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A Shot in Time Saves Mind

Vitamin B12 and Depression

'Studies suggest any depressed person has a 10 to 30 percent chance of being B12-shy.'

By Syd Baumel

The following is based on portions of Chapter 6 and 11 of [Dealing with Depression Naturally](#) (McGraw-Hill, 2000). For cited references, [click here](#).

Some of the most florid psychoses in the medical literature – typically involving elderly people gone paranoid, manic, or violent – testify to the perils of unrecognized vitamin B12 deficiency. And that's only during the early stages. When the cause is the B12 malabsorption disease called *pernicious anemia*, as the years go by and B12 levels dwindle to nothing, irreversible nerve and brain damage and dementia insidiously ensue. This can also occur in strict vegetarians (vegans) if they fail to obtain B12 from fortified plant foods, like meat and milk substitutes, or supplements.

A less dramatic, but more common symptom of early B12 deficiency is depression, typically of the listless, mentally foggy kind. In the 1950s, one such woman had so convincing a case of endogenous depression that shock therapy was vainly administered. Four years later, her slow-onset B12 deficiency was finally diagnosed. A few days and a few shots of B12 later, "she showed a dramatic clinical improvement and came to life again," her doctor T. N. Fraser reported. Another couple of months, and "she looked the picture of health."



Because pernicious anemia is a highly age-related disease, most doctors today are alert for it in elderly patients with neuropsychiatric symptoms. But studies suggest any depressed person has a 10 to 30 percent chance of being B12-shy, usually without pernicious anemia as the cause. That deficiency, according to Cees van Tiggelen et al., "has profound effects on

several neurotransmitter systems and results in significantly reduced norepinephrine levels in the brain." Norepinephrine is one of the brain's most important good-mood neurotransmitters.

Logically, all depressives with low B12 should be replenished. In practice, many orthomolecular psychiatrists believe any depressive should take extra B12, even to the point of trying B12 shots (injections).

For years, B12 shots have been an unofficial treatment for fatigued, run down, or depressed patients. (Large oral doses are very poorly absorbed, though sublingual and intranasal B12 formulations appear to give injections a run for their money.) The practice has been the butt (pun intended) of many jokes among skeptics. Yet what research there is has supported it.

Columbia University psychiatrist Richard Brown and Baylor University neuropharmacologist Teodoro Bottiglieri recommend that all psychiatric patients take a daily megadose of 1 mg of oral B12.

In 1973, in a double-blind trial by F. R. Ellis and S. Nasser, B12 shots boosted the energy and lifted the moods of chronically fatigued patients significantly more than shots of water. Sixteen years later, in a less formal single-blind study, orthomolecular psychiatrist Herbert Newbold reported that his B12-responsive patients "invariably" were able to tell whether they had received B12 or an injection of water. Newbold also noted that B12 is not a simple stimulant, but a "normalizer" that helps some of his patients sleep better and even made one less manic. (Mania *is* a symptom of B12 deficiency.)

Newbold's suggestion that B12 is a mood stabilizer is echoed by recent research in which oral megadoses of methylcobalamin – the most bioactive form of B12 – has shown promise as a regulator of disturbed sleep-wake rhythms. Methylcobalamin has been particularly well-studied in Japan as a treatment for delayed sleep phase syndrome; that is, not being able to fall asleep until very late at night and needing to sleep in every morning. Because sleep-wake disturbances are part and parcel of most mood disorders, B12's apparent sleep-wake regulatory effect could help account for its mood-stabilizing benefits. In a 1996 study by G. Mayer et al., three



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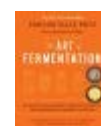
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grams a day of methylcobalamin, but not cyanocobalamin (the form of B12 in most supplements), managed to decrease sleep time yet improve sleep quality and daytime alertness in a small group of healthy men and women.

There is an intriguing reason why some people with normal blood levels of B12 may need megadoses of the vitamin. They may have a B12 deficiency that is confined to the brain.

While most doctors would never consider such a possibility, studies have documented local cerebral deficiencies of B12 (using cerebrospinal fluid levels as a measure) in people with Alzheimer's disease, postpartum depression, and toxic neuropsychiatric disorders, including toxic depression. Cees van Tiggelen and associates suspect this cryptic condition may also commonly afflict people with histories of nitrous oxide or Agent Orange intoxication, alcoholics (including those with alcohol-related dementia), long-term users of dilantin, and people with brain atrophy.

B12 has its mainstream advocates too. In 1975, psychiatrists K. Geagea and Jambur Ananth, then at McGill University, remarked that "astonishing results can be obtained in some cases with B12 therapy, even if B12 levels are within normal range." They had just described one such case. Their young patient's two year depression had landed him in Montreal's Jewish General Hospital after a suicide attempt. Because the man had had a total gastrectomy nine years earlier – a risk factor for B12 deficiency – and because his treatment-resistant symptoms had become progressively more psychotic and neurologic in quality, Geagea and Ananth took a leap of faith. The man's B12 levels were normal, but they gave him B12 shots anyway.

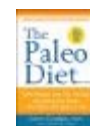
"The response to this therapeutic trial," they wrote, "was dramatic. The patient was discharged eight days later with complete remission." He was still well three years later.

In 1999, in their book *Stop Depression Now*, Columbia University psychiatrist Richard Brown and Baylor University neuropharmacologist Teodoro Bottiglieri (a leader in vitamin/depression research) recommend that all psychiatric patients take a daily megadose of 1 mg of oral B12. In *The Way Up From Down*, UCLA psychiatrist Priscilla Slagle suggests: "If you are over fifty-five, vegetarian or alcoholic, have extreme fatigue, poor memory, low thyroid or weight loss, I recommend you take 1000 to 2000 mcg of the sublingual form [of B12] every morning."

Using Vitamin B12

(cobalamin, cyanocobalamin, hydroxocobalamin, methylcobalamin)

Recommended Daily Intake: 6 mcg.



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Dosage (therapeutic): By injection: from 1000 mcg every few days up to 10,000 to 25,000 mcg/day. Oral (including sublingual) and nasal gel: probably 500-25,000 mcg/day. Sublingual and (especially) nasal gel products may rival B12 shots in their ability to increase blood levels. Studies like that of Mayer et al. suggest the cyanocobalamin form of B12 typically used in supplements isn't as clinically effective as methylcobalamin.

Cost: moderate.

Side effects, cautions, contraindications: Evidently none.

Syd Baumel is a writer and Editor of [The Aquarian](#) in Winnipeg, Canada.