Fibromyalgia Syndrome, Chronic Fatigue Syndrome, and Irritable Bowel Syndrome
All in the head? Or is it?

By Ruth Werner

Fibromyalgia syndrome (FMS), chronic fatigue syndrome (CFS) and irritable bowel syndrome (IBS) form a triad of problems with enormous overlap in signs, symptoms and etiology. Chronically misunderstood by the wider community, it’s common to hear these debilitating conditions brushed off disparagingly as being “all in the head”, but are they? “Maybe, but not in the way you might think,” says Utah massage practitioner and educator Ruth Werner.

As recently as two hundred years ago our ancestors led quite different lives from our own. They dealt with physical demands most of us no longer face and their mental and emotional stressors were likewise tied to a different time and culture. Our ancestors’ time was fully taken up worrying about having enough food to eat or fighting off a cold before it became life-threatening pneumonia. This is in marked contrast to modern-day concerns. Most of us are worried about eating too much instead of too little. Instead of being vigilant about avoiding lung infections, we watch nervously for signs of heart disease or cancer, conditions associated with longer life spans than those experienced by most of our forebears.
One consequence of living longer lives is that, in addition to life quantity issues, we enjoy the luxury of being able to pay attention to life quality issues.

Stress-related chronic pain syndromes are relatively new phenomena in medical literature but they are among the most common and frustrating experiences that our clients face. Massage practitioners are now frequently called upon for help with stress management and health maintenance. Consequently it is our responsibility to be well informed about the reasons our clients are likely to seek our skills.

Fibromyalgia syndrome (FMS), chronic fatigue syndrome (CFS), and irritable bowel syndrome (IBS) form a triad of problems with enormous overlap in signs and symptoms, as well as in etiology. Myofascial pain syndrome (MFPS) is a condition that is frequently confused with FMS, but its etiology and best treatment options are radically different from those for FMS, so it is important for massage practitioners to be as clear as possible about what conditions our clients are dealing with and how best we can help them.

In this article I will relate some of the most current thinking about FMS, CFS, IBS and myofascial pain syndrome. Please understand however,
that this information is controversial and constantly changing. By the time this article is in print, new and exciting developments in our understanding of these conditions may already be surfacing.

FIBROMYALGIA SYNDROME:
What is it?

Fibromyalgia is perhaps one of the most common and least understood conditions experienced in industrialised countries today. Throughout its recorded history this problem has had several names:

- psychogenic rheumatism
- fibrositis
- myositis
- fibromyositis
- myofibrositis and others.

It wasn’t until 1981, when closer examination revealed no signs of inflammation, that the suffix “-itis” was dropped and a new name, referring to “fibre-muscle-pain”, was coined.

Signs and symptoms:
The symptoms of fibromyalgia often have a specific onset, perhaps coinciding with a life-changing emotional or physical trauma. A bad divorce, a motor vehicle accident, a complicated surgery: these are the kinds of events that seem to begin the process. These events don’t necessarily cause fibromyalgia but they may trigger the development of symptoms from a pre-existing tendency.

Symptoms can include:

- overall constant aching pain. The pain may fluctuate from being annoying to being completely debilitating. It is not concentrated in one area; rather it involves the whole body, focusing especially in muscles and joints.
- fatigue is another reliable symptom. Although FMS patients may report getting seven or more hours of sleep each night, on being asked the next morning the central question “do you feel rested?”, the dependable answer is “no, I feel like I got hit by a truck.”
- the fatigue associated with fibromyalgia can also encompass mental incapacitation. Many patients report poor concentration, short-term memory loss, and an inability to accomplish many basic mental tasks. As some describe it, fibro fog.
- headache pain in a new pattern (these often resemble migraines, although the etiology may be different).
- gastrointestinal pain with bloating, gas, and alternating diarrhoea and constipation.

Causes:
We don’t know exactly what causes this condition, although theories abound.

To date, fibromyalgia studies have involved comparisons between people who meet the diagnostic criteria for this condition and those who do not. This strategy has yielded information about several key features of fibromyalgia, some of which share an intriguing overlap with chronic fatigue syndrome and irritable bowel syndrome.
Key features:

Several features distinguish fibromyalgia patients from other people. In this article we will discuss sleep disorders, mitochondrial dysfunction, neuroendocrine imbalance and tender points.

Sleep disorders

Sleep runs in cycles, from stages I-IV to REM (rapid eye movement). In a normal 7-8 hour sleeping session each of us may run through all the cycles 4 to 6 times in a smooth, predictable pattern. We spend a different amount of time in each stage, depending on whether we’re close to the beginning or the end of the sleep session, and each stage is important for health and well-being.

What we see with fibromyalgia patients is that they don’t have an organised sleep pattern: they jump all over their stages; they get little Stage III sleep and practically no Stage IV sleep. What’s important to bear in mind here is that Stage IV sleep is important because this is our best opportunity to release somatotrophin: human growth hormone.

Tiny babies and teenagers sleep a lot and secrete massive amounts of GH - that’s partly why your sixteen-year-old won’t get out of bed on the weekends!

But in order to help repair the daily wear-and-tear physical insults that we accrue just by being alive and active, we adults need GH too. If we don’t get Stage IV sleep, we can’t heal with minor or major injuries.

This gives rise to an insidious vicious circle. Pain makes it difficult to sleep well; lack of good quality sleep interferes with healing and keeps us in pain.

Mitochondrial dysfunction:

One of the theories about fibromyalgia involves dysfunctional mitochondria. These organelles manufacture ATP (adenosine triphosphate), an easily accessible source of energy for cell function. Muscle cells are richly supplied with mitochondria and one of the benefits of exercise is that it stimulates the creation of even more of these ‘power houses’.

In other words, the more exercise we do the more mitochondria we have so we can manufacture more ATP which means we can do even more exercise.

Some research indicates that some mitochondria in people with fibromyalgia don’t successfully manufacture ATP. Instead, excess phosphates accumulate in the organelles. These positively charged ions then attract calcium buffers to preserve the correct acid-base balance. Consequently mitochondria essentially become blocked with calcium deposits.

Neuroendocrine imbalance:

People with fibromyalgia syndrome have measurably abnormal secretions of pain-sensitising neurotransmitters. Two of these are substance P (“P” stands for pain) and nerve growth factor.

Some studies indicate that substance P is found at levels three times higher in FMS patients than in other people. The consequence is that FMS patients are more sensitive to all kinds of stimuli. Pain, sound, smells, textures, and temperature all feel more extreme.

This obviously has implications for bodywork. These clients cannot easily tolerate extreme temperatures or smells; they tend to be hypersensitive to touch and pressure.

Another important neuroendocrine issue is that some research points to a dysfunctional HPA axis for fibromyalgia syndrome patients. The HPA axis is the link between:

- the hypothalamus – that controls various aspects of chemical and electrical homeostasis
- the pituitary gland – often called the ‘master gland’, although it is under the control of the hypothalamus
- and the adrenal glands.

When this link is strong and efficient we have appropriate stress responses and we recover quickly to regain equilibrium.

When the HPA axis is sluggish or inefficient our reflexes are slower, our stress responses tend to be more extreme: even to minor stressors, our stress chemicals are tenacious and stay in the bloodstream longer.

Fibromyalgia patients (and, as we shall see, chronic fatigue syndrome patients) may have dysfunctional HPA axes. While many resources list FMS as a musculoskeletal disorder, the neuroendocrine imbalances seen here...
suggest that it might in fact be a central nervous system disorder: this is a theme we will return to when we delve into CFS and irritable bowel syndrome.

Tender points:

Probably the most distinguishing feature of FMS is the development of tender points.

Tender points are hypotonic spots where 4 kg of pressure (just enough to blanch a fingernail) elicits significant pain. The pain may radiate in the local area but it does not refer to distant locations.

Tender points develop in a predictable pattern of nine pairs that are distributed in all four quadrants of the body. Other tender points can develop as well but the most common ones are demonstrated on the illustration on page 8.

Fibromyalgia syndrome v. myofascial pain syndrome

In the years since studies into fibromyalgia syndrome commenced, an enormous amount of confusion has arisen about the differences between tender points (part of FMS) and trigger points (a feature of myofascial pain syndrome). While these phenomena have some features in common, namely pain and the possibility of calcium accumulation, etiologically they are quite different.

Trigger points involve an ATP energy crisis and pain-spasm-cycle of sarcomeres in involuntary contraction. They tend to be hypertonic and they refer pain to distant areas. They can be resolved with digital pressure. Some practitioners suggest static pressure for several seconds while others find better success with pulsing, repeated pressure. Both methods also recommend deep breathing and clearing petrissage.

By contrast, tender points are of uncertain etiology. They are soft rather than tight and they don’t always occur in muscle tissue. Most importantly, tender points are emphatically not resolved with aggressive pressure from massage therapists! This issue becomes complicated when a patient develops tender points and trigger points simultaneously, a state of affairs that probably happens more often than not.

Fibromyalgia syndrome treatment

Fibromyalgia is a multifactorial chronic pain syndrome. It doesn’t show up in blood tests, MRI scans or x-rays. It is diagnosed by ruling out any other problem that might create similar symptoms. Because this process involves investigating and ruling out anything else with similar symptoms, this can become a long and frustrating task!

The net result of all this is that treatment for fibromyalgia syndrome focuses more on coping mechanisms and life-skills than on an immediate ‘fix’.

Perhaps the most important part of the treatment plan for people with FMS is education. This condition is not life-threatening but it is definitely quality of life-threatening. It may not be curable but it can be managed. Unfortunately, managing FMS is a complicated task that must be undertaken by people who are understandably frustrated.
with their body and who are faced with a medical system that sometimes seems not to support their care.

Taking steps to get the best possible quality of sleep is an important strategy. Typically, sleeping aids do not help to establish the correct pattern of sleep stages. Stimulants and depressants may interfere with good quality sleep, so good diet is essential.

Exercise is an important part of FMS management but many patients report that this is a ‘knife’s edge’ – too much exercise and the pain puts them back in bed; too little exercise and the pain puts them back in bed. With just the right amount of exercise many patients find they sleep better, have better mental focus, and generally hurt less. Low-dose antidepressants are sometimes prescribed, both to deal with depression, a common complication of FMS, and to interrupt some of the pain perception in the central nervous system.

The many alternative or complementary medical options developed to help FMS patients include:
• acupuncture
• yoga
• T’ai Chi
• hypnosis
• and gentle detoxifying programs.

Finding the right combination of drugs, herbs, exercise recommendations and other coping mechanisms becomes a fulltime job for many patients.

**Massage for fibromyalgia syndrome**

Because fibromyalgia is not the same as myofascial pain syndrome, it is important for body workers to treat it differently. While deep pressure on painful spots is the standard approach for MFPS, for FMS patients this will only cause more pain and irritation.

However, massage can be extremely helpful for fibromyalgia patients if it is administered carefully and sensitively.

Clearing overlaying myofascial trigger points is important if it can be performed without exacerbating pain. Lymphatic drainage and gentle relaxation massage offered without judgement or expectation of immediate response is probably the best strategy for massage therapists.

While it can be frustrating to deal with clients who often seem depressed and negative, we need to remember that it is an act of tremendous trust and courage for a person with FMS to expose their vulnerability for an hour.

**CHRONIC FATIGUE SYNDROME:**

**What is it?**

Chronic fatigue syndrome (CFS) is a collection of signs and symptoms that have a lot in common with the profile we see for fibromyalgia syndrome. Named in 1988, this collection of problems has also been known as CFIDS (chronic fatigue and immune dysfunction syndrome), ‘yuppie flu’ and Epstein-Barr virus. In Europe a similar group of signs and symptoms is called ME (myalgic encephalomyelitis), although not all experts agree that ME is synonymous with CFS.

Traditionally, it was believed that CFS was related to an immune system dysfunction in which a person was exposed to a pathogen: suspected culprits included Epstein-Barr virus, Q fever and Ross-River virus. But even when the virus retreated into dormancy, the immune system continued to try to fight it off. This theory explains some of the symptoms of CFS but other research has cast some doubt on immune system confusion as a major causative factor for most cases of CFS.

**Signs and symptoms**

Similarly to FMS, CFS is often precipitated by some significant emotional or physical trauma. The fact that some people seem to develop
symptoms after having survived an aggressive viral infection may have contributed to the notion that this disease is an indicator of immune system hyperactivity.

The diagnostic criteria for CFS include fatigue that is unrelieved by rest for a minimum of six months and at least four of the following:

- short-term memory loss and problems with concentration or cognition
- muscle and joint pain without inflammation
- headache in a new pattern
- post-exertional pain for 24 hours or more
- bloating
- nausea
- cramping
- diarrhea
- and sore throat, with inflamed lymph nodes.

From this list it is easy to discern that the only symptoms that specifically indicate an immune system problem in CFS are the sore throat and inflamed lymph nodes that some patients experience chronically. The other signs and symptoms bear a strong resemblance to FMS and IBS!

**Key features**

CFS patients display a few key features that distinguish them from the rest of the population:

**HPA axis dysfunction**

As with fibromyalgia, the HPA axis for CFS patients tends to be inefficient and stress responses are tenacious. One study recently found genetic predictors for this central nervous system involvement that go some way to providing an understanding of this disease.

Surprisingly, people with CFS are typically low in cortisol secretion. Because cortisol is the hormone associated with long-term, low-grade stress (as well being a powerful inflammatory and connective tissue dissolver), it seems counterintuitive that CFS patients would have relatively low levels of cortisol.

However, it may be that people with CFS have reached a stage of adrenal exhaustion: their adrenal glands are simply worn out and cannot keep up with their needs. The consequence of this is that many CFS patients have terrible allergies: the cortisol that would normally suppress this immune system hyperactivity is not available when it is needed.

**Neurally mediated hypotension**

Also called ‘orthostatic hypotension’, this is a condition in which a person cannot maintain normal blood pressure to the head. While we all have occasional bouts of ‘standing up too fast’, getting a little dizzy and seeing spots for a few moments, many people with CFS tend to have this as a chronic condition. As the name implies, neurally mediated hypotension involves a disconnect between central nervous system signals and the blood vessels that maintain appropriate blood pressure.

**Immune system anomalies**

Some CFS patients show predictable immune system abnormalities:

- increased natural killer cell activity
- high levels of inflammatory cytokines
- and higher than usual activated T-cells are common.

It is unclear how these anomalies connect to the rest of CFS etiology, however.

**Treatment**

Interestingly, the most successful treatment options for people with CFS are remarkably similar to recommendations for FMS; these conditions are managed, rather than cured. The typical strategies include limiting stressors, eating carefully, supporting high-quality sleep, exercising appropriately and, perhaps, using low-dose antidepressants.

**Massage for chronic fatigue syndrome**

Gentle massage is a safe and appropriate choice for people with CFS. It can help support good quality sleep and shorten recovery time when someone has done a bit more exercise or exertion than he or she can handle. While massage is unlikely to make CFS ‘go away’, it can be most helpful in an overall stress-management plan.

**IRRITABLE BOWEL SYNDROME:**

**What is it?**

Since the medical community first started recording this collection of signs and symptoms, IBS has been variously known as functional bowel syndrome, mucous colitis and spastic colon. It is very often seen with...
patients who meet the diagnostic criteria for CFS and/or FMS and, although distinct in its presentation, it has some etiological features that overlap the other two chronic pain syndromes.

Signs and symptoms

The primary signs and symptoms of IBS involve digestive dysfunction and discomfort. Nausea, bloating, gas, and alternating bouts of diarrhoea and constipation are common. These episodes are often triggered by stressful situations: a visit from an unwelcome relative; a fight with a loved one; a difficult job interview. Some IBS patients who are uncomfortable with touch may display symptoms when they receive massage.

The most important indicator of IBS is what isn’t present. If a patient shows any sign of gastrointestinal infection, fever and/or blood in the stool then IBS is not the cause and he or she needs to consult a physician as soon as possible.

Key features

In a normal colon, faecal matter is squeezed and compacted while needed water and salts are reabsorbed back into the bloodstream. Powerful contractions finally move the formed stools into the rectum, where they are stored until they are expelled from the body.

By contrast, the bowel of IBS patient is hyper-reactive and uncoordinated. Peristalsis, which should be smooth and synchronised, becomes erratic and disorganised. This points to a problem with the ‘brain-gut axis’: the hook-up between motor centres in the brain and muscular response in the colon. As a reminder, the motor neurons that control digestive function operate as part of the parasympathetic nervous system – our mechanism for stress recovery.

The role of the HPA axis in IBS is still under investigation. While evidence points to a sluggish stress response system as a factor in this digestive system disorder, research studies have not yet proved a direct connection. However, IBS patients often report neurally mediated hypotension, a common feature of CFS.

It is important to point out that IBS is a purely functional problem. The bowel is completely intact; no scar tissue, fistulae, strictures, abscesses, tumours, diverticulae or ulcers are present. In the vast array of things that can go wrong in the digestive tract, IBS is limited to painful, inconvenient but not ultimately life-threatening, problems with peristalsis. This distinguishes IBS from inflammatory bowel disease that includes both Crohn’s disease and ulcerative colitis, two conditions that are potentially quite serious.

Treatment

As with CFS and FMS, treatment for IBS focuses primarily on developing effective coping mechanisms. Some IBS patients, but not all, can identify specific food triggers that may exacerbate their symptoms. Some experts recommend supplementing the diet with extra fiber so the colon can press against enough bulk to organise its contractions.

Drug intervention usually involves anti-spasmodics, anti-diarrheals, antacids and antidepressants. But because IBS is recognized specifically as a stress-related disorder, patients are usually counselled how to manage their condition via ongoing stress-management strategies involving psychotherapy, stress-relief training and other interventions.

Massage?

Massage can be of benefit to many IBS patients, if the person welcomes it. If the client is nervous about being touched, or embarrassed about the possibility of passing gas, or uncomfortable in any way, massage may end up making matters worse. It is the job of the therapist to address these concerns in a compassionate and imaginative a way as possible. This may mean working with the client fully clothed and seated on a chair instead of a table, or it may simply mean naming the client’s concerns out loud.

I know of one therapist who has a sign in her office that reads, “It’s not a good massage until someone farts.” She finds this relieves some of her anxious clients, who are then better able to relax.

It is important to treat clients with IBS conservatively at first, especially with any mechanical work around the abdomen, but many clients will respond well to the autonomic balancing that bodywork provides.

One final word of caution: serious digestive system diseases can closely mimic IBS in early stages. Massage often improves digestive function even for potentially dangerous conditions simply by sponsoring a general move from sympathetic to parasympathetic state. Because massage therapists don’t have the tools to tell if a person’s pain is stress-related or more threatening, if a client reports any new pattern of digestive discomfort that persists for more than two weeks it is vital that he or she consults a doctor as soon as possible.

CONCLUSION:

As things stand, fibromyalgia, chronic fatigue syndrome, and irritable bowel syndrome are addressed by much of the medical community as three discreet conditions that happen to have a lot of overlap in etiological features. It is possible that the three conditions could eventually end up being simply grouped together as different manifestations of HPA axis dysfunction.

In other words, all three conditions could be classified as central nervous system disorders.

The exciting thing about this trend is that touch has a powerful influence on HPA axis efficiency. The improvement in symptoms that patients with this spectrum of disorders experience when they receive massage is a reflection of our ability to restore balance in
sympathetic/parasympathetic response through the medium of touch. As we continue to learn more about these common and sometimes debilitating conditions, massage and other types of bodywork are likely to find a well-recognised place in first-choice treatment options.

Ruth Werner is a massage therapist and educator currently residing in Utah. The first edition of her textbook, A Massage Therapist’s Guide to Pathology, was published by Lippincott, Williams & Wilkins in 1998. Her third edition is now in print, and is used in massage schools all over the world.

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