MANAGING **METABOLIC DEFICIENCIES** ASSOCIATED WITH

DEPRESSION & MOOD DISORDERS, COGNITIVE DISORDERS, & MIGRAINE

A PATIENT'S GUIDE TO A NOVEL APPROACH

EBM MEDICAL

Your doctor has the option to prescribe an EBM Medical Food for your condition. This brochure explains the advantages of medical foods relating to chronic conditions including mood and cognitive disorders, and migraine.

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EBM MEDICAL

What is a medical food?

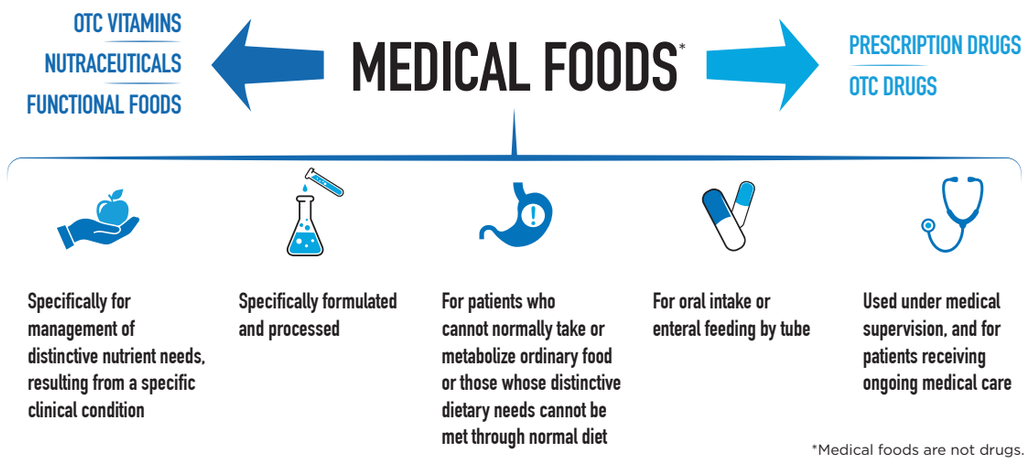
Medical foods help create a healthy environment to repair injured blood vessels and nerves, improve nerve and vascular function, and to help prevent more damage from occurring.

Medical foods may be beneficial for a variety of conditions, including: [31]

- Mood disorders
- Cognitive disorders
- Migraines
- Peripheral vascular disease
- MTHFR Genetic Variant
- Peripheral neuropathy
- Diabetes complications
- Chronic pain
- Chronic fatigue
- Fractures
- Rheumatoid arthritis
- Fibromyalgia
- Multiple sclerosis
- Heart disease

Medical foods are considered a unique category regulated by the FDA. Medical foods can help manage chronic conditions by addressing the metabolic deficiencies associated with diseases. They are intended for use under medical supervision.[32]

EBM uses only pharmaceutical-grade ingredients.



*Medical foods are not drugs.

What are mood disorders? [1-3]

Mood disorders can disrupt a person's thinking, feeling, daily functioning, and their ability to relate to others.[1] They are often medical conditions that make it difficult to cope with the ordinary demands of life. The good news is that these conditions are treatable.

Mood disorders can affect people of any age, race, religion, or income. They are not the result of personal weakness, lack of character, or poor upbringing.

If you suffer from mood disorders, remember that you are not alone. Mood disorders are treatable. If you are diagnosed with a mood disorder, your healthcare provider might prescribe treatment plans to help you experience relief.

25% Approximately 1 out of every 4 adults are afflicted by a mental health illness in any given year.[1]

30 year olds The median age of onset mood disorders is 30.[1]

6.7% Approximately 6.7 percent of American adults – about 14.8 million people – live with major depression.[1]

What is depression? [4-7]

Depression is a mood disorder that can affect anyone — even a person who appears to live in relatively ideal circumstances. Major depression is disabling and can prevent a person from functioning normally. Some people might experience only a single episode within their lifetime, but more often a person experiences multiple episodes. Depression can disrupt work, sleep, study, eating, and enjoying once-pleasurable activities.

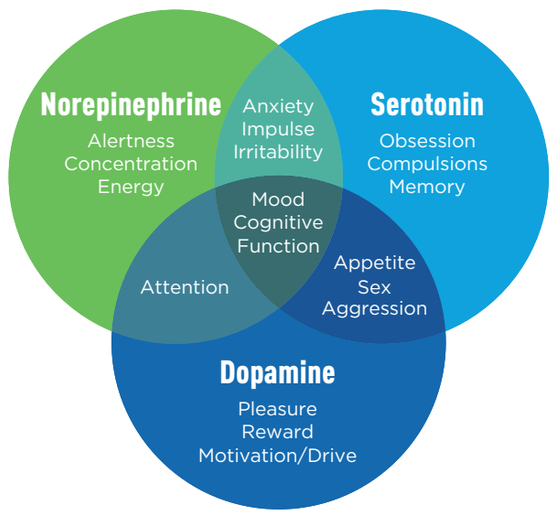
Neurotransmitter deficiencies are believed to be involved in the development of depression and other mood disorders.

What causes depression?

Depression is thought to be caused by a combination of genetic, biochemical, environmental, and psychological factors. Neurotransmitter deficiencies are believed to be involved in the development of depression and other mood disorders.

Neurotransmitters work together for overall mental health

Many commonly prescribed antidepressants work to increase neurotransmitter levels by blocking the reuptake (reabsorption) of neurotransmitters like serotonin in the brain. However, these antidepressants do not provide the essential ingredients or building blocks needed to produce more neurotransmitters.



Traditional mood disorder therapies

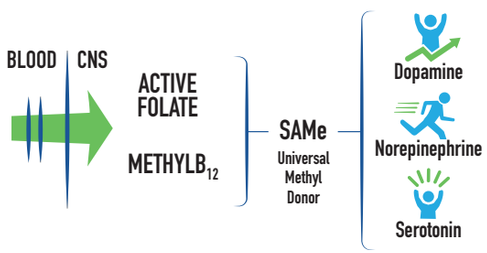
Many treatments for mood disorders exist, but not everyone responds to them. Almost two-thirds of people require several different treatments before they feel better.

Many treatments don't work on the first try for the majority of people

Examining underlying causes[8-14]

The underlying causes of several mood disorders have been linked to genetics, and deficiencies in folate and vitamin B_{12}. In fact, low folate and vitamin B_{12} levels are associated with either a higher prevalence or a longer duration of depression. People with depression also tend to have elevated homocysteine levels, a known risk factor for mood disorders.

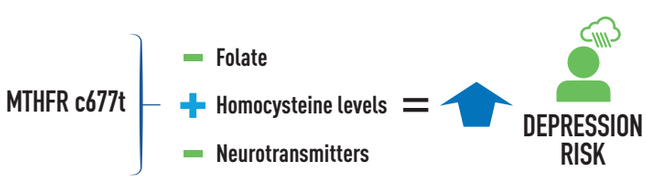
The critical role of L-methylfolate and Methyl B_{12} in mood disorders[11]

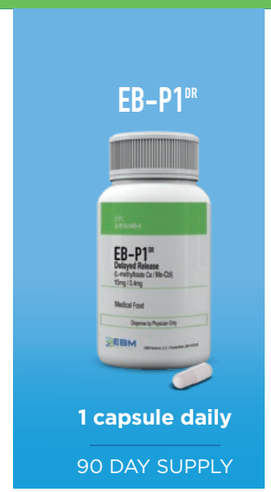


Folate and vitamin MethylB_{12} provide the essential building blocks needed to produce more neurotransmitters associated with mood. SAMe is critical in this process, and is produced as part of a multistep pathway.

The role of genetics in depression[12]

We receive half of our genes from our mother, and the other half from our father. There might be a genetic predisposition to depression — because it often runs in families. One such genetic variant is called MTHFR c677t. MTHFR is an enzyme needed to convert folic acid and dietary folate to its active form, L-methylfolate [see page 13 to learn more]. Up to 70% of people with depression have the MTHFR variant. As a result, they cannot fully complete this activation, and have additional folate needs.





Metabolic management of mood disorders[8,13,14]

Low folate and Vitamin B_{12} levels increase your risk for mood disorders and may result in a partial response to your antidepressant. EB-P1^{DR} contains both cofactors to restore metabolic deficiencies to help produce more neurotransmitters associated with mood. Our products feature Biofolate® — the patented pure crystalline activated form of folic acid — which is unaffected by MTHFR enzyme variant.

Each delayed-release, vegan capsule is allergen and dye free.

EB-P1^{DR} Ingredient Guide

ACTIVE INGREDIENT	DESCRIPTION
L-methylfolate* Calcium [active folate] *The only form of folate that crosses the blood brain barrier	Active ingredients work together to effectively: – Homocysteine levels, a known risk factor for mood disorders + Natural chemicals in the brain that affects mood
Methylcobalamin [active Vitamin B_{12}]	

+ increase – decrease

L-methylfolate Calcium ..... 15 mg
Methylcobalamin ..... 0.4 mg

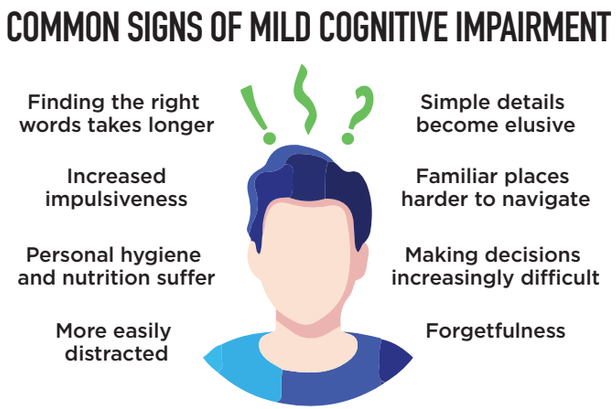
Dosage: Adult dose is 1 capsule daily or as directed by physician.

Manufactured in compliance with current Good Manufacturing Practices [cGMP]

Products feature delayed-release capsules for targeted delivery to promote tolerability.

What is mild cognitive impairment?

Mild cognitive impairment (MCI) describes problems with memory and thinking beyond what can be explained by age alone, but the decline has not affected daily functions to the extent that it would be classified as dementia.



Risk factors for MCI[15]

The strongest risk factors for MCI are:

- Increasing age
- A gene known as APOE-e4, also linked to Alzheimer's disease (although having the gene doesn't always result in cognitive decline)

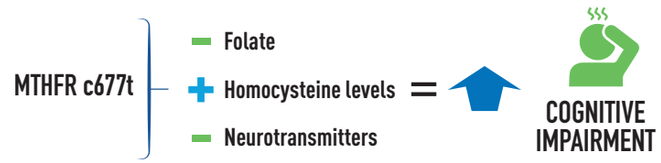
Other medical conditions and lifestyle factors have been linked to an increased risk of cognitive change, including:

- Diabetes/smoking/ high blood pressure
- Elevated cholesterol/ obesity
- Depression
- Lack of physical exercise
- Low education level
- Infrequent participation in mentally or socially stimulating activities
- *Nutritional deficiencies*
- *Elevated homocysteine*
- *MTHFR genetic variant*

Most risk factors for cognitive impairment are within your power to control, so it is important to keep your brain and body as healthy as possible.

The role of genetics and homocysteine in cognitive impairment[16]

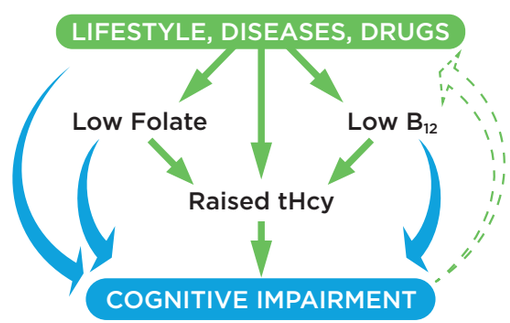
Identification of modifiable risk factors provides a crucial approach to management of cognitive disorders. One such risk factor is an elevated homocysteine level which reflects the functional status of folate, and Vitamins B_{12}, B_6.



People with cognitive impairment tend to have the MTHFR c677t genetic variant and are significantly more likely to have folate deficiency, lower acetylcholine [a neurotransmitter associated with memory] levels, and elevated levels of an amino acid in their blood called homocysteine. These elevated levels damage blood vessels and nerves, which may lead to cognitive impairment.

Parallel pathways for cognitive impairment involving homocysteine (Hcy)[16]

- Raised Hcy may directly cause cognitive impairment (green arrows).
- Nutritional deficiencies may directly cause cognitive impairment (blue arrows) as well as causing cognitive impairment indirectly by raising tHcy.
- Reverse causality (dashed green line) could also explain the association of Hcy with cognitive impairment.



EB-C3DR

1 capsule daily

90 DAY SUPPLY

Metabolic management of cognitive disorders[16, 19-21]

Metabolic deficiencies in the brain reduce the substances that protect the brain, and have been identified as independent risk factors for memory loss. The pharmaceutical-grade active ingredients in EB-C3DR work together to provide the necessary nutrients to help nourish and protect the brain against such impairment.

Each delayed-release, vegan capsule is allergen and dye free.

EB-C3DR Ingredient Guide[16, 19-21]

ACTIVE INGREDIENT	DESCRIPTION
L-methylfolate* Calcium [active folate] *The only form of folate that crosses the blood brain barrier	+ Acetylcholine, a natural substance in the brain associated with memory
Methylcobalamin [active Vitamin B_{12}]	+ Methylation, a process in the brain required for neuroprotection
N Acetyl L-Cysteine [active antioxidant]	- Substances harmful to the brain
Pyridoxal 5'- Phosphate [active Vitamin B_6]	+ Methylation, a process in the brain required for neuroprotection

+ increase - decrease

L-methylfolate Calcium .....6 mg
Methylcobalamin.....2 mg
N Acetyl L-Cysteine .....600 mg
Pyridoxal 5'- Phosphate..... 1.7 mg

Dosage: Adult dose is 1 capsule daily or as directed by physician.

Manufactured in compliance with current Good Manufacturing Practices [cGMP]

Products feature delayed-release capsules for targeted delivery to promote tolerability.

What is a migraine?[22-23]

A migraine is a neurological condition that is characterized by a severe headache, often affecting only one side of the head.

A migraine can occur with or without aura (sensory disturbances). If you have a migraine with aura, you might experience disturbing symptoms before the headache starts. If you experience recurrent, long-lasting headaches, you might be suffering from a headache without migraine aura. This is the most common form of migraine.

What are the symptoms of a migraine?

A migraine headache can cause all or some of the following symptoms:

Intense throbbing or pulsating pain, often on one side of the head

Nausea, vomiting, or diarrhea

Increased sensitivity to light, noise, or smell

What Causes Migraines?

Researchers aren't entirely sure what causes migraines, but they know it involves reduced blood flow to the brain.

Possible Causes

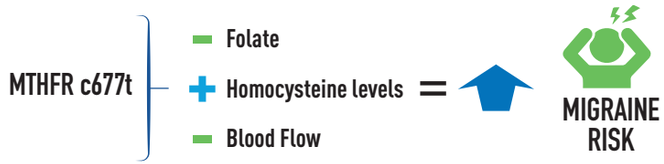
- Hormonal fluctuations
- Sleep dysfunctions
- Artificial sweeteners
- Caffeine
- Sex
- Alcohol
- Emotional stress
- Certain medications

Possible Solutions

- Identify and avoid triggers
- Regulate stress and sleep
- Nutritional supplements
- Prescription medications
- Surgical procedures

The role of genetics in migraine[24]

You get half of your genes from mom and the other half from dad. It is thought that there may be a genetic predisposition to migraine as it often runs in families.



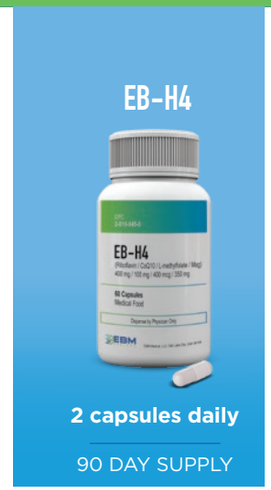
One such gene variant is called MTHFR c677t, an enzyme needed for conversion of folic acid and dietary folate to its active form, L-methylfolate.

Up to 50% of people have the MTHFR genetic variant and are unable to fully complete this activation and have additional folate needs.

L-methylfolate Calcium is unaffected by the MTHFR variant and is the only form of folate that crosses the blood brain barrier.

People who suffer from migraines tend to have the MTHFR c677t genetic variant and are significantly more likely to have folate deficiency and elevated levels of an amino acid in their blood called homocysteine. These elevated levels damage blood vessels and nerves and may lead to migraines.

The EB-H4 formulation was researched and developed in collaboration with the Diamond Headache Clinic. **www.diamondheadache.com**



Metabolic management of migraines[25-28, 30]

Decreased levels of riboflavin, magnesium, and coenzyme Q10 and deficiencies in folate in plasma and in the brain might play a role in the development of migraines. The pharmaceutical grade active ingredients in EB-H4† work together to provide the necessary nutrients to help correct the deficiencies associated with the frequency, duration, and intensity of migraines.

Each capsule is allergen and dye free.

EB-H4 Ingredient Guide[25-28, 30]

ACTIVE INGREDIENT	DESCRIPTION
Riboflavin [active Vitamin B_2]	+ Production of energy in the cells
Coenzyme Q10 [antioxidant]	+ Production of energy in the cells – Damage to cells
L-methylfolate* **Calcium** [active folate] *The only form of folate that crosses the blood brain barrier	+ Blood flow to the brain
Magnesium Bisglycinate [mineral]	+ Production of energy in the cells

+ increase – decrease

Riboflavin ..... 400 mg
Coenzyme Q10 ..... 100 mg
L-methylfolate Calcium ..... 0.4 mg
Magnesium Bisglycinate ..... 350 mg

Dosage: Adult dose is 2 capsules daily or as directed by physician.

Diamond Headache Clinic
Treatment – and beyond

†Researched and developed in collaboration with Diamond Headache Clinic.

Manufactured in compliance with current Good Manufacturing Practices [cGMP]

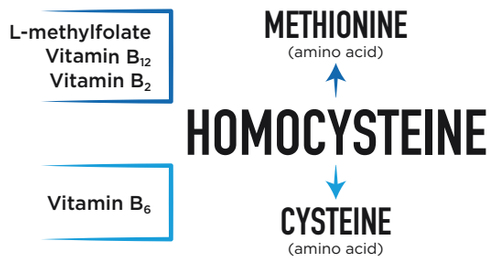
Homocysteine and MTHFR[31]

Risk factors for neuropsychiatric conditions include elevated homocysteine levels and the MTHFR genetic variant.

Homocysteine is an amino acid that is produced as a byproduct of consuming meat. Homocysteine is normally converted into other amino acids. An abnormal accumulation of homocysteine is believed to damage the cells that line the arteries, and is a marker for the development of many chronic conditions including mood & cognitive disorders and migraine.

Drugs that increase homocysteine levels and related vitamin deficiencies include:

- Methotrexate
- Fenofibrates
- Nicotinic acid
- Metformin



How do I lower homocysteine levels?[16,33,28]

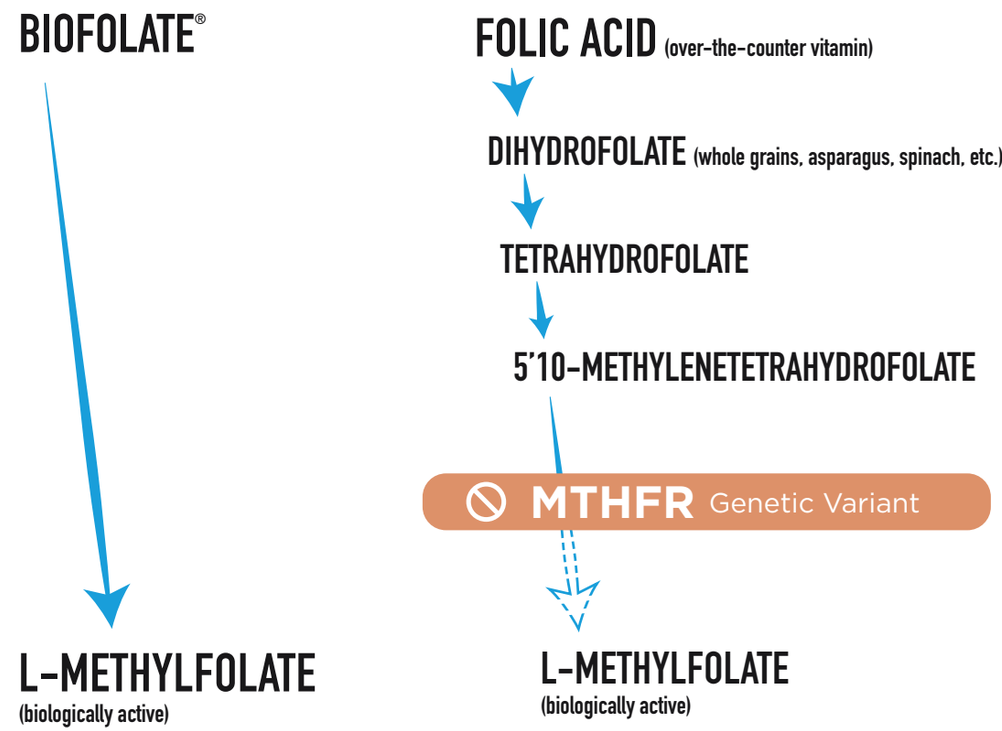
You can lower your homocysteine levels by eating less meat. You can also take the B vitamins folic acid (folate), B_6, B_{12}, and B_2. However, it is important that your body be able to break down and utilize these vitamins, **and that is where MTHFR becomes important.**

MTHFR is an enzyme involved in the metabolism of folate. Traditional folic acid (folate) must be broken down in the body before it can be used, and variants of the MTHFR gene lead to decreased enzymatic activity.

MTHFR genetic variant facts:[16,33,28]

- Variants of the MTHFR gene are prevalent in up to 50% of the population, and even higher in those with neuropsychiatric conditions
- Reduces folate levels and increases homocysteine levels
- Is an independent pharmacogenetic risk factor for the development and severity of depression, cognitive impairment, and migraine
- Is associated with other conditions including vascular disease, peripheral neuropathy, anxiety, renal disease, and osteoporosis

Biofolate®‡, the patented pure crystalline activated form of folate, is unaffected by the MTHFR genetic variant



‡Featured in EB-P1[DR], EB-C3[DR] and EBH4 products

A simple DNA swab of your saliva can determine whether you have the MTHFR genetic variant.

Visit www.EBMmedical.com or call 844-360-4095 for a requisition form for your doctor.

Now that I have been prescribed an EBM Medical product, what are the next steps?

Your provider will send your prescription to EBM Medical

You will receive a text or email to confirm your order — **To expedite your order, call us at 1-844-360-4095**

An EBM representative will contact you to answer your questions and process your payment

Within 24 hours, your prescribed formula will be shipped to your door

You will receive a confirmation text 10 days before your prescription needs to be refilled

EBM MEDICAL

Questions? Contact EBM at 1-844-360-4095, support@EBMmedical.com, or, visit our website at www.EBMmedical.com

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