when something nice is happening such as feeling loved or being hugged. Comfort eating sweet and/or fatty food can be a sign of low endorphins. D-phenylalanine is an amino acid that can help raise endorphin levels through slowing their breakdown within the body. Foods high in D-phenylalanine include beef, lamb, pork, fish, dairy and nuts and seeds.

Low Endorphin Checklist

Symptoms	Common	Sometimes	Rarely
Sensitivity to emotional pain			
Sensitivity to physical pain			
Crying or tearing up easily			
Comfort eating			
Really loving certain foods, behaviours, alcohol etc.			
Craving a reward or numbing treat			

Amino Acid Contraindications

Some precautions are to be noted when supplementing amino acids if any of the following apply;

- You have a serious illness such as cancer
- You have severe liver of kidney problems
- You have an ulcer
- You have schizophrenia or bipolar disorder
- You are pregnant or breast feeding
- You are taking SSRI or MAOI's for depression or mood problems

For the following conditions, please be aware of the following contraindications;

Condition	Amino Acid Contraindicated
Overactive thyroid, Graves' disease, melanoma, high blood pressure, phenylketonuria (PKU), migraines	Tyrosine, DLPA
Low blood pressure	GABA or taurine
Asthma	Tryptophan or melatonin
Severe depression	Melatonin
Bipolar disorder	Tyrosine, DLPA or glutamine