



THE BRAIN & BODY CONNECTION
EXPLAINED

VOLUME II

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THE BRAIN IS AN ORGAN.

Organs are made of organized groups of cells. Organs cannot survive without other organs. Organs interact to form systems. Our body systems include, among others, the Nervous, Digestive, Circulatory, and Metabolic Systems.

OUR BODY SYSTEMS WORK IN HARMONY TO FORM ONE LIVING, BREATHING WHOLE.

The Nervous System is the most energy-hungry organ system.¹ The Nervous system includes



the brain and all the nerves that emanate from the brain into the body. The Nervous System is hungry for nutrients because the brain and nerves constantly require energy.

This energy is necessary to maintain an electrical gradient with potential for sending chemical messages. The energy also fuels the creation of new neural connections that happen when we live and grow, every day, in response to our environment. In fact, our brains burn calories even when we are at rest!

Our brains use about 20% of our energy from food each day. Because the Nervous System

is constantly using energy, it relies heavily on the Digestive, Circulatory, and Metabolic systems for nutrients and fuel.²⁻⁴ The Digestive, Circulatory, and Metabolic Systems are responsible for absorbing, transporting, and metabolizing nutrients. The Digestive System includes not only our stomach and other digestive organs, but also all the millions of bacteria that inhabit our intestines. The Circulatory System includes not only our heart, but also the tiny blood vessels that feed the innermost parts of our brains. The Metabolic System is the sum of all processes involved in the cellular breakdown of food into building blocks and energy.

METABOLISM OCCURS NOT ONLY IN EVERY BODY CELL, BUT ALSO IN EVERY BRAIN CELL.

Nutrients from food must pass through several body systems before reaching the brain. The Digestive System absorbs nutrients into our Circulatory System with help from friendly bacteria within our intestines.⁵ From there, the heart pumps these nutrients throughout the body, and also through a meshwork of capillaries known as the blood brain barrier. Once past the blood brain barrier, nutrients have direct access to the inside of brain cells. Brain cells use nutrients for energy and also for cellular building blocks. For example, fats from our diet absorb directly into brain cell membranes.⁶ Folate from our food is the precursor to the neurotransmitters (e.g. dopamine, serotonin and neurepinephrine) that make us feel good.⁷ When the brain has enough energy, it is able to keep its internal connections strong.⁸ Having a tightly-connected brain is important because strong brain connections keep the brain young.⁹

BECAUSE THE BRAIN DEPENDS ON THE BODY, YOU CAN HELP YOUR BRAIN BY OPTIMIZING YOUR DIGESTIVE, CIRCULATORY, AND METABOLIC HEALTH.

Digestive health means having healthy bacteria flora. Scientists are still working on easy ways to determine whether you have a healthy flora. Circulatory health means having smooth, inflammation-free arteries. One way to know whether you

have healthy arteries (besides having a systolic blood pressure below 120) is to check your homocysteine level. For a healthy brain for life, your homocysteine level should be 10 or below.¹⁰ Metabolic health means having efficient use of insulin, which is the main hormone for breaking down nutrients. One way to know whether you have an efficient metabolism is to check your fasting blood sugar level. For a healthy brain for life, your fasting blood sugar level should be below 90. Even small improvements in your metabolism can translate into a bigger brain over time.¹¹⁻¹²

To get closer to your targets, you may be happy to know that you can eat the HB Five Food Groups (legumes, whole grains, fruits, vegetables, omega 3s) plus Good Garnishings (herbs, spices, fermented foods, and colorful sweeteners from nature such as raw honey) on a daily basis. These foods have the essential nutrients, including color pigments, healthy fats, dietary fiber, minerals, and vitamins, that improve the health of your Digestive, Circulatory, and Metabolic body systems.¹³⁻¹⁴

THESE GOOD FOODS NOURISH AND PROTECT BOTH YOUR BODY AND BRAIN SO THEY CAN WORK TOGETHER, AS THEY SHOULD, FOR LIFE.

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