Appendix: Vitamin B12 and Vitamin D

Vitamin B₁₂

A number of studies have shown that vitamin B₁₂ is deficient in a large percentage of people with HIV, and the deficiency can begin early in the disease. Vitamin B₁₂ deficiency can result in neurologic symptoms — for example, numbness, tingling and loss of dexterity — and the deterioration of mental function, which causes symptoms such as foggy thinking, memory loss, confusion, disorientation, depression, irrational anger and paranoia. Deficiency can also cause anemia. (See the section on Fatigue for more discussion of anemia.) It has also been linked to lower production of the hormone melatonin, which can affect the wake-sleep cycle.

If you have developed any of the emotional or mental symptoms mentioned above, especially combined with chronic fatigue, vitamin B₁₂ deficiency could be contributing. This is especially true if you also have other symptoms that this deficiency can cause, including neuropathy, weakness and difficulty with balance or walking. On the other hand, these symptoms can also be associated with HIV itself, with hypothyroidism or advanced cases of syphilis called neurosyphilis. A thorough workup for all potential diagnoses is key to determining the cause.

Research at Yale University has shown that the standard blood test for vitamin B₁₂ deficiency is not always reliable. Some people who appear to have “normal” blood levels are actually deficient, and could potentially benefit from supplementation.

The dose of vitamin B₁₂ required varies from individual to individual and working with a doctor or naturopathic doctor to determine the correct dose is recommended. Vitamin B₁₂ can be taken orally, by nasal gel or by injection. The best way to take it depends on the underlying cause of the deficiency, so it’s important to be properly assessed before starting supplements. For oral therapy, a typical recommendation is 1,000 to 2,000 mcg daily.

One way to know if supplementation can help you is to do a trial run of vitamin B₁₂ supplementation for at least six to eight weeks. If you are using pills or sublingual lozenges, the most useful form of vitamin B₁₂ is methylcobalamin. Talk to your doctor before starting any new supplement to make sure it is safe for you.

Some people will see improvements after a few days of taking vitamin B₁₂ and may do well taking it in a tablet or lozenge that goes under the tongue. Others will need several months to see results and may need nasal gel or injections for the best improvements. For many people, supplementation has been a very important part of an approach to resolving mental and emotional problems.

Vitamin D

Some studies show that vitamin D deficiency, and often quite severe deficiency, is a common problem in people with HIV. Vitamin D is intimately linked with calcium levels, and deficiency has been linked to a number of health problems, including bone problems, depression, sleep problems, peripheral neuropathy, joint and muscle pain and muscle weakness. It is worth noting that in many of these cases there is a link between vitamin D and the health condition, but it is not certain that a lack of vitamin D causes the health problem.

A blood test can determine whether or not you are deficient in vitamin D. If you are taking vitamin D, the test will show whether you are taking a proper dose for health, while avoiding any risk of taking an amount that could be toxic (although research has shown that toxicity is highly unlikely, even in doses up to 10,000 IU daily when done under medical supervision). The cost of the test may not be covered by all provincial or territorial healthcare plans or may be covered only in certain situations. Check with your doctor for availability in your region.
The best test for vitamin D is the 25-hydroxyvitamin D blood test. There is some debate about the best levels of vitamin D, but most experts believe that the minimum value for health is between 50 and 75 nmol/l. Many people use supplements to boost their levels to more than 100 nmol/l.

While sunlight and fortified foods are two possible sources of vitamin D, the surest way to get adequate levels of this vitamin is by taking a supplement. The best dose to take depends on the person. A daily dose of 1,000 to 2,000 IU is common, but your doctor may recommend a lower or higher dose for you, depending on the level of vitamin D in your blood and any health conditions you might have. People should not take more than 4,000 IU per day without letting their doctor know. Look for the D₃ form of the vitamin rather than the D₂ form. Vitamin D₃ is the active form of the vitamin and there is some evidence that people with HIV have difficulty converting vitamin D₂ to vitamin D₃. Historically, vitamin D₃ supplements are less commonly associated with reports of toxicity than the D₂ form.

It is best to do a baseline test so you know your initial level of vitamin D. Then, have regular follow-up tests to see if supplementation has gotten you to an optimal level and that you are not taking too much. Regular testing is the only way to be sure you attain — and then maintain — the optimal level for health.

With proper supplementation, problems caused by vitamin D deficiency can usually be efficiently reversed.
Disclaimer

Decisions about particular medical treatments should always be made in consultation with a qualified medical practitioner knowledgeable about HIV- and hepatitis C-related illness and the treatments in question.

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