What is methylation and why is the MTHFR enzyme and the gene that codes for it (called MTHFR) important?

A methyl group is a basic unit in the chemistry of living organisms. It consists of one carbon atom attached to three hydrogen atoms with an open chemical bond that can attach to other molecules. The attachment of such a methyl group to another molecule is called "methylation." With very good reason, this term often appears in the topic-based genetics nutritional therapy literature. The MTHFR gene is important because it plays a key role in the process of methylation. This process is linked to a critical point in your methyl group-producing biochemical pathways. MTHFR is the acronym for methylene tetrahydrofolate reductase. Your MTHFR function depends on your genetic makeup and is a determinant in how well your methyl groups work. As such, the body’s MTHFR function is a pivot between health and sickness for you.

What important roles does methylation play in the body?

Methylation takes its place among processes as cellular respiration and energy production as being a basic, fundamental chemical process. While your ability to methylate is impacted by your genes, the most important function of methylation is the regulation of genetic activity, what we call genetic expression. When a methyl group attaches to a specific position on a gene, it alters the expression of that gene. It can turn it on or off. Methyl groups are like the traffic lights of your genetic function. Imagine how chaotic traffic would be if traffic lights were not functioned or if both too scarce or too proliferated. The MTHFR enzyme is located in a critical position for making methyl groups, and the function of this enzyme impacts your ability to make glutathione, a pivot antioxidant for detoxification.

Tell us how methylation can affect our own wellness but also the health of future generations, our unborn children.

Genetic expression in general affects our unborn children. Everybody knows that you can shorten your own life if you overeat. But now it appears that overeating can predispose your unborn children to obesity even before they are conceived? Patterned methylation is established by your choices. Your diet, your level of stress, your prenatal nutrition, all can make an imprint on your genes. These DNA imprints may be inherited by your children. But unfortunately, disadvantageous methylation pattern imprints that are inherited by those is irreversible, over time, with the correct diet and targeted supplementation.

You also say that an adequate supply of methyl groups is necessary even for building the DNA and RNA for new cells that the body constantly needs to produce.

Yes, methyl groups and methylation do other things important to your body besides regulate genetic function. Without an adequate supply of methyl groups, you cannot form certain base molecules that are part of DNA and RNA. Without these, your ability to make the new cells that your body needs to replace itself is impaired. In that case, you age more rapidly and you become more susceptible to disease. You do not learn new tasks readily and you do not have the ability to offset the changes in your environment easily. Your energy may decrease. You may develop high homocysteine and the vascular inflammation and heart disease that are associated with elevated homocysteine.

Cells with fast turnover time, like red blood cells and the lining of your gastrointestinal tract, cannot replace themselves without an adequate supply of methyl groups. Your ability to mount an immune response is impaired because you cannot expand T cell clones. Poor methylation can impair insulin regulation of Tha and Thz, and your ability to fight chronic infection deficiency. Bacterial infections like Lyme disease and its related co-infections, viral infections like EBV, CMV, HHHV6, yeast infections like candida albicans, and parasites like roundworms become entrenched and resistant to antimonials and other standard treatments. Long-term and multiple administration of antibiotics not only work because immune competence depends on upon having adequate methyl group formation.

Insufficient methylation may lead to abnormal myelin formation and impaired nervous impulse propagation by synapses. Methyl group synthesis is essential for neuronal cell survival, development, function, and longevity. Nerve cells membrane to be maintained in order to sufficiently fluid for receptor site activity and transmission of impulses and substrates.

So would you say that when people have a genetic mutation that makes them more hardy to methylation, they are more susceptible to neurological disorders?

Neurological degenerative diseases like Parkinson’s disease, multiple sclerosis, and amyotrophic lateral sclerosis (ALS), also known as Lou Gehrig’s disease, are associated with an unfavorable version of the MTHFR enzyme, unbalances the biochemical pathway in which glutathione is made and impairs its production, impairing your ability to excrete heavy metals. In a vicious circle, toxic metals syndrome, fibromyalgia, and psychiatric disorders as well. So, if you have not found the cause of your chronic illness, or you have been overlooked testing link to inadequate methylation. Methyl group imbalances has been linked to autism, chronic fatigue syndrome, fibromyalgia, and psychiatric disorders as well. If you have not found the cause of your chronic illness, or you have been overlooked testing link to inadequate methylation. Methyl group imbalances has been linked to autism, chronic fatigue syndrome, fibromyalgia, and psychiatric disorders as well.

Tell us about the how the ability to methylate impacts mercury detoxification.

Glutathione is your body’s main antioxidant for removal of mercury and other toxins. MTHFR+, the unfavorable version of the gene that encodes for the MTHFR enzyme, unbalances the biochemical pathway in which glutathione is made and reduces its production, impairing your ability to excrete heavy metals. In a vicious circle, toxic metals syndrome, fibromyalgia, and psychiatric disorders as well. So, if you have not found the cause of your chronic illness, or you have been overlooked testing link to inadequate methylation. Methyl group imbalances has been linked to autism, chronic fatigue syndrome, fibromyalgia, and psychiatric disorders as well.

In some patients, all that high dose metal detoxification is to restore the function of MTR and the other methylation pathway enzymes. But for most, it is more complicated. Gastrointestinal bacteria and other organisms in your body sequester (bind up) toxic metals. In such case, organisms - viruses, fungi, parasites, and bacteria - need to be effectively eliminated from your body to detoxify these metals. This takes some doing. See http://nancynullmanmd.com/pdf/Gastrointestinal_Balance_and_Metal_Detoxification.pdf for more information. There are many other genes the MTHFR gene are in the body sequester (bind up) toxic metals. In such case, organisms - viruses, fungi, parasites, and bacteria - need to be effectively eliminated from your body to detoxify these metals. This takes some doing. See http://nancynullmanmd.com/pdf/Gastrointestinal_Balance_and_Metal_Detoxification.pdf for more information.

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Lyme Awareness Month of May Events

Planned World Wide

May will be here before we know it, and as you all know May is Lyme Awareness Month. Lots of activities are already being planned and as May comes closer there will be even more. Please make sure to keep checking back at this link to see if anything is happening near you. http://whatstheymaine.com/category/awareness-campaigns/

The Worldwide Lyme Disease Awareness Protest
When: May 16 - 18, 2014
Where: There will be several Lyme protests and awareness events around the world. The United States already has 18 being planned.
2014 WWLDAAP Website: http://wwldapi2014.blogspot.com

The goal of the Worldwide Lyme protest is to spread Lyme Awareness around the whole world. We want to bring attention to the plight of Lyme sufferers and make the public, as well as the medical communities and organizations who write the tick borne illness guidelines aware of the fact that people are suffering long term effects and need proper medical care that they need. There is a huge need for more research and the medical community is in need of education on these tick-borne diseases. Make sure to click the link above and start a Lyme or Lyme awareness event in your state that you can attend.

The Mayday Project
When: May 22-23, 2014
Where: HDSA Headquarters 1200 Wilson Boulevard Suite 300, Arlington, VA 22209

Goal: To get as many Lyme patients and family and friends there as possible. We want thousands this year to grab the media attention. We know Lyme patients are really sick and it’s hard for them to commit to anything, but it is really important to show the world how many of us there are. If you can’t make it, please ask a family member or friend to stand in your place.

The Mayday Project has been lucky enough this year to get the backing of “2 Million Bikers” and “Aids United” and several groups from these will be joining us at our protest this year. We hope to gather thousands this year but we need everyone’s help to do this.

Ribbons Across America
Where: Everywhere
When: All through May

S-L-A-M.org started a Lyme awareness campaign! It’s simple and everyone can do this right from home. Just buy a green bulb at your local hardware store and change your porch light! Tell your neighbors about the project and maybe they will join in. Last year a Lyme patient, Amy from Florida went to walk her dog outside and noticed her whole block had lit up green! Tell your neighbors! This is a good way to get media attention. Any newspaper would love a local story like this.

Hope to see everyone participating in some of these Lyme Awareness events!

This will be the third year in a row for the green light campaign! It’s simple and everyone can do this right from home. Just buy a green bulb at your local hardware store and change your porch light! Tell your neighbors about the project and maybe they will join in. Last year a Lyme patient, Amy from Florida went to walk her dog outside and noticed her whole block had lit up green for her. Every one of her neighbors had put a green bulb in their porch light. This is a good way to get media attention. Any newspaper would love a local story like this.
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LIMITED QUANTITY - CONTACT NUTRAMEDIX CUSTOMER SERVICE FOR MORE INFORMATION
A Lyme Literate Therapist in Texas Shares What It Means for Clients to Have a Professional Who "Gets It" In Their Corner

By Dawn Irons

In the last several years, I have had clients come through my office who were desperately at the end of their rope. Many of them shared of the medical drama that had been plaguing them for years and how their medical doctors have told them to seek out psychiatric help. These people shared common similarities: chronic illness that was unexplained by previous doctors, unexplained symptoms such as migraines and anxiety, and rejection.

Their stories all had some common trends: that many had been treated for issues such as depression and symptoms of Lyme disease, but somehow they were not getting better. They had become chronically ill, and they were not getting better. They were desperate, and they were not getting better. They were in desperate need of someone who understood their condition.

Thankfully, there are several medical doctors in Texas who will treat, but they still are so few and far between. Even doctors feel abandoned by one more patient when they hear these words. "I have been told by my doctors that it was all in my head, that I was just depressed."

"They could not help you, you need counseling. Who's going to help you."

"I am in the process of finding one."

They are real. A Lyme literate therapist can help you see your symptoms in light of the medical "big picture" and help you understand your coping skills that will help you navigate the medical situation. This is a true neuropsychiatric condition. A good therapist will help you understand that you are not crazy. They will help you navigate your DSM and that your life consists of more than the current medical drama and yourself trapped in at this time. Quite often, by the time a person seeks out a therapist, they have forgotten who they were before the illness. They are not only ravaging their body but also stole their identity. It is possible to have a therapist who will help you with this. Quite often family and friends expect the proverbial bench as life as you knew it continues to go on without you.

My Family and Friends Just Don’t Understand

Lyme disease affects more than just your medical condition. It changes your life. It changes your finances. It changes your relationships. It changes your social life. It changes the way you think. It changes the way you react to the world. It changes the way you react to your family and friends expect the illness will run its course and you will be fine by yourself in no time. But the longer the illness takes to treat, the more resistant bacteria and family become. They want to help, but they genuinely don't know how to do it to your family.

And if you are honest with yourself, even you have probably never been quite soPlot this data on a graph. what i understand is that the data is not linear and that it is best to use a logarithmic scale. This is because the relationship between the two variables is not constant. Instead, the relationship changes over time, and the rate of change is not constant. The data shows that the number of clients with Lyme disease has increased over the years, but the rate of increase has slowed over time. This suggests that the number of new cases is not increasing at the same rate as it was in the past. The data also shows that the number of clients who have received treatment for Lyme disease is increasing over time, but the rate of increase has slowed over time. This suggests that the number of clients who have received treatment is not increasing at the same rate as it was in the past.

Lyme disease is a tick-borne bacterial infection that can cause a variety of symptoms, including fever, rash, and joint pain. However, the symptoms can also be mild or even nonexistent, and in some cases, the infection may be asymptomatic. As a result, Lyme disease can be difficult to diagnose. The symptoms of Lyme disease can be similar to those of other conditions, such as arthritis or mono. For this reason, it is important for individuals to be aware of the signs and symptoms of Lyme disease and to seek medical attention if they experience any symptoms.

Lyme disease is caused by the bacterium Borrelia burgdorferi. The bacterium is transmitted to humans through the bite of an infected tick. The tick must insert its mouthparts into the skin to transmit the bacterium. Once the bacterium enters the blood, it can spread throughout the body and cause symptoms such as fever, rash, and joint pain.

There are several types of Lyme disease, including early localized disease, early disseminated disease, and late disseminated disease. Early localized disease occurs within the first few weeks after a tick bite and is characterized by fever, a rash, and joint pain. Early disseminated disease occurs within the first few months after a tick bite and is characterized by a variety of symptoms, including fever, rash, joint pain, and neurological symptoms. Late disseminated disease occurs more than six months after a tick bite and is characterized by symptoms that can affect any part of the body, including the central nervous system, the heart, and the joints.

The symptoms of Lyme disease can vary depending on the stage of the disease. Early localized disease is usually characterized by fever, a rash, and joint pain. Early disseminated disease can cause a variety of symptoms, including fever, rash, joint pain, and neurological symptoms. Late disseminated disease can cause symptoms that can affect any part of the body, including the central nervous system, the heart, and the joints.

The diagnosis of Lyme disease is typically made through a combination of a physical examination, laboratory tests, and a history of symptoms. The laboratory tests for Lyme disease may include a blood test for antibodies to the bacterium, a blood test for signs of inflammation, and a blood test for signs of infection. The physical examination may include a look for a rash, a look for signs of arthritis, and a look for signs of neurological symptoms.

The treatment of Lyme disease is typically aimed at eliminating the bacterium and reducing the symptoms. The treatment may include antibiotics, pain medications, and physical therapy. The antibiotics used to treat Lyme disease are typically given for a period of several weeks to several months. The antibiotics may be given by injection or by mouth.

The prognosis for Lyme disease depends on the stage of the disease at the time of diagnosis. The prognosis for early localized disease is good, and most people recover with antibiotic treatment. The prognosis for early disseminated disease is also good, but some people may have persistent symptoms. The prognosis for late disseminated disease is often poor, and some people may have permanent disabilities.

Lyme disease is a serious illness that can affect many different parts of the body. The symptoms of Lyme disease can vary depending on the stage of the disease, and the treatment is typically aimed at eliminating the bacterium and reducing the symptoms. The prognosis for Lyme disease depends on the stage of the disease at the time of diagnosis.
In the late 1970’s, I treated a depressed patient who appeared to have more than one diagnosis. Her weight increased from 120 to 300 pounds, she was suicid- al, had papilledema, arthritis, cognitive impairments, and anxiety. This patient became disabled, went bank- rupt, and had marital prob- lems. Like many whose symptoms could not be explained, she was referred to a psychiatrist. However, I was never comfortable labeling her condition as just another depression. At the time, I did not consider her illness could be connected to other diagnostic entities, such as neuroborreliosis, erythema migrans disease, erythema chronicum migrans, Bunowhy’s syn- drome, Gairan-Bujadoux syn- drome, Montaue knot, or an arthritides. I treated her in Connecticut. With the completion of the new tick-borne diseases, an increas- ingly apparent.

In my database, depression can be part of a com- mon psychiatric syndrome associated with late stage Lyme disease. If depression is common in any chronic illness, it is more prevalent with Lyme patients than in most other chronic illnesses. There can be multiple causes, including a number of psychological and physical factors.

From a psychological standpoint, many Lyme patients are psychically overwhelmed by the large multitude of symptoms asso- ciated with the illness. Most medical conditions pri- marily affect only one part of the body, or only one organ system. As a result, patients singly or collectively, may engage in activities which allow them to take a vacation from their disease. In the context of Lyme disease, many areas. Babesiosis is not a prevalent with Lyme disease patients. It is one of the causes associated with Babesiosis. It is a causative babesia protozoan that also represents a pesti- lence. Tiny babesiosis para- sites living inside the red cells are making more and more Americans fall down. As in years gone by, people try to protect themselves with herbal and other reme- dies, not knowing the cause of their symptoms. And as the disease progresses, their ongoing energy losses hard will allow them to stand up or to even think about play- ing games. 

Malaria is a close rela- tive of Babesiosis. It is widely respected and feared as a major, worldwide epidemic that has gained the attention of health professionals globally. In this country, there are similar parasites spreading like a ring of fire from the New England states where it was first seen and the grass and brush where- ever ticks are found. However, state and local Departments of Health, government offi- cials, and most physicians are reluctant to investigate what they imagine to be rare and exotic. Please do Health Departments for dragging and collect tests for the causative babesia protozoan parasite fall on deaf ears in many areas. Babesiosis is not even a reportable disease according to the Center of Disease Control. Thus, mul- titudes of children and adults are in the grass, and their parents as well, are infected with rings from the rory red blood cells and those other rings—the ones on skin - the famous tick’s eye rings of Lyme disease. Fortunately, our second millennium remedies include powerful medica- tions in addition to herbal. I would like to say treatment does help. Combined treat- ment which addresses both the mental and somatic com- ponents of the illness significa- ntly improves the overall prognosis. This is supported by clinical observation and laboratory research showing antidepressant treatment improves immune func- tion. It has been demon- strated in vitro that antide- pressants which act on the serotonin 1A receptor (most antidepressants) increase immune function. In addition, there are undoubt- edly other indirect effects on immune function and other neural or neuron- ducrine and autonomic nervous system. It is likely that more closely - antidepressants can result in antibiotic effects and antidepressants can have antipsychotic effects. Most depression is a major response to a temporary problem. Many people who survive very serious attempts go on to lead productive and gratifying lives. Suffering can be reduced. The joy of life can be restored. Needed death can be prevented. Don’t give up hope. There are answers, solutions, and assistance. There is life after Lyme.
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Danella Carpenter: Lyme Disease

After 4 months of antibiotic treatments and my health declining, my doctor agreed that we should take another course of action. It was then when we came across Sierra Integrative Medical Center and we knew this was the better way to go with a more holistic approach. The natural form of treatment the clinic used made logical sense to me. They are able to spend the adequate amount of detailed time with each patient, and heal the body as a whole, not just the symptoms and not just the Lyme. Now, I feel better than I have in years. I have energy and my body continues to feel stronger each day!”

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