unlearn your pain
A 28-DAY PROCESS
TO REPROGRAM YOUR BRAIN

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THIRD EDITION

MIND * BODY
PUBLISHING
Chapter 1

The Truth About Your Pain

Telling people about Mind Body Syndrome is like telling them that the earth is round, when they KNOW that it's flat!
— Anonymous patient

Vitant artus aegræ contagia mentis.
(When the mind is ill at ease, the body is affected.) — Ovid

It hurts.

Your pain is awful. Your misery is unrelenting. No matter what you do, you can't get rid of it. You went to your doctor, and he told you that you had a medical condition: degenerative disc disease, spinal stenosis, fibromyalgia, irritable bowel syndrome, whiplash, or something else. Your doctor prescribed drugs. You took them, but they didn't really help. Maybe you even had surgery, but that didn't stop the pain, whether it was in your back, your head, your neck, your gut, or all over.

Perhaps you have explored alternative medicine. Maybe you took herbal remedies, had therapeutic massages, or saw a chiropractor. You're considering acupuncture, hypnosis, and even crystals, if that might help. Some of these treatments may have provided temporary or partial relief, but still the pain is there, day after day after day. You've gone to so many health practitioners that you are starting to feel no one can help you because no one understands the real problem. Maybe your doctor even referred you to a psychiatrist or psychologist, suggesting that your pain isn't real—that it's all in your head.

But you know you're not imagining your pain. You're not faking it to gain attention or sympathy. It's about time someone in the medical profession recognized that the pain in your body is real. It's about time that someone in the medical profession told you that there is a reason for your pain and a way to cure it.

I am that doctor, and I'm telling you: Your pain is real, there is a reason for it, and there is a
cure for it. The only way to relieve the pain is to find the underlying cause of it, to get to the bottom of it. The problem is not in your head. It's in your diagnosis.

Some doctors may say you have a serious medical condition, but if they don't know how to cure it, their diagnosis doesn't help you. Perhaps alternative health practitioners will tell you that your spine is not properly aligned or your aura is out of whack or your chi is diminished. All of these are different ways of looking at your body, but none of them will succeed if they're not correctly diagnosing why your body hurts.

I have some good news for you. Unless you have a medical problem resulting in clear pathology in your body (which can be determined by routine medical tests), your pain can be cured. Following this program, you can take some relatively easy steps to vanquish it.

Like tens of millions of Americans and countless others around the globe who suffer from chronic back pain, muscle pain, headaches, migraines, stomach pain, and other misdiagnosed conditions, you're hurting because of overly sensitized nerve connections between the brain and the body. These connections have created a vicious cycle of pain that can last for months, years, or even decades unless you do what it takes to stop it. This cycle of pain signals has been "learned" by your nervous system—and the longer these signals keep firing, the more sensitized and overactive the nerves become, and the more pain you feel.

The event that started this horrible pain cycle could have been an injury or a stressful event in your life, or it could have come out of the blue. A very careful and detailed look at your current situation and your life history will reveal how your brain is amplifying this pain and perpetuating the vicious cycle.

The best news is that you don't have to live the rest of your life with this pain. Whether you've had it for a few weeks or for many years, it can be beaten. Just as your nervous system has learned to make your body hurt, you can use your brain to unlearn the pain. There's a way to retrain your brain so that your body isn't contorted into pain. This book will explain how this can be done without drugs or surgery, by anyone with the motivation to do so.

In fact, if you begin to understand this syndrome and recognize what causes it, you've already taken a powerful first step. And the rest of the steps, though they require wholehearted commitment, are not difficult. They are all explained in this book, and the whole program is laid out for you to work through. Improvement may occur within days or weeks, even if you've been suffering for a long time. And by doing the program you can get more than temporary or partial relief. You can achieve complete freedom from the pain and distress that have hobbled you.

Starting today, you can break the connection between your nervous system and your physical pain. And you can start to use your mental energy to overcome your limitations and rebuild your life.

I know this is true because I have done it myself. I've changed my understanding of the source of my pain, and I now can identify when the stresses of everyday life produce pain in my body and I can overcome them.

More importantly, I've seen the same transformation in hundreds of my patients.

This program is not risky or far out. It doesn't require belief in an alternative paradigm of medicine or philosophy. The work of unlearning your pain is based on solid science and common sense.

The Pathways of Pain

Pain begins when neural pathways from the brain to the body are stimulated or "fired." Over time, these pathways can become "wired" into the brain's circuitry. The nervous system learns to create chronic pain, even though there is no serious medical condition in the body, and even though any injury that may have precipitated the pain has long ago healed.

Everyone knows that if you break your arm, it will hurt, but after the fracture heals in a few weeks, the pain will disappear. But I have seen hundreds of people whose pain began with an injury but lasted five, ten, even twenty years. Why? The body has surely healed. The answer to this puzzle is found in the connections between the brain and the body.

Many people have heard about "phantom limb" pain, the pain that is felt in the area of an arm or a leg that has been amputated. There is clearly nothing wrong with that area—it isn't even there—yet this pain can be severe. We now know that this pain is caused by sensitized nerve connections and the creation of neural pathways in the brain.

The good news is that the brain and the nervous system can be retrained to get out of ruts that produce pain and to activate the normal, non-pain pathways that are waiting to be used. An increasing body of evidence is showing that the brain has amazing neuroplasticity—it is always learning and creating new structural pathways. All you have to do is tap into that power and use it to reprogram your response to pain and to the factors that intensify that pain.

There are three major components of the nervous system that create the vicious cycle of pain: the nerves that send pain signals from the body to the brain; the brain itself, where those nerve
to some degree, and in many people it results, sooner or later, in chronic pain that can range from mild and intermittent to intense and unrelenting. And there are many symptoms in addition to pain that can be caused by these wayward connections, such as diarrhea, insomnia, ringing in the ears, fatigue, bladder symptoms, anxiety, or depression. The term I have used for this condition is Mind Body Syndrome, or MBS, and most people have some form of it. A newer term we are now using is Psychophysiologic Disorder, or PPD. These two terms will be used interchangeably in this book.

What This Program Offers

In the chapters that follow, you will learn about MBS. You will see how it can develop and why modern medicine is typically unable to solve this problem. Most importantly, you’ll learn whether you suffer from this syndrome. And finally you’ll be guided through a comprehensive program to cure yourself.

I will also use the terms pain pathways, nerve pathways and neural pathways interchangeably; they all refer to the connections between the brain and body that can transmit the normal non-pain signals or painful signals depending on which ones the brain activates.

As a benefit of this program, you will attain increased self-awareness and greater understanding of how your brain works and of what issues in your life may have contributed to your physical pain. Not only do I expect you to be able to cure your pain, but you will be a stronger, more confident, less anxious, and less vulnerable person.

Your pain is real. But you no longer have to put up with it. This book will show you how to heal yourself. The nerve pathways causing the pain can be retrained by understanding what triggers them and what amplifies them. In order to do this, we must look more closely at the brain and how it is affected by pain and by stress, and how it develops chronic pain pathways. In this way you will finally understand the underlying cause of your pain and begin to take the steps to unlearn your pain.
Too much light often blinds gentlemen of this sort. They cannot see the forest for the trees. — Musarion

I have about come to the conclusion that there is absolutely nothing the matter with me anyway. — Harry S. Truman, on his decision to stop pain medications for neck pain

The key to treating chronic pain and other symptoms is to determine what is causing them. This is not only good medical practice, it is common sense. However, many doctors, whether traditional or holistic, are unaware that learned neural pathways can produce a large variety of real, physical symptoms. As a result, we have a growing epidemic of pain. Many millions of people suffer, and many billions of dollars are spent on treatments that are often ineffective, such as pain medications, injections, and surgery. Despite the growing amount of money spent on treatment of these painful conditions, the results are disappointing. In fact, a study published in the *Journal of the American Medical Association* found that back and neck pain is increasing in the United States and the cost of caring for such pain has increased to more than $80 billion a year—yet the newest treatments are not any more effective than older treatments, and therefore disability due to back pain is increasing (Martin, et al., 2008). In 2011, the Institute of Medicine released a consensus report stating that approximately 110 million Americans suffer with chronic pain (Institute of Medicine, 2011).

Over the past five decades, medical science has progressed dramatically in several areas. We have made great strides in understanding and treating cancer, heart disease, stroke, hypertension, diabetes, infectious diseases, and many other illnesses. These achievements have been made possible by a biotechnological approach—by examining these disorders with a very narrow focus to find out what is occurring on a cellular and molecular level. This approach searches for a cure by
examining the specific area where the disease is found. We can see the pathological changes in the body in people with cancer (a tumor), heart disease (damaged heart tissue), and infections (bacteria causing tissue inflammation). But these types of physically identifiable changes cannot be found in people with Mind Body Syndrome. People with MBS do not have pathological changes in their body tissue; they have physiological changes that are reversible. That is, they have changes in blood flow, muscle tension, nerve-firing patterns, and brain-wiring patterns that create pain in the absence of tissue pathology.

The vast majority of physicians, including me, were trained in the biotechnological approach to medical care. We were taught: “If the back hurts, there must be something wrong with the back.” We were not trained to look at the whole person to scrutinize the interaction between a person’s social situation, the body, nor to examine how a patient’s thoughts and emotions can affect the body.

The advances in understanding pathological processes have led us to believe that we could apply these same biotechnological approaches to chronic painful conditions that have eluded our understanding. This reductionist approach—looking at the problem solely on a tissue or molecular level—does not work when the disorder is Mind Body Syndrome. MBS is caused by a complex set of neurological connections between the brain and the body, rather than a disease localized in one area of the body.

**Whiplash**

Let’s start with a disorder that everyone “knows” is a physical condition: whiplash. Whiplash occurs when someone is in a car accident and the head is thrown backwards, causing strain to the tendons and ligaments of the neck. The neck pain or headaches that result can last for months, years, or even decades. But does this really make sense? If you fracture a bone, you will experience significant pain for a while. But when the fracture begins to heal, the pain will subside. A whiplash injury is a sprain or strain of the neck, certainly a less serious injury than a fracture. We wouldn’t expect an ankle sprain to cause pain for years. So why wouldn’t a whiplash injury heal fairly rapidly?

The answer lies in the neural connections. Once these connections are fired due to the injury, they can quickly become learned. They can continue to fire and then become wired so that pain can continue for a long time, even though the ligament strain will typically heal within a week or two.

H. Schrader, a Norwegian neurologist, wondered why there were so many people on disability for whiplash in his country, so he compared the rates of whiplash in Norway to those in Lithuania. In Norway, as in the United States, if you’re in a car accident, most doctors recommend rest, heat, and anti-inflammatory medications, hoping to mitigate the effects of the injury. In Lithuania, most doctors advise such patients to simply go back to work. Schrader studied 202 Lithuanians who had been in car accidents and found there were no more people with chronic headaches or neck pain than in a group that had not had car accidents. This was true even for those who had not been wearing seat belts, who had no head rests in their cars, and whose cars were severely damaged (Schrader, et. al., 1996). After this first study was criticized for gathering information after the car accidents occurred (making it a retrospective study), Dr. Schrader returned to Lithuania to conduct a prospective study, which has greater scientific validity, and he still found that whiplash did not occur there (Schrader, et. al., 2006). What we have learned is that the degree of the injury sustained is not correlated with the likelihood of developing chronic pain. Acute neck pain occurs in most injuries, but chronic pain is actually more likely to develop in those with milder rather than severe injuries (Malik and Lovell, 2004; Uomoto and Esselman, 1993).

A study by W.H. Castro and colleagues (2001) helps to give us a more complete understanding of whiplash. The researchers put fifty people in a simulation that created the sensation of having the kind of car accident that might cause whiplash. The participants had the experience of an accident, yet their necks did not move at all. Even so, 10 percent of the subjects reported neck pain four weeks after the simulated accident. Why? The researchers found that the people who developed persistent neck pain were the ones who had the most stress and emotional distress in their lives at the time of the experiment. As we shall see, their subconscious minds used the occasion of the experimental “accident” to initiate and perpetuate pain.

Without the mind at work, very few accidents and injuries would cause chronic, lasting pain. A study of demolition derby drivers revealed that almost none had chronic neck pain, even after more than 150 collisions (Simotas and Shen, 2005). Why? Because demolition derby drivers love what they do, and therefore they don’t think of the collisions as traumatic. Among most people in Norway and the United States and Canada and many other countries, however, there is an expectation that if you are in a car accident, you may develop whiplash and chronic pain. And, if the accident occurs at a time in your life when there are significant stressors, the chance that chronic pain will develop is greatly increased.
JULIE, A FIFTY-FIVE-YEAR-OLD WOMAN, had a significant car accident and was shaken up, but the doctors found no broken bones when she was seen in the emergency room. About two days later she developed neck pain, although the rest of her bruises healed and caused her no pain. Her neck, however, got worse and worse. She had X-rays and an MRI that were normal, and therefore she was told it was probably whiplash and that it could last for a long time. She had physical therapy, took painkillers, and rested—all to no avail. Her pain worsened, and she had to wear a neck collar. She stopped going out and became depressed, and the pain got so bad that she cried several times a day. About a year later, she came across Dr. John Sarno’s book, The Mindbody Prescription, read it, and began to understand that her pain was not caused by the injuries sustained in the accident, but by a set of neurological connections that were triggered by the accident. She realized that she could get better and started doing the exercises recommended in that book. In ten days she was well enough to get rid of her neck collar, and within three weeks she was pain free. She has not had any recurrence of neck pain.

**Back Pain**

The situation is very similar for the vast majority of those with back pain and sciatica. There are millions of people with chronic back pain that causes untold suffering, great expense, and huge numbers of medical procedures. Most people think that back and neck pain are degenerative disorders that will inevitably increase with increasing age. However, data from the Center for Disease Control’s annual National Health Interview Survey demonstrate that back and neck pain peaks between the ages of forty-five and sixty-four and then actually declines starting at age sixty-five (Strine, 2007).

 Doesn’t back pain mean that there is a problem in the back? Can’t we see the abnormalities of the back on X-rays, CT scans, and MRIs? Actually, no. In three separate studies by M.C. Jensen, D.G. Borenstein, and N. Boos, there was very little correlation between back pain and MRI results (Jensen, et. al., 1994; Borenstein, et. al., 2001; Boos, et. al., 2000). When you take middle-aged people without any back pain and give them MRIs, 60-90 percent of them have bulging discs, degenerative discs, arthritic changes, spinal stenosis, and other common changes. These findings are best interpreted as being due to normal aging, not to a disease process. If you took 100 people with back pain and 100 people without back pain and do MRIs on all of them, doctors could not look at the MRIs and predict which patients had pain and which did not. A study of healthy 21 year olds in Finland found that half of them had signs of degenerative discs and a quarter had bulging discs; all in people with no pain (Takatalo, et. al., 2009). When you take a large number of people who have no back pain at all, you find the following on MRIs: 50% of healthy 30-year-olds have degenerative disc disease and 40% have bulging discs; 80% of healthy 50-year-olds have degenerative disc disease and 60% have bulging discs; and the numbers go up from there (Brinjikji, 2015).

Over time, in some people the MRI results get worse, but the pain decreases; while in others the pain gets worse, though the MRI gets better. Many people with normal MRI findings have severe back pain. In fact, Eugene Carragee of Stanford University wrote in the *New England Journal of Medicine* (2005) that “neither baseline MRIs nor follow-up MRIs are useful predictors of low back pain” and added that “ill-considered attempts to make a diagnosis on the basis of imaging studies may reinforce the suspicion of serious disease, magnify the importance of nonspecific findings, and label patients with spurious diagnoses.”

If you have back pain and get an MRI, it is likely your doctor will tell you that the source of your back pain is one of the nonspecific findings Carragee warns about. Studies have shown that only 10 to 15 percent of people with back pain can be accurately diagnosed by available medical tests (Deyo, et. al., 1992). A more recent study followed over 1,100 people with acute back pain in Australia and found that only 1% of them turned out to have a significant back problem (Henschke, et. al., 2009). Unfortunately, most physicians (whether they are neurologists, surgeons, or physical medicine specialists) and chiropractors don’t heed these studies. When doctors tell a person there is a physical problem in their back based on an MRI result, the patient immediately stops being someone with back pain and starts being someone with a bad back. And if you believe you have a bad back, your pain is more likely to last longer and become more severe.

It is critically important to identify the small proportion of back pain sufferers with serious problems by the use of imaging studies. These people typically have a fracture, a tumor, or an infection and need traditional medical treatment or surgery. It is also important to have a physician examine you to make sure there is no evidence of nerve compression or damage, which is demonstrated by a change in reflexes, muscle strength, or loss of sensation. Pain that goes into an arm or leg, tingling, and numb sensations can occur due to MBS, but as long as the examination is normal, this is not clear evidence of nerve damage. At times, it is difficult to know definitively if the pain is due to MBS, or nerve damage, or a bit of both. In these situations, it is particularly helpful to have a consultation
Disc bulging with flattening of the spinal cord and narrowing of the outlet for the spinal nerves at L2-L3, L3-L4, L4-L5, and L5-S1. The right L4 and L5 nerve roots are compressed by a disc. The facet joints are swollen and there is spinal stenosis.

Helen underwent seven courses of physical therapy, along with massage therapy, acupuncture, electrode nerve stimulation, and specialty care from a pain management clinic. Despite these treatments, her pain continued. It radiated to her right leg and heel, and she began to develop numbness in her left thigh. After nine years on disability leave she finally took an early retirement, and a neurosurgeon scheduled her for lumbar fusion surgery due to the chronic and severe pain. Her physical exam showed normal reflexes, normal muscle strength, and normal sensation despite her symptoms of pain and numbness.

Helen was the oldest of ten siblings. Her father beat her when she was a child, and her mother required her to do a great deal of housework and child care. She recalls going into a closet and screaming, “I hate my parents! I hate my parents!” She had a difficult adult life, which included raising three children by herself, three divorces, and struggles with alcoholism (though Alcoholics Anonymous had helped her remain sober for twenty-seven years). She had many financial difficulties and became very unhappy with her job.

By participating in this program, Helen noted marked pain relief over the first two weeks. The numbness in her thigh disappeared. By the end of the four-week program, she was pain-free and canceled her back surgery. Her joy was incalculable, and she felt in control of her body and her life for the first time in nine years.

Four months later, she had a recurrence of back pain one day, but she quickly figured out what caused it. It began on the day she learned that her daughter was scheduled to depart for military duty in Iraq. Recognizing that her emotional stress was responsible for this pain, she used the methods taught in the program to rapidly rid herself of the pain. “In the past, stress would cause pain in my body that would cripple me,” Helen said. “But now I look at it, and it goes away.”

KATHERINE, A FORTY-TWO-YEAR-OLD WOMAN, came to me with four years of left buttock and leg pain. Her pain began in the area of her left hamstring while she was running in a ten-kilometer “fun run,” an easy task for an active person who had previously

with a physician, who can conduct a thorough examination, review the records and imaging studies, and offer a reasoned opinion. Unfortunately, there are relatively few doctors who are aware of MBS. However, if your physical examination is normal and the MRI shows nothing more than the usual degenerative changes as mentioned above, then it’s likely that you have MBS.

Back surgery may be necessary for people with clear evidence of nerve damage. But without that evidence, surgery is no better than nonoperative methods for people with sciatic-type and so-called degenerative back pain, according to recent studies in the Journal of the American Medical Association and in the New England Journal of Medicine (Weinstein, et. al., 2006; Weinstein, et. al., 2007). A recent review of back pain treatment found that neither surgery, injections, or narcotic pain medications have been shown to be more effective than placebo treatments or conservative treatments (Deyo, et. al., 2009, Deyo, 2015). In particular, injections for back and neck pain are being used more often and recent studies have not found them to be more effective than placebo injections in most instances (Friedly, et. al., 2014; Staal, et. al., 2009; Chou, et. al., 2009). Even more alarming is the finding that back pain outcomes were actually worse in communities with higher rates of surgery (Keller, et. al., 1999). A study in Ohio found that 36 percent of people with job-related injuries who had back surgery had high rates of complications, and 27 percent had repeat operations. The return-to-work rate was 66 percent in those who did not have surgery compared to 26 percent for those who had back surgery (Nguyen, et. al., 2011). If you or someone you know is considering surgery for back pain, I strongly recommend reading Back in Control by my colleague and spine surgeon, Dr. David Hanscom and Watch Your Back by Dr. Richard Deyo. Finally, there is emerging evidence that treatment of chronic pain with narcotic analgesics can actually worsen pain, because narcotics can increase nerve sensitization (Mitra, 2008; Silverman, 2009).

I routinely see people with severe and chronic back pain (including many who were taking morphine or Vicodin or who were on the verge of back surgery) who have had dramatic results in a very short time by using this treatment program for Mind Body Syndrome.

HELEN, A SIXTY-FIVE-YEAR-OLD WOMAN, had suffered from nine years of back pain.

The pain started in her lower back one day while she was working at her job on an automobile assembly line. It was so severe that she had to be carried out of the factory. She was seen by several doctors, and eventually an MRI revealed the following:

Severe disc space narrowing at L4-L5 and flattened discs at L2-L3 and L3-L4.
run marathons and had regularly hiked, skied, and mountain biked. Despite rest and anti-inflammatory agents, the pain worsened. She then received physical therapy, chiropractic treatments, acupuncture, and massage; she also tried yoga, pilates, and Rolfing, with no improvement.

MRI scans of her back and X-rays of her hip were normal, and Katherine was diagnosed by different physicians as having a pulled hamstring, ilio-tibial band syndrome, sacroiliac joint instability, and a leg length discrepancy. Despite all of the above therapies, the pain persisted and spread to her hip, outer thigh, and gluteal area. She stopped running and could not do any other physical activities because of the pain. After being seen by a family physician, orthopedic physician, neurologist, and physical medicine specialist with no improvement, Katherine was eventually referred to a nationally renowned medical center. There, she was given a diagnosis of piriformis syndrome and received a steroid injection followed by more physical therapy. Unfortunately, her pain did not diminish, and Katherine continued to spend significant portions of each day in bed or lying on the couch. Over the last few years, she had developed pain in her right scapular area and her right hip as well.

Katherine had experienced tension and migraine headaches as an adolescent. She also suffered from insomnia, fatigue, and depression when she was in her early thirties after her father and mother divorced. Katherine noted multiple stressors over the past several years: she had moved to a new city, her husband had started a new job, her mother had suffered a heart attack, her child had trouble sleeping, and she had renovated her husband’s office and her home. She admitted to having high expectations of herself, frequently feeling guilty and being overly conscientious. She told me that she had all but given up on all of her dreams and abilities to live a normal life because of her great pain.

By participating in this program, Katherine was able to connect the occurrence of pain with her life experiences. Her pain diminished within the first two weeks of the program, and she began to resume her normal activities, including running twice a week without pain. After four weeks, she wrote, “I am so happy to say that I now have the ability to recognize that my pain is caused by an accumulation of anger and guilt in my mind and that it uses my body as its outlet and that I no longer allow it to do so. This has taken work on my part; however, I am thankful that I am able to now let go and be pain free.”

### Fibromyalgia

One of the more enigmatic disorders is fibromyalgia, which means “painful muscles and tissues.” People diagnosed with this disorder have chronic widespread pain throughout their bodies, but no one can tell them why. Despite great efforts to find a structural cause, there is no pathological process (no tissue breakdown or destruction) in the bones, joints, tendons, or muscles, yet the pain can be severe and debilitating. Brain imaging studies have shown that the pain is real and is felt as much as pain from a bone fracture (Gracely, et. al., 2002). It is incredibly frustrating for people with widespread pain to have no idea what causes it, to be considered crazy by some, to be considered incurable by others, and to get little or no relief from available pain medications, muscle relaxants, anti-depressants, and mood stabilizers (Wolfe, 2009; Baumgartner, et. al., 2002; Goldenberg, 2004).

Because of the difficulties in understanding and treating fibromyalgia, people who suffer with this very real and often severely painful condition have often been treated poorly by the medical profession. Having been told many times that their pain is “all in their head,” patients are understandably sensitive to any psychological interventions. Few patients and even fewer doctors realize that real pain can be caused by stress and unresolved emotions. If you are skeptical of this concept, you’re not alone. However, keep an open mind as you read the next few chapters and I believe you will begin to be convinced. If you are, you have the opportunity to free yourself from this horrible disorder.

People with fibromyalgia also commonly have lower back pain, migraine or tension headaches, temporo-mandibular joint (TMJ) pain, irritable bowel and bladder syndromes, insomnia, or many of the other Mind Body Syndrome symptoms (Geisser, et. al., 2008). Biomedical experts have been able to determine that there is sensitization of pain fibers in the brains of people with fibromyalgia and changes in some of the neurotransmitters in their brains (Yunus, 2007). However, they have not been able to develop any significant breakthrough medical therapies. In fact, very few patients with this condition have been cured or gone into remission through standard medical treatments (Walitt, et. al., 2011).

There is ample evidence that people with fibromyalgia have much higher rates of life stressors and victimization (physical, sexual, or emotional abuse) compared to people with other physical disorders and compared to the general population (Goldberg, et. al., 1999; van Houdenhove, et. al., 2001). There is also a large overlap between those with fibromyalgia and those experiencing anxiety, depression, and post-traumatic stress disorder (Cohen, et. al., 2002; Celiker, et. al., 1997). As we
shall see in the next chapter, the effects of these stressors are the cause of the painful fibromyalgia symptoms. However, most physicians and researchers can only offer medications to try to cover up the pain. These medications do not lead to cures because they don’t get to the root of the problem.

I have seen many people released from the pain of this disorder using the program outlined in this book. If you listen carefully to the full life history of people with fibromyalgia, it becomes crystal clear that it’s a form of MBS. In fact, I have conducted research to determine how effective this program is for fibromyalgia, and the results have been gratifying (Hsu, et. al., 2010). Six weeks after their MBS treatment, approximately 25 percent of patients have gone into remission, meaning their pain has been eliminated or reduced to very low levels. Another 25 percent have experienced a moderate reduction in their pain. These results may not seem remarkable, but consider this: These reductions in pain are long lasting (measured at six months) and exceed the results found in studies of medications. The women with fibromyalgia who were in the control group in this research study were able to use any medications or other treatments. However, none of them showed any evidence of pain reduction. In a more recent study, conducted with my colleague, Mark Lumley, PhD, we demonstrated even better results. We studied a group of 75 individuals who had a history of chronic pain for an average of 8.8 years and whose primary disorder was fibromyalgia or back pain, although most patients had many symptoms of MBS. Their average baseline pain scores were 5.1 on a 10-point scale and 57% had a history of significant childhood trauma. Six months after going through the Mind Body program, 53% showed a reduction in average pain scores by at least 50% and 67% were able to use any medications or other treatments. However, none of them showed any evidence of pain reduction. In a more recent study, conducted with my colleague, Mark Lumley, PhD, we demonstrated even better results. We studied a group of 75 individuals who had a history of chronic pain for an average of 8.8 years and whose primary disorder was fibromyalgia or back pain, although most patients had many symptoms of MBS. Their average baseline pain scores were 5.1 on a 10-point scale and 57% had a history of significant childhood trauma. Six months after going through the Mind Body program, 53% showed a reduction in average pain scores by at least 50% and 67% had at least a 30% reduction in pain scores. These are remarkable results for people who have suffered with pain for so many years (Burger A, et. al., 2016). This program requires you to fully understand this model, believe that it applies to you, and be fully committed to the process. People with fibromyalgia and other chronic painful conditions who do these things almost always obtain significant results in this program.

ANJANI, A FORTY-SEVEN-YEAR-OLD WOMAN who migrated to the United States from India, reached a point in her life when she was beginning to think of doing some more things for herself, such as taking classes at a local college. However, her husband took an extra job, and she had three adolescent children who required a lot of her time. On top of that, her mother-in-law moved into her house and began to lecture her on how to be a better cook, homemaker, and mother. In addition, her brother moved in and expected her to wait on him. Being a dutiful person who put her obligations to others ahead of her own desires, she complied with these additional stressful tasks and cancelled her class, but she had no outlet for her feelings of resentment. Her body reacted to these stresses and suppressed emotions with a widespread painful process, which was labeled as fibromyalgia. After going through this program, her pain was dramatically reduced. One of the keys to her improvement was that she decided to speak up for herself and take more control over her situation at home.

JANET, A FORTY-ONE-YEAR-OLD WOMAN, grew up with a mother who was emotionally distant. The mother was very busy with her own life and was usually gone, often playing bridge and tennis. Janet had no illnesses or symptoms of MBS until she was in her thirties. She was happily married, with two small children, for whom she was determined to be the best mother possible. She was having a new home built and trying to make it perfect. At this time, she began to develop widespread pain in her muscles and tendons, which was diagnosed as fibromyalgia. When I asked her what her mother was doing at the time she and her children needed her help, she replied, “Playing bridge and tennis.” She then began to sob over the loss that she experienced as a child and that her children were now experiencing. Her mother was being as distant with her grandchildren as she had been with her own daughter. At this stressful point in her life, that separation was enough to trigger severe pain in her body. Once she realized that she was not physically ill and that her pain came from unexpressed emotions, her pain totally disappeared.

Headaches and Other Disorders

Tension headaches and migraine headaches afflict millions of people in the United States. More and more people are suffering, and specialized headache clinics have been established for people with severe symptoms. Yet, despite the development of many new medications, we see rising costs of treatment as well as increased loss of productivity due to absences from work and school.

The vast majority of people with chronic headaches have normal CT scans and MRIs. Tests do not detect anything wrong in their brains. As with fibromyalgia, there are many theories about what causes these headaches, from food and chemical sensitivities to genetics. Such things can
trigger headaches, but they are not the main underlying cause of these severe and chronic headaches.

Headache specialists do not generally listen very carefully to a patient’s life story. Even if they did, they may not be aware that mental events can produce such severe symptoms. When you look very carefully at the onset of headaches and at the precise times they worsen, you will find that conscious and/or subconscious emotions are at the root of the problem.

VICKIE, A FIFTY-FIVE-YEAR-OLD WOMAN, suffered from constant daily headaches for seventeen years. She had been evaluated by twenty doctors and had been placed on more than twenty different medications in an attempt to control the persistent pain. She had even had a surgical procedure to attempt to relieve pressure on a facial nerve that was thought to be trapped by muscles.

She had never had headaches until the day when she put on a new pair of prescription glasses and instantly developed pain on the left side of her head that radiated into her face. The pain worsened over the years, and no treatment ever helped.

When I listened carefully to her life story, she told me that her mother was aloof and her father was “bipolar” and unpredictable. Some days, he would come home from work and be fine, but on many occasions he would be in a bad mood and would often grab her by her collar and scream at her. Despite this difficult upbringing, she had no symptoms at all as a child.

At the time when Vickie got the glasses, her home life was fine. However, she had recently gotten a new boss, a woman whom she described as “mean and nasty,” who would frequently scream at her.

It became obvious that the new glasses did not cause her headaches, but when she put them on, her subconscious mind used the opportunity to create pain in the same way that a real or simulated car accident can become an opportunity for pain of whiplash. Vickie quit her job a few months later, but by that time the vicious cycle of nerve connections had been formed, and her headaches continued on a daily basis. She started this program, and her headaches gradually began to decrease. After the program, her headaches continued to improve, and after six months she became free of them altogether.

There are several other conditions that are typically manifestations of MBS, such as chronic abdominal pain and pelvic pain, TMJ pain, irritable bowel syndrome, irritable bladder syndrome (known as interstitial cystitis), chronic fatigue, tinnitus, insomnia, anxiety and depression. See the table below for a list of common syndromes caused by MBS. This list of symptoms includes those that are commonly encountered by doctors like myself who see patients with Mind Body Syndrome. However, almost any symptom can be caused by MBS, just as any symptom can be caused by a medical or structural problem. Over the years, I have seen people with a variety of unusual symptoms that are due to MBS, such as burning of the mouth or ears or hands or feet, tingling or electric sensations of almost any body part. Sensations caused by the brain are real; they are caused by neural pathways that are real; they can be powerful and we experience them in a very real way. However, if we can understand that MBS sensations are not dangerous, that our brain is

Conditions that are Commonly Caused By Mind Body Syndrome

CHRONIC PAIN SYNDROMES
- Tension headaches
- Migraine headaches
- Back pain
- Neck pain
- Whiplash
- Fibromyalgia
- Temporomandibular joint (TMJ) syndrome
- Chronic abdominal and pelvic pain syndromes
- Chronic tendinitis
- Vulvodynia
- Piriformis syndrome
- Sciatic pain syndrome
- Repetitive stress injury
- Foot pain syndromes
- Myofascial pain syndrome

AUTONOMIC NERVOUS SYSTEM RELATED DISORDERS
- Irritable bowel syndrome
- Interstitial cystitis (Irritable bladder syndrome)
- Postural orthostatic tachycardia syndrome
- Inappropriate sinus tachycardia
- Reflex sympathetic dystrophy (Chronic regional pain syndrome, CRPS)
- Functional dyspepsia

OTHER SYNDROMES
- Insomnia
- Chronic fatigue syndrome
- Paresthesias (numbness, tingling, burning)
- Tinnitus
- Dizziness
- Spasmadic dysphonia
- Chronic hives
- Anxiety
- Depression
- Obsessive-compulsive disorder
- Post-traumatic stress disorder
- Multiple chemical sensitivities

NOTE: Many of the symptoms in this table can be caused by physical disorders that require medical treatment. Consult your doctor or a specialist in Mind Body Medicine (see the Appendix) to determine if you can participate in this program. See Chapter 5 for help in determining if you have Mind Body Syndrome.
producing them, we can then be much more confident in taking the necessary steps to reduce or eliminate them. We can change these neural pathways and that is the basis of this book. If a careful medical evaluation does not show any clear pathologic process, then the symptoms in these conditions are likely caused by a vicious cycle of nerve connections that have been learned by the mind and body.

**Standard Treatment Equals Faulty Diagnosis**

What happens if you develop any of these MBS symptoms and seek care from your physician? The doctor will rarely take a careful enough history to determine if the symptoms may be related to stressful events and emotions. However, your doctor will usually do thorough medical testing to look for serious disorders such as cancer, immune disorders, fractures, and heart and vascular diseases. These tests are very important to make sure you don’t have a tissue breakdown disease. If the tests find no clear evidence of disease, you may become more anxious because there is no clear explanation for the symptoms, and the doctor may be puzzled and tell you that the pain is all in your head. This is one of the worst things a doctor can say to someone. Mind Body Syndrome is a real condition, and it can be effectively treated. It is not imaginary or brought on because the patient wants to be sick. Many people that I see are frustrated with their doctors for not explaining what is going on and why they are in pain. The reason most doctors don’t adequately explain chronic pain is that they don’t understand this disorder.

If the doctor finds something on an MRI such as a degenerating disc or bulging disc or spinal stenosis, the patient will often be led to believe there is a serious medical condition. Once someone is told that they have fibromyalgia, they may be initially relieved to discover that there is a name for their severe symptoms. However, once they are told that they will have to manage the pain since there are no effective treatments to cure it, they are likely to become upset and depressed. Traditional medical treatments are geared towards correcting the underlying pathology in the body. In MBS, there are reversible physiological changes to the brain and nerve pathways, but there is no underlying tissue breakdown. Standard treatments don’t address the true cause of these symptoms but try to cover them up. Pain medications, migraine medications, stomach and bladder medications, physical therapy, acupuncture, vitamins, herbs, and all of the other therapies recommended for these disorders will often provide at most a partial or a temporary relief. When these therapies and medications do work for people with MBS, it is usually due to the placebo effect, that is, the expectation by the patient that the treatment will work (Bausell, 2007; Brody and Brody, 2001). With this belief, the mind allows the treatment to work—but often the relief is only temporary, since the person has not understood what caused the problem in the first place.

Despite the absence of confirmed pathology, the doctor will often make a diagnosis. Medicine has given names to these clusters of symptoms: fibromyalgia, migraine headaches, sciatica, interstitial cystitis, TMJ disorder. This labeling is often harmful. The patient now thinks he or she has a serious condition, and websites for these conditions support the belief that the condition could be severe and long lasting. If referred to a pain clinic, patients are often told that they have a disorder called “chronic pain” and that the goal of their treatment will be to help them be more functional, rather than to reduce their pain. From my point of view, pain is a symptom of an underlying process. It is not a diagnosis any more than a fever is. With pain and fever and other symptoms, there are underlying causes.

The medical profession has unwittingly created a form of mental imprisonment called medicalization, when diagnosis and treatment causes an increase in pain and suffering. The false belief that one has a serious and intractable condition causes activation of more stress and emotional reactions, such as depression, hopelessness, helplessness, fear, and anxiety, that can exacerbate the problem. When MBS is treated as a purely physical condition, the symptoms often get worse rather than getting better. Injections, pain medications, and surgery can cause side effects and even be dangerous at times. In addition, the cost associated with such faulty diagnoses are staggering. It is estimated that up to one third of the medical care in the U.S. is unnecessary (Brownlee, 2007).

The first critical step in dealing with chronic symptoms is to get the correct diagnosis. If there is a tissue breakdown disorder, then I would recommend traditional medical treatments. If you have been suffering for some time, if your doctors haven’t been able to adequately explain why you have so much pain, if your only options are surgery or pain medications, then you are likely to have MBS. If the true diagnosis is Mind Body Syndrome, then traditional medical therapies are not likely to cure the condition. Your doctors have not been able to help you because they have been looking in the wrong place.
Why do so many people have pain and other symptoms caused by Mind Body Syndrome? How do the brain and the body learn the vicious cycle of pain? The key to understanding the answers is to recognize how the brain works and how stress and emotions play a vital role in the initiation and perpetuation of pain.

We live in a stressful world to which we have not fully adapted. Our brains are wired to react to the very different, ancient world of our ancestors. They experienced acute stress—for example, dangerous animals—on an occasional basis. In those situations, the brain activates the powerful fight-or-flight reaction to deal with the acute stress, the body becomes tense, and after that stress is over (assuming the individual survives unharmed), the body relaxes. The brain is well programmed to deal with that kind of acute stress. However, the brain often has trouble dealing with the chronic stress of modern life. That’s why, when stress becomes chronic and we feel trapped in situations for which there is no easy way out, we can easily develop a set of neural circuits that are painful.

You already know that stress causes physical reactions. Your face will turn red if you are embarrassed. That’s because your emotions cause the autonomic nervous system to increase blood flow to the face. This is a very real bodily response to an emotion. If you have a stressful day at work or at school, you might get a headache; this is also real pain caused by emotions. If you have to give a speech in front of hundreds of people, your stomach may tighten up from nervousness. These are
normal everyday reactions caused by the connections between the brain and the body. Everyone accepts that these are physical reactions to stressful events, that they are not signs of disease, and that the symptoms will disappear when the stress that triggers them subsides.

This is exactly the mechanism of Mind Body Syndrome: Stress triggers emotions that cause our bodies to react by producing physical symptoms. The symptoms are real. Your face really does turn red when you blush from embarrassment. Your head or your stomach really does hurt if you’ve had a difficult day or face a daunting challenge. The symptoms, including the pain, are not imaginary. They are physical processes. They are real. But they are physiological processes that can be reversed. They are temporary.

If you have these symptoms, you’re not crazy. You’re normal. Almost everyone has some physical symptoms due to the body’s reaction to stress. I have asked hundreds of people during my lectures if they know where they “hold” stress in their bodies, and almost everyone has an answer. It is common knowledge that stress can cause physical reactions.

What is not common knowledge is that stress and emotions can create the neural pathways that can cause chronic and often severe physical symptoms. The cure for such chronic pain or other symptoms is not a drug or a remedy designed to lessen or cover up these symptoms. If you do not find and treat the underlying cause of the pain, you will not get better. For most people, the underlying cause is that the emotional reactions to stress trigger neural circuits that create physical pain. Instead of addressing our emotional conflicts that are at the bottom of our distress, many of us have developed ways to medicate ourselves. But medicating with alcohol, drugs, work, or other means does not resolve anything, and can just create further problems, including addiction, further stress, and social isolation.

### The Emotional Brain

The way our brains work explains how the stresses of life can turn into bodily pain. Though our brains are very complicated and everyone reacts differently to stresses, we share many things in common. We all need to be loved, nurtured, and protected. We all need to grow, develop, and become independent. We all have thoughts and emotions and memories.

Our emotional memories are imprinted in our brains and stored in what are called associative networks (LeDoux, 1996). They are imprinted in a network of the brain that registers and stores emotions, which includes several structures such as the amygdala, hippocampus, insula, anterior cingulate cortex and prefrontal cortex. These areas are closely connected to the hypothalamus, the center for the autonomic nervous system (ANS) (van der Kolk, 1994; Okifuji and Turk, 2002). The ANS controls our breathing, heart rate, blood pressure, temperature, and many other automatic and involuntary functions—the things our body does without our conscious mind being aware of them.

During times of stress, the emotion-based network sends signals to activate the ANS and produce the hormones cortisol and adrenaline, which turn on the “fight or flight” reaction. That’s a system that directs blood flow to muscles to get our body ready to run or do battle, and it causes our bodies to react instantly before we are aware of what is going on. Human beings have this system to protect us from danger and improve our chances for survival.

If we see something squiggly moving across the ground, our autonomic nervous system causes us to immediately jump back to protect ourselves. We do not stop and reach out to see what the squiggly thing is. That conscious action could get us killed. Our protective system kicks in before we have the chance to think. In fact, research shows that when emotions arise quickly, the blood flow in the brain shifts away from the frontal lobes, the conscious thinking part of the brain, to the limbic system, which is the emotional, reacting, and subconscious part of the brain, which includes the amygdala and the autonomic nervous system (Takamatsu, et. al., 2003).

### The Role of the Autonomic Nervous System

The autonomic nervous system controls the nerve fibers that affect every area of your body. Studies have shown that emotions such as anxiety or anger cause increased tension in the back muscles of people with chronic back pain (Burns, et. al., 2006; Quartana and Burns, 2007). This muscle tension, which typically takes place without our conscious awareness, can cause real and severe physical pain. Often we are not even aware of the emotions that are triggering these automatic physical responses, which is why they are referred to as subconscious or unconscious emotions.

There is a large variety of processes that can occur with ANS activation. Not only are muscles and blood flow involved, but the nervous system, the heart, the gastrointestinal (GI) system, and the genito-urinary (GU) systems can all be altered. And the ANS can produce very specific changes, depending on the specific situation, that will vary from person to person and from moment to moment (Levenson, 1992; Burns, et. al., 2008). A careful understanding of the reactions of animals to stressful situations reveals that they may fight or flee, but they may also freeze (as a rabbit will do) or submit...
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...this may cause resentment; when the pain becomes chronic and you don’t know if you’ll ever get about what it is; when you go to the doctor and you’re told you have a problem in your back or neck, activity of this area, causing pain to become amplified. When you feel pain, this may cause worry...One part of this mechanism is the anterior cingulate cortex (ACC). Emotional responses increase the...to turn it off, by activating this salience network that we commonly call the danger/alarm mechanism. If pain did not occur in that situation, he would continue running and could completely...in order to heal. If pain did not occur in that situation, he would continue running and could completely...in various places because of Mind Body Syndrome, there is no tissue breakdown or physical disease in the body. Yet, the pain is real. As we shall see, the pain is caused by an activation of a neural pathway.

Pain in the Brain

The brain has complex mechanisms to handle pain that involves many structures. The neuroscientists commonly refer to this network as a “salience network,” meaning that the brain decides what is most salient (or more important) for it to attend to (Barrett and Simmons, 2015). If you are running from a lion and twist your ankle, your brain will likely not activate pain so that you have the best chance of escaping. However, if one of our ancestors was running after a deer and broke his ankle, the brain would want to create severe pain so that he would immediately stop and rest the foot in order to heal. If pain did not occur in that situation, he would continue running and could completely destroy the ankle leading to long-term disability. Our brains decide when to turn on pain and when to turn it off, by activating this salience network that we commonly call the danger/alarm mechanism. One part of this mechanism is the anterior cingulate cortex (ACC). Emotional responses increase the activity of this area, causing pain to become amplified. When you feel pain, this may cause worry about what it is; when you go to the doctor and you’re told you have a problem in your back or neck, this may cause fear; when your doctor tells you that he or she doesn’t know what is causing the pain, this may cause resentment; when the pain becomes chronic and you don’t know if you’ll ever get better, this may cause frustration. All of these emotional reactions activate the ACC. MRI studies show that when the ACC is activated, pain is greatly increased (Klossika, et. al., 2006; Peyron, et. al., 2000). In addition, when the ACC is activated, it turns off the dorsolateral prefrontal cortex (DLPFC) area of the brain, a part of the brain that acts to decrease pain (Lieberman, et. al., 2004).

Chronic stress produces increased sensitivity to pain in the brain, the spinal cord, and the nerves. Certain cytokines (proteins that send messages to other parts of the body) are released during times of stress, and these cytokines cause cells and nerve endings to be more sensitive to pain (Aubert, 2008; Alesci, et. al., 2005).

The Role of Stress in Childhood

It is not only current stress that can trigger painful reactions. Emotional experiences in childhood are imprinted in the brain. Several studies show that animals exposed in infancy to very stressful environments (such as separation from their mother or being exposed to painful stimuli) grow up to have overly active autonomic nervous system responses (McEwen, 1998; Arboelius and Eklund, 2007). Human infants who are exposed to repeated blood drawing within the first few weeks of life have increased pain when they have medical procedures several months later (Taddio and Katz, 2005). Adults who are exposed to traumatic events in childhood such as emotional, physical, or sexual abuse have a much greater chance of developing chronic pain (as well as anxiety and other psychological disturbances) (Anda, et. al., 2006). The emotional imprinting from early experiences is stored in the brain, and when a similar experience occurs later in life, the ANS reaction can start a painful process.

Researchers can measure markers of chronic stress, such as abnormalities in an ANS hormone, cortisol. One study found that adults who have abnormalities in cortisol production are more likely to develop chronic pain than those who do not have these abnormalities (McBeth, et. al., 2007). This further cements the powerful relationship between chronic stress and chronic pain.

How an Injury Can Start a Cycle of Pain

Sometimes the pain cycle is started by an injury, such as a strain, a sprain, or a fracture. When the injury occurs, the danger signals in the body and brain get fired. Usually these signals will decrease, and the pain will go away when the injury heals. Most acute injuries will heal within a few
weeks. That is how long it usually takes for the body to repair any tissue breakdown that has occurred. After that, if the pain does not go away, there is something else going on. Many people are suffering from chronic pain that they believe is caused by an injury that occurred several months or years ago. That doesn’t make sense, because fractures of even our biggest bones will heal in several weeks. The injury itself—whether from a sprain or a strain such as a whiplash injury—is not causing the pain. But an injury can trigger a series of events that lead to chronic pain. This point is quite often misunderstood, since many people have been told by doctors, physical therapists, or chiropractors that their injury never healed or set off misalignments that continue to cause pain. While I must avoid judging every single situation, I can say that in general, this concept is not supported by the research. Injuries to our body do heal. Even if there is scar tissue present, scar tissue doesn’t cause pain. People with retained bullets or shrapnel or those who must walk with a limp due to an injury don’t necessarily have pain.

Physical injuries are more likely to create chronic pain if there are stressful life circumstances occurring around the same time as the injury. If so, the pain signals set in motion by the injury can become learned, and a vicious cycle of pain may develop. It is well known among neuroscientists that when the nerves that carry danger signals from the site of an injury to the brain are activated for some time, the nerves become “sensitized,” meaning they are more likely to fire and send more danger signals with lesser amounts of tissue activation (Staud and Smitherman, 2002; Giesecke, et. al., 2004). This is how, over time, acute pain can become chronic, although the tissues have healed from the acute injury. The small nerves learn to react to even very minor changes, such as tense muscles, which are easily triggered by an overly active ACC and ANS. This process of sensitization has been shown to occur in people with fibromyalgia and chronic back pain (Giesecke, 2004).

These sensitized nerves that carry pain signals to the brain gradually affect the brain as well. The areas of painful sensation in the brain also become sensitized and continue to experience pain. This is another way that chronic pain caused by Mind Body Syndrome becomes engrained. As the neurological system of the brain and body learns these pain and other symptom pathways, these nerve fibers very quickly start to get wired together. The more often nerves fire, the longer the pain occurs, and the more likely these fibers will continue to create this vicious cycle of pain. Scientists use the terms brain reorganization and neuroplasticity to describe the brain’s ability to create new pathways. It has been shown that acute pain can induce changes in the spinal cord and brain, which can lead to increased pain (Baranauskas, 2001) and can enlarge over time, creating chronic pain (Melzack, et. al., 1999).

The fact that pain can be felt in an area that is not diseased has been illustrated in phantom limb syndrome, where an amputee experiences pain that feels like it is coming from the part of the body that’s been amputated. Phantom limb syndrome is a perfect example of Mind Body Syndrome—pain is felt in an area that is clearly not diseased. The pain is caused by nerve sensitization and brain reorganization producing pain, which is felt in the missing limb (Flor, et. al., 1995).

Going one step further, a group of researchers tried to determine if the brain could actually create pain (Derbyshire, et. al., 2004). They took a group of people and exposed them to three distinct conditions; thermal pain in one hand, the hypnotic suggestion that they were feeling thermal hand pain, and simply imagining feeling thermal hand pain while not under hypnosis. Their brains were imaged to see if there were differences between these three conditions. The brain images showed that similar areas were activated in the thermal pain and the hypnotic pain situations (including the ACC and a few other areas), while fewer and different brain areas were activated during imagined pain. This was the first evidence that the brain can create pain that is indistinguishable from pain caused by stimulation of nerves in tissues. This research helps confirm that real pain can be caused by either physical disease states or by neuroplastic processes that create learned neural circuits, as with a psychophysiologic disorder. The fact is that all pain is experienced in the brain. We cannot have pain without activation of the pain pathways in the brain. As we shall see, the brain can turn off pain even when the body is injured or has some degree of tissue damage. And, as just mentioned, pain can occur when there is no physical injury or tissue damage. This type of pain is very common. When I was explaining this to one of my patients, she smiled and said, “Oh, I get it. The pain isn’t in my head; it’s in my brain!” With that understanding, she took a huge step in the process of unlearning her pain.

How the Brain Creates Pain

The brain can cause a wide variety of mild to severe symptoms in virtually any area of the body. Cutting edge neuroscience research has given us a better understanding of how this happens. Timothy Noakes, an exercise physiologist, has studied how an athlete’s brain reacts to running a marathon (Noakes, 2003). Dr. Noakes discovered why well-trained athletes “hit the wall” in endurance events: the pain and fatigue is due to their subconscious brain sounding an alarm warning them that they will run out of energy soon. Noakes explains that athletes must ignore these warning signals in order to finish the race, recognizing that there is no actual danger of physical harm. “Hitting the wall”
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is similar to the light on your car’s gas gauge turning on to alert you that your gas is getting low; however, your car can still run fine for a while.

The subconscious brain is the driving force behind psychophysiological reactions. The subconscious controls our bodily functions to protect us and help us adapt to our environment. Our reactions to our environment depend on both the innate and learned coding of our brain. Over our lifetime, our brains learn to respond to potentially dangerous situations. And, as Hebb famously noted, “when neurons fire together, they become wired together,” and those neural pathways become more likely to fire the more they are activated (Hebb, 1949).

The subconscious controls not only responses to our environment but also what we perceive. Eyewitness accounts are dramatically altered by the values and experiences of the viewer (Arkowitz and Lilienfeld, 2010; Drew, et. al., 2013; Lum, et. al., 2005). We can see only what our brains expect us to see. This is known as predictive coding: what we perceive is predicted from past experiences. For visual, auditory and taste perceptions, this is termed exteroception. Over time, we learn to like and dislike certain music and foods. A similar process, interoception, occurs for internal sensations (Barrett and Simmons, 2015). The brain creates the sensations it expects us to feel. When the brain is in an ongoing state of warning or danger, it will continue to produce pain with movement, fatigue with activity, disordered thought processes, and many other sensations designed to enforce rest and inactivity. And the more the accompanying neural pathways are activated, the more they become normalized as default pathways. When I had low back pain several years ago, my back hurt every time I bent over. However, it turned out that my back was not actually damaged. It was my brain turning on pain because it predicted that I should have pain when I bent over. This new understanding led me to stop worrying about my back and remind myself that I was fine every time I bent over. In a few weeks, my back pain decreased and eventually went away. For more information on predictive coding, interoception, and how the brain constructs what we feel, see How Emotions are Made by Lisa Feldman Barrett (2017).

Thoughts and Pain

A great deal of research has demonstrated how the brain actually controls pain. All pain has sensory, cognitive, and affective components (Wager, et. al., 2004). The sensory component includes descriptions of how pain is felt, such as aching, burning, sharpness, or numbing. The cognitive component is what you think about the pain: what the cause is, whether you believe it is temporary or permanent, controllable or curable. The affective component consists of your feelings and emotions about the pain, such as fear, worry, anger, and resentment. There are distinct areas of the nervous system that process these three components of pain (Melzack and Casey, 1968; Pirner et. al., 1999; Vogt and Sikes, 2000; Ochsner et. al., 2008). In order to eliminate chronic pain, all of the components need to be addressed. The ways in which people think about their pain and the feelings that are connected to it have great impact on the severity of the pain.

M.D. Lieberman and colleagues (2004) conducted a study in which people with irritable bowel syndrome were treated with a placebo pill. In those who responded with fewer symptoms (less pain, diarrhea, or constipation), they found that the anterior cingulate cortex was inactivated in the brain while the dorsolateral prefrontal cortex (DLPFC) was activated. Those whose symptoms did not decrease had the opposite brain response: an activated ACC and inactivated DLPFC. This study demonstrates that what we think about our condition—the cognitive components of our pain—affects how our brain controls pain and other Mind Body Syndrome symptoms.

In a study published in the Journal of the American Medical Association (Waber, et. al., 2008), a group of researchers tested the pain responses of volunteers to a bracelet that gave graded levels of electric shocks. All participants were first given a pill that they were told was a new medication similar to codeine, but faster acting. Half of the subjects were told that it cost about $2.50 per pill, while the others were told that each pill cost ten cents. Though all the pills were placebos, those who received the more “expensive” pills felt significantly less pain from the bracelet shocks than did those who were given the supposedly cheaper pills.

In a research study of people with chronic hand pain due to an ANS dysfunction condition known as complex regional pain syndrome (or reflex sympathetic dystrophy), subjects were shown pictures of hands in different positions. They were asked to imagine moving their hand into those positions. Results showed that they had increased pain and swelling of their hands just from imagining moving them (Moseley, et. al., 2008).

These studies demonstrate that what we think about pain can have a great impact on how we actually feel pain. Many studies also show how emotions affect how we experience pain.

Emotions and Pain

Several studies demonstrate the connection between emotions and pain. Mark Lumley and colleagues have published an excellent review of this topic (Lumley, et. al., 2011). There is a large
overlap between Mind Body Syndrome and different types of anxiety disorders. More than a third of people with fibromyalgia or irritable bowel syndrome have high rates of post-traumatic stress disorder (PTSD) (Amir, et. al., 1997; Sherman, et. al., 2000). One study of a group of military veterans with PTSD showed 80 percent of them had chronic pain (Beckham, 1997). In a study of people with obsessive-compulsive disorder (OCD), situations that triggered their OCD symptoms were associated with an activated ACC in the brain (Fitzgerald, et. al., 2005).

John Burns (2006) studied pain thresholds in people with chronic low back pain. He found that when they recalled a time that had made them angry, they had increased activation of the lower back muscles and experienced more pain. They did not show increases in heart rate or blood pressure and did not have activation of muscle groups unrelated to the areas of pain, which shows that their bodies reacted to anger in a very specific area. In another study, volunteers were put in a situation that created either anxiety or anger and then instructed to either express their feelings normally, try to inhibit their feelings, or try not to show any feelings. After this they placed one hand in ice water. Those who were instructed not to feel or show anxiety or anger had less tolerance for the pain (Quartana and Burns, 2007). Finally, patients with low back pain were instructed to either suppress or not suppress anger during a stressful laboratory experiment. Those instructed to suppress their emotions reported more pain, both during and after the experiment (Burns, et. al., 2008). Together these studies show that both anxiety and anger can cause a lower pain threshold and can increase muscle tension. Suppression of emotions leads to even higher pain levels.

Brain imaging studies have also revealed the strong relationship between emotions and pain. For example, Eisenberger and her colleagues (2003 and 2006) have shown that when people are put in a laboratory situation where they are excluded or rejected by others, the ACC is activated and pain sensitivity is enhanced. The ACC is also activated by fear and worry, as is the amygdala and the ANS (Fitzgerald, et. al., 2005; Das, et. al., 2005). Ethan Kross and colleagues performed separate pain scans in young adults who were given a mild physical pain and also shown a picture of an ex-lover who had broken up with them within the past six months (Kross, et. al., 2011). Not surprisingly, the same areas of the brain were activated by a physical injury and an emotional injury. Both physical pain and emotional pain are handled the same way in the brain and can cause real pain.

When pain develops, if we are unsure why it’s there and our doctors are unable to explain it or make it go away, most people begin to worry about the pain and to fear that it will become a constant problem. These emotions then trigger pain pathways in the brain to become more pronounced, which, of course, tends to exacerbate the pain (Bailey, et. al., 2009; Asmundson and Katz, 2009). A vicious cycle of pain, fear of pain, decreased activity, and worry often ensues. When this happens, chronic pain becomes a way of life, and there is no way out of it until the thoughts and feelings which are driving the pain are addressed. For an excellent description of this phenomenon as seen in chronic back pain, see Back Sense (Siegel, et. al., 2001).

A unique study was conducted with a group of healthy volunteers and a group of people who had recovered from significant depression (Hockey, et. al., 2005). Both groups had brain MRIs taken while they listened to a tape recording of their own mothers, who had recorded thirty seconds of praise and also thirty seconds of criticism. Both groups had increases in their DLPFC activation when listening to the praise. When the healthy volunteers listened to the criticism, they also had increases in the DLPFC (demonstrating their resiliency to stress), but those with a history of depression had decreases in DLPFC activation, putting them at risk for developing pain. To summarize, when we experience difficult or stressful situations, especially if we have had significant stresses earlier in life and if we are unable to express or show how we feel, we will be at risk for our bodies to experience pain.

**The Triggers of Pain**

Once a pain cycle is initiated between the brain and the body, certain “triggers” will usually begin to develop and add to the painful responses. Most people have heard of the experiments of Ivan Pavlov, the Russian scientist, who rang a buzzer when he fed his dogs (Cunningham, 2001). He soon noticed the dogs would salivate when the buzzer rang, even if there was no food in sight. Their brains had learned that a buzzer meant food, so their bodies reacted accordingly. Several years ago, Robert Ader gave some mice cyclophosphamide, a powerful immune-suppressing medication, in a bowl with saccharine, which has a peculiar taste. Predictably, their immune systems became significantly suppressed. A few weeks later, after their immune systems recovered, he gave them a bowl with just saccharine. Their brains had learned that a buzzer meant food, so their bodies reacted accordingly. Several years ago, Robert Ader gave some mice cyclophosphamide, a powerful immune-suppressing medication, in a bowl with saccharine, which has a peculiar taste. Predictably, their immune systems became significantly suppressed. A few weeks later, after their immune systems recovered, he gave them a bowl with just saccharine. Their immune systems again became suppressed, demonstrating the power of triggers (Cohen, et. al., 1979). This study has been replicated in people as well (Goebel, et. al., 2002).

It is easy to see how certain triggers can develop in people with Mind Body Syndrome. Once a pain pathway (say, a headache) has started, if it occurs during a stressful situation that also happens to coincide with eating a certain food, or drinking red wine, or seeing a certain kind of light, or meeting a certain person, the brain will learn that association. Then the next time you are exposed to that
Primting of Pain

Another important concept to understand is that of “priming.” When we learn how to ride a bicycle or throw a ball, those nerve pathways become engrained. Even if we haven’t been on a bike or thrown a ball in several years, when we need to, those pathways will be activated, and we will perform that skill. Nerve impulses that are caused by a physical injury, such as a car accident or a fall, create a pain pathway between the brain and the body, which will typically diminish over a few days or weeks as the damaged body tissues heal. However, the pain pathways can lie dormant, and at some time in the future, if situations occur that create significant stress and emotional reactions, these pain pathways can re-emerge to create the same type of pain.

I evaluated a young woman with severe back pain. As a teenager, she had sustained a mild back injury from a fall during an athletic competition. Her injury healed, and she was fine for several years. However, when her fiancé broke off their engagement just prior to the wedding date, she developed back pain in the same area, although no new injury occurred. Her brain was primed to have back pain in that specific area, and it created pain in a place that was convenient since it had already been learned.

Dr. Lorimer Moseley is a leading pain researcher whose work is dedicated to understanding and explaining pain (see Butler and Moseley, Explain Pain, 2003 and Moseley, Painful Yarns, 2007). In Painful Yarns, he tells a story from his own life that helps us understand important mechanisms of pain. As a young boy, Lorimer took hikes in the country and frequently came home with lots of nicks and scrapes on his legs. Although his mother was often alarmed, they never bothered him or hurt him. While on a hike at age twenty-five, he gotnicked on the leg and kept walking not thinking anything of it. When he got home, he saw the fang marks of the very poisonous Eastern Brown snake and found his left leg to be very swollen and painful. He spent several days in the hospital recovering from the bite and the left leg pain subsided. Five years later, he was walking in a park and noted a nick on his leg. He immediately felt to the ground experiencing a great deal of pain that was all the way up and down his left leg. He was rushed to the hospital only to find that he simply had a scrape, not a snake bite. Why all the pain? When he was a boy, his brain disregarded the mild pain from nicks and scrapes because they were interpreted as “not dangerous” and simply part of the enjoyment of walking in the country. However, after the life-threatening situation with the snakebite, his brain now interpreted a small scrape as “very dangerous” and activated the same pain pathways that were learned five years earlier.

What is amazing is that the pain after a small scrape on Lorimer’s leg lasted for two weeks. He’s a pain researcher, he understands pain; he knew that nerve pathways rather than tissue damage caused his whole leg to feel real pain; yet the pain persisted for two weeks! The nerve patterns were activated and took a while to calm down and reverse, which they eventually did. But what might have happened if he didn’t understand pain, and after one week he went to his doctor and asked, “Why am I still having so much pain from a small scrape? The doctor might say, “Oh, I’m afraid that you might have “post-snake bite venom” syndrome. It’s a chronic disorder. We don’t know what causes it and we have no effective treatment for it.” This is exactly the situation that occurs to people with fibromyalgia, whiplash, and chronic fatigue syndrome. The labeling of these disorders as being chronic and incurable leads to more fear, more resentment, and more pain. Another factor can greatly activate pain pathways. What if, during those two weeks after the scrape, something was happening in Lorimer’s life: maybe his son got arrested, his mother passed away, or his wife had an affair. Emotions associated with those events trigger the same brain pathways that activate pain thus turning what would have been a self-limited disorder into a chronic one with little hope of cure.

It is very easy to think of pain as an enemy. It can hurt so much that it may be impossible to imagine how the mind could be powerful enough to produce it, or why the mind would do that to
its own body! Pain can feel like our mind is betraying us for no good reason. But consider how the brain respond to inputs. When you touch a hot stove, the signals from the fingers go up to the brain and the brain sends a “danger” message. The brain determines how much pain is produced in response to how much danger it perceives. The more perceived danger, the more pain. Larger injuries and those that are in sensitive areas (such as the fingers, face, eyes and head) tend to produce more pain. Even in the case of physical injury, the brain determines how much pain will be manufactured.

A friend of mine told me about a man he saw diving in the ocean for conch shells. When he emerged with the conch shell, he showed it to his wife on the beach and was beaming. He had no pain until he noticed that his legs were bleeding due to cuts from the coral reef. A construction worker in Britain jumped off scaffolding and landed on a large exposed nail, which pierced his work boot. He immediately began screaming in pain and was rushed to the hospital. Pain and sedation medications given through an IV were necessary to try to lessen his pain. When doctors removed the boot, they found that the nail was lodged between two toes and had not injured him at all (Fisher, et. al., 1995). In both of these cases, the brain controlled if and how much pain occurred, while the amount of physical injury was a secondary factor.

Our brains were designed to alert us to danger. When the pain pathways in the brain are activated, we feel pain; when we have a sudden scare, we feel afraid. In both situations, our brain is trying to alert us to physical or emotional danger to protect us from threats to our health and well being. It is telling us to get help, pay attention, or wake up. In the case of mind body pain, anxiety, or depression, your brain is letting you know you are in some kind of danger, and so it activates very powerful pathways.

I treated a man who had a recurrence of MBS symptoms of pain and anxiety as he was buying a new home. I explained to him that his brain (particularly, his amygdala) was interpreting this act as if he were running into a burning building. Our job is to learn how to recognize these symptoms as primitive warning signals. As with a fire alarm, we are thankful that it alerted us. However, if it’s a false alarm and there is no fire, we simply turn the alarm off and reset it. That is exactly what we need to do for

THE PATHWAYS THAT PRODUCE AND PERPETUATE MIND BODY SYNDROME: These pathways can begin due to an injury or stressful event that produces strong emotions in the amygdala. Once the pain begins, nerves that send pain signals to the brain become sensitive over time and send repeated signals even when there is no tissue damage in the area where the pain is felt. These signals go to the amygdala and then get amplified by both conscious and subconscious emotions, which trigger activation of the anterior cingulate cortex (ACC). The autonomic nervous system (ANS) activates the fight, flight, freeze, or submit mechanism, which produces nerve activation, muscle tension, GI/GU spasm, and/or CV activation that worsens the physical symptoms. These pathways get reinforced over time, and this creates a vicious cycle of pain and increased emotional responses. A variety of triggers (such as certain physical movements or positions, places, weather changes, foods, or situations) can act as conditioned responses and add to the neurologic pathways that perpetuate pain. In the conscious portion of the brain, the dorsolateral prefrontal cortex (DLPFC) area can act to diminish and break the cycle by overriding the activity of the ANS and by deactivating the ACC.
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Many people have trouble accepting that severe pain and other dramatic symptoms can be
caused wholly by the interaction between the mind and the body. Not only is it true, it is common.
Bodily reactions to mental events occur in most people on a regular basis—we just don’t notice them,
or we attribute them to purely physical causes. The truth is that the body is a barometer of the mind,
and it reflects what is going on in the mind every minute of every day. Once you are aware of this
connection, you will see the signs in yourself and your family and friends on a regular basis.

After I gave a lecture a few years ago, a physician approached me and told me his story. He
was wounded in the Vietnam War and came home with shrapnel in one leg, after his unit came under
attack and several of his buddies were also injured or killed. He regained full function of his leg,
was pain-free, became a doctor and had a wonderful family. Occasionally, “out of the blue,” he would
start to limp and have leg pain (in the same area of the original pain) that would last for a few minutes
and then go away. He had no idea why, but it recurred every year or two. One day, a few years ago,
during an episode of leg pain and limping, his wife said to him, “Do you hear that helicopter?” He
replied, “No, I didn’t, but I hear it now.” And the next time he began limping, there was a helicopter
overhead. As soon as he recognized that the sound of a helicopter triggered his limping, the limping

How the Brain Stops Pain

Fortunately, the dorsolateral prefrontal cortex and other areas, which are in the conscious part
of the brain (the frontal lobe), can reverse the vicious cycle of pain by controlling the subconscious
pathways that produce Mind Body Syndrome. The DLPFC is so powerful that it can eliminate painful
experiences. It has been shown that people who habitually cut themselves with razor blades have
much more tolerance for physical pain. When their brains are scanned, their DLPFC area is very active,
demonstrating the power that this brain area can have over pain (Schmaihl, et. al., 2006).

When the DLPFC is activated, the ACC—the area that exacerbates pain—is automatically
deactivated, thus further reducing pain. deCharms and colleagues (2005) have shown that people
can learn to decrease the ACC and increase the DLPFC and therefore reduce pain as well as
psychological symptoms. The exercises in this book are designed to increase activation of the DLPFC,
decrease activation in the ACC and the ANS, extinguish triggers that perpetuate pain, and diminish
the emotional responses from the amygdala. That is why this program is so effective in curing
the cycle of pain and other MBS symptoms.

The processes of an overactive ANS and ACC which produce excessive muscle tension and
spasm—and become triggered by a variety of activities, chemicals, and situations—are the cause
of the majority of neck aches, back pains, tension headaches, migraines, intestinal spasms and
discomfort, bladder spasms, the overall body pains of fibromyalgia, and many other conditions that
are forms of Mind Body Syndrome. If you have these conditions, and standard tests have not identified
any clear medical pathology, then you can be reassured that there is none. That is really good news.
If your condition is caused by Mind Body Syndrome, rather than a pathologic disease in the body,
then a cure is truly possible. All you have to do is figure out what physical and psychological processes
have helped to create and perpetuate the symptoms and then work on reprogramming the brain in
order to extinguish the neurological vicious cycle. That is what this program does: it helps you rewire
your brain and unlearn your pain.

chapter 4
How Pain Develops:
The Role of the Mind

We must never take a person’s testimony, however sincere,
that he has felt nothing, as proof positive that no feeling
has been there. — William James

The Psychological Basis
for Mind Body Syndrome

Many people have trouble accepting that severe pain and other dramatic symptoms can be
caused wholly by the interaction between the mind and the body. Not only is it true, it is common.
Bodily reactions to mental events occur in most people on a regular basis—we just don’t notice them,
or we attribute them to purely physical causes. The truth is that the body is a barometer of the mind,
and it reflects what is going on in the mind every minute of every day. Once you are aware of this
connection, you will see the signs in yourself and your family and friends on a regular basis.

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was wounded in the Vietnam War and came home with shrapnel in one leg, after his unit came under
attack and several of his buddies were also injured or killed. He regained full function of his leg,
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replied, “No, I didn’t, but I hear it now.” And the next time he began limping, there was a helicopter
overhead. As soon as he recognized that the sound of a helicopter triggered his limping, the limping
vanished. At a subconscious level in his brain, the sound reminded him of his traumatic experiences during the war and caused his brain to activate a learned pain pathway, without him even being aware of the sound that had triggered his physical reaction.

A Brief History of Mind Body Syndrome

To help understand how MBS develops, let’s first look at the history of how psychological mechanisms have caused disorders now recognizable as MBS. In the 1600s through the 1800s, a common response to significant stress was paralysis in a limb. This sudden inability to use an arm or leg was not due to tissue disease, stroke, or damage to the nervous system. In those days, this type of paralysis was viewed as a common medical condition, rather than as a physical manifestation of psychological distress. In modern times, we call this a conversion disorder because there is no pathology in the brain or body—yet the affected person cannot move the “paralyzed” arm or leg.

In the 1930s, a physician reported on the case of a young nun who left the convent and secretly married without her parents’ knowledge. As she sat down to write her parents a letter about what she had done, she could not move her arm. Later that day, she went to church for confession and suddenly was unable to speak. This was clearly a case of significant symptoms being caused by the subconscious mind. Though she may not have felt extremely distressed, her subconscious mind acted to prevent her from revealing the marriage either verbally or in writing—probably because of significant fear and/or guilt (Harriman, 1935).

An important advance in medicine was the discovery of deep tendon reflexes. The simple test of striking a tendon with a reflex hammer can quickly distinguish pathological from psychological paralysis. Amazingly, once doctors could do this test, the number of people with this type of conversion disorder decreased substantially, and now the condition is rare. When doctors and the general public acted to prevent her from revealing the marriage either verbally or in writing—probably because of significant fear and/or guilt (Harriman, 1935).

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Choices of the Mind

The subconscious mind is unlikely to produce symptoms that will be easily seen as psychological. But since humans continue to experience great stresses and strong emotions, paralysis has been replaced by chronic back pain, fibromyalgia, fatigue, irritable bowel syndrome, and many other symptoms (Shorter, 1992).

Most medical students have seen that some of their classmates will tend to get certain symptoms when they learn about them in school. This type of suggestibility is a form of what’s known as social contagion. Nicholas Christakis and James Fowler have studied social contagion and found that smoking, obesity, and happiness are all at least partially determined by contact with people whom we see socially or at work (Christakis and Fowler, 2008; Christakis and Fowler, 2007; Fowler and Christakis, 2008). In Germany, surveys of the prevalence of back pain were done for several years in both East and West Germany, beginning with the fall of the Berlin Wall and the reunification of Germany (Raspe, et al., 2008). The levels of back pain were much lower in East Germany prior to reunification, but these levels rose to meet the levels of back pain in West Germany after the two countries merged. The authors gave this reason: “We hypothesize that back pain is a communicable disease and suggest a harmful influence of back-related beliefs and attitudes transmitted from West to East Germany via mass media and personal contacts.” We are bombarded with television ads for medications for restless leg syndrome, fibromyalgia, migraine headaches, and insomnia—all of which are typical forms of MBS. These ads actually increase the number of people who get these conditions, because the subconscious mind will be more likely to create and perpetuate these common symptoms when stressful situations occur in life.

The symptoms that occur when we are under significant stress can vary greatly. I saw a teenager who developed a variety of symptoms over the course of a year. I was certain these symptoms were all caused by MBS, because extensive medical testing showed no tissue breakdown disorders and he recovered fully with MBS treatment. He was going through a significant amount of family stress and developed hip pain, then headaches, then chest pain, then fainting spells, then stomach pains, then the headaches again, then leg pains. All these symptoms were caused by the subconscious mind creating physical symptoms in response to his stressful situation. Interestingly, he never developed any signs of anxiety or depression, which are common in adults with MBS. This would have been less acceptable to him as a young male, so his mind “chose” other pathways to express the tension.

A few years ago, I saw a young man who had developed severe pain. His sister had died suddenly, and during the mourning period he was invited to a bachelor’s party for a friend. He didn’t think he should attend, but his friends convinced him to go. At the party, there was a lot of drinking
unlearn your pain

and nudity, and he received an erotic massage. The next morning he woke up with pain in his groin. He went to many different doctors—including urologists, neurologists, pain doctors, and anesthesiologists—and even a nationally renowned medical center. Each doctor heard the same story, “I just woke up with this pain one day,” and none asked about the context of his life. He was treated with many different medications, painkillers, injections, and nerve blocks—to no avail. But it’s pretty obvious that the cause for his pain was his conflicted feelings about going to the party. The groin pain was a manifestation of guilt. This is a good example of the theory that strong emotions are often too dangerous or disturbing to be felt or expressed and therefore these emotions are kept in the subconscious by means of suppression. The resultant tension in the mind is expressed as pain or other MBS symptoms as a distraction or a warning from these strong subconscious emotions (Sarno, 2006). After three painful years, the young man finally sought treatment for Mind Body Syndrome and became pain free.

The Subconscious Mind

Many studies document the role of the subconscious mind in determining human behavior. It is estimated that approximately 95 percent of our thoughts, feelings, and memories reside in the subconscious (Wilson, 2002). While a human brain can take in about eleven million bits of information each second, the conscious brain can process only about forty bits. We are responding each moment to a huge amount of information being poured into our subconscious minds (Wilson, 2002).

Most of our daily actions are guided by our subconscious mind. We learn how to do routine things, and these actions become automatic—how we chew and swallow, how we walk, speak, drive a car, throw a baseball. We don’t consciously think about how to do these things, we just do them. As described in Strangers to Ourselves: Discovering the Adaptive Unconscious by Timothy Wilson (2002) and by Daniel Wegner in The Illusion of Conscious Will (2002), these routine actions are all produced by learned neurological patterns in the subconscious part of the brain.

What about thoughts and actions that are not so commonly performed? What about things that we decide to do, such as which clothes to wear, what to order at a restaurant, whom to ask for a date? These acts too are controlled to a great degree by the subconscious mind. As described by Wegner, we are not consciously aware of most actions until we perform them. Even the simplest act of lifting a finger has been shown to have a subconscious component that occurs in the brain before we are aware that we have decided to lift the finger (Wegner, 2002).

Many research studies show that our subconscious mind drives our reactions to everyday situations. In one study, people subliminally presented with words such as “old,” “wise,” “retired,” and “gray” walked more slowly from the room than a control group who were presented with random words (Bargh, et. al., 1996). People who were shown aggressive words in a subliminal fashion interpreted behavior of others as being more hostile (Bargh and Pietromonaco, 1982), and those who were shown subliminal words related to assertiveness were more likely to interrupt the investigator than those who were shown subliminal words related to politeness (Bargh, 1990). People who briefly held an iced coffee drink in their hand rated a stranger as being less friendly than did people who held a warm cup of coffee (Williams and Bargh, 2008).

Reactions to Stress

As we grow up, we are exposed to certain stressful events, and the emotional memories associated with these events are stored in the amygdala, hippocampus and other brain structures. When physical stress occurs, such as an injury or accident, our body responds instantly to protect ourselves by activation of the danger/alarm mechanism. The same danger mechanism is also activated by social stress that triggers emotional reactions. The danger mechanism responds so fast that we do not become aware of most emotions until we actually notice the reactions in our body, such as trembling, increased heart rate, or sweating. This is so we can react swiftly to danger by fleeing, fighting, freezing, or submitting.

The standard view of the sequence of events that causes emotions used to be: when you see a bear, you feel afraid, and then you run. However, more than 100 years ago, psychologist William James explained that actually we run first and then we feel fear (James, 1884). Joseph Ledoux, in The Emotional Brain (1996), points out that the nerve pathways that sense a dangerous situation will send signals to the amygdala within twelve milliseconds. It takes twice as long for the signals to get to the conscious part of the brain (LeDoux, 1996). I often refer to this rapid process as “emotional speed dial,” because our bodies can typically react to emotional triggers before we are even aware of the trigger. The amygdala has been shown to respond to visual and other stimuli that are presented at a subconscious level and these stimuli can cause pain and other reactions in our bodies (Whalen, 1998; Knight, et. al., 2003).
Stored forever in our brains, emotional memories can trigger physical or emotional responses. I had a patient who as a child lived with an abusive aunt and uncle during the week and stayed with his loving and kind mother on the weekends. When he was married and in his thirties, he noticed that he would get very depressed if his wife worked an evening shift on Sunday, but not if she worked on any other evening. He didn’t understand why until we reviewed his history, and then it became clear that the emotional memory he had of leaving his mother on Sundays to return to the abusive aunt and uncle was causing the reaction. Ohman and colleagues showed that fears can be induced without our conscious awareness and that, many years later, we can react to an object or a situation without being aware of the emotions causing the reaction (Ohman, 1992; LeDoux, 1996).

**Messages from the Subconscious**

In our modern lives, we rarely encounter predators. However, our brains are designed to constantly scan our environment for any signs of danger. When we have significant stresses that remind us of something that caused fear, anger, or guilt earlier in life, our mind will interpret these as dangers. In these situations, our subconscious mind will try to alert us to a problem or protect us from something it perceives as harmful. Unfortunately, our bodies do not use words to tell us that there is a perceived danger. Our bodies just react, often with pain. When we are faced with very stressful situations, especially when we feel trapped and unable to find a solution, our bodies react as if we are in grave danger. The brain will activate the danger/alarm mechanism, and it can cause tension in certain specific muscles—tension that creates real pain. Over time, the pain can worsen or become widespread. I often use this metaphor to describe this process: “Your body was knocking to let you know that something was bothering you. But you didn’t understand it. So, it knocked louder and louder, by creating more pain or new symptoms. When you didn’t listen, it rang the doorbell, and finally it threw a rock through a window to get your attention.”

An important predictor of whether someone will have successful back surgery is job satisfaction (Gatchel, et. al., 1995). Back pain will often develop in people who are experiencing severe difficulties in their jobs but cannot quit them. Their subconscious mind will often try to “protect” them by causing pain to get them out of the distressing situation. For example, one study found that women who experienced high workloads, little control, and “bullying” in the workplace were more likely to develop fibromyalgia (Kivimaki, et. al., 2004). In the case of Vickie, the woman in chapter 2 with severe headaches, the pain was her body’s way of trying to protect her by causing her to leave her job. Despite treatments by many doctors, her headaches lasted for seventeen years until she sought help from this program.

**BARRY WAS A THIRTY-FIVE-YEAR-OLD MAN who had a significant accident while on the job as a firefighter. He was bruised and shaken up, but the doctors found no broken bones when he was seen in the emergency room. The next day, he developed neck pain, and this pain just didn’t go away. He had an MRI that showed only mild abnormalities, and his doctors suggested physical therapy. However, that didn’t help, and he had to go on disability because he could not work with such severe pain. Over time, he took pain medications and tried to exercise, but nothing helped. After nine months on disability, he came to see me. Barry told me that he had had similar injuries in the past but had always bounced back and had been back at work within a few weeks. It didn’t appear that this injury was much different from his other injuries. When I asked if there was something else that might have been different in this situation, he told me that one of his friends had died in the fire. After examining him and finding no evidence of nerve damage in his neck or arms, I explained that he did not have tissue damage in his neck but that the pain was caused by Mind Body Syndrome. I explained that consciously he wanted to return to work but that his nervous system had become sensitized as subconsciously he had feelings of fear, anger, and guilt caused by his friend’s death. Barry’s pain was real but also curable. He realized that he could get better and started doing the exercises recommended in this book. In three weeks, his pain was 80 percent better. By six weeks, he was back at work.

The subconscious mind can choose which symptoms occur during times of stress. That is why people who grow up with a parent with headaches will often develop headaches. Someone who grows up with relatives with abdominal pain will often develop those symptoms decades later. As noted earlier, social contagion is a mechanism by which specific symptoms can be triggered.

Sometimes the way our bodies react can give us a clue to what the mind is trying to tell us. The pain can occur in an appropriate spot—such as the groin pain in the young man after the bachelor’s party. When someone develops a pain in the buttocks, there may be someone in their lives who is a “pain in the butt.” Someone who develops difficulty swallowing may be reacting to a situation in...
unlearn your pain

life that is "hard to swallow." I evaluated a woman with pain in the bottom of her feet. While waiting in line one day, she realized there was a situation in her life that she "just couldn't stand anymore." People often develop headaches before appointments or social situations that are likely to be stressful or where there are people that they have strong feelings about. Often they will be unaware of those strong feelings; they will be subconscious feelings. In fact, emotions are more likely to cause reactions in our bodies when we are unaware that they are influencing us (LeDoux, 1996).

This process occurs on a regular, probably daily, basis in all of us. Our brains constantly monitor our environment for any potential situations that may be stressful or "dangerous." These occur almost every day and the mild stresses of finding a parking space, being late for a meeting, having to have a difficult conversation, worrying about a child, or getting sick are processed in our brains and evaluated. When the brain feels that one of these situations is sufficiently dangerous, even if we are obviously not in real danger, the brain may send a small message of alarm. We may get a slight tingling in our hand or foot, a slight stomach upset, a sudden buzzing noise in the ears, a tightness in the chest, or a deep sigh. These sensations typically last only a few seconds or minutes. Most of the time, we don’t pay much attention to these sensations and are unaware that we are even thinking about something worrisome, as those thoughts and feelings are subconscious.

As mentioned in the last chapter, prior learning or priming is also a way in which the subconscious mind chooses a particular symptom. Someone who has injured a certain area is more likely to develop MBP pain in that area because the neurological pattern of pain and nerve sensitization has already been established, and the brain remembers it.

I developed pain shooting down my left arm many years ago during a stressful situation. The pain eventually subsided, but when I get stressed it can reappear for short periods. My brain has not forgotten how to create this particular pain. Now I know what causes it, however, and I can get it to go away by recognizing that I’m stressed about something, dealing with the stress as best I can, and telling my subconscious mind that I don’t need the pain to alert me to a dangerous situation or get me out of something that I don’t want to do.

Components of the Subconscious Mind

Sigmund Freud was one of the most influential thinkers of the twentieth century. Although several scientists recognized that there was a subconscious part of the mind as early as the mid-1800s (Wilson, 2002), Freud helped us understand many more things about the subconscious. In particular, it has now been conclusively shown that Freud was correct when he proposed these tenets of modern psychology: childhood experiences have powerful effects on personality and later social relationships; we are not aware of most of our thoughts and emotions (they are subconscious); we commonly have conflicting feelings that occur at the same time towards certain individuals or situations; and we frequently act and react to people and situations through subconscious mechanisms (Westen, 1999).

Neuroscientists have now confirmed that the subconscious mind is the major driving force behind almost everything we do on a daily basis. The subconscious mind causes most of us to have mild physical and psychological symptoms on a regular basis, and it can cause some of us to have chronic and serious pain and debilitating symptoms.

Freud also gave us a way of understanding some of the workings of the subconscious mind (Freud and Strachey, 1960). He described an "internal child," which he called the Id (the part of the mind that is selfish, greedy, and only cares about immediate needs, desires, and happiness); an "internal parent," which he named the Superego (the conscience, the part of the mind that wants to be good, to obey, to be liked, to do what it "should"), and an "internal adult," the Ego (the part of the mind mediating conflicts between the internal child's desires and the internal parent's obligations). These descriptions are very helpful in understanding how the mind works to create Mind Body Syndrome.

The Impact of Childhood Hurts

Some children suffer severely from neglect, physical abuse, sexual abuse, or emotional abuse. But every child, even if not overtly abused, gets hurt in some ways. When parents get divorced or argue, when parents are critical or withhold love or give only conditional love, these actions produce pain for their children. Similar reactions can occur in response to taunting or teasing by siblings or other children. One of the most common statements I hear when I evaluate patients is "I never felt loved by my parents," or "I often felt that my father (or mother) would love me only if I acted in certain ways."

Many studies show that childhood hurts lead to an overly sensitive autonomic nervous system in adulthood. In mice, dogs, and monkeys, stressful experiences at an early age cause hyperactivity of the autonomic nervous system, leading to an exaggerated fight, flight, or freeze response (McEwen, 1998). Someone with an overactive autonomic nervous system is more likely to develop Mind Body Syndrome.
Childhood hurts will be remembered in the brain, and these emotional memories can be easily and rapidly triggered (on “speed dial”) by similar experiences in adults. I saw a man who had a very difficult childhood due to a parental divorce and a father who never took time for him and never showed love for him. When the boy was twelve, his father remarried and sent him to live at a youth home, where he spent the rest of his adolescence. Despite this adversity, he became quite resilient as an adult, found work, and eventually married and had children. He had almost no contact with his father for many years. One day he asked his father, who was visiting the area, to stop by and see his grandchildren. His father came by in a drunken state, stayed only a few minutes, and left. Within a few days, the son developed severe stomach pains, back pain, and anxiety. For years, he sought medical care, never got a clear diagnosis, and ended up taking many different medications without relief. When we met, I told him: “Your father had poured the gasoline for all those years of your childhood, and when you asked him to do something for your children, he lit a match which ignited all the anger and resentment that had built up in your emotional memory. You could handle him neglecting and abusing you, but when he did a similar thing to your children, you had so many strong subconscious feelings that it erupted in your body.” In fact, whenever he drank any alcohol after his father’s visit, he got violently ill. For those who have had significant traumas in childhood, such as physical, emotional, or sexual abuse; abandonment; bullying; or other obvious difficulties, it is usually easy to identify the relationship between childhood issues and stressors later in life that trigger MBS symptoms.

Often the events that create the emotional priming in childhood are subtle. Fortunately, most people were not exposed to significant emotional, physical, or sexual abuse. In general, those with the greatest number of MBS syndromes are those who have had more significant childhood issues and those who have a very strong “internal parent” (have personality traits of guilt, self-criticism, low self-esteem, high expectations for self, extreme responsibility for others, and self-sacrifice). However, most people have had some form of MBS symptoms occur in their lifetime. Those with less obvious childhood stressors and people who describe their childhood as happy also get MBS. That occurs because everyone gets some form of MBS at some point in their lives, whether the resulting symptoms are mild, moderate or severe. It is part of the human condition.

A team of researchers has conducted studies on children whose parents offer love only on a conditional basis. These studies found that people who grow up with parents who give attention and affection only if certain tasks (such as educational or sports achievement, or specific behaviors) are performed were more likely to have low self-esteem, a strong internal parent, and a conflicted relationship with their parents (Assor, et al., 2004; Roth, et al., 2009).

Even mild degrees of low self-esteem and the perception of not being good enough can be enough to trigger MBS symptoms. I saw a man who had a sudden onset of severe tinnitus (ringing in the ears) when he was fifty-two years old. He had no history of childhood abuse or neglect and had loving parents. The only childhood hurt we identified was when he moved from a lower-class neighborhood at age ten to a middle-class neighborhood. He was overweight, wore the “wrong” clothes, and got teased by the kids at his new school, which caused him to feel inadequate and embarrassed. He had no symptoms at all until he was twenty-seven years old, when he had an anxiety attack while working at a church on a project. He was a new member of this church, which he felt to be more prestigious than his old church. He was trying to fit in and be accepted. Years later, at age fifty-two, his ears started ringing just days before Thanksgiving, a day when he and his wife always went to her mother’s house for dinner. He told me that his mother-in-law “never liked me, never accepted me, never thought I was good enough for her daughter.” It became clear that his symptoms were a reactivation of a subtle childhood hurt—not being accepted in his new neighborhood—that had lived in his emotional memory for all those years.

Careful questioning and evaluation will almost always lead to a clear understanding of the causes of MBS, if you pay close attention to childhood events and how those can get triggered in adolescence or adulthood. I have interviewed hundreds of people with MBS and, so far, there have been only a handful of people for whom the source of their symptoms did not become clear to both me and the patient after an in-depth interview.

Childhood hurts affect the internal child, and it will react with anger, resentment, and fear to traumatic experiences and stressful events. Powerless to change their situation, children will store those hurts and emotions in the amygdala. When they become adolescents and adults, stressful events can easily reignite these emotions.

The Role of Conscience

The internal parent is the conscience within the subconscious mind and expects us to perform our obligations and duties. It is the part of the subconscious mind that acts as a counterbalance to the internal child. The internal child represents the part of us that is selfish and thinks only
unlearn your pain

chapter 4: how pain develops: the role of the mind

of us. Left unchecked, our actions based only upon impulses from the internal child would tend to
express anger and selfishness. The internal parent prevents this to some degree by getting us to think
about others and act accordingly. This part of the mind is the seat of guilt, shame, humiliation, self-
criticism, self-blame, the need to be liked, the need to be good, high self-expectations, low self-es-
teen, and perfectionism. Those who grew up with a strong conscience are less likely to speak up for
themselves and assert themselves. They are more likely to do many things for others and neglect
doing things for themselves. They are often people who are shy and reserved, who don't like to draw
attention to themselves, and who tend to hold emotions in. People with MBS almost always have
many of these characteristics and emotions. Some families, some cultures, and even some religions
Teach children to emphasize these characteristics early in life. Many of my patients grew up in religions
that tend to emphasize guilt and self-criticism. I rarely see people who are selfish and narcissistic in
this program. Rather, it is the “good and kind” people of the world who tend to suffer with Mind Body
Syndrome.

The subconscious mind is likely to produce physical symptoms at times of severe stress as
an escape mechanism for the buildup of emotions that have no other outlet. A woman developed
back pain when she was called on to care for her ailing mother, who had always been demanding
and critical of her. Her conflict was between the moral obligation she felt to her mother and the anger
and resentment toward her that started in childhood. She also felt guilty about resenting the work
she had to do for her mother. She felt trapped, and that created tremendous tension in the mind. For
her and many of my patients, the mind is like a pressure cooker, and there is often no outlet for these
strong feelings. In the face of this tremendous conflict within the mind, the conscience will often
not even allow these feelings to come into consciousness. These strong subconscious feelings were
perceived by the brain as danger signals that were expressed as back pain.

In addition to earlier emotional events and the presence of personality traits of guilt, self-crit-
icism, or needing to please, a third key element in the development of MBS is perceived (and often
real) powerlessness. Most of the time when MBS symptoms develop, there is a feeling of being
trapped in some way. It may be that one is trapped in a difficult job with a difficult boss or backbiting
colleagues. I saw a woman who felt trapped in a difficult marriage who had severe knee pain for a
year. When the marriage was finally dissolved, her knee pain disappeared. Another way to be trapped
is to be unable to express one's deep feelings. I think of this as being “verbally” trapped, when there
are no close friends or relatives to whom one can disclose emotions. Many times, the emotions and

situations causing MBS symptoms are so shameful or unacceptable or trigger so much guilt that the feelings
are kept hidden by the subconscious mind. Those who feel trapped and tend to be unable to speak up for
themselves are likely to suppress feelings of anger or resentment.

Any of these strong feelings and conflicts within the mind can easily create physical symptoms. I re-
cently worked with a woman who had severe fibromyalgia pain that disappeared after taking this program.
When I asked her the most important thing that she did to help herself, she told me that she had learned to
fully express her emotions (for the first time in her life), and finally decided to stand up for herself, to not let
everyone “walk all over her,” and to make some decisions to do things she wanted to do, rather than continually
accede to others’ desires.

The Role of Gender

Women are more likely than men to have MBS. Many more women than men have migraine
headaches, TMJ pain, and fibromyalgia, and women have slightly more back pain. The reason has eluded
explanation for many years. If one understands how MBS develops, it appears that there are several potential
explanations. First, women are more likely to be socialized, to be deferential and take care of the needs of
others before attending to their own needs. They are also more likely to be the victims of abuse. Women are
more often in employment positions that are subservient and at the same time are expected to be beautiful,
as well as manage most of the duties in the home. They are also more likely to be in situations where they
are caring for children, for aging parents, or for grandparents.

Women are more likely to be oriented toward wanting to please others and feel like they should be
better or do more, and they are less likely to assert themselves. Men are more likely to be assertive and blame
others rather than themselves for problems in their lives. In fact, two very large studies of men and women
around the world showed that women are more likely to be conscientious and agreeable, and to worry.
Surprisingly, these differences are greater in North America and Europe than in countries with more traditional
cultures (Costa, et. al., 2001; Schmitt et. al., 2008).

Obviously, men also get MBS, and many men have endured childhood hurts and have very strong
feelings of obligation and guilt and other indications of a highly developed conscience. In fact, each of our
bodies is a barometer of what is going on in our environment and how we react to it. The events in our early
lives condition us. If we’ve been hurt on a regular basis, an adaptive reaction would be to learn to please
others to try to gain favor or to avoid others to avoid getting hurt. But there is often a cost to these reactions.
When we experience stressful events that trigger deep emotions of suppressed anger, guilt, fear, or sadness, our bodies will often warn us of the situation by producing pain, anxiety, depression, insomnia, or fatigue. One thing that I often tell people is that the reason that they have Mind Body Syndrome is not that they are weak or crazy or incompetent—it is because they are human. Because of how we are constructed, the interaction between the mind and body frequently causes the body to react to thoughts and feelings.

**The Psychology of Mind Body Syndrome**

**HOW MBS DEVELOPS FROM THE PSYCHOLOGICAL POINT OF VIEW:** Childhood and adult stressors trigger feelings of fear, anger, or resentment, which are stored in emotional memory (internal child). Personality traits learned in childhood create a strong sense of duty, self-blame, self-criticism, guilt, and excessive concern for others (internal parent). In situations where people feel trapped by stressful events that trigger emotions from childhood hurts, or feel a conflict between what they want for themselves and what they feel they need to do for others, MBS symptoms are likely to develop, especially if there is no outlet to express these feelings or the feelings are actively suppressed.

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**Mind Body Syndrome and Health Care**

In 1976, the social critic Ivan Illich warned of the potential iatrogenic consequences of labeling diseases: that the medical profession can actually make people sick (Illich, 1976). When patients with MBS are labeled as having degenerative disc disease on the basis of an MRI or as having fibromyalgia because they have widespread body pain, symptoms can be exacerbated and patients harmed by medical diagnoses. This occurs because the diagnosis creates fear and the belief that there is something seriously wrong with one’s body. These emotions activate the danger/alarm mechanism, which creates even more pain by ramping up the learned nerve pathways of MBS.

Yet there is also danger in certain diagnoses often given by some “alternative” medical practitioners, such as chronic yeast infection and adrenal fatigue. Such diagnoses can have effects similar to traditional medical labeling, turning a person with MBS symptoms that are due to stress and emotions into a patient with a condition that needs to be treated by herbal remedies or other interventions.

Most people have physical and psychological symptoms on a regular basis due to psychological states, and a tremendous amount of money is spent on the diagnosis and treatment of disorders that are manifestations of Mind Body Syndrome. If MBS were widely recognized by the lay public and medical professionals—both traditional and alternative practitioners—many people’s symptoms could be alleviated, we would spend much less on health care, and we could prevent people from developing chronic symptom complexes that can cause tremendous suffering for decades.

The treatment of these disorders requires taking a careful history, judicious use of diagnostic tests to rule out serious pathological processes, attention to past and current psychosocial stressors and reactions to these stressors, validation of the real nature of the symptoms, explanation of the psycho-physiological basis of the symptoms, and brief educational and psychological interventions. In these ways, patients are empowered to gain control over their symptoms, understand themselves better, and acquire tools to improve their psychological state.
How do you know if your pain or other symptoms are the result of Mind Body Syndrome? First, you need to rule out tissue breakdown disorders that require biomedical treatments. If you have had complete testing and no serious medical or physical disorder was found—no fractures, no cancer, no heart disease, no infections, no nerve damage, no clear tissue pathology—then you very likely have MBS.

Mind Body Syndrome does not cause cancer or heart disease or stroke. These are conditions that increase in the population with increasing age and cause significant illness and, of course, often death. These diseases are obviously tissue breakdown disorders, and there is no clear evidence that they can be cured by changing how one thinks. I recommend biomedical treatment for people with these disorders. This program is not designed for people with this category of disorders, although it may help cope with common reactions to these disorders, such as anxiety or depression. In addition, people with medical diseases can also have MBS symptoms, such as pain, fatigue, and insomnia. Therefore, this program can help those symptoms as well.

There is another group of disorders that I do not consider to be a part of MBS. Representative
disorders in this category include asthma, systemic lupus, rheumatoid arthritis, and multiple sclerosis. Although these disorders occur in younger people (as does MBS), these are also clearly tissue breakdown disorders. It has been shown that stress and emotional reactions to stress can exacerbate these medical conditions. Since these conditions have a physical basis in the body, if I encourage people with these conditions to take this program, it is not to cure their disorder, but to prevent their symptoms from worsening. I also recommend continuing their medical treatments as well.

This program is designed for those with MBS, those in whom there is no tissue breakdown process in the body, whose pain and other MBS symptoms are caused by learned neural circuits, stress, and fearful reactions to the symptoms. For such people, this program can offer the opportunity for a cure or a remission of symptoms.

Those who can be certain of having MBS are those who have had routine testing and have been diagnosed with tension headaches, migraine headaches, chronic neck pain, chronic back pain, whiplash, fibromyalgia, irritable bowel syndrome, chronic fatigue syndrome, interstitial cystitis, insomnia, tinnitus, chronic abdominal or pelvic pain, anxiety, depression, or any other of the common MBS syndromes listed in the table in chapter 2. However, since MBS is so common and because the ANS fibers send nerves to literally every part of the body, there are many people with MBS who have pain and other symptoms that may not be included on this list. A careful medical review is necessary for everyone with chronic symptoms to rule out a serious medical condition. If you are suffering from chronic symptoms that your doctors have been unable to diagnose or treat, you may have MBS, even if your symptoms are not listed in the table. If the true diagnosis remains in doubt, you should seek consultation with me or one of the other doctors who are knowledgeable about MBS and who have experience in diagnosing this condition. A list of such doctors is included in the Appendix. Another excellent source of information on MBS in general and practitioners with expertise in this area is the PPD/TMS Peer Network, which can be found at tmswiki.org.

Illustrative Stories

To prepare you for the kind of self-evaluation you will be doing, here are some cases I have encountered that illustrate some common patterns seen in the development of MBS.

A FORTY-FIVE-YEAR-OLD WOMAN developed stomach pains and anxiety attacks in the fall one year after her husband died. He was terminally ill and, in accord with his wishes, she had to decide to disconnect his life support, which she felt was in conflict with her religious beliefs. Each fall, her pains returned and increased. Several GI specialists saw her, but no one could help her resolve her pain. Through this program, she learned that her feelings about her husband’s death (primarily guilt and loss) caused her pain. Her anxiety attacks were generally in the afternoon, occurring almost exactly at the time of day that he died.

A FIFTY-TWO-YEAR-OLD MAN developed back pain while on a plane from Michigan to California, where he was living. As a child, his father was his hero and well liked by everyone in his small Michigan town. His mother was critical and self-absorbed. She demeaned the young boy constantly, and one day he replied to her in a disrespectful manner at home. Later that day, the mother called the local police and had him taken out of school in handcuffs and put into the town jail for the rest of the day, simply for talking back to his mother. After growing up, he moved to California. When he was fifty, he returned home to visit his father, who was now elderly and in a nursing home. Upon arriving home, he found that his mother was mistreating his father and he felt that his father was “imprisoned” in the nursing home. On the flight back, he developed severe back pains that lasted for 2 years.

A THIRTY-FOUR-YEAR-OLD MAN was raised by a dominant father and a submissive mother in a small, very religious town. He was highly skilled in school and sports, and was admired by most people. When drunk, his father would often physically abuse his mother, but this was accepted as “normal” in his community and no action was ever taken. When asked how he felt about this, the patient replied that he often vowed that if he ever hit a woman, he would “cut off his hand.” When he was a Ph.D. student, he was under the stress of preparing for his oral exams and was working feverishly on a big project. At this time, he began to have pain in both of his hands. The pain progressed to the point where he could not turn a doorknob, could not work on a computer, and could not pick up his infant son. Despite extensive testing and seeking care from several hand specialists, no one could explain his pain. When asked to recall any other events that occurred at the time of the onset of his pain, he noted that there was a conflict between two of his mentors. One mentor was a woman, who began to tell people that he was not fit to be in the Ph.D. program. He felt that she threatened his ability to complete his program. He was unaware of the depth of anger...
he felt towards her and his even stronger feelings of guilt at the prospect of his anger towards a woman. This internal and subconscious conflict was the trigger for his severe hand pain.

A FORTY-TWO-YEAR-OLD WOMAN grew up in a nurturing, close family within an idyllic rural community. Her mother chose to give her a larger share of the family inheritance, and this set off a contested will and the loss of her close relationships with her siblings. The trauma of those changes was enough to trigger severe back pain.

The specific symptoms caused by MBS can be quite different, even though the stressor and the emotional reaction may be very similar to that which occurred in childhood, as shown by the following brief vignettes.

A TEENAGER DEVELOPED HEADACHES after being sexually abused by an older brother. She developed fibromyalgia later in life at a time when she was emotionally abused by her husband.

A WOMAN DEVELOPED MIGRAINE HEADACHES as a child after her parents divorced and then developed interstitial cystitis as an adult after her own divorce.

Sometimes MBS symptoms can be triggered by a positive event. In my own life, I developed neck pain after my daughter was born. She was our first child, and I was extremely happy at the time. However, her arrival complicated our lives. I was busy with work and busy at home, and my daughter didn’t sleep well at night. I was up several times a night with her, walking up and down the stairs with her to get her back to sleep. After several months of this, my wife and I disagreed on how to deal with her crying at night. Now, in retrospect, I realize I felt stressed, resentful, and trapped. Not being able to express (or even recognize) these feelings, I developed neck pain, which persisted for several months.

Although many people with chronic pain, anxiety, or depression have histories of significant stressful life events, this is not always the case. I have seen countless people who have MBS who have had normal childhoods without significant trauma. I am one such person. MBS occurs in most people at least to some degree, especially those who are sensitive and tend to put pressure on themselves by being overly perfectionistic or having excessively high expectations for themselves. Individuals who put other’s needs before their own and who have difficulty taking care of themselves or standing up for themselves are at particular risk for MBS.

It is important to understand that MBS is usually triggered by some kind of stressful situation and emotions related to that situation. But the situation may not be a major traumatic event; it may be a episode of sibling rivalry, a small social slight or a missed opportunity. It may be some events that don’t even register or are not noted as significant. It just needs to be something just big enough to trigger the danger/alarm mechanism; and these kinds of events happen to most of us on a regular basis. Usually these symptoms resolve in a few minutes, hours or days. However, when we are paying close attention to such symptoms, the reaction of fear or worry can lead to further increase in activation of the danger/alarm mechanism. This can easily create a cycle of pain-fear-pain, anxiety-fear-anxiety, or depression-fear-depression. And therefore, reversing the MBS symptoms doesn’t always require identifying or processing the stressful life event or the emotions connected to it. It may be as simple as reprogramming the brain to reduce the danger/alarm mechanism and calm ourselves in the face of the MBS symptoms.

Mind Body Syndrome Self-Diagnosis

To figure out if you have MBS and what issues in your life may have contributed to this disorder, take the time to complete the work sheets below. They will help you understand yourself better, and this understanding is the key to ridding yourself of your pain. This section is based upon the detailed interview I use with my patients.

STEP 1: SYMPTOMS

The following list of symptoms and diagnoses are likely to be caused by MBS (though some of them can also be caused by other medical conditions that can be easily ruled out by your physician). The more of these you have had during your lifetime, the more likely it is that you have MBS. People with several of these conditions have usually seen many doctors and been given multiple diagnoses, but their doctors have not considered MBS. This is because biotechnological medical practice tends to look at each body system in isolation. You may have seen a neurologist, orthopedic surgeon or neurosurgeon, gastroenterologist, rheumatologist, or others. But no one is looking at the whole person. MBS occurs in people, not in body parts, and we can only understand it by evaluating the whole person, the mind, and the body.
Chapter 5: Do you have Mind Body Syndrome?

Symptoms that occur in many different body parts at the same time
Symptoms that have the quality of tingling, electric, burning, numb, hot or cold (these are commonly MBS, especially when there is no evidence for actual nerve damage)

Inconsistent: This means that the symptoms vary in ways that a structural condition would not.

Symptoms shift from one location in the body to another, either within hours, days or weeks at a time
Symptoms are more or less intense depending on the time of day, or occur first thing in the morning or in the middle of the night (this is due to subconscious brain activity)
Symptoms occur after, but not during, activity or exercise (a structural injury hurts when used and is better when rested)
Symptoms occur when one thinks about them or when someone asks about it
Symptoms occur when stress is increased or one thinks about stressful situations
Symptoms are minimal or non-existent when engaged in joyful or distracting activities, such as when on vacation or when not thinking about the symptoms
Symptoms are minimal or non-existent after some kind of therapy, such as massage, chiropractic, Reiki, acupuncture, an herbal or vitamin supplement (anything that calms the danger signal will tend to decrease symptoms)

Triggered: This means that the symptoms are brought on by stimuli that would not actually cause the symptom physically, but they activate the brain to generate the symptom

Symptoms are triggered by things that are not related to the actual symptom, such as foods, smells, sounds, light, computer screens, menses, changes in the weather (weather has been shown in research to not increase pain, despite what most people think) or specific movements
Symptoms are triggered by the anticipation of stress, such as prior to school, work, a doctor’s visit, a medical test, a visit to a relative, or a social gathering; or during those activities
Symptoms that are triggered by simply imagining engaging in the triggering activity, such as bending over, turning the neck, sitting or standing (this is a great exercise to diagnose MBS as it confirms that the brain is creating pain in the absence of actually performing the activity)
chapter 5: do you have mind body syndrome?

 Symptoms are triggered by light touch or innocuous stimuli, such as the wind or cold (people with MBS are often overall sensitive to touch and light touch doesn’t actually affect the deeper body part where the pain is being felt).

 Most people with MBS have several of these features that make it easy to rule this condition in. Even if only one of the above characteristics is present, that will be enough to confirm the diagnosis of MBS. It only takes one bit of evidence for a detective, such as Sherlock Holmes, to crack the case. The same is true for the diagnosis of MBS.

 There are several other common features of MBS. Most people with MBS have had a significant amount of stressful life events, especially in childhood, but this is variable. I did not have an unhappy childhood, yet I have had many episodes of MBS over the years. They often have many different types of MBS symptoms over the years. When someone has had many of these, it is very likely that their current issues are also MBS (assuming that there is no clear and specific structural disorder), although some people just have one MBS symptom. The onset of MBS usually occurs in connection with a significant life stressor, although sometimes this is not the case, or the stressor seems relatively small. And they usually have many of the personality traits associated with MBS. In this next section, you will be completing an assessment of your situation to help you discover if this diagnosis fits your situation.

 It is very common for MBS symptoms to start in childhood or adolescence. Many people develop headaches, stomach aches, dizziness, fatigue, anxiety, or other symptoms while they are young and then later in life develop back or neck pain, fibromyalgia, irritable bowel syndrome, or other conditions.

 CHECK EACH ITEM ON THE FOLLOWING LIST and write down at what age you were when each set of symptoms first appeared in your life.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Date of Onset</th>
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<tbody>
<tr>
<td>1. Heartburn, acid reflux</td>
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<tr>
<td>2. Abdominal pains</td>
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<td>3. Irritable bowel syndrome</td>
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<td>4. Tension headaches</td>
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<td>5. Migraine headaches</td>
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<td>6. Unexplained rashes</td>
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<td>7. Anxiety and/or panic attacks</td>
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<td>8. Depression</td>
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<tr>
<td>9. Obsessive-compulsive thought patterns</td>
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<tr>
<td>10. Eating disorders</td>
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<tr>
<td>11. Insomnia or trouble sleeping</td>
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<tr>
<td>12. Fibromyalgia</td>
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<td>13. Back pain</td>
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<td>14. Neck pain</td>
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<td>15. Shoulder pain</td>
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<tr>
<td>16. Repetitive strain injury</td>
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<tr>
<td>17. Carpal tunnel syndrome</td>
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<td>18. Complex regional pain syndrome (CRPS)</td>
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<tr>
<td>19. Temporomandibular joint syndrome (TMJ)</td>
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<tr>
<td>20. Chronic tendonitis</td>
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<tr>
<td>21. Facial pain</td>
<td></td>
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<tr>
<td>22. Numbness, tingling sensations</td>
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<tr>
<td>23. Fatigue or chronic fatigue syndrome</td>
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<tr>
<td>24. Palpitations</td>
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<td>25. Chest pain</td>
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<td>26. Hyperventilation</td>
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<tr>
<td>27. Interstitial cystitis/aplastic bladder (irritable bladder syndrome)</td>
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<tr>
<td>28. Pelvic pain</td>
<td></td>
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<tr>
<td>29. Muscle tenderness</td>
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<tr>
<td>30. Postural orthostatic tachycardia syndrome (POTS)</td>
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<tr>
<td>31. Tinnitus</td>
<td></td>
</tr>
<tr>
<td>32. Dizziness</td>
<td></td>
</tr>
<tr>
<td>33. PTSD</td>
<td></td>
</tr>
<tr>
<td>34. Multiple chemical sensitivities</td>
<td></td>
</tr>
</tbody>
</table>

STEP 2: INVESTIGATE YOUR CHILDHOOD

Now consider the following questions and write brief answers to as many of them as seem important.

What words would you use to describe your father?

(Substitute another caregiver if you didn’t grow up with your father.)
chapter 5: do you have mind body syndrome?

Was he anxious, worried, or insecure?

How did your father treat your mother?

Did you identify with your father?

Did you attempt to be like him or to be different from him?

What words would you use to describe your mother (or another caregiver)?

What kind of work did your mother do?

Was she successful in her career?

Was she loving? Did she hug you or tell you she loved you? Was she supportive?

Was your mother loving? Did she hug you or tell you she loved you? Was she supportive?

Were you particularly close to your mother? Did she confide in you?

Was her love conditional?

Did your mother have high expectations of you?

Did your mother have high expectations of you?

Was she critical or judgmental?

Was she a perfectionist?

Did she yell at you?

Did your father drink or use drugs? If so, how did that affect him, the family, and you?

Did your father have any mental health issues?

What kind of work did your father do? Was he successful in his career?

Was your father loving? Did he hug you or tell you he loved you? Was he supportive?

Were you particularly close to your father? Did he confide in you?

Was his love conditional?

Did your father have high expectations of you?

Was he critical or judgmental?

Was he a perfectionist?

Did he yell at you?

Did he hit or punish you?

Were you afraid of him?

Was your father aloof, neglectful, or self-centered?

Were some children given preferential treatment or treated more harshly than others? If so, how did that make you feel? How did that affect the relationship between you and any of your siblings?

Did your father have any mental health issues?
Did she hit or punish you?

Were you afraid of her?

Was your mother aloof, neglectful, or self-centered?

Were some children given preferential treatment or treated more harshly than others? If so, how did that make you feel? How did that affect the relationship between you and any of your siblings?

Did your mother drink or use drugs? If so, how did that affect her, the family, and you?

Did your mother have any mental health issues?

Was she anxious, worried, or insecure?

Did you identify with your mother?

Did you attempt to be like her or to be different from her?

How did your mother treat your father?

Who was in charge of the house?

Who handled disciplinary issues?

Did your parents argue?

Did anyone other than your mother and father have responsibility for you or care for you as a child? If so, who?

Repeat the above questions for these individuals if they had significant roles in your upbringing. Use separate paper for these questions.

Think of the relationships you had with your siblings while you were growing up.

Were there resentments or jealousies?

Was there any cruelty, meanness, or abuse?

Did any of your siblings have any illnesses, psychological problems, or drug abuse problems?

Did any of your siblings rebel, act out, or behave in ways that were upsetting to your parents or to you?

How did you react to these situations?

How was money handled in your family?

Did you feel that money was a scarce resource?

Did your parents use money as a controlling agent?

Were they generous with money or not?

Did you work as a child or teenager?

Finally, consider if there were any particularly stressful or traumatic events in your childhood.

Describe any of the following: deaths, moves, bullying, taunting, teasing, emotional or physical abuse, changes in school situations, conflicts with teachers, or changes in family situations?
I treated a woman who grew up with loving parents but with a difficult younger sister. Her sister was constantly in trouble, and my patient was always covering up for her, even though she resented her sister lying and avoiding responsibilities. When my patient was thirty-three years old, she was leading a team at work in an important project. One woman on the team avoided her share of the work and tried to cover up her lack of effort. My patient was trapped in a situation eerily similar to that of dealing with her younger sister and had to double her work to get the project completed. During that time, she developed back pain because the situation at work triggered the stored emotional reactions from her youth. Several years later, she developed headaches every time she drove across town to visit her father, who was in a nursing home that her sister had selected for its proximity to her. After learning of her life story, it became clear that her resentment of her sister was the underlying trigger for the back pain and headaches.

Have you ever been subjected to any episodes of unwanted sexual activity or sexual abuse?
___________________________________________________________________________________
___________________________________________________________________________________
___________________________________________________________________________________
___________________________________________________________________________________

Childhood experiences create very powerful reactions in our minds that remain for the rest of our lives. Emotions that are generated when we are young can very easily get triggered later in life, and, when they are triggered, can cause the start of Mind Body Syndrome. It is usually relatively easy to identify the childhood issues that people with MBS have grown up with.

It is well known that a large percentage of the people with irritable bowel syndrome, fibromyalgia, TMJ syndrome, and other MBS illnesses have been neglected or abused—sexually, emotionally, or physically—as children or adolescents. People who have suffered from severe childhood abuse are most likely to have many forms of MBS.

I saw a woman whose mother was a prostitute and a cocaine addict and whose father was a heroin addict who sexually abused and even tortured her. She became a prostitute and a cocaine addict as an adolescent. She eventually went to jail, broke her addiction to drugs, and was able to raise a daughter and find a job. However, over all those years of traumatic experiences, she developed fibromyalgia, migraine headaches, irritable bowel syndrome, TMJ syndrome, chronic fatigue, back pain, insomnia, anxiety, depression, and several other MBS disorders.

Not everyone with MBS has had severe childhood traumas, however. For many people, the childhood issues that generate strong emotions are normal childhood experiences. How many of us have felt jealous of a sibling or ostracized by friends in middle school or picked on by a bully in elementary school? These common experiences can also generate enough emotions to cause MBS syndrome, either at the time of the events or, more commonly, later in life.

I treated a woman who grew up with loving parents but with a difficult younger sister. Her sister was constantly in trouble, and my patient was always covering up for her, even though she resented her sister lying and avoiding responsibilities. When my patient was thirty-three years old, she was leading a team at work in an important project. One woman on the team avoided her share of the work and tried to cover up her lack of effort. My patient was trapped in a situation eerily similar to that of dealing with her younger sister and had to double her work to get the project completed. During that time, she developed back pain because the situation at work triggered the stored emotional reactions from her youth. Several years later, she developed headaches every time she drove across town to visit her father, who was in a nursing home that her sister had selected for its proximity to her. After learning of her life story, it became clear that her resentment of her sister was the underlying trigger for the back pain and headaches.

**STEP 3: CORE ISSUES**

Once you have carefully and honestly reviewed the stresses in your life, you will likely begin to see patterns. You will be able to identify your “core issues,” those issues that have been stored in your subconscious mind and that are most likely to trigger the onset of physical and psychological symptoms. Indicate which of the following patterns apply to you, or describe any other patterns that apply to you.

1. Loss and abandonment (losing a parent or sibling, divorce, moving) ______
2. Childhood abuse or neglect (physical, sexual, emotional abuse; never feeling loved or cared for) ______
3. Not fitting in or feeling ostracized (being teased or picked on, being shy and reserved, not being athletic or popular) ______
4. Feeling pressure to succeed or be perfect (from parents, other family members, church or religious organizations, or self) ______
5. Feeling inferior to siblings or other relatives (not as beautiful, funny, athletic, interesting, accomplished) ______
6. Never feeling good enough, having to “earn” love from parents, feeling criticized much of the time ______
7. Resentment and/or anger towards family members, religious leaders, neighbors ______
8. Learning to be anxious, worried, or insecure ______
9. Identifying with one or several family members and trying to emulate them; trying to be different from one or several family members ______
10. Learning that others were more important than you; that you should never put yourself first, never stand up for yourself or express your true feelings ______
11. Other patterns ___________________________________________________________________
    ___________________________________________________________________________________
    ___________________________________________________________________________________

**STEP 4: PERSONALITY TRAITS**

These factors are commonly seen in people with MBS. Check those that apply to you.

Would you describe yourself as:

1. Having low self-esteem ______
2. Being a perfectionist ______
3. Having high expectations of yourself ______
4. Wanting to be good and/or be liked ______
5. Frequently feeling guilt ______
6. Feeling dependent on others ______
7. Being conscientious ______
8. Being hard on yourself ______
9. Being overly responsible ______
10. Having difficulty making decisions ______
11. Following rules strictly ______
12. Having difficulty letting go ______
13. Feeling cautious, shy, or reserved ______
14. Tending to hold thoughts and feelings in ______
15. Tending to harbor rage or resentment ______
16. Not standing up for yourself or express your true feelings ______

Conflict in one’s mind is a very important part of the mechanism that creates and perpetuates MBS. The traits above are aspects of the conscience—they are things that we feel obligated to do or ways we feel obligated to be. Most people with MBS are people who try hard, who care what others think of them, who want to be good and want to be liked. They tend to be conscientious, responsible, and hard on themselves. These personality traits are generally found in good people, people you would like to know and be friends with. The problem is that people like this put extra pressure on themselves. They tend to get down on themselves and beat themselves up for their failings. When external events and stressors occur and we compound the stress by putting more pressure on ourselves, we are much more likely to develop MBS.

**STEP 5: FINDING CONNECTIONS BETWEEN LIFE STRESSES, CORE ISSUES, AND THE ONSET OF MBS SYMPTOMS**

Once you have identified your core issues, review the list of potential MBS symptoms in Step 1. On the next page, list the times in your life when you developed any of the MBS manifestations in chronological order. Think carefully about what events occurred just prior to or during the onset of symptoms. You will typically find that the symptoms began at or shortly after you experienced something that was stressful and that reminded you of your core issues (triggering your emotional speed dial), and you felt trapped in that situation. List each symptom, then write down the triggering events or situations, and the emotions and/or core issues which caused the symptoms to occur.

When you place the symptoms and diagnoses that have occurred next to the life stressors, see what patterns emerge and what connections you can make. This is a critical step in figuring out why you have MBS. Do this for each of your MBS symptoms. For each symptom, think carefully about what was going on in your life at the time this symptom began. What events had occurred that bothered you? What emotions did you feel? How were these events or emotions similar to those you experienced in childhood? Which core issues might have been triggered? Did you feel trapped in some way, either physically or verbally?

Be as open and honest as you can in this process. Often it is very obvious that stressful life events in childhood have created the emotional memories of hurt, loss, fear, guilt, or anger, and it is equally obvious that certain stressors later in life triggered MBS symptoms.

However, sometimes it takes a fair amount of introspection and searching to find the connections. It is common for mild stressors in adult life to trigger significant symptoms if the stressor is
chapter 5: do you have mind body syndrome?

Related to earlier stressors, particularly from childhood. Neglect or lack of love by a parent can create a childhood hurt that can get triggered later in life by seemingly mild interactions. This pattern occurs because emotional memory is permanent and early childhood hurts create a reservoir of emotional pain. During the course of our lives, this emotional pain may build over time when new emotional hurts occur, especially those that are similar in nature to the earlier ones. Later in life, our bodies can easily react to a seemingly small emotional stressor, such as not getting a particular position, conflict with a colleague or boss, having a child or getting married, since that current stressor is linked in our subconscious mind to all of the earlier emotional issues. This process explains why a large emotional hurt in childhood may not produce any symptoms while a small stressor later in life can produce severe MBS.

While completing the table on the previous page, consider the following list for the primary emotions that were triggered: anger and resentment, fear, guilt, shame, sadness and loss.

Making Your Decision

For many people, doing these exercises will make it clear to you that you do have MBS. If you can see the connections between your life experiences and your symptoms, your chances of curing your pain are very good. You are now ready to begin the powerful program contained in the rest of this book.

One young woman I evaluated had experienced severe childhood traumas and consequently had developed a very long list of disorders, including irritable bowel syndrome, anxiety, depression, neck pain, TMJ disorder, and fibromyalgia. She had been treated unsuccessfully for many years and was convinced that she was in a hopeless situation. After reviewing the clear connections between her life events and the onset of her MBS symptoms, she suddenly looked up at me and said, “I have Mind Body Syndrome.” The certainty and confidence in her voice were striking, as she realized at that moment that she could take control of her life and shed these disorders that seemed incurable.

However, if you’re not sure if you have MBS, or that your life experiences are actually the cause of your pain, consider these steps:

- Make sure you have seen a doctor and that you have had enough testing to rule out a purely physical cause for your pain and/or other symptoms.
unlearn your pain

• Discuss these issues with a counselor, relative, or good friend to help uncover the connections between the stresses in your life and your symptoms.

• Do further reading. I recommend reading one of Dr. John Sarno's landmark books, such as the *The Mindbody Prescription* or *The Divided Mind*. Dr. Sarno is a pioneer in this field, and this book describes how the MBS syndrome works (his term for it is Tension Myositis Syndrome). There are a number of other useful books listed in the appendix, such as David Clarke’s *They Can’t Find Anything Wrong*, Nancy Selfridge’s *Freedom From Fibromyalgia*, David Hanscom’s *Back in Control*, David Schechter’s *Think Away Your Pain*, and Georgina Oldfield’s, *Chronic Pain: Your Key to Recovery*.

• See a doctor or psychologist who specializes in MBS. There is a list of such people in the Appendix. The PPD/TMS Peer Network (tmswiki.org) is an excellent patient-run website with up-to-date information on MBS. It also includes a list of MBS practitioners.

Once you have the correct diagnosis and you can say to yourself, “I have Mind Body Syndrome,” you are ready to use the rest of this book to heal yourself. If you participate in this program, it is very likely that you will reduce or eliminate your MBS symptoms, increase your understanding of yourself, and learn how to gain control and mastery over your mind and body. In fact, the program has been so helpful that many people who have taken the program recommend it to everyone they know, including those who do not have symptoms of MBS.