

## MTHFR+, Methylation, and Detoxification

### An Interview with Nancy Mullan, MD

by Leo Cashman

#### What is methylation and why is the MTHFR enzyme and the gene that codes for it (also 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, the hottest topic in genetics-based nutritional therapy is the MTHFR enzyme, which plays a key role in the process of methylation. This enzyme is positioned at 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 make-up and is a determining factor in how many methyl groups your body can produce. 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 such as cellular respiration and energy production as being a basic, fundamental 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 functioning or if they were too scarce or too proliferated. The MTHFR enzyme is located at a critical position for making methyl groups, and the function of this enzyme impacts your ability to make glutathione, a pivotal antioxidant for detoxification.

#### Tell us how methylation can affect not only our own wellness but also the health of a future generation, 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! Patterns of DNA methylation are 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 fortunately, disadvantageous methylation pattern imprints that are inherited by those children are reversible, 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 important things in 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 renew itself is impaired. In that case, you age more rapidly and your wound healing is impaired. You do not learn new tasks readily and you do not have the ability to adapt to the changes in your environment easily. Your energy may sink to new lows. You 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 causes an imbalance of Th1 and Th2, and your ability to fight chronic infection declines. Bacterial infections like Lyme disease and its related co-infections, viral infections such as EBV, CMV, HHV6, yeast infestations like candida albicans, and parasitic infections, become entrenched and resistant to antimicrobials and other standard treatments. Long-term and multiple administration of antibiotics may not even work

because immune competence depends on upon having adequate methyl group formation.

Insufficient methylation may lead to abnormal myelin formation and impaired nervous impulse transmission. Methylation is essential for neuronal cell survival, development, function, and longevity. Nerve cell membranes need to be methylated in order to be sufficiently fluid for receptor site activity and the transmission of impulses and substrates.

#### So would you say that when people have a genetic mutation that makes it harder to methylate, they are more susceptible to neurological disorders?

Neurological degenerative diseases like Alzheimer's disease, Parkinson's disease, multiple sclerosis, and amyotrophic lateral sclerosis (ALS), also called Lou Gehrig's disease, and autoimmune disorders like systemic lupus erythematosus and Hashimoto's thyroiditis have a demonstrated link to inadequate methylation. Methyl group insufficiency has been linked to autism, chronic fatigue syndrome, fibromyalgia, and psychiatric disorders as well. So, if you have not found the cause of your chronic illness, do not overlook testing for the MTHFR gene and the other genes that impact methyl group formation. They can be a huge component of unexplained symptoms.

#### 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 enhance their own retention. Mercury, lead, cadmium, arsenic, aluminum, and other toxic heavy metals, inhibit the enzyme methionine synthase (MTR). Then the reduction of MTR activity reduces glutathione production, which causes further retention of heavy metals, which then leads to further reduction of MTR activity, which then reduces glu-



tathione production, which then leads to less metal excretion. It is a vicious and disabling cycle.

#### Is supplementation with methyl donors an obvious way to break such a vicious cycle and get the methylation pathways working again?

In some patients, all that is necessary for heavy 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, these organisms - viruses, fungi, parasites, and bacteria - need to be effectively eliminated from your body to detoxify these metals. This takes some doing. See [http://nancymullanmd.com/pdf/Gastrointestinal\\_Balance\\_and\\_Neurotransmitter\\_Formation.pdf](http://nancymullanmd.com/pdf/Gastrointestinal_Balance_and_Neurotransmitter_Formation.pdf) in this regard. There are many other genes that encode for enzymes that affect methylation pathways, beside MTHFR. What are some of the other genes? MTHFR is only one of a number of important enzymes that function in the methyl group production pathway. Some others are called BHMT, CBS, MTR, MTRR, and SHMT. A complimentary e-book available from [www.NancyMullanMD.com](http://www.NancyMullanMD.com) called *The Methyl Group: What It Can Do for You* details the names and other information about some of these other enzymes as well as the MTHFR one. If your clinician tests only the MTHFR genes, and these genes come back abnormal (you inherit one version of the gene from each of your parents), you may be given the current remedy for MTHFR+, namely high dose methyl tetrahydrofolate and methyl B 12. But high doses of these methyl donors make some people worse! The sicker you are, the more like-

ly it is that high dose methyl donors can actually be a chemical stressor. So, even clinicians who know to test for MTHFR may not have detailed information about these possibilities.

#### So, testing for a full panel of these genes is worth doing, at least for more difficult cases?

If your chronic illness solutions have not yet included genetics, you have new reason for hope, as the details of your genetics can be your path to wellness. The e-book mentioned above has much more information about the genes, the testing and the treatment approaches. Second, you can join me on a weekly complimentary telephone conference called the "Mastermind Program." I take as many questions as we have time for. To join that weekly call, dial in on Tuesday evenings, on 559-726-1300 at 5:00 pm Pacific Time, which is, for example, 8:00 pm in the Eastern Time zone. When you are asked to enter the access code, enter 986935#.

#### Thank you for telling us about the hope and the breakthrough answers that methylation gene testing may bring!

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## Empowering Homebound Lyme Patients to Engage in Social Media Advocacy



by Lisa Hilton

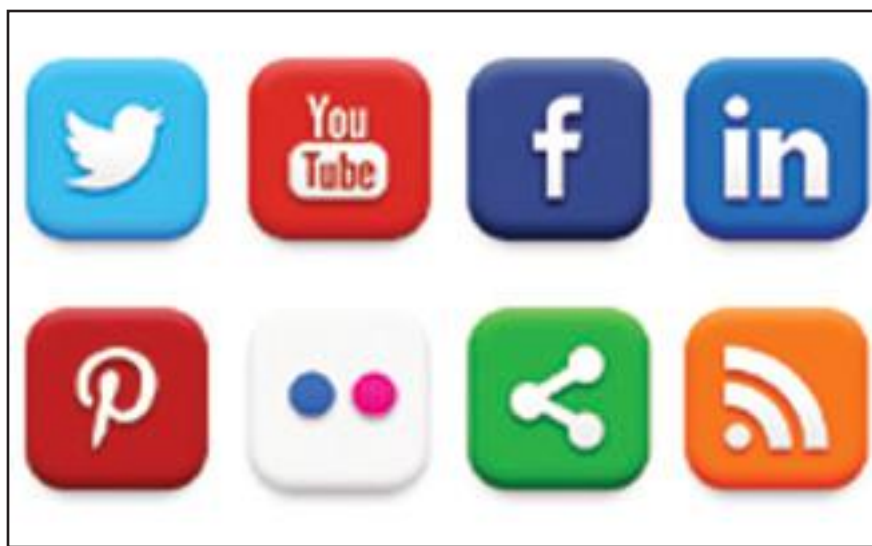
As Lyme patients we want to be able to get the word out about how dramatically Lyme Disease affects us. We want to make a difference and educate the public to help prevent them from getting sick or help them get properly diagnosed. Sometimes we feel guilty because we see Lyme Awareness events going on such as walks and protests and we can't physically get to these events.

This new online out-

reach event is made especially for patients who are too sick to attend any physical events but are well enough to be online. Our hope is to empower patients so they realize they can make a difference right from their own homes.

Each month we have a new campaign. January was Twitter month. We filled up Twitter with Lyme Awareness Tweets using the hashtag #2014lymecampaign and tagging celebrities, news stations and anyone who they thought could help us make a difference.

February was Pinterest Month, so patients made their Pinterest account and started pinning Lyme awareness pins. Pinterest is such a good place to spread awareness because most people on there are probably not educated about Lyme. You will be helping people who might be ill but not have a proper diagnosis to realize what they have. You might reach a young mother who has a child that comes in



from playing outside and has a tick in their leg. She might remember repinning a "how to remove a tick" pin. There are so many people you can reach by just "planting the seeds."

March is Tumblr month, April will be Media Month, May will be a busy month with protests, rallies, walks and other awareness events, and if you can't attend them, a great way to spread awareness would be to write newspapers and news stations to let them know about all the events to try to get media to show up. June will be Instagram

month, and August will be art month.

Several months are still left open. Send in your ideas to: <http://2014lymeawareness-campaign.wordpress.com/> We want people to feel empowered and to know that they too can make a difference! Even from home you can participate in most of these campaigns. Let's show the world what Lyme Disease is all about.

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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://whatislyme.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 WWLDAP Website: <http://wwldap2014.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 and not getting the 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 see if there is a protest or Lyme awareness event in your state that you can attend.

### The Mayday Project

When: May 22-23, 2014  
Where: IDSA Headquarters 1300 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." Several people from these groups 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

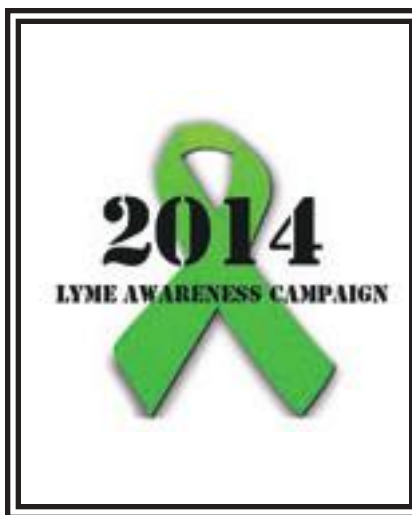
Where: Everywhere  
When: All through May  
S-L-A-M.org started a campaign several years ago. Each May, people hang up lime green ribbons wherever they can. You can tie them on your porch, your mail box, get permission from your town to tie them on phone poles... anywhere that will bring attention to Lyme Disease. Make lyme ribbon pins and give the local stores, gas stations, libraries or schools a basket of them to hand out! So this May, get ready to do it again.

### Samantha's Annual Lyme Life Awareness "Green Light" Campaign

Where: Everywhere  
When: All through May

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.

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



Download Dr. Burrascano's Lyme Protocol FREE at: [www.PublicHealthAlert.org](http://www.PublicHealthAlert.org)

## Public Health Alert

The PHA is committed to researching and investigating Lyme Disease and other chronic illnesses in the United States. We have joined our forces with local and nationwide support group leaders. These groups include the chronic illnesses of Multiple Sclerosis, Lou Gehrig's Disease (ALS), Lupus, Chronic Fatigue, Fibromyalgia, Heart Disease, Cancer and various other illnesses of unknown origins.

PHA seeks to bring information and awareness about these illnesses to the public's attention. We seek to make sure that anyone struggling with these diseases has proper support emotionally, physically, spiritually and medically.

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# 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. They would share of the medical drama that had been plaguing them for years and now their medical doctors have told them to seek out psychiatric help. Their stories all had some common similarities: chronic illness that was unexpected, some doctors suspected Lyme disease, other doctors felt Lyme was impossible in Texas, and finally they either read my story somewhere or someone with Lyme passed my name on to them and assured them I would "get it". It was sad to see those clients sit on the couch just braced for one more professional provider to write them off and send them on their way. Even though they were told I would understand, they were already braced for ridicule and rejection.

My first assurance to them is that I really do understand on such a personal level that I wish I didn't-but I do. I was undiagnosed for 18 years with Lyme disease and all the medical issues and misdiagnoses that come with the journey to wellness. It took 18 years for a doctor to finally run the test I had been asking for at least three years prior. During the process of my illness I lost 7 pregnancies (one far enough along to have a funeral), had a whole laundry list of diagnoses that were piling up (but all were "atypical") when finally a positive Lyme test shows up for the official record. I was unprepared to be told it must be a false positive because we don't have Lyme in Texas. I began seeking treatment outside the state because, at that time, I was not able to find anyone in Texas willing to treat for more than a 28-day round of antibiotics. Thankfully, there are several medical providers in Texas that will treat, but they still tend to "fly under the radar" due to previous abuses and harassment by the Texas Medical Board of Examiners. Recent legislation within the last few years has made it more safe for doctors to treat-but it is still far from a Lyme-friendly atmosphere in Texas.

## When the Doctor Says "I can't help you, you need psychiatric help!"

There is such emotional devastation to the patient when they hear these words. They feel the complete disappointment of feeling abandoned by one more medical provider who feels their case is just too complicated, or that they really are a serious hypochondriac who is in love with a myriad of

psychosomatic symptoms (i.e., "it's all in your head!"). The tragedy is that many of these patients walk away believing they are literally going crazy. Until someone gets a correct diagnosis they are lost in the hopelessness of being financially crushed due to mounting medical expenses, having family and friends who want to believe them but somehow they can't without something official explaining the condition. Then to hear medical providers tell their loved-ones they are making it up for attention or some unmet need that is not medical-the family and friends are just left scratching their heads not knowing what to do or how to help. They even begin second-guessing if maybe their loved one is losing their mind!

## The Mind-Body Connection

The good news is it's not rocket science! There is a proven connection between the physical condition of the body and well-being of the mind and vice-versa. When dealing with Lyme disease (even when undiagnosed) you are dealing with a bacterial infection. This is a true organic illness. Left untreated, the disease will disseminate and go multi-systemic throughout the body and ravage the immune system. When bacterial infection enters the blood and the brain there is a whole spectrum of symptoms that manifest the illness.

## Multi-Systemic Manifestations include:

- Neurological Symptoms
- Musculo-Skeletal Symptoms
- Gastro-Intestinal Symptoms
- Cardiac Issues
- Cognitive Issues
- Psychiatric Symptoms

The more complicated the case, the more likely the patient will be referred out for a psychiatric evaluation. By the time they end up in a therapist's office, they have typically been diagnosed and treated for issues such as depression, anxiety, bipolar disorder, OCD, ADHD, insomnia and a whole litany of symptoms that would lend credence to being observed and evaluated for a mental illness.

## Why A Lyme Literate Therapist is Essential

A Lyme literate therapist will be aware that the psychiatric symptoms you are experiencing are likely a bacterial infection and can help refer you to medical providers who will actually help you treat the infection. To become well, the body must be rid of the bacteria. Counseling won't resolve the bacterial infection, but a therapist who understands

you are not mentally ill can be the best advocate to help you obtain proper medical treatment.

## But What About All These Psychiatric Symptoms?

The important thing to remember is that most often when the bacterial infection is brought under control, the psychiatric symptoms will begin to dissipate. Make no mistake-when one becomes chronically ill they will experience anxiety, depression and symptoms of that nature. There is a difference between clinical depression and situational depression. When the medical condition of the bacterial infection is addressed, the situation changes and we will generally see the depression was only a symptom of the medical situation.

These symptoms are not to be ignored though. They are real. A Lyme literate therapist can help you see your symptoms in light of the medical "big picture" and keep you focused on coping skills that will help you navigate the medical situation. Most importantly, a good therapist will help you understand that you are MORE than your DIAGNOSIS and that your life consists of more than the current medical drama you find 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 not only ravaged their body but also stole their identity. It is possible and even healthy to have a therapist who will help you remember who you are by exploring interests that you had before the illness called a time-out and set you on 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 YOU. Quite often family and friends expect the illness will run its course and you will be back to yourself in no time. But the longer the illness takes to treat, the more distant friends and family become. They want to help but they genuinely don't know what to do to help you.

And if you are honest with yourself, even you have recognized that your temper is shorter, your patience level is almost non-existent, you are prone to extreme light and sound sensitivity, you may experience excruciating migraines, and your emotions are all over the map.... Admit it. You know



it's true... even you don't recognize you anymore. And there are few experiences in life that are more painful than watching the people you love the most become almost afraid to interact with you because they don't know who they will be experiencing today. Lyme disease is unmerciful and definitely takes a toll on families. But there is hope! Lyme does not just attack a person-it can destroy families if you let it. This is why counseling with a Lyme literate therapist is good for the whole family. They know how to address the individual patient as well as the family who is at a loss and is experiencing their own loss at grief for losing you as they once knew you. But don't underestimate your friends and family! You are right on one account: they don't get it. But don't be content to leave it that way. Encourage your whole family to begin family therapy. Families can be preserved and marriages changed for the better when everyone sees that the common enemy is the Lyme disease-not the Lyme patient.

## How Can I Make an Appointment with a Lyme Literate Therapist in Texas?

First you have to know where to find one. I only know of one other counselor in Texas who has extensive knowledge of Lyme disease. We are both in the DFW Metroplex. Audra Dahl can be found in Arlington, Texas at the Rush Creek Counseling Center.

I am Dawn Irons and I own and operate Hope Harbor Counseling Center in Bedford, Texas. You can visit my website at [www.HopeHarborDFW.com](http://www.HopeHarborDFW.com). I am in the process of preparing to see online counseling clients through a

protected server that is HIPAA-compliant and with a completely secure and confidential interface and environment.

I started noticing a common trend with my chronically ill clients. Many of them had to cancel their appointments because they were too ill to travel to my office. So I have researched the best means of meeting the needs of these clients. One of the benefits of online counseling with chronically ill clients is that as long as they are Texas residents I can counsel them-whether they are in DFW or Houston or El Paso-it matters not. They just have to be Texas residents to meet the requirements of my license to practice in Texas only.

For more information about counseling with a Lyme literate therapist you can contact Dawn Irons by emailing [dawn@HopeHarborDFW.com](mailto:dawn@HopeHarborDFW.com) or calling 972.804.2876.

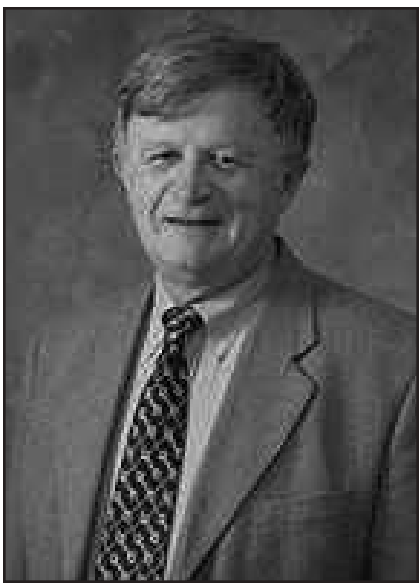
Don't ever let Lyme have the last word. You have more life in you than you realize! Let's find it together as we help your family and friends come to more understanding.

**Join us for a public screening of Under Our Skin** Saturday April 26 from 10:00 a.m. to 1:00 p.m. at First Baptist Church of Bedford at 2045 Bedford Road, Bedford Texas 76021. After watching the film there will be a Q&A discussion panel with local Lyme literate medical providers as well as alternative medical providers, patients and advocates. The event will be FREE. Be sure and invite friends and family to come with you! Please go to [www.HopeHarborDFW.com/events.html](http://www.HopeHarborDFW.com/events.html) to RSVP so that we know how many to prepare for coming to this event.

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# Lyme, Depression & Suicide



by Robert C. Bransfield, MD

In the late 1970's, I treated a depressed patient who appeared to have more than just depression. Her weight increased from 120 to 360 pounds, she was suicidal, had papilledema, arthritis, cognitive impairments, and anxiety. This patient became disabled, went bankrupt, and had marital problems. 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, Bannwoth's syndrome, Garin-Bujadoux syndrome, Montauk knee, or an arthritis outbreak in Connecticut. With time, the connection between *Borrelia burgdorferi* infections and mental illnesses such as depression became increasingly apparent.

In my database, depression is the most common psychiatric syndrome associated with late stage Lyme disease. Although depression is common in any chronic illness, it is more

prevalent with Lyme patients than in most other chronic illnesses. There appears to be multiple causes, including a number of psychological and physical factors.

From a psychological standpoint, many Lyme patients are psychologically overwhelmed by the large multitude of symptoms associated with this disease. Most medical conditions primarily affect only one part of the body, or only one organ system. As a result, patients singularly afflicted can do activities which allow them to take a vacation from their disease. In contrast, multi-system diseases such as Lyme, depression, chronic Lyme disease can penetrate into multiple aspects of a person's life. It is difficult to escape for periodic recovery. In many cases, this results in a vicious cycle of disappointment, grief, chronic stress, and demoralization.

It should be noted that depression is not only caused by psychological factors. Physical dysfunction can directly cause depression. Endocrine disorders such as hypothyroidism, which cause depression, are sometimes associated with Lyme disease and further strengthen the link between Lyme disease and depression.

The most complex link is the association between Lyme disease and central nervous system functioning. Lyme encephalopathy results in the dysfunction of a number of different mental functions. This in turn results in cognitive, emotional, vegetative, and/or neurological pathology. Although all Lyme disease patients demonstrate many similar symptoms, no two patients present with the exact same symptom profile.

Other mental syn-

dromes associated with late stage Lyme disease, such as attention deficit disorder, panic disorder, obsessive-compulsive disorder, etc., may also contribute to the development of depression. Dysfunction of other specific pathways may more directly cause depression. The link between encephalopathy and depression has been more thoroughly studied in other illnesses, such as stroke. The neural injury from a stroke causes neural dysfunction that causes depression. Injury to specific brain regions has different statistical correlation with the development of depression. Once depression or other psychiatric syndromes occur with Lyme disease, treating them effectively improves other Lyme disease symptoms as well and prevents the development of more severe consequences, such as suicide.

Suicidal tendencies are common in neuropsychiatric Lyme patients. There have been a number of completed suicides in Lyme disease patients and one published account of a combined homicide/suicide. Suicide accounts for a significant number of the fatalities associated with Lyme disease. In my database, suicidal tendencies occur in approximately 1/3 of Lyme encephalopathy patients. Homicidal tendencies are less common, and occurred in about 15% of these patients. Most of the Lyme patients displaying homicidal tendencies also showed suicidal tendencies. In contrast, the incident of suicidal tendencies is comparatively lower in individuals suffering from other chronic illnesses such as cancer, cardiac disease, and diabetes.

To better understand the link between Lyme dis-

ease and suicide, let's first look at an overview of suicide. Chronic suicide risk is particularly associated with an inability to appreciate the pleasure of life (anhedonia). People tolerate pain without becoming suicidal, but an inability to appreciate the pleasure of life highly correlates with chronic suicidal risk. Of course, there are many other factors that also contribute to chronic risk. For example, one study demonstrated that 50% of patients with low levels of a serotonin metabolite (5HIAA) in the cerebrospinal fluid committed suicide within two years. Apart from factors which contribute to chronic suicidal risk, there are also factors which trigger an actual attempt, i.e.; a recent loss, acute intoxication, unemployment, recent rejection, or failure. There is much impairment from Lyme disease which increases suicidal risk factors. However, suicidal tendencies associated with Lyme disease follow a somewhat different pattern than is seen in other suicidal patients. In Lyme patients, suicide is difficult to predict. Attempts are sometimes associated with intrusive, aggressive, horrific images. Some attempts are very determined and serious. Although a few attempts may be planned in advance, most are of an impulsive nature. Both suicidal and homicidal tendencies can be part of a Jarisch-Herxheimer reaction.

I cannot emphasize enough the behavioral significance of the Jarisch-Herxheimer reaction. As part of this reaction, I have seen and heard numerous patients describe becoming suddenly aggressive without warning. I can appreciate skepticism regarding this

statement. How can this be explained? Like many other symptoms seen in Lyme disease, it challenges our medical capabilities. In view of this observation, I advise that antibiotic doses be increased very gradually when suicidal or homicidal tendencies are part of the illness.

Although I have discussed the significance of depression and suicide associated with Lyme disease, I would like to say treatment does help. Combined treatment which addresses both the mental and somatic components of the illness significantly improves the overall prognosis. This is supported by clinical observation and laboratory research showing antidepressant treatment improves immunocompetence. It has been demonstrated in vitro that antidepressants which act on the serotonin 1A receptor (most antidepressants) increase natural killer cell activity. In addition, there are undoubtedly other indirect effects on the immune system through other neural or neuroendocrine and autonomic pathways. To state this more concisely - antidepressants can result in antibiotic effects, and antibiotics can have antidepressant effects.

Most depression and suicidal tendencies often respond to treatment. Suicide is a permanent 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. Needless death can be prevented. Don't give up hope. There are answers, solutions, and assistance. There is life after Lyme.

pha

by Virginia T. Sherr, M.D.

First image is that of small children at play. If there are adults involved in the game, they are reduced to the stature of "little" themselves because they have to fall down, too. Such fun! "Ring around a Rosy" is beloved by toddlers because it can be a great equalizer with adults. There is nothing authoritarian about a singing adult flopping on the grass.

This playfulness has a grim history, however. It seems to have originated during the Great Plagues that swept across Europe during the Dark Ages. The "falling down" at the end had to do with the fact that people were felled by the hundreds of thousands and the "rosy" is said to refer to the way that people tried to protect themselves with flowers, an old-time herbal remedy, perhaps.

Today, the grass upon which the children play may harbor potential for two different kinds of "rings": the telltale bull's-eye ring that may appear in some cases that mark the onset of Lyme

disease. And when one looks through a modern microscope deeply into the blood of a child afflicted with babesiosis, another tick-carried plague, the game might be remembered. Set inside the red blood cells there are dark rings -- one form (merozoites) of a microbe that also represents a pestilence. Tiny babesiosis parasites 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 remedies, not knowing the cause of their symptoms. And as the disease progresses, their ongoing energy losses hardly will allow them to stand up or to even think about playing games.

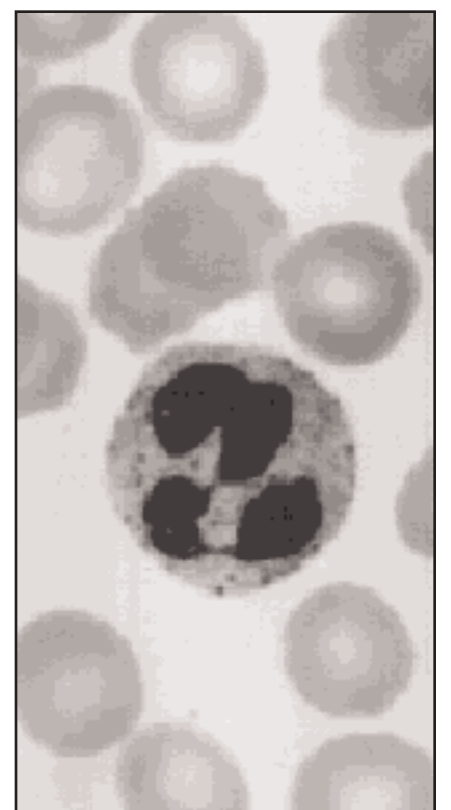
Malaria is a close relative of babesiosis. It is widely respected and feared--a major, worldwide epidemic that has gained the attention of health professionals globally. In this country, babesiosis similarly is spreading like a ring of fire from the New England states where it was identified into the grass and brush wherever ticks are found. However,

state and local Departments of Health, government officials, and most physicians are reluctant to investigate what they imagine to be rare and exotic. Pleas to Health Departments for dragging to collect and test ticks 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, multitudes of children playing innocently in the grass, and their parents as well, are equalized by rings - rings in the rosy red blood cells and those other rings--the ones on skin - the famous bull's eye rings of Lyme disease.

Fortunately, our second millennium remedies include powerful medications in addition to herbal help but, even so, they are not universal cures. Today's most effective antidote may turn out to be the people who are beginning to find a collective voice to demand medical, governmental and epidemiological interventions before they "all fall down".

pha

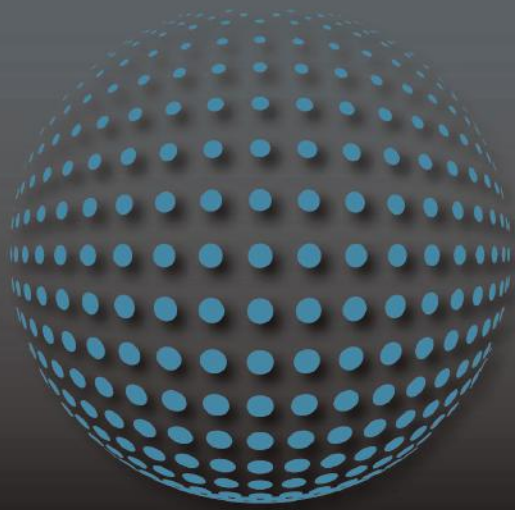
## Ring Around a Rosy





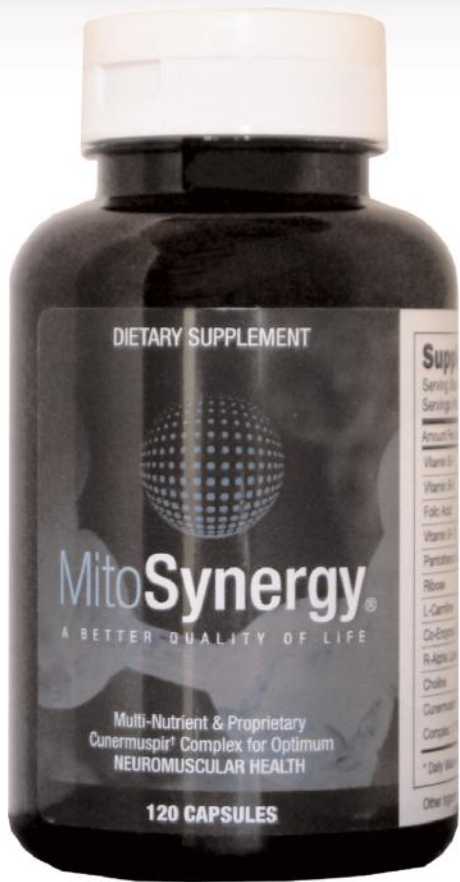
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**Danella Carpenter: Lyme Disease**

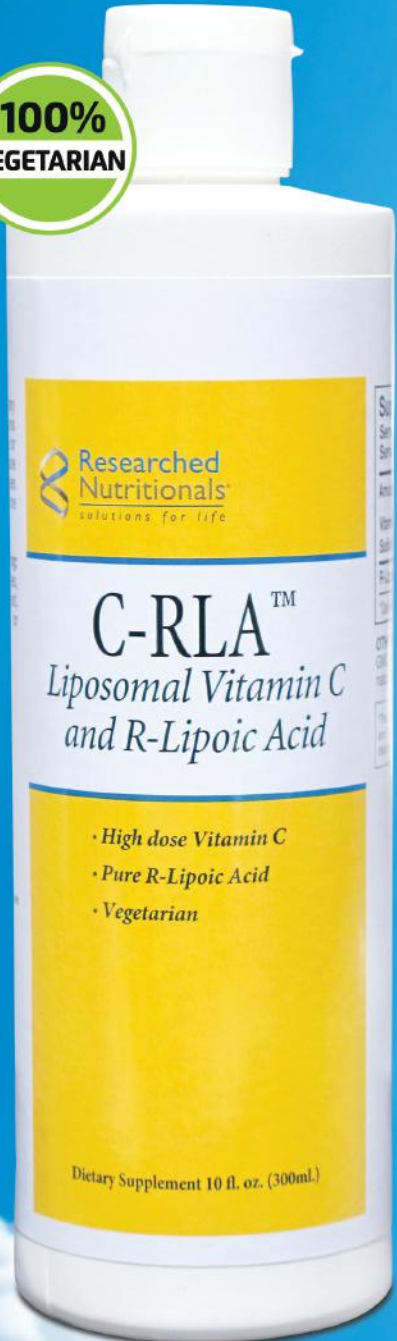
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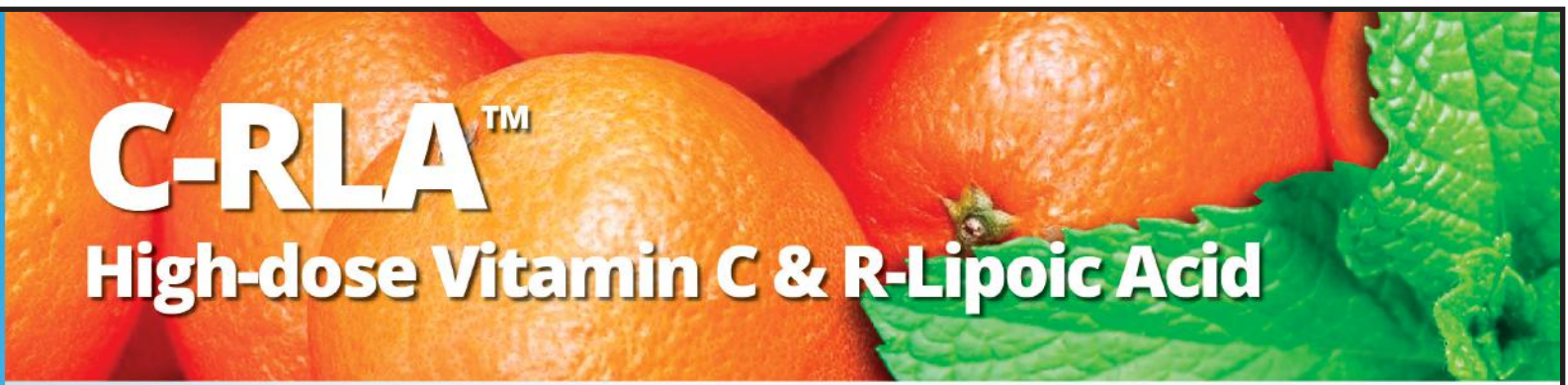
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