Healing the Body and Mind Through the Gut

Dr. Natasha Campbell-McBride Discusses the Science behind GAPS, Modern Nutrition Woes



Dr. Natasha Campbell-McBride Dr. Natasha Campbell-McBride is a warm, gracious woman with a revolutionary mission — helping people to heal their minds and bodies and avoid a wide array of disorders and illnesses by focusing on supporting gut health. The experience of having a child with autism propelled her to look beyond the confines of conventional medicine and to become a medical pioneer. She is best known for the GAPS Nutritional Protocol. GAPS is the acronym for both Gut and Psychology Syndrome and Gut and Physiology Syndrome. Campbell-McBride graduated with Honors as a medical doctor in Russia in 1984 and later received a graduate degree in Neurology. After working as a neurologist and a neurosurgeon for a total of eight years, she started a family and moved to England. During that time she developed her theories on the relationship between neurological disorders and nutrition, and completed a second graduate degree in Human Nutrition at Sheffield University, UK. In 2000 she started the Cambridge Nutrition Clinic, where she specializes in nutritional approaches to treat learning disabilities and other psychological disorders, as well as digestive and immune disorders, in both children and adults.

In her 2004 book, Gut and Psychology Syndrome: Natural Treatment of Autism, ADHD, Dyslexia, Dyspraxia, Depression and Schizophrenia, Dr. Campbell-McBride outlines the GAPS Nutritional Protocol. The book has been translated into 10 languages. She wrote Put Your Heart in Your Mouth! (2007) to counteract the widespread confusion about food and nutrition that she encountered among her patients with high blood pressure, arrhythmia, stroke and other complications of atherosclerosis.

Besides educating people through her books and website, Campbell-Mc-Bride also offers training for health practitioners, keynotes at conferences and seminars around the world, and contributes articles on health to journals, magazines and newsletters in many English-speaking countries.

Interviewed by Tracy Frisch

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ACRES U.S.A. Many people rely on nutritional supplements as their first line of defense against health problems. In contrast, you emphasize tending the ecology of a person's gut flora with food. Why is that your starting point?

DR. NATASHA CAMPBELL-MCBRIDE. When Mother Nature designed the human body we weren't intended to get our nutrition from supplements. All nutrients are supposed to come into our bodies holding hands with other nutrients. Only in that form can they be used properly by the body. No pill can provide that – only food can.

ACRES U.S.A. You make an analogy between the human body and our gut flora and plants.

CAMPBELL-MCBRIDE. The plant's root system in the soil is about the same size as the plant above the ground. If the soil around the roots is not healthy, then the plant is not going to thrive. When we look at the gut wall of the human digestive system under the electron microscope, we see a very similar picture. The absorptive surface of the gut has finger-like protrusions called villi. Every villus has long, thin, stringy hairs called microvilli. These are the roots of our health, and they're sitting in their own soil, which is our gut flora. Recent research has discovered that about 90 percent of all cells and genetic material in the human body is our gut flora. If that 'soil' is unhealthy, poisoned by antibiotics or other chemicals, then the roots of your health are sick. As a result your body cannot be healthy.

ACRES U.S.A. What is in the human gut flora?

CAMPBELL-MCBRIDE. A healthy gut is dominated by beneficial microbes. They fulfill vital functions for us reaching far beyond the gut itself. They control a large group of opportunistic and pathogenic microbes, which are capable of causing disease. Our beneficial bacteria are very vulnerable to antibiotics; they get wiped out, which allows the pathogens to overgrow and cause trouble. From one course of antibiotic to the next, we have less and less of the beneficial group and more and more of the pathogenic. That's when people develop disease.

ACRES U.S.A. The way we eat today bears little resemblance to the way our ancestors nourished themselves. How does what we eat affect our community of gut organisms?

CAMPBELL-MCBRIDE. There is nothing more powerful to affect your health than the food you eat! Every morsel of food that we swallow changes everything in the body, including the makeup of our gut flora. For millennia it was the role of the women to look after their family's health. How did they do that? Through food. Women had sacred knowledge about what foods are good for what health problem and situation in life, and this knowledge was passed from mother to daughter, from grandmother to granddaughter. But since humanity created the food industry, women relinquished their sacred power of looking after their families' health. Of course, the food industry's agenda is profit, not the health of your family. This industry changed all our recipes and created a plethora of processed substances, which they package nicely and call 'food.' The result is a steady decline in the health of the population. The bulk of processed 'foods' are processed carbohydrates — things made out of flour, sugar, soya, vegetable oils and chemicals. They are pollutants for your body to deal with. They do not feed you to any degree, but they do feed pathogens very nicely, changing the balance in your gut flora and laying the ground for disease.

ACRES U.S.A. In what parts of our gut do our gut flora live, and what are their physiological functions?

CAMPBELL-MCBRIDE. They colonize the whole digestive system, from your lips all the way to the end. The stomach produces hydrochloric acid, which makes a very hostile environment for microbes. As a result, a healthy stomach has a very low population of microbes. When people take too many drugs like painkillers, antiinflammatory drugs and antibiotics, the stomach's ability to produce acid gets damaged and its walls become furry with microbes. That causes gastritis, reflux, heartburn, belching and indigestion. Then people start taking antacids to deal with indigestion, which damage their production of stomach acid even more, making the whole situation worse. Moving down the digestive system, the duodenum and the rest of the small intestine have quite a rich population of microbes that should be dominated by lactobacilli. That's where the absorption of food mostly happens. After the intestine we move into the bowel, which has the bulk of our gut flora; it is our human equivalent of the rumen of herbivorous animals. It's not the cow that digests the grass; it's the bacteria in her rumen that digest it for her. They break down the plants, converting about 70 percent of them into very saturated short-chain fatty acids - so herbivorous animals are actually on a very high-fat diet! The same sort of thing happens in the human bowel, if it has healthy gut flora. The microbes break down plant matter into short-chain fatty acids, which sustain us between meals and during the night.

ACRES U.S.A. So where are proteins and amino acids absorbed?

CAMPBELL-MCBRIDE. They digest in the stomach and get absorbed

by the small intestine. Proteins that our stomach can digest are all of animal origin: from meat, fish, eggs and dairy. Plant proteins are indigestible for the human stomach and generally do not get absorbed. Vegetarians need to be aware of this.

ACRES U.S.A. How does the disruption in our gut flora cause food allergies and malnutrition?

CAMPBELL-MCBRIDE. The absorptive surface of our small intestine is lined with wonderful cells called enterocytes that only live a few days. They are born at the bottom of the villi and travel up the villi, digesting and absorbing food and getting more mature along the way. When they get to the tip of the villi, they're worn out and die. They get replaced by newly born enterocytes, which are pushing up from the bottom of the villi. This way the gut wall renews itself all the time. The absorptive process is very active. After food is properly digested, enterocytes take the food inside them and analyze it. Is it safe? Is it in the right form? If it is, they release the digested food into the bloodstream. Nothing is supposed to absorb between these cells; they produce a kind of glue that binds them together very tightly, sealing the gut wall. Our gut flora regulates the whole process of enterocytes being born, traveling up the villi and fulfilling their functions. When the gut flora becomes abnormal, the enterocytes degenerate and are unable to do their jobs. Pathogenic microbes in the gut produce chemicals that dissolve the glue between enterocytes, making the gut wall porous and leaky, and foods start absorbing undigested. The immune system finds these undigested foods in the blood and attacks them, which manifests as a food allergy or intolerance. It can be any symptom under the sun - a migraine headache, skin rash, bout of cystitis, painful joints, asthma attack, panic attack, a drop in blood sugar level or energy level. The reaction can be immediate or delayed, so on any particular day you have no idea what you're reacting to. People get tested for food allergies and start removing foods from their diet. Many

finish up with virtually nothing left to eat, and they're still reacting. As long as your gut wall is like a sieve, you will be absorbing most things undigested. I don't even recommend testing at the beginning. Focus on healing and sealing your gut wall with the GAPS Nutritional Protocol. You'll start digesting food properly and absorbing it in the right shape, and all those reactions will disappear naturally.

ACRES U.S.A. In your book you mention that some opportunistic bacteria can scavenge nutrients and keep them for themselves.

CAMPBELL-MCBRIDE. Many microbes love eating iron. That's their chocolate. If you have an overgrowth of iron-loving microbes, you can develop iron-deficient anemia. You'll become pale and pasty, lose your stamina and be unable to cope with stress or pressure. This situation usually happens after a good course of antibiotics. People can eat iron-rich foods like liver and take a supplement, but they don't get better until we restore their gut flora. Our gut flora is a major source of all our B vitamins, biotin and vitamin K2 and many other useful substances. We can't live without B vitamins, but they don't stay in the body for long. So even if you're eating plenty of them, there will be periods when you are deficient. Mother Nature found the perfect solution to this problem. We have our own little factory inside our digestive system - our gut flora, which constantly manufactures these essential substances. When the gut flora is damaged we develop deficiencies in these vitamins. Without vitamin K2, the body cannot use minerals appropriately, particularly calcium. Without K2, calcium cannot go into your bones and teeth, so you develop osteoporosis and tooth decay. Instead calcium deposits in your soft tissues - your blood vessels, muscles, joints and brain - and you develop kidney stones and bile stones. Our gut flora is the major and often the only source of K2. Traditionally people got it from fermented foods: in the West from high-fat, well-matured cheese, in Asia from fermented soy products.

ACRES U.S.A. This would be a good time for you to give an overview of GAPS

CAMPBELL-MCBRIDE. GAPS is an acronym for Gut and Psychology/ Gut and Physiology Syndrome, the name I have given to this condition. In a person with abnormal gut flora, the pathogens damage the integrity of the gut wall. At the same time these microbes convert the food we eat into toxic substances. As a result a river of toxicity flows through the damaged gut wall into the bloodstream and lymph. Wherever these toxins get to in the body, they will cause disease. When these toxins get into a person's brain, they cause mental illness or learning disability. This is Gut and Psychology Syndrome. All mental illness, in my experience, is GAPS. Gut and Physiology Syndrome occurs where the toxins from the gut get into other organs of the body. This includes all autoimmune disease, allergies, lack of energy production (chronic fatigue, fibromyalgia), arthritis, neurological disease, chronic cystitis, eczema, psoriasis, etc. I began my study of Gut and Psychology Syndrome working with children with learning disabilities, autism in particular. It has been predicted that by 2020, maybe 2025, one in two children will be diagnosed with autism in the English-speaking countries. Just 25 years ago we were diagnosing one child in 10,000. More recently, it was one in 150. Today we diagnose one in 35-40, and the numbers will continue to climb. It is an absolute disaster. The vast majority of autistic children are born with a perfectly normal brain, but they acquire abnormal gut flora from their mother at the moment of birth. As a result, the child's digestive system, instead of being a source of nourishment, becomes a major source of toxicity. This river of toxins absorbs and gets into the brain. How do babies and toddlers learn? They listen to everything. They observe everybody. They use their shameless baby stare. They touch things and take everything into their mouth. What are they doing? They are using their senses to collect information from the environment.

This information is passed to the brain to be analyzed. That's how babies learn how to be a human being in this world — how to behave, eat, social skills, language. But if the baby's brain is clogged with toxicity, it cannot process information coming from the ears, eyes, tactile senses and taste buds. All this information turns into noise, into 'mush' in their heads, and from that noise they cannot learn anything useful and develop autism or another learning disability.

ACRES U.S.A. How did you come to the conclusion that gut flora was the cause? It's a big jump for mainstream medicine.

CAMPBELL-MCBRIDE. Mainstream medicine is not aware of this yet, despite all the research about the microbiome. In the West it is still considered to be a pioneering area. Quite a few things are happening faster nowadays, but if you look at the history of medicine, on average it takes 50 years for medicine to accept a new idea.

ACRES U.S.A. So where did you get this insight?

CAMPBELL-MCBRIDE. One of my sons was severely autistic at the age of 3. That threw me into a very steep learning curve. I was a mainstream medical doctor, but I quickly discovered that my own profession had nothing to offer my child. From my medical training I was very aware of gut flora and what it can do, and my child had severe digestive problems. Once I discovered the diet that could heal his gut, the rest was history. Now he is a healthy young man leading a normal life.

ACRES U.S.A. How did you discover the diet that could repair his gut?

CAMPBELL-MCBRIDE. I happened to go to a conference where Elaine Gottschall was speaking about the Specific Carbohydrate Diet. I met this wonderful lady and read her book when my child was 3 1/2, so I caught him early. We put him on the diet and used a special educational program. At age 5 he went into mainstream school with some support. It took us a few

more years to remove the last traces of autism. Having done this for my own child, I started working with many other autistic children. As I started treating autism, I discovered that the siblings of autistic children often had ADHD, dyslexia, dyspraxia, digestive disorder, anorexia, fussiness with food, allergies, asthma and many other problems. These children acquired the same gut flora from the same mother. The parents were also GAPS people, so I had to treat the whole family. Once we put the family on the GAPS Nutritional Protocol, all sorts of health problems, physical and mental, start melting away in the mother, father and the children.

ACRES U.S.A. Could you give us an overview of the GAPS protocol?

CAMPBELL-MCBRIDE. The digestive system is a long tube. What you fill that tube with has a direct effect on its well-being. No matter how far an organ may be from the digestive system, it still can be affected by what goes on in the gut. So diet is the absolute cornerstone of this program. I adapted the Specific Carbohydrate Diet, which was developed by a New York gastroenterologist named Sydney Haas, who wrote a textbook on the treatment of celiac disease in 1952. His work would have been forgotten if it wasn't for Gottschall, a mother of a 4-year-old daughter with ulcerative colitis and neurological symptoms. She found Dr. Haas, after he had retired in complete obscurity and been pronounced a quack by mainstream medicine. He put her daughter on his diet and she recovered. That impressed Gottschall so much that she spent the rest of her life researching and promoting this diet. Her book, Breaking the Vicious Cycle, has saved the lives of thousands of people around the world. She passed away a few years ago. We had a professional friendship, and I took that diet and, working with my patients, I modified it. I wanted to emphasize traditional foods, particularly meat stock, bone broth, soups and gelatinous meats. My patients called it the GAPS diet. My book, Gut and Psychology Syndrome, is a self-help book that describes GAPS Nutritional Protocol in detail. The

majority of people follow the protocol without having a consultation with me or anybody else, and they get results. The diet is the most important part of the treatment. The second part of the program is supplements, which I keep to a bare minimum. The GAPS Diet is rich and very nutrient-dense. It normalizes digestion and absorption of foods, so the person can quickly overcome multiple nutritional deficiencies. The third part is changes in lifestyle and detoxification. Many diseases stem from the increasingly toxic world we live in, so we have to remove the toxins as much as possible. For GAPS people the major source of toxicity is their gut. After you repair the gut and normalize gut flora, the body will have a chance to start cleaning out the stuff that is stored in your organs. There are many things we can do through the GAPS nutritional protocol to assist the detoxification process and make it more comfortable and effective.

ACRES U.S.A. So you recommend that people change aspects of their lifestyle?

CAMPBELL-MCBRIDE. Absolutely. The chemical industry has produced some 80,000 new chemicals, which do not exist in nature. They are every-



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where and the human body doesn't know what to do with them. In order to recover, a GAPS person has to drastically reduce their exposure to man-made chemicals. The first thing to look at is the personal care products you use daily. Human skin is not a barrier, it absorbs most things you put on it. For example, when you use a deodorant, you can taste it in seconds, because the chemicals from it are already in your bloodstream and your saliva. GAPS people have to replace their personal care products with natural alternatives. The same goes for domestic cleaning chemicals, laundry and dishwasher detergents. Electromagnetic pollution is another major factor in our health epidemics. We live in an electromagnetic soup that we can't see, but we know it's there because our mobile phones, Wi-Fi and smart technologies are working. The human body is an electromagnetic machine affected by these electromagnetic fields. I have children in my clinic that cannot fall asleep until the whole house is disconnected from electricity. Only then could the child stop screaming and settle down. I have patients in my clinic who wake up several times a night with terrible muscle cramps and neurological symptoms. The only thing that helps them is to go outside and walk barefoot on wet grass, whatever the season. Many people dismiss effects from EMF as nonsense, but it could be causing your anxiety, memory lapses or lack of energy, but you and your doctor just haven't made the connection.

ACRES U.S.A. You've noticed that a lot of the children have very fussy eating habits. What's behind this?

CAMPBELL-MCBRIDE. The majority of GAPS children and adults have an inappropriate relationship with food. They are trapped in a vicious cycle of cravings and dependency upon the very foods that harm them, and they exclude all the foods that do not fit into that cycle. They have abnormal gut flora that converts food into toxins. But these microbes are clever. They make part of that

toxicity in the form of endorphins. These chemicals give the brain a pleasure signal, so the brain wants more. For all intents and purposes, these children and adults are drug addicts, though they're not taking drugs from the outside. Microbes in their gut flora are manufacturing the drug inside their own gut.

ACRES U.S.A. Which foods are converted into endorphins?

CAMPBELL-MCBRIDE. Processed carbohydrates in particular. Everything made out of flour, sugar and chemicals. That's why these patients characteristically limit their diet to anything sweet or starchy. They can eat crisps, sweets, cakes, biscuits, chocolates, breakfast cereals, bread, pasta, sometimes a sweet dessert or a sweet yogurt and maybe occasionally a banana. GAPS people crave these things because they feed the vicious cycle of their addiction.

ACRES U.S.A. I've met children who will only eat white foods, like pasta.

CAMPBELL-MCBRIDE. Exactly. They are addicted. One of the substances manufactured by abnormal gut flora is alcohol. After every course of antibiotics, we have an overgrowth of fungi in the gut. Fungi convert processed carbohydrates into alcohol. So you become an alcoholic without drinking alcohol. That's why these children are cranky, mean and unhappy. They have headaches, muscle aches and low energy, but they may have never felt any other way, so they can't explain to their parents that they are feeling unwell. In my book in the chapter, "It's feeding time! Oh, no!," I explain a behavioral approach to pulling your child out of that vicious cycle of cravings and dependency. As with any drug addict, when you try to help them, they will fight you every step of the way. Parents have to be very determined and organized. We start by introducing one food at a time. We use a small achievable target, such as one teaspoon of the food for a reward. If the parents persevere, any child can be pulled out of that problem.

ACRES U.S.A. Isn't this an intergenerational problem?

CAMPBELL-MCBRIDE. Absolutely. Babies acquire their gut flora at the moment of birth, when they go through the birth canal. The flora in the birth canal comes from the bowel of the woman. If a woman has abnormal gut flora, she will have abnormal flora in her birth canal, and that is what she passes to her child from the very beginning of his life. We have an epidemic of abnormal gut flora, getting more severe with every generation. Before I talk about the health of the children in my clinic, I always first ask about the parents' health and even the health of the grandparents. Having accumulated a lot of data in this area, I see an epidemic of abnormal gut flora getting deeper with every generation. For example, the grandmother had a few courses of antibiotics prior to having her daughter. She passed this slightly damaged gut flora on to her daughter at birth. Then these girls grew up in a modern world exposed to many courses of antibiotics, compromising their gut flora further, and eating junk food, which favor pathogens. Then they start taking contraceptive pills, which have a devastating effect on gut flora. By the time this young lady decides to have her first child, her gut flora is seriously abnormal. That's what she passes on to her baby at birth. Even five years ago, the children that came to my clinic were a little stronger and had slightly healthier gut flora than children born today. This is an avalanche coming on humanity and the basis for all the degenerative diseases we see in children and adults. Scientists are predicting that a growing proportion of children born in the last 10 years will not outlive their parents. These children have such poor constitutions.

ACRES U.S.A. What about the impact of all the toxic chemicals in our environment?

CAMPBELL-MCBRIDE. It sounds unfair and cruel, but Mother Nature designed a woman's body to use pregnancy as a chance to clean up by dumping toxins into the fetus. Nature

decided that the woman's body is more important to preserve than the fetus. In our modern world we are exposed to a lot of personal care products, drugs, junk food, pesticides and other chemicals. Many of them are stored in the body. By the time a young lady decides to have her first child, her body is a toxic dump full of chemicals. With the first child her body thinks, 'Great. I can clean up now,' and dumps the whole lot into the fetus. Often there is enough toxicity to kill the fetus so we have an epidemic of miscarriages and stillbirths. It is usually the first born in the families that has the severe illness, because of the toxic load released by the mother in her first pregnancy. As a result the following children receive a cleaner pregnancy and have a better constitution. If you look at autism statistics, you will find that the vast majority of these children are firstborn.

ACRES U.S.A. That's really interesting.

CAMPBELL-MCBRIDE. Traditional cultures treated pregnancy with great reverence and respect. They knew that the pregnant woman has to eat a certain diet. In traditional parts of rural France, pregnant women still eat liver every single day, where in the Englishspeaking countries doctors advise against it. Pregnant women are not supposed to use makeup or go to the hairdresser, because everything your hairdresser uses is toxic and absorbs into your system. Prior to conceiving, a woman has to take measures to clean up her body. We have to bring these practices back. Before she decides to have her first child, every woman needs to look very seriously at this, and the man does as well.

ACRES U.S.A. Growing up, what was your personal relationship to traditional society?

CAMPBELL-MCBRIDE. I grew up in a traditional society in the rural Soviet Union. I spent a lot of time with my grandparents who lived in a small village, high up in the Ural Mountains (a chain of mountains which divide the continent into Europe and Asia). They had a smallholding with all the

animals, and most of the food they ate came from their own homestead. I was very fortunate to grow up in that society and learn a lot from my grandmother. That is what I'm teaching my patients and my practitioners now.

ACRES U.S.A. We have an epidemic of diabetes in young children. What is going on here?

CAMPBELL-MCBRIDE. Without a doubt, Diabetes Type I is a GAPS condition. These children have abnormal gut flora and a very damaged gut wall, absorbing proteins undigested. They develop antibodies against those fragments of undigested protein, which attack the pancreas, so it is unable to produce insulin. These children are put on injections of insulin. To get rid of this condition, we have to focus on healing and sealing the gut wall. I stumbled across this in my clinic with a severely autistic 2-yearold that had Diabetes Type I. While we were treating autism in this child, his Diabetes Type I disappeared first. This little boy is now a healthy 15-yearold. As the child's gut heals, the pancreas regenerates and starts producing insulin again. In the last two years, I started getting babies with FPIES (Food Protein Induced Enterocolitis Syndrome). They're usually breastfed babies who suffer from diarrhea and vomiting, and don't grow. Doctors discover that the child is allergic to every protein on the planet, so they are put on elemental formula, made from soya and corn syrup. I have a score of these children now and they are recovering beautifully with the GAPS Diet. A proportion of these children develop Diabetes Type I as well. It takes a lot of patience to help these children. They are babies who acquired very abnormal gut flora and a heavy toxic load from their mom.

ACRES U.S.A. What about Diabetes Type II?

CAMPBELL-MCBRIDE. Diabetes Type II has a different mechanism having to do with blood sugar control. On its own, sugar can't leave your bloodstream and enter your cells. Insulin is the key that opens the little doors on the walls of the cells and ush-

ers the glucose in. This mechanism has worked beautifully in the human body for millions of years - until the food industry started making processed carbohydrates. Things like breakfast cereals, anything made out of flour and sugar, chocolate bars, and soda pop are the cause of Diabetes Type II and obesity. They digest and absorb very quickly and raise the blood sugar rapidly to a dangerous level, so the body has to produce a shocking amount of insulin. But cells only have a limited capacity to take in the sugar. When sugar keeps being rammed into them, they say, 'enough,' and destroy some of those little doors on their walls that insulin unlocks; the cells become insulin-resistant. This is Diabetes Type II. If you continue consuming processed carbohydrates you finish up with too much insulin in your bloodstream. This causes obesity, because insulin is a master fat-storage hormone in the body. If you have too much of it in your blood, you'll store everything, even a cucumber, as fat! The first thing to do for anyone with Diabetes Type II is to stop eating all processed carbohydrates, which the GAPS Diet does. It will get rid of Diabetes Type II very effectively.

ACRES U.S.A. Interesting, and I'm sure helpful to many people. Why is there so much celiac and non-celiac gluten intolerance?

CAMPBELL-MCBRIDE. We have to look at the history of celiac disease. Before the 1960s, when a study out of Birmingham University in Britain discovered gluten, celiac disease included many other digestive abnormalities. All of these digestive problems responded to the Specific Carbohydrate Diet that Dr. Sydney Haas developed. Then gluten was discovered and the diagnosis of celiac disease was reshaped, which restricted celiac disease to quite a small group of people, with all those other conditions excluded. That was the point at which, unfortunately, Dr. Haas was forgotten and his book, Cure for Celiac Disease, was put away as outdated. Gluten is not the cause of celiac disease. That's a misnomer. Celiac disease is about abnormal gut flora. Gluten is only one of the proteins that a celiac person is

unable to digest, there are many more. When they're absorbed undigested, they trigger reactions. Your antibodies first attack the undigested protein, then attack your gut wall itself, causing the typical celiac situation -ulcerations, inflammation, sensitivity and the inability to digest and absorb food. To heal from celiac disease we need to change the gut flora and heal the gut wall. That takes time. Once that happens, the gut wall will seal itself, and you will start digesting your food properly before it's absorbed, and other autoimmune reactions will disappear in the body. People with celiac disease don't just have autoimmunity in their digestive system. They usually have low muscle tone, painful joints and muscles. There is much more to celiac disease than the gut, and just removing gluten is a waste of time. All autoimmunity is born in the gut, whether it is celiac disease, rheumatoid arthritis or lupus or Diabetes Type I. I've been saying that for the last 23 years, and now the major immunologists around the world are saying the same thing. Your digestive system is the biggest and most important immune organ with 85 percent of the immune system located in the gut wall.

ACRES U.S.A. It sounds like many of these autoimmune diseases can be reversed.

CAMPBELL-MCBRIDE. They can be cured. I have many people with rheumatoid arthritis, multiple sclerosis, psoriasis and other autoimmune conditions that have recovered fully, but they have to stay on the Full GAPS Diet for the rest of their lives, though occasionally they can transgress. Once the gut wall heals, the immune system rebalances itself and the disease doesn't come back. The immune system will recall those antibodies, put them on a shelf in a 'library' and say, 'I don't need you anymore. Sit there in the archive in case there is a situation later on when I might need you.' But if something triggers the situation again, the body will pull these antibodies off the shelf in seconds. So the person has to be careful.

ACRES U.S.A. You've said that GAPS people need a lot of fat. Why is that?

CAMPBELL-MCBRIDE. If you remove water from the human body, which is about 70 percent of our body, half of your dry weight is made up of fat and half is protein. Fat is a structural element for the human body. When your body has inflammation and autoimmunity destroying cells and tissues, you need to rebuild them. The building materials are going to come from food. The most appropriate fats for rebuilding our human structure are animal fats: beef fat, lamb fat, goose fat, pork fat, because their biochemical structure is very similar to the fats our bodies are made from. Of course fish is an animal food as well and an important part of the diet. The bulk of fat consumption has to come from animal foods. The fatty acid composition of plants is inappropriate for human physiology. When we eat nuts, fruits and vegetables we get plenty of these oils. They're not needed in large amounts. What we need in large amounts are animal fats. The GAPS diet is high fat, which allows the body to rebuild itself and heal damage.

ACRES U.S.A. What should we know about fat tissue in our bodies?

CAMPBELL-MCBRIDE. Our body fats are a storage site for toxicity. That's because mercury, arsenic, lead, aluminum and other toxic metals are fat-soluble substances, as are many other man-made chemicals. Your brain and the rest of your nervous system are very high-fat tissues. They become a dumping ground for these fat-soluble toxins. Toxins like to target particular proteins. For instance, mercury, aluminum and other toxic metals like to attach to proteins in the nuclei of cells in the base of the brain. These toxins change the three-dimensional structure of these proteins. When your immune system finds these changed proteins, it doesn't recognize them as part of your body and attacks them. As a result, you can develop multiple sclerosis, or Parkinson's disease, or Alzheimer's, or Amyotrophic Lateral Sclerosis, or another nasty autoimmune condition. Bone marrow is another high-fat organ, and we have an epidemic of leukemia amongst our children. These children are born with toxins in their bone marrow, which the mother's body dumped there during pregnancy. Then, as they grow up in our modern environment, they accumulate more toxins. Your thyroid gland, pancreas, adrenals, sex glands and other endocrine glands are also high-fat tissues that become storage sites for toxins.

ACRES U.S.A. We have been hearing that inflammation is the cause of all kinds of disease or that inflammation occurs before various diseases occur.

CAMPBELL-MCBRIDE. The majority of the Western population is constantly in a pro-inflammatory state, because people live on processed carbohydrates. They have too much insulin in their bloodstream, and insulin is a pro-inflammatory hormone. It will not allow inflammation to stop. This pro-inflammatory state is the basis for developing cancer, heart disease, Alzheimer's, diabetes, autoimmunity and pretty much every other degenerative condition.

ACRES U.S.A. What kinds of studies have been done about the effects of the GAPS diet?

CAMPBELL-MCBRIDE. I have lost count of scientists contacting me and saying they want to study the GAPS Diet. We have a couple of studies going with autism and the GAPS diet, and there's one planned, but we don't have any published studies yet. Science is an expensive business.

ACRES U.S.A. And science doesn't operate with whole systems very well. If GAPS were an enzyme or a vitamin, it would be a lot easier to study.

CAMPBELL-MCBRIDE. You can study it. GAPS Protocol is hard work, so people who are prepared to do it can be compared to controls on the standard diet.

ACRES U.S.A. What are some of the common reasons that GAPS doesn't

work for people when they try it for themselves or their children?

CAMPBELL-MCBRIDE. Compliance is the issue. Also, you have to adjust the diet to each person. A large percent of people just do the diet on their own and get wonderful results, but many people need professional supervision on how to deal with problems that occur, because healing is a journey. It's like peeling an onion. You peel off one layer of problems, and you feel great. Then the body decides, 'I'm going to peel the next layer off now,' and you get ill again. People need to understand that. That's why in the last few years I have been training health practitioners in the GAPS Nutrition Protocol. We have more than 1,000 Certified GAPS Practitioners around the world. I list the ones that are ready to practice on my website, gaps.me, under 'Find a practitioner.' I've set up a private forum, where practitioners can talk to each other, and it has been tremendously successful. If your individual practitioner is not quite sure how to deal with your particular situation, they will put that question on the forum and have help from practitioners from all over the world.

ACRES U.S.A. Is there anything else that is important to say that we've missed?

CAMPBELL-MCBRIDE. I would like to mention heart disease, because every time I talk about fats, people ask. Natural fats do not cause heart disease, they actually prevent and reverse it. I've written a book called Put Your Heart in Your Mouth to explain how cholesterol works in the body and what actually causes heart dis-

ACRES U.S.A. This is a good time to explain the positive role of cholesterol.

CAMPBELL-MCBRIDE. Cholesterol is one of the most essential molecules in the human body. We can't live without it. The vast majority of cholesterol in your blood doesn't come from food, but is manufactured by your liver. The body requires a certain amount of cholesterol at every moment of your existence. All your steroid hormones, adrenal hormones, sex hormones are made from cholesterol. Whenever you're under stress, and your adrenals need to produce cortisol and adrenaline, they call to the liver, 'Hey, I need cholesterol!' The liver manufactures cholesterol and sends it into your bloodstream to be delivered to the adrenals. So, every time you're under stress, your blood cholesterol will be high. Don't interfere with that, or you won't be able to cope with stress. Indeed, many people who go on anti-cholesterol pills, such as statins, are unable to deal with stress. A large percentage of the brain is made out of cholesterol. On top of that, the brain requires a lot of cholesterol for the manufacture of neurotransmitters, hormones, enzymes and other things. So your brain is very hungry for cholesterol and just mops it up from the bloodstream. When people go on anti-cholesterol pills, they start losing their memory. That is the major side effect of statins. A large percent of our Alzheimer's disease epidemic is caused by statins. Cholesterol is a structural and functional element for the immune system. Every time your immunity is dealing with infections, it will require larger amounts of cholesterol, and your blood cholesterol will be high. Interfering with it will impair your immune system, so it won't be able to deal with the infection. Vitamin D, the sunshine vitamin. is made out of cholesterol. When we expose our skin to sun, cholesterol is converted to vitamin D. Without vitamin D we cannot live. When we're sunbathing, another wonderful thing happens with both cholesterol molecules and vitamin D. Sulfur is captured from the air and attached to these molecules. The beauty of sulfated vitamin D and sulfated cholesterol is that they're water-soluble.

ACRES U.S.A. So they can travel through your blood?

CAMPBELL-MCBRIDE.

They can go into your bloodstream in seconds, directly, without special packaging. Science is discovering that sulfates of vitamin D and cholesterol are some of the body's most powerful detoxifiers. So every time you sunbathe, you are cleansing in a powerful way; cancer cells are being destroyed in your body, toxins are being destroyed and removed. You cannot change cholesterol levels with diet. That's been shown conclusively in dozens of studies. If you eat less cholesterol, your liver will produce more. If you eat more cholesterol, your liver will rest a little. Whatever amount of cholesterol your body requires at a particular moment for whatever functions, your body will put that amount in your bloodstream. The only way to reduce blood cholesterol is by taking statins. What do these pills do? They break that little factory in your liver so it's unable to manufacture cholesterol. As a result, you get all the side effects of statins, such as memory loss, change in personality, inability to cope with stress, muscle damage, heart damage and other problems. Statins are one of the most dangerous medications that people take nowadays. It is, unfortunately, the most prescribed medication and the number one profit-maker for the pharmaceutical industry.

ACRES U.S.A. After the heart book, are there other things you're working on?

CAMPBELL-MCBRIDE. I'm working on Gut and Physiology Syndrome, where I will describe those other physical conditions, such as rheumatoid arthritis, lupus, chronic cystitis, asthma and allergies.

ACRES U.S.A. You briefly alluded to leukemia, but you haven't really discussed how the GAPS protocol can help people with cancer.

CAMPBELL-MCBRIDE. I'm not an

INFORMATION? For more information on GAPS and Dr. Natasha Campbell-McBride visit gaps.me and doctor-natasha. com.

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oncologist and don't treat cancer. When I was in medical school, we were taught that man-made chemicals cause cancer. But because cancer is such a profitable industry, it [industrial medical complex tries to forget that and instead focuses on genetics. There are many theories about

these processes, because they're very complex. There is a GAPS practitioner who is working on a book, *Treating Cancer with GAPS*. Her husband has one of the most severe forms of melanoma. People usually don't live more than a few weeks with that condition, but he has been living happily for 11 years on the GAPS Protocol. She made the diet ketogenic, where fats are used for manufacturing energy,

rather than sugars. There is a whole group of doctors now working on a ketogenic diet for cancer, because cancers are sugar junkies. They cannot use anything else as a source of energy but sugar. As long as you continue eating processed carbohydrates, you are laying the ground for cancer in your body. Cancers cannot live in a ketogenic state; they can be controlled and start disappearing.

Gut and Psychology Syndrome: Natural Treatment for Autism, Dyspraxia, A.D.D., Dyslexia, A.D.H.D., Depression, Schizophrenia and Put Your Heart in Your Mouth: Natural Treatment for Atherosclerosis, Angina, Heart Attack, High Blood Pressure, Stroke, Arrhythmia, Peripheral Vascular Disease by Dr. Natasha Campbell-McBride are both available from Acres U.S.A.; visit acresusa.com or call 800-355-5313.