

EDITOR'S NOTEBOOK/Bernard Rimland, Ph.D.**What is the right 'dosage' for Vitamin B6, DMG, and other nutrients useful in autism?**

I place quote marks around "dosage" because "dose" typically refers to drugs, and the nutrients to be discussed are definitely not drugs. A drug acts by *blocking* or *interfering* with a natural bodily process, while a nutrient *permits* or *enhances* these processes. That is why drugs are so often harmful, while nutrients are characteristically not only safe, but beneficial.

We are very often asked, "What is the right dosage of this or that for our child?" The answer is, for nutrients as it is for drugs—no one knows. Each person is very different from everyone else, and only by experimenting—trial and error—can it be determined if a substance will be helpful and in what amounts it should be given. Given that as a base fact, here is what I have learned over the last 30 years:

Vitamin B6: Vitamin B6 (must be given with magnesium) was found to be helpful in almost half of all autistic children and adults included in 18 consecutive studies between 1965 and 1996. In our own studies, the *average* amount of B6 found to be beneficial was around 8 mg of B6 per pound of body weight, per day. (This is about 500 mg/day for a 60-pound child.) Gilbert Lelord and his group of researchers in France arrived at an almost identical amount: 17 mg/kg/day. *But*—this is just an average. In ARRI 9/2 we published a letter from a father whose son did very well on about 40 mg/day. We suggest starting with one-quarter the target amount and increasing slowly over a 10- to 14-day period. If too much is given for that child, or if the dosage is increased too quickly, there may be minor side effects, such as hyperactivity, nausea, or diarrhea—but this is rather rare. In such cases, the dose should be cut back and increased again slowly, to try to find the right levels. We advise the parents to refrain from mentioning the experiment to teachers, therapists, relatives, and neighbors, so they can benefit from unsolicited comments.

The upper limits advised for adults or those above 120 pounds is 1,000 mg/day, although some have been on 1,500 mg/day. I added 500 mg/day to my own son's 1,000 mg/day for one year, but saw no improvement beyond the 1,000 mg that he had taken for 20 years, so I reverted to 1,000 mg/day.

Last year a Florida mother phoned to tell me that on visiting her adult son's group home she was appalled at his deteriorated behavior. On investigating, she found they had run out of his supply of B6/magnesium, which should have provided 1,000 mg/day of B6. She then ordered three times the usual supply of the powdered B6/magnesium formula,

to protect against running out again. On her next visit she was amazed at the improvement in her son. He actually showed affection toward her for the first time! She then learned that her instructions had been misunderstood and her son was now getting 3,000 mg/day of B6—three times the recommended amount. Despite the improvement, the physicians in charge stopped the B6, claiming it was dangerous. He is now on a drug which is dangerous.

The only known harm from megadoses of vitamin B6 is peripheral neuropathy—seen

One mother, amazed at her son's progress, found that his group home had miscalculated his dosage and was giving him 3,000 mg/day of B6—three times the recommended amount.

as a tingling and numbness in the hands and feet. It is very rare—I have encountered only four cases in 30 years, and the problem went away when the B6 was stopped. A few people are supersensitive to B6.

The B6/magnesium will often produce benefits within a few days. If no improvement is seen in about a month, I suggest stopping it.

Magnesium: Giving about 3 or 4 mg of magnesium per pound of body weight, up to 400 mg per day for adults, enhances the effects of the B6 and protects against possible B6-induced magnesium deficiency. This is not a megadose of magnesium, but rather the amount that many researchers, including me, believe that *everyone* should take for optimum health. Almost every type of food processing depletes magnesium, so supplemental magnesium is essential to avoid a deficiency.

Dimethylglycine (DMG): The best suppliers of DMG provide it in tablets or capsules of 125 mg each. Determining right dosage really depends on trial and error experimentation. Young children are generally found to do well—if they respond to DMG—on anywhere from one-half tablet to three or four tablets a day, although one mother, a physician, found that her five-year-old son needed 16 per day! (He did well for several hours on four tablets, then regressed, so was given four more. This happened every few hours, so he reached 16 per day.)

Another physician, also the mother of an autistic son—a 170-pound man in his late 20's—ended up giving her son 26 DMG per

day, for the same reason. It seems that a few people metabolize the DMG very fast, and thus need more per day than most.

Radio talk show host Gary Null of New York City told me that many marathon runners take one DMG every mile they run—26 in all. They perform better and suffer fewer physical problems. There is ample scientific research showing such benefits to be highly expectable.

Although there is a very wide range of dosage levels reported by those who use DMG, the usual dosage for children ranges up to about four per day, and for adults to about eight per day. As with B6, the differences between individuals are *huge*.

A small percentage of autistic children become hyperactive when given DMG. That is their way of telling you they need more folic acid. Folic acid, a B vitamin, may be bought in 800 mcg tablets or capsules. Two of the 800 mcg folic acid tablets with each DMG will usually solve this problem.

Folic acid: Folic acid itself has been reported to be helpful in autism (ARRI 8/4). The great French researcher Jerome Lejeune reported that supplements of about 250 mcg of folic acid per pound of body weight per day brought on major improvement in several autistic children. Dr. Lejeune gave thousands of retarded children (mostly Down syndrome) 20 mg of folic acid per day in his various studies, with no harm, nor would any harm be expected.

Vitamin C: In 1991, Leland Tolbert and his associates reported that giving 8,000 mg/day of vitamin C to adolescent and adult autistic persons brought about significant improvement (ARRI 6/1). Since vitamin C is found in very high concentrations in the brain, this is not a surprising finding. A number of the world's leading experts on vitamin C, including Nobel Prize winner Linus Pauling, recommend that most people take *at least* that much vitamin C each day for optimal health. I have studied vitamin C for some 30 years, and own almost every book ever written on the subject. I take about 12,000 mg of vitamin C daily (three level teaspoons), in the form of sodium ascorbate powder (only about \$18 per pound, from 1-800-325-2664). A small percentage of people get diarrhea on such doses—for the rest of us, especially those with autism, there is much to gain.

As the many benefits that nutrients can and do confer become more widely known and accepted, increasing numbers of parents will turn to these natural and healthful substances in preference to harmful drugs. ARRI will keep readers informed about research into these valuable treatments.