

HEALTH AND STRESS

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PAIN, FATIGUE, AND DEPRESSION: STRESS, OR SUBTLE ENERGY DEFICIENCY?

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Some of the most common complaints currently encountered by physicians are apt to be frequently feeling tired, depressed or "stressed out", insomnia, and aches and pains for which there is no obvious explanation. Disorders like fibromyalgia and chronic fatigue syndrome are characterized by all of these, suggesting that they may have some shared source. These are often called "waste basket" diagnoses, because unlike rheumatoid disease or post-polio syndrome, in which similar symptoms are prevalent, there are no blood tests, x-rays, other procedures, or anything in the patient's history and physical examination that are helpful in confirming any diagnosis.

Since such complaints are completely subjective and their causes are usually obscure, treatment tends to be primarily palliative, and is generally not very satisfactory over the long run.

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These disorders also seem to be related in various ways. They are often associated or follow one another, and drugs like antidepressants and therapies that are useful for one, are frequently effective for another. This could be an important clue that might help to identify some common denominator.

Very recent double blind studies demonstrate that permanent magnets can provide surprising relief of pain and disability in patients suffering from fibromyalgia and post polio syndrome. There is also good evidence that they can be effective in low back pain and carpal tunnel syndrome. Japanese investigators have used magnet therapy for years to treat chronic fatigue syndrome, which they believe is due to an energy deficiency that magnetic fields can correct. Sales of magnets in the U.S. have recently soared because of their ability to relieve a variety of acute and chronic painful conditions. Patients find they have none of the disturbing side effects that often accompany over the counter and prescription analgesics and anti-inflammatory drugs, and are extremely cost effective. But how do they work?

Physicians generally believe that any benefits that might be seen are likely to be placebo phenomena. While such a possibility is difficult to exclude, this does not explain the ability of magnets to reduce pain and swelling in animals and infants, or inflammation and bruising following surgical procedures like liposuction.

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The American Institute of Stress*

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Part of the skepticism stems from the lack of any rationale to explain such results. However, this was also true for acupuncture until very recently, when indisputable proof of its pain relieving and certain other properties could no longer be denied. Yet, we still have no clear concept of the mechanisms of action that are involved.

The same applies to electromagnetic field therapy, although this is approved by the FDA for the treatment of ununited bone fractures. It has been successful in several hundred thousand patients, including some in whom fractures had failed to heal for fifteen or more years. Electromagnetic fields have also been shown to accelerate the healing of soft tissue injuries, promote nerve regeneration, and to be effective in treating insomnia, anxiety, and severe depression resistant to drug therapy. As demonstrated in prior Newsletters, they can be capable of curing or reversing far advanced metastatic malignancies and end stage cardiomyopathy.

Electromagnetic fields oscillate, and are different than the motionless fields that emanate from permanent magnets. However, both pass freely through bone and other tissues, and share other properties that could explain why magnets might be effective in relieving pain and other complaints in patients suffering from fibromyalgia, chronic fatigue syndrome, and post-polio syndrome.

Fibromyalgia Syndrome

The only disorder more prevalent than the common cold is muscle pain, and particularly fibromyalgia, (fibro) for the soft tissues under the skin, (myo) muscle, and (algia) pain. This condition is characterized by varying degrees of discomfort and pain in muscles, ligaments, tendons, and connective tissues throughout the body. Over 90 percent of patients complain of widespread discomfort or "aching all over". Many also experience fatigue, morning stiffness, sleeping problems, numbness and tingling, headache, irritable bowel syndrome, urinary urgency, anxiety, or depression. It is almost always possible to identify several "trigger points", or areas of unusual tenderness to finger pressure, especially around the neck and shoulders. Although it has been found in adolescents and the elderly, the diagnosis is most often made in middle aged patients, and the vast majority are women.

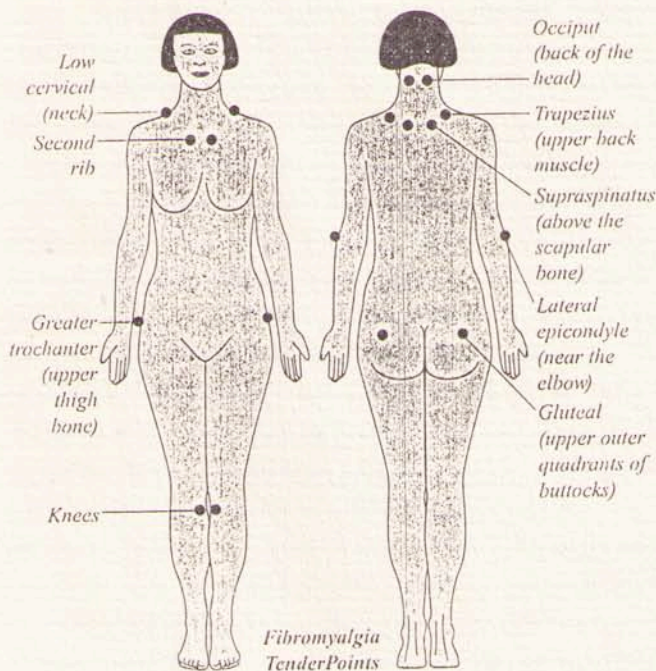
Fibromyalgia is hardly new, having been described as far back as 1816 by a Scottish physician. The term fibrositis was coined in 1904 to describe a form of muscular rheumatism or inflammation. The condition has subsequently had several different names, including chronic rheumatism, myalgia, pressure point syndrome, and psychogenic arthritis, since most doctors believed that it was a psychological or emotional disorder. However, fibromyalgia was formally acknowledged to be a distinct illness in 1987, and a major cause of disability. It is believed that up to 20 per cent of the U.S. population may suffer from this disorder on any given day, and health costs are estimated to approach \$50 billion annually.

It is frequently unrecognized because laboratory and other tests are usually normal. The diagnosis can only be made by listening carefully to patients who complain of vague aches, pains, stiffness, and fatigue, and then finding painful trigger points by means of a painstaking physical examination. Busy doctors may not take the time to do this, since they tend to be reimbursed the same amount whether they spend five minutes or an hour for an office visit. This may explain why fibromyalgia causes 70 million patient visits a year to physicians, but 425 million, or six times as many to chiropractors and various alternative practitioners.

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The diagnosis is also difficult because complaints of constant tiredness can be confused with chronic fatigue syndrome. In other patients, insomnia, anxiety, depression, and irritable bowel or bladder symptoms may predominate. Some are troubled more by head and neck aches, or tingling, prickly sensations in these areas, the upper back, or around the knees and elbows, as noted below.



Occasionally there are feelings of numbness, or like something crawling, which are difficult to describe, since they can vary in frequency of appearance, duration, location, and intensity, with no clue as to what makes them come or go. No explanation is likely to be found, unless care is taken to demonstrate that they occur in areas over specific spots that prove to be tender trigger points by pressing on them.

While a feeling of fatigue or significant stiffness is usually present, this can alternate with occasional periods of apparent boundless energy, during which there is little discomfort. This confusing constellation of unpredictable and entirely subjective symptoms that have no logical basis is frustrating for physicians, and frequently leads to a faulty diagnosis. As a result, treatment tends to be unsatisfactory, and patients are subsequently shipped off to psychiatrists or other specialists who similarly fail to recognize the underlying problem.

It is not surprising that fibromyalgia patients are frequently viewed as having an emotional disorder. Depression and anxiety are quite common, but more likely the result of the disorder rather than the cause of symptoms. Insomnia is prevalent, and usually attributed to pain, but patients also complain that even when they do seem to get enough sleep, they feel just as tired when they wake up as when they went to bed. This may be because they do not get enough deep Stage 4 muscle relaxing sleep. Here again, it is difficult to distinguish between cause and effect. When healthy volunteers are deprived of sleep for prolonged periods of time, they can develop classical fibromyalgia symptoms, including characteristic tender trigger points.

Fibromyalgia is often considered to be a rheumatoid disorder because there are so many similar features. Up to 15-20 per cent of patients who attend rheumatology clinics actually suffer from fibromyalgia, rather than real joint disease. Increased stress is a common complaint in rheumatoid arthritis as well as fibromyalgia, but whether this is cause or effect is also often hard to sort out.

The Role Of Stress And Personality

Several studies have shown that stress can play an important role in the precipitation of both conditions, as well as causing a flare-up of symptoms in patients who have been relatively stable and free from pain. Over ninety percent of females with rheumatoid arthritis reported a significant stressful event prior to the onset of symptoms in one study. In another, two thirds of all patients could identify some stress provoking situation, usually due to disturbed family relationships. A much larger percentage of juvenile rheumatoid arthritis patients were also found to come from broken homes, compared to carefully matched controls. In close to half, divorce or death of a parent had taken place within two years before they became ill.

Repeated minor daily hassles may be even more significant stressors than major life change events in both disorders. These include such things as disagreements with friends, customers or co-workers, worrying about overdue bills, misplacing, losing, or forgetting to do something, dealing with inconsiderate drivers and smokers, waiting in long lines, traffic jams, or even a broken shoelace.

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In one report, rheumatoid arthritis patients kept a daily diary in which they recorded the nature and number of such irritants, and rated their levels of pain and overall mood. There was a significant relationship between the number of stressful events and same day mood, but those with more active inflammatory disease also reported a correlation with greater pain over the next two days. In another review, all patients entering an arthritis clinic underwent a thorough physical examination and a battery of blood tests and x-rays. A careful history in which their stress levels were rated was also taken. At the end of five years, it was found that 90 per cent of those who had developed progressive bone erosion on x-ray in addition to evidence of local swelling, had been in the high stress group at the time of entry. Only 40 percent with swelling but no bone erosion were in this category.

Findings quite similar to this have been reported in fibromyalgia. About half of the patients link the onset of their symptoms to some sort of stressful event. And stress is even more likely to cause a flare-up of increased pain, fatigue, or tenderness when the condition becomes chronic or well established. In an experiment similar to the one noted above, fibromyalgia patients completed questionnaires every evening for ten weeks, in which they detailed their symptoms, stressful events that had occurred during the day, and described their overall mood. They were also examined for tender trigger points at the beginning and end of the project, and every other week in between. A clear correlation was found not only between the degree of daily stress and severity of pain, but the number of tender trigger points as well.

Fibromyalgia patients seem to be somewhat different from those with rheumatoid disease with respect to their personalities. They are not as inhibited when it comes to expressing their emotions, or as willing to accept their lot in life without a fight. They are often high achievers and busy people who don't have time to be sick. As one authority commented, "They are being incapacitated and want more than anything to get back to having a life." Rheumatoid arthritis patients may feel the same way, but are less likely to be as expressive or aggressive in this pursuit.

However, fibromyalgia patients tend to suffer more from stress than those with rheumatoid arthritis, possibly because they are not as submissive. A study that compared fibromyalgia and rheumatoid arthritis patients with pain-free healthy controls, revealed that the highest stress levels were in the fibromyalgia group. These were similarly more apt to be due to increased daily hassles than major life-change events, or to occur in those with poor social support, which is a powerful stress buffer.

Like rheumatoid arthritis, fibromyalgia can disappear during pregnancy, and acute symptoms tend to improve with cortisone. Recent research has uncovered abnormalities in pituitary-adrenal function in some fibromyalgia patients which also support a link with stress. High levels of stress hormones like cortisol are common in depression, and although patients with fibromyalgia and rheumatoid arthritis are understandably depressed, increased stress and certain personality traits seem to precede these disorders, and in rheumatoid disease, could be a contributing factor by disrupting immune system function.

Rheumatoid arthritis is an autoimmune disorder in which the body's normal defense mechanisms suddenly begin to attack normal tissues. What causes this to happen is not clear. In some instances, a seemingly harmless infection appears to start things in motion, and in others, allergic, emotional, and genetic factors may be involved. Evidence that rheumatoid arthritis can be due to a disturbance in immune system function is supported by the appearance of specific antibodies called rheumatoid factor in the blood of many patients. Its significance with respect to the development of the disease is not clear, although their presence in healthy individuals seems to predict a greater likelihood of developing this disabling disorder.

Rheumatoid factor is also useful in confirming and providing insights into the important role that stress can play in the precipitation of rheumatoid disease, as well as influencing its subsequent course, especially in females. In one study, the personalities and behavioral characteristics of healthy relatives of rheumatoid arthritis patients were compared. Researchers found that those with rheumatoid factor, who nevertheless had no symptoms, were much more resistant to stress, and concluded that this was responsible for their protection.

Why Are Women More Affected?

The relationship between stress and disease activity was also compared in women with and without rheumatoid factor. Both groups had comparable degrees of disability and pain, but those with these antibodies tended to be characterized by marked restraint in expressing their emotions. Female patients without rheumatoid factor reported much more pre-onset stress, and were measurably more likely to outwardly express anger and irritation. Disease activity was also more closely correlated with subsequent stress levels in this group. Other studies similarly suggest that those with a genetic predisposition will tend to develop rheumatoid disease more readily if they keep their feelings suppressed, or have poor coping mechanisms.

Rheumatoid patients are said to suppress their anger and true feelings because they have a poor self image, are fearful of criticism, and therefore try extra hard to be nice to everybody. They also have a tendency to avoid leaning on others for emotional support, and these traits seem to precede the disease rather than result from it. The typical rheumatoid patient has been described as being more likely to exhibit self-punishing, obsessive-compulsive, perfectionistic tendencies, and to avoid any outward expression of anger. When personality traits in more than 5,000 rheumatoid patients were scrutinized, almost all of whom were women, not being able to express anger outwardly was found to be at the very top of the list.

Some believe that the suppression of anger can precipitate rheumatoid disease by disrupting immune system function. Such individuals may have so much fury and hostility raging inside them, that it literally "eats them up", without any appreciation of what is going on. This can be best appreciated by visualizing anger as an energy or force that must be channeled somewhere. If you can't get it off your chest, then it is internalized either by being suppressed or repressed. An example of suppression is when you stifle your true feelings because you don't want to start a fight. Repression of anger is more subtle because of hidden, deep seated emotions, such as hostile feelings for an overbearing father since early childhood that never surfaced, because you were completely unaware of them.

Repressed anger is also more damaging since although it is concealed, it constantly continues to smolder, and can burst into flames at any time. Some authorities believe that the higher incidence of rheumatoid arthritis in females is due to their greater tendency to suppress emotions than men. This seems particularly true when it comes to expressing anger, since from the time they are little girls, they have been taught that it is wrong and not ladylike to demonstrate that you are angry. For macho men, getting things off your chest by blowing up or punching someone out is a more acceptable, or even admirable trait, especially on TV.

When women do display such emotions, it is usually by bursting into tears, since this is often the only socially acceptable way they can release their inner tensions. They may not even realize that they are crying because of repressed rage, and men may misinterpret this as simply some sort of exaggerated expression of sadness, or possibly even a feigned tactic that is being utilized to win an argument. In both instances, crying provides little lasting relief, since the underlying problem is not recognized, and continues to wreak havoc within.

MPS, CFS, And Post-Polio Syndrome

Other conditions are also characterized by persistent pain and chronically feeling fatigued and feeble. Myofascia is the sticky, film-like material you encounter when you cut up a chicken. This thin translucent tissue wraps around muscle and muscle fibers, and then goes on to form connecting ligaments and tendons that hold other parts of the body together. In myofascial pain syndrome (MPS), the myofascia becomes thickened and tightened, resulting in stiffness, pain, and tender trigger points, which are sore lumps of fascia that occur in ropy bands. Many patients with fibromyalgia also have MPS, and it can be difficult to differentiate between the two. One difference is that in fibromyalgia, in addition to trigger points that are painful to pressure, there is a generalized increased muscle tenderness. Muscles in locations away from trigger points in MPS have normal sensitivity to pressure. This is more of a musculoskeletal pain syndrome, with few of the systemic neuroendocrine disturbances often seen in fibromyalgia. In addition, MPS affects men and women equally. *(Continued on page 6)*

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Chronic fatigue syndrome (CFS) is another debilitating disorder that has much in common with fibromyalgia. It has also been viewed as a psychiatric or emotional disorder because of the lack of any tests to prove that patients' complaints were real. *Time* magazine dismissed it as an upscale "yuppie" disease in a 1987 article, but since then, studies show that it occurs in children and the elderly, and that blue collar workers and the poor are the most affected groups. Abnormalities have now been found in some tests that do help to explain certain symptoms and findings. Over 50 scientific papers have shown low levels of natural killer cells and other immune system disturbances, suggesting a link with infection in many patients. A 1992 collaborative Harvard and National Cancer Institute study reported that 80 per cent had evidence of brain lesions, and two years ago, Johns Hopkins cardiologists suggested that such defects might be responsible for the frequent occurrence of abnormally low blood pressure and reduced blood volume. Intellectual function frequently declines, and there can be a sharp fall in IQ. Some patients who are severely ill resemble those suffering from viral encephalopathy, and have so much dizziness and lack of coordination that they are unable to walk without assistance.

Fatigue may not be the most appropriate word to use, since this usually refers to the weakening of a material by excessive or repetitive demands that it has been subjected to over a period of time. In CFS, neither the nature or the degree of the damaging demand, or exactly what has been affected is known, much less when the stressful situation began and how long it lasted.

Symptoms can be intermittent or mild for considerable periods, and occasionally, some almost seem to disappear. But when they return or intensify, individuals may feel so weak and exhausted, that brushing their teeth or lifting a glass of water is like trying to hoist a hundred pound weight. Previously elite athletes and marathoners may now need wheel chairs to get around, or are barely able to walk fifty feet. Cognitive disturbances are equally dramatic, and experienced accountants and mathematics teachers may suddenly find it difficult to perform simple addition and subtraction problems.

Nevertheless, since routine blood tests and diagnostic procedures are normal, most doctors still consider that patients complaining of severe or chronic fatigue have some emotional or psychological disturbance, or even worse, are malingerers. Early in this century, multiple sclerosis was called "the faker's disease" for similar reasons. And before the HIV virus was discovered, some scientists suggested that AIDS in homosexuals probably resulted from the increased psychosocial stresses they had been subjected to by their lifestyles.

CFS was first reported in 1984 in a large number of people in Incline Village, Nevada, and often occurs in small clusters. There were subsequent mini-epidemics in children living in Lyndonville, a small town in upstate New York, in policemen in Spokane, Washington, and residents of Yerington, a small Nevada desert community. Other evidence that the disorder might be contagious came from doctors specializing in the care of CFS patients, who reported that a significant number developed the disease following a blood transfusion. One nurse contracted it after she accidentally stuck herself with a needle used to draw blood from one of these patients. In the Lyndonville epidemic, the likelihood of infection increased 50% if a family member was affected, and in several families, everyone eventually fell ill.

However, it was not until 1995 that the Centers For Disease Control gave CFS a Priority 1 listing in their "New Infectious Disease" category. A Harvard research team recently estimated that about two million Americans are affected, or four times as many as those with multiple sclerosis. They also emphasized that this represents an attack rate of 300 per 100,000 people, compared to only 20 per 100,000 for polio at the height of the last epidemic.

Post-polio syndrome is also characterized by fatigue and pain. About half of the 1.7 million clinically stable survivors of paralytic polio develop new symptoms 30 to 40 years after the initial attack for no apparent reason. Although there may be specific muscle weakness, many describe an overpowering feeling of tiredness and exhaustion lasting for up to 2 hours, that usually comes on in the afternoon. Regular duties can be resumed only after frequent rest periods. Muscle and joint pain is common, and at times can be severe and disabling.

The Amazing Power Of Magnets

There is no satisfactory treatment for any of the above disorders. Antidepressants are commonly prescribed, but provide only temporary improvement. Various types of exercises are also advised, but in some instances, this can backfire and make symptoms worse. However, there is some hope, since in the past few months, several well designed studies have demonstrated that newly developed permanent magnets can produce remarkable results in many patients.

Drs. Carlos Vallbona and Carlton Hazlewood at Houston's Baylor College of Medicine were quite skeptical about reports of how magnets were able to relieve some types of pain promptly and completely. Both were therefore flabbergasted, when magnets made their own chronic knee pains disappear in minutes. As they commented, "That was too good to be true." They wondered if magnets might help post-polio syndrome pain, and tried it on several patients. One was a priest who had difficulty celebrating Mass because of severe back pain that prevented him from raising his left hand. "After applying a magnet for a few minutes the pain was gone and the priest said this was a miracle." Others had similar responses, and since they were aware that these could be placebo effects, decided to conduct a rigorous double blind trial in which neither the patient nor the doctor knew whether a real or sham magnet was being used.

Patients graded their pain on a scale of 0 (none) to 10 (worst) before and after the application of a magnet over a tender area for 45 minutes. As reported in the November issue of a prestigious, peer reviewed journal, pain in the active magnet group plummeted from 9.6 to 4.4, compared to an average decline from 9.5 to only 8.4 in those with dummies.

At the January 1998 annual meeting of the North Academy of Magnet Therapy, Dr. Hazlewood reported similar benefits in myofascial pain syndrome. Dr. Agatha Colbert also provided some preliminary results of another carefully designed double blind study in patients with fibromyalgia. Forty one percent who slept on mattresses with Tectonic[®] neodymium magnets noted markedly decreased fatigue, and more than two thirds reported substantial pain relief and an improved sense of well being. No significant change was seen in the placebo group. It is important to emphasize that nobody knew which mattresses contained real or sham magnets until the study was over.

The Japanese have used magnets for decades to treat chronic fatigue disorders. They believe that these are energy deficiency syndromes caused by some lack or imbalance in the body's natural magnetic field characteristics that magnets can restore. The difference between cells and systems that are dead or sick, and those which are living and healthy, is their level of energy. But exactly what does energy consist of? Where does it come from? Where does it go? We tend to think of it as electricity, and its ability to furnish light, heat, cold, or perform mechanical work. But what is the nature of the energy in plants and animals that keeps them alive, and allows them to grow and reproduce?

All of the energy on earth comes from the sun. Interactions between solar forces, the oceans, and the atmosphere create winds, rain, and running water, that can be converted into electrical or mechanical power. The invisible energy of life is made possible by sunlight photons, which chlorophyll in plants use to transform atmospheric carbon dioxide and water into oxygen and organic compounds like adenosine triphosphate (ATP). Animals similarly store the energy from nutrients like glucose in the powerful phosphate bonds of this remarkable molecule, which is found in the mitochondria of all cells. ATP is responsible for maintaining the electrical potential of the cell wall that governs ionic transport, and for the combustion of glucose. It provides energy for the cell to use for any purpose required, whether it be making enzymes or reproduction.

The manifestations of ATP deficiencies can thus vary, depending on the cells and tissues that are affected. Anything that stimulates the formation of ATP high energy phosphate bonds, or can simulate their effects, could obviously have a wide range of benefits. Magnetic fields have recently been shown to possess this remarkable capability. This helps to explain the puzzling observation that they can benefit very different disorders ranging from advanced metastatic cancer, terminal heart disease, and fractures that have failed to heal for years, to Parkinson's disease, insomnia, and most recently, drug resistant depression. It should therefore come as no surprise that magnets might also relieve pain and fatigue.

Is Energy Deficiency A Manifestation Of Stress - Or Are They The Same Thing?

Scientists have identified four fundamental forces or energies in nature; electromagnetic energy, the weak nuclear force, the strong nuclear force, and gravity. It has been assumed that all of the observable phenomena in the universe, including biological reactions, can be explained in terms of these forces. But it is not inconceivable that there may be a fifth form of communication energy responsible for life and health. Over four thousand years ago, the ancient Chinese referred to this as *Qi (chi)*, describing it as a pervasive force found in all of nature, which circulated in an orderly and prescribed fashion in the body. Since then, similar concepts have resurfaced as *prana*, *chakras*, *archaeus*, animal magnetism, *Odic force*, *orgone*, etc. in different cultures.

The Chinese believed that illness resulted when *Qi* was deficient, or its flow was blocked, and that this could be corrected by the insertion of needles (acupuncture), the application of heat (moxibustion), or lodestones (magnets) at specific sites where *Qi* pathways (meridians) were close to the skin. Certain herbal remedies could also help to restore or fortify *Qi*. I was reminded of this by a fascinating study just reported, of fifty patients with physician diagnosed and well documented fibromyalgia and chronic fatigue syndrome. Most had been taking various types of nutritional supplements, antidepressants and analgesics for months, without any sustained benefits. Their symptoms and physical findings were carefully rated, and a new product containing basic saccharides that improve cell communication by binding to proteins and lipids on cell membranes was then added to the different daily regimens. When re-evaluated after nine months, there was a remarkable reduction in fatigue, aches and pains, anxiety and depression, sleep difficulties, memory loss, and almost all other symptoms. Could this be due to enhanced ATP effects? Might adding magnets potentiate this, and improve results even more?

Stress seems to be a common denominator in these puzzling syndromes of pain, fatigue, depression, and sleep disturbances. Although it is sometimes difficult to distinguish between cause and effect, there is abundant evidence that increased stress often antedates the onset of symptoms, and can certainly intensify them. Conversely, we now have to factor into this equation the observation that magnetic fields can provide remarkable relief for all of these complaints. Could there be some connection? Patients with depression have been shown to have a deficiency of serotonin, and medications like Prozac and Zoloft work by increasing serotonin levels. However, sophisticated imaging procedures show an abnormal energy pattern in a specific site in the frontal cortex of many depressed patients. These and others who fail to respond to drugs can improve within a week or two of brief daily periods of magnetic stimulation directed to this area. The abnormal pattern progressively disappears during recovery, suggesting that an energy disturbance was the cause of the problem. Why should depriving healthy patients of sleep reproduce the symptoms and signs of fibromyalgia? Some claim the purpose of sleep is to allow us to "recharge our batteries". How does this take place? Is it simply the absence of stress that drains our cell batteries during the day, that allows normal restorative mechanisms to recharge them?

We are moving away from the current chemical/molecular model of communication in the body. A new paradigm of energy medicine is emerging that requires us to view transactions at a physical/atomic level. This perspective may provide new insights into the role of stress in health and disease, and why and how magnets work.

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