



part 8— *In the War Zone*

Touching Up Our Picture of Health

by *Risë Rafferty*

War is always catastrophic, no matter what the intent. Innocent victims are killed, lifelong wounds are inflicted, and horrific events are experienced that man was never meant to witness. But just as there is physical war among men, so war exists between man and supernatural forces. The Bible describes Satan as a roaring lion seeking whom he may devour. This analogy comes alive when you realize that the prey is you and me. In Satan's covert warfare, we have experienced emotional wounds, as we learned last month. Now we're going to look at other successful weapons that he uses against us: worry, stress and anxiety.

Modern man's life is rampantly stressful. Stress has even come to be an accepted ingredient in everyday life. If a Christian is stressed, he is almost admired because he must be doing so much good. But have you ever wondered how stress impacts our brains and our ability to "see" or "hear" God? Let's take a look.

Neurosurgeon Robert Iacono, MD, of the Neuroscience Clinic, Redlands, California, defines the agitated kind of stress as a response to our environment and pressures linked to fear (which is linked to lack of faith) that becomes damaging to brain chemistry and frontal lobe function. When the frontal lobe is affected, no frontal lobe dementia, memory, speech, movement, IQ, or job skills are changed. What does change? Dr. Iacono says that loss of the fruits of the spirit—loss of empathy for strangers, then loss of empathy for neighbors, then friends, then family, and eventually yourself—is the result. How does stress damage brain chemistry?

Let's take a glimpse at neurotransmitters. Remember with me that your brain is made up of 100 billion cells, each cell possessing maybe 10,000 synapses. "The number of connections in your brain exceeds the number of stars in

the heavens."¹ Neurotransmitters are chemicals involved in the transmission of nerve impulses between nerve cells through the synaptic space. Neurotransmitters can inhibit nerve signals in some areas of the body, as well as stimulate them. According to Frank Minirth, MD, and Paul Meier, MD, founders of the Minirth Meier New Life Clinic, one of the largest psychiatric clinics in the United States, "The key to balanced brain function . . . lies with the neurotransmitters and synapses."²

Serotonin is a chemical that has received a great deal of attention for its contribution to mood. It is synthesized from the amino acid *L-tryptophan* in brain neurons. Serotonin is found in three main areas of the body: in large constricted blood vessels, in the intestinal wall, and in the central nervous system. The most widely studied effects have been those on the central nervous system.

Apparently, some cases of depression have been influenced by reduced quantities or activity of serotonin and certain antidepressants seek to balance serotonin levels in the brain.³ Referred to as the "happy hormone," serotonin is twice as abundant in children as in adults. It has enormous influence over many brain functions. Its roles are numerous—for example, helping regulate appetite, sleep cycles, libido, memory and learning, temperature, mood, behavior, cardiovascular function, muscle contraction, and endocrine balance.⁴

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Parkinson's, stress, sleep disorders, eating disorders, thyroid dysfunction, and job burn-out. Depression expert Simon Young of the Department of Psychiatry at McGill University in Montreal says that low brain serotonin equals psychiatric symptoms. For example, depressed persons who commit or attempt suicide, as well as criminals who commit impetuous violent acts, commonly have low levels of brain serotonin.⁵ Since serotonin is a growth factor for new nerve cells that regenerate in the brain, low levels also hinder the growth of these cells.

An unbalanced, insufficient diet, B-vitamin deficiency, B-12 deficiency, nighttime work schedule, lack of sunshine and exercise, jet lag, and stress all do their share of depleting serotonin levels. The question is "What can we do to prevent serotonin loss or build it back up?" From what I have read so far, the eight natural laws of health, easily remembered through the acronym NEWSTART, are an excellent approach. And of those eight laws, good nutrition seems to have a significantly positive effect on our brain chemistry.

Nutrition

Nerve cells manufacture neurotransmitters, using specific food components called precursors as raw materials for this production. Research verifies that a number of the chemicals that flow within the brain are influenced by diet. Thus the production of neurotransmitters depends on the availability of certain nutrients that act as precursors.

Vitamin B6 and tryptophan (an amino acid) are necessary to the production of serotonin in the brain. Reportedly, without B6, serotonin levels plummet. Whole grains, nutritional yeast, legumes, soy, seeds, peas, green leafies, and avocado are excellent sources of vitamin B6 and tryptophan.⁶

Since tryptophan is an amino acid, you may think that consuming a high protein diet is the best way of ensuring a sufficient supply. Apparently, it's not that easy. There is only one way of accessing brain nutrients from the blood—through carriers that transport amino acids across the blood brain barrier. When a lot of protein is consumed, other amino acids compete with tryptophan for entry, so less of the amino acid wins space on the carrier. Protein-

rich foods have actually been found to prevent serotonin production. Complex carbohydrates have been found to lower this competition, raising brain tryptophan.⁷

Additionally, folic acid deficiency causes serotonin levels in the brain to sink. Folic acid is a B vitamin first isolated from green leafy vegetables, but is also concentrated in legumes. It has been found to be capable of acting as an antidepressant. Dr. Young found accumulating evidence that folic acid deficiency can contribute to depressed mood. He notes that patients with various psychiatric disorders have much higher rates of folic acid deficiency than the general public—that patients with low folic acid levels are more severely disturbed.⁸ And you thought eating your greens was a depressing experience!

Next month we will continue

to explore how other health laws within the NEWSTART approach can benefit the brain.

Excessive stress (or the mishandling of it) can promote loss of serotonin and impact brain chemistry, demonstrating how unseen forces can be used to tear humanity down. In the midst of war, we must have a certainty of our mission, belief in the cause, and total trust and peace in the will of the Captain of the host of the Lord. To us, as to Israel of old, the promise is sure: "The eternal God is your refuge, and underneath are the everlasting arms; He will thrust out the enemy from before you" (Deuteronomy 33:27, NKJV).

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¹ *Miracle Drugs*, Frank Minirth, MD, Paul Meier, MD, and Stephen Arterburn, M. Ed., p. 24.

² *Ibid.*, p. 25.

³ "Serotonin: The Neurotransmitter for the 90's," Internet site.

⁴ *Ibid.*

⁵ *Food: Your Miracle Medicine*, Jean Carper, p. 289.

⁶ *Proof Positive*, Neil Nedley, MD, p. 204.

⁷ *Incredible Machine*, published by National Geographics, p. 97; Internet site.

⁸ *Food: Your Miracle Medicine*, p. 289.