THE CHRONIC FATIGUE SYNDROME SOLUTION™ - FREE YOURSELF FROM CFS, NATURALLY!
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Chapter 1.

Pathology, Symptoms and Diagnosis

Chronic fatigue syndrome (abbreviated as CFS or ME/CFS), as evident from the name, is a syndrome that involves chronic lethargy, lack of energy, 'brain fog', poor concentration, and other symptoms. People suffering from this syndrome have great trouble managing their lives due to the excessive and chronic exhaustion. It may as well render the sufferers distinctly inactive and in some cases even bedridden. In addition, people with CFS/ME not only have difficulty getting revitalized for each day, but they also have ongoing flu and chronic pain symptoms.

The condition is partially attributed to “central sensitization”. Hence, it is further suggested that this is the very reason why fibromyalgia has several characteristics in common with CFS. It can be said that genes in sympathetic nervous system and HPA axis are responsible for CFS. These genes are particularly responsible for managing responses to stress and injuries (more on this later in the book).

The common idea is that an abnormal reaction to the common agents causing infections sometimes leads to CFS. Enteroviruses, Epstein-Barr virus, Lyme disease and human herpesvirus 6 (HHV-6) are usually associated with this condition. Even though it has not been validated yet with strong empirical evidences, there are some prominent tentative linkages. Patients with this condition might have persistently active immune systems. In such cases, your body feels as if it is battling against an infection, which leads to weariness and lack of energy.

Factors that indicate immune-system activation include the following:

a. Increased pro-inflammatory cytokines level, which works as a cellular messenger in the immune system.

b. Decline in the functioning of natural killer (NK) cells.
c. Existence of autoantibodies (antibodies that attack the body's own tissues).
d. Diminished response of a type of white blood cells called T cells to particular transmittable agents.

The literature on CFS is plagued with many misunderstandings regarding the causes of the disease, but a more profound view of the condition has recently been developed. The official name of the disease is still debated, which is why it is known by several names, such as "chronic fatigue and immune dysfunction syndrome" (CFIDS) and "myalgic encephalopathy (ME)". This particular matter was highlighted by some patients and practitioners, who strongly advocate the notion that the name "chronic fatigue syndrome" plays down the disease and causes misunderstandings.

**Chronic Fatigue Syndrome Symptoms**

Understanding and having in-depth knowledge on the possible symptoms is helpful in several ways:

a. Makes it easier for your doctor to diagnose the condition correctly.
b. Following up on them will aid in identifying the triggers.
c. Also, once you comprehend the disease thoroughly you will realize that you are not the only one experiencing it.

The list contains some symptoms that can be referred to as overlapping conditions. This shows that they are commonly noted in majority of the CFs patients, which points out the common condition they are suffering from. However, they are also separate conditions, which require diagnosis and treatment considered necessary. The symptoms among the patients of CFS vary greatly. Some have symptoms that are more acute and transitory in nature for they alter greatly on daily basis. Others suffer from symptoms more persistent and chronic.

**I. Sleep & Energy-Related Symptoms**

- Debilitating exhaustion
• Post-exertional malaise; involves excessive fatigue after working out, which persists for 24 hours or even more.
• Low stamina and energy
• Sleep is not revitalizing

II. Symptoms that look like Influenza

• Discomfort in joints with no redness or puffiness. This pain is either unvarying or it keeps moving between joints.
• Pain in muscles that is accompanied by weariness
• Pain in throat
• Headaches that vary in pattern, type or severity
• Tender lymph nodes
• Persistent cough
• Queasiness
• Periodic illness like influenza

III. Other Chronic Fatigue Syndrome Symptoms Involving Pain

• Morning stiffness
• Earache
• Irritable bowel syndrome comes with CFS sometimes as an overlapping condition that causes abdominal pain, nausea, diarrhea and bloating.
• Numbness
• Stinging and burning feeling in the face or extremities called paresthesia
• Chest aches that should always be considered as a serious problem
• Pain in jaws

IV. Cognitive Symptoms (Brain Fog)

• Problems with maintaining focus and Short-term memory
• Having trouble with finding words and/or speech impairment [dysphasia]
• Being unable to read or recollect anything that has been read previously
• Problem with calculations
• Trouble with analytical thinking
• Spatial disorientation
• Mental fogginess

V. Psychological Symptoms

• Depression
• Bad temper
• Nervousness
• Panic attacks
• Changes in personality
• Mood swings

VI. Sensitivities & Intolerances

• Allergies
• Sensitivity to noise, foods, odors, light, chemicals or medicines
• Sensitive to heat or cold, which worsens the symptoms in many cases
• Alcohol intolerance

VII. Cardiac & Respiratory Symptoms

• Uneven heartbeat
• Neurally mediated hypotension that involves giddiness & problems with maintaining balance while standing
• Shortness of breath
• Recurrent, difficult to cure respiratory infections

VIII. General Symptoms

• Low body temperature
• Visual instability causing haziness, pain in the eyes, problems with vision, dry eyes etc.
• Chills & night sweats
• Extreme sweating
• Sicca syndrome where eyes and mouth becomes dry
• Inflammation and itchiness on skin
• Tinnitus (buzzing in the ears)
• Inexplicable increase or decrease in weight
• Muscle twitching
• Seizures
• Periodic infections
• Recurrent canker sores
• History of herpes simplex or shingles
• Exacerbated Premenstrual Syndrome (PMS), as an overlapping condition
• Endometriosis also comes as an overlapping condition

The Chronic Fatigue Syndrome Diagnosis

A way to precisely diagnose chronic fatigue syndrome has not yet been figured out. However, there are methods to recognize different subgroups of the patients suffering from ME/CFS. These methods and tests have yet to gain the acceptance of the medical community.

Identification of chronic fatigue syndrome essentially involves ensuring that all other conditions that might overlap are ruled out. Therefore, the conditions that bear the same symptoms are initially excluded, for instance, nervous system disorders such as fibromyalgia; chronic infections such as mononucleosis or Lyme disease, tuberculosis; hypothyroidism, autoimmune diseases such as multiple sclerosis and lupus; or psychological disorders. Besides, if a patient is diagnosed of depression, it will not eliminate the possibility of having CFS. Important: it is crucial that your doctor checks for these conditions (especially hypothyroidism) before making a diagnosis of CFS! Hypothyroidism is relatively common and is treated with medications.

The guidelines given below should be used by doctors while diagnosing patients:

1. Feeling of constant weariness, which is not due to any physical activity. Not feeling revitalized after hours of rest. Symptoms like these if experienced more
recently and if they cause you to reduce your level of activity are indicative of CFS.

2. Apart from that, if you experience four or more of the following symptoms for six months, you most probably are suffering from chronic fatigue syndrome.
   - Impaired memory or concentration (brain fog)
   - Post-exertional malaise (extreme, prolonged exhaustion and sickness following physical or mental activity)
   - Sleep that does not revitalize the mind and body
   - Myalgia that involves muscle pain
   - Pain in joints but without swelling or redness
   - Headaches
   - Frequent Sore throat
   - Tender cervical or axillary lymph nodes

For you to meet the criteria for chronic fatigue syndrome, you must experience these symptoms along with the fatigue for six months or more. The symptoms must be persistent and unvarying. Although it is not necessary, making a list of the symptoms you have will certainly be helpful to your doctor. So, keeping a journal of your symptoms is highly suggested.

This condition has not yet been classified into a particular area of medical sciences. Therefore, you can opt for any doctor you are satisfied with and think has enough knowledge on the matter. You will definitely come across several questions about the condition and reading about it would be helpful in answering those questions.
Chapter 2.

Causes, Medical Treatment and Potential Side Effects

Causes of CFS

The final verdict on the real causes of the disease has not yet been given. There is more than one element, which causes chronic fatigue syndrome. Some of them are listed below.

- Immune system diseases
- Tense situations
- Interaction with toxins
- The factors causing CFS are different in different patients. In some instances, the reason of the syndrome is a mix of the above cited factors and in other there can be a single responsible factor. Based on different symptoms, the condition should be divided into different sub-segments so as to deal with patients easily. Classification of FCS in different subsets is therefore a vital way to cope with this condition.
- Genetic disorders and CFS: recent studies reveal a genetic link between Hypothalamic-pituitary-adrenal (HPA) axis and the sympathetic nervous system. A number of vital activities like response to sleep and depression are controlled by HPA axis.

I. Hormonal and Central Nervous System Disorders

People with CFS have defective HPA axis therefore, hormones that are controlled by HPA axis and other complex chemistry of central nervous system are being observed. Following is a short analysis of the above cited components.
Neurotransmitter changes

Neurotransmitters are communication agents in the brain. People with CFS disorders have problems in some vital neurotransmitters such as serotonin and dopamine. Finding the contribution of these faulty neurotransmitters to CFS stress hormone deficiencies is crucial. A particular hormone called cortisol, responsible to regulate stress level, is the one that poses serious challenge to deal with both physical and mental strain and stress. Treatment of CFS patients with cortisol supplements is possible but it does not work for everyone. Interestingly, women with this syndrome have low level of cortisol in the morning whereas men with the same syndrome do not have any such issues.

Disturbed circadian rhythms

The human biological clock, also known as circadian clock, is responsible for human sleep-wake cycle. In some people with CFS this clock is disturbed because of physical or mental tension and the body is unable to regain its original position so to be at equilibrium again. People with this problem appear to spend more time in the rapid-eye movement (REM) phase, which is essentially the stage when a person is dreaming. Individuals in this subgroup of CFS get more help from sleep medications than people in other subgroups.

II. Infections

Most of the symptoms of CFS resemble infections caused by viruses; which is why it is highly likely that such viral infections may be linked with this syndrome. Following are the three theories related to the association between viral infections and the condition.

- Human immune system is weakened by viral or bacterial attack. The impairment then continues causing flu or similar symptoms even after the virus or bacteria leaves the body. Although infection is not common in every CFS patient, nevertheless, there are majority of patients who show such signs. The notion that ME/CFS is caused, though not completely, by certain virus has not yet been
validated. However, it has been shown that people with CFS are almost four times as likely to have enterovirus in their stomach as non-affected people do. Stomach infection is caused by enterovirus and is normally followed by signs of CFS. Rnase Lan enzyme called Rnase L is released by the body to destroy harmful viruses and interestingly this very enzyme has been found to be very active in CFS patients.

- Natural Killer (NK) Cells and T Cells: The primary function of NK & T cells is to fight against virus-infected cells in the body and people with CFS indicate damaged NK & T cells giving a hint of persistent immune activity destroying and weakening them.

  Antibodies: CFS patients have large number of antibodies present fighting against harmful organisms which may cause CFS and other related disorders. Post-illness onset: 80% of CFS symptoms start immediately after flu-like conditions

Current evidence shows that CFS is NOT a communicable disease; therefore, it does not spread from person to person.

III. An Overview of XMRV

There is a linkage between XMRV, a type of retrovirus, and ME/CFS. The discovery of XMRV in about 67% of blood samples taken from CFS patients substantiated this notion. However, about 3% were also found in a group of healthy samples, which were treated as controls. This notion lost its significance with time because it was negated by empirical evidence.

IV. Malfunction of Immune System

A disturbed pattern in human immune system of people with ME/CFS has been observed, nonetheless the pattern disturbance has not been found to be consistent. The most occurring problems with immune system are allergies and overactive immune system.
Furthermore, many CFS patients are also known to be allergic to pollen, foods and certain metals like mercury. Allergens may be responsible for causing a chain of immune disorders, which then develop into CFS. A chemical present in human cells, called adenosine triphosphate which is primarily responsible energy storage in cells is destroyed by allergies, stress and infection. There are signs of reduced ATP production in some CFS patients.

The presence of high level of Cytokines in CFS patients is a cause of CFS and muscle pain. The T-cells in CFS are impaired but the claim is not accepted generally as there is a possibility that there are no linkages between CFS and impaired T-cells and high level of cytokine. There are some characteristics common to this syndrome and autoimmune disease such as Lupus or Multiple Sclerosis. Autoimmune disease is a condition where immune system attacks healthy part of the body and causes serious damages however; the recent developments suggest that there is no link between CFS and autoimmunity. Patients of CFS when tested have shown no such organ impairment which might be attributed to autoimmune disease.

V. Conditions that Bring about Stress

Your personality, psychological build up and social situation may give rise to possibilities of CFS. However, there is not a clear view of how CFS and these factors are related. Although these elements are not directly related to the disease, they certainly do have a role in the development of syndrome.

VI. Ecological and Chemical Contaminants

CFS is also thought to have been caused by close interaction with poisonous environment or other such chemically polluted areas. Chemicals of this type may include pesticides, solvents or other heavy metals. The claim that these chemicals play a major role in the development of ME/CFS is not, however, true in all cases because almost each one of us has been exposed to these chemicals at least once in our lifetime.
Medical Treatment

There are a number of medical remedies to treat CFS. Although these medical treatments are meant for dealing with symptoms, it is also believed by some doctors that such medication also mitigates the intensity of the condition. The notion that it can be mitigated through medication is based on the idea that the CFS is the result of continuous infection or other similar factors which keep the immune system work overtime. Some of the popular medicines used to fight CFS are anti-viral drugs, anti-depressants, anti-anxiety drugs, sleep pills or other medicines taken to fight fever or pain. There are few instances where patients of CFS are given ADD/ADHD medications by their doctors.

Types of Drugs Used to Treat Chronic Fatigue Syndrome

Different types of medicines are prescribed to treat CFS and the following is a list of those medicines:

- Anti-microbial drugs,
- SSRIs/SNRIs and tricyclic anti-depressants,
- Anxiolytic drugs,
- Non-steroidal anti-inflammatory drugs,
- Blood-pressure drugs,
- Experimental drugs.
**Antimicrobial Drugs**

As the name suggests, antimicrobial drugs come in different kinds and groups. Antimicrobial drugs are used for disturbances caused by virus, bacteria, protozoa, fungi and certain other microbes. The body of CFS patients behaves as if it was fighting against viral infection but the involvement of any specific virus in this case has not been accurately identified. However, this condition might be caused by a virus called Epstein-Barr virus, Human herpes virus 6 and enteroviruses.

**Ampligen [poly I: poly C12U]**
Owing to its approval pending at the hand of FDA, this drug has not reached market for treatment of CFS yet. Ampligen functions in the body by regulating the level of Rnase L, which is believed to be very high in CFS patients.

A drug manufacturer called Hemispherx Biopharma, based in Philadelphia is optimistic to win approval from the FDA once the test, which it calls Phase III trial, is completed. The trial is aimed at proving Ampligen’s effectiveness to treat CFS.

**Valcyte [valganciclovir]**

HHV-6 can be treated with antiviral vaganiclovir and HHV-6 is very much common to ME/CFS patients. Since, any apparent link between a particular infection and CFS has not been noted yet, no other antimicrobial are suggested unless there is a clear infection.

**Antidepressants**

While many people with the condition are depressed, it's commonly thought of as a result of the symptoms and change in lifestyle and *not a cause* of the illness itself. Depression among CFS can be treated with two types of antidepressants namely SSRI/SNRI and tricyclic agents.

CFS patient have generally low level of neurotransmitters and to increase this level, antidepressants are used. Technically known as Serotonin reuptake inhibition (SNRI) or
Serotonin norepinephrine reuptake inhibitors (NSRIs), these medicines assist in processing pain signals, regulate sleep-wake cycle and process stress response in our body.

Tricyclic anti-depressants, if taken in small doses, may reduce widespread pain in CFS patients. Following are a few examples:

- Adapin, Sinequan (doxepin)
- Elavil, Etrafon, Libitrol, Triavil (amitriptyline)
- Norpramin (desipramine)
- Pamelor (nortriptyline)

People who take drugs like antidepressants should be careful about the side effects of these medicines because these drugs can disturb normal behavior. It is also important to consult doctor before quitting such drug usage because sometimes quitting drug creates other serious problems. If you wish to stop these drugs, your doctor will guide you on how to stop them appropriately.

**Drugs to Treat Anxiety**

People with CFS often show panic disorders and in order to fight this problem doctors prescribe anti-anxiety drugs. Such anti-anxiety drugs are listed below.

- Xanax (alprazolam)
- Klonopin (clonazepam)
- Ativan (lorazepam)

Anti-anxiety drugs also have side effects and the prominent ones include insomnia, sedation, amnesia, cramps and convulsions. Quitting these drugs may cause withdrawal syndrome; therefore, consult a doctor before changing doses.
NSAIDS (Anti-Inflammatories)

There can be pain and fever attached to CFS and to fight this problem these drugs are prescribed. The majority of these drugs can be purchased at medical stores. Some of them are listed below.

- Advil, Bayer Select, Motrin Nuprin (ibuprofen)
- Aleve, Anaprox, Naprosen (naproxen)
- Feldene (piroxicam)

There are a number of NSAIDs, which might be prescribed by a doctor and it is important not to mix different types of drugs in this category. The greater the number of such drugs, the greater the risk will be of developing harmful side effects. Some serious side effects are gastrointestinal bleeding and impairment of the kidneys.

Drugs for Controlling Blood-Pressure

Another common problem associated with CFS is a condition of low blood pressure called neurally mediated hypotension (NMH). The primary cause of this condition is the wrong coordination between heart and brain although both organs might be functioning properly. The main indicators of NMH are dizziness and fainting and can be diagnosed by a procedure called tilt table test. People with diagnosed NMH can be prescribed blood pressure drugs like Florinef.

Experimental Treatments

A number of treatments are in the developmental stage. These experimental treatments, although they have not yet been proven to be effective for treating symptoms of CFS, are being anticipated to prove effective in the near future. Some of experimental treatments are briefly discussed below.

Dehydroepiandrosterone [DHEA]:

DHEA, a steroid hormone, released by adrenal glands, may help reduce symptoms of CFS in some patients. Among people with Lupus, this particular steroid helps in
reducing fatigue; improve quality of life and enlivening thinking. DHEA is available in
the market but before a patient starts using DHEA, it is highly recommended to go for
blood test so as to know the level of DHEA in the blood. Patients are also advised to go
for regular tests so as to maintain hormonal balance in the blood. If you opt to
supplement with DHEA, you should use 25-50mg daily.

**Gammar [gamma globulin]:**

Gammar or Gamma globulin administers our immune system. It falls in the same
category as Ampligen and with antibodies contained in it; it helps us fighting a number
of infections. It is also helpful in treating impaired immune system. Gammar is still in
clinical trial and is waiting to be approved as a reliable drug for use by CFS patients.
Chapter 3.

Supportive Treatments

I. Exercise/ Massage/Physical Therapy

Advantages of Exercise

It has been noted that people with CFS experience a continuous spell of CFS during their entire life period. Owing to unknown cause and no fixed medical treatment, CFS remains largely an unresolved mystery. Exercise is one of the many non-drug treatments that CFS patients should go for. But there are two different opinions among doctors. One group of doctors negate the idea that exercise help improve CFS problem, whereas another group strongly recommends exercise for it. Those who favor the idea suggest mild exercise. Indications like muscle pain, fatigue and joints pain are the main symptoms of CFS. Any kind of physical activity might aggravate the problem further; therefore, exercise seems dangerous for people with CFS. Although exercise plays a major role in maintaining a healthy body, for people with chronic fatigue it may seem to pose more disadvantages than benefits. Nonetheless, patients with good awareness on chronic fatigue coupled with well regulated and supervised exercise can benefit a lot from exercise and may greatly improve the symptoms of CFS.

Although exercise is highly recommended for the general population, the fact is that sometimes CFS patients cannot even perform some of the basic every day activities, let alone heavy exercises. Indeed, there is always a risk that symptoms of CFS may be exacerbated as the patient goes for heavy physical exercise or activity. With physical activity muscles release lactic acid, which in turn causes fatigue in the body. Aerobic exercise aggravates the problem of CFS for it triggers production of lactic acid in the muscles. People with CFS are more likely to produce lactic acid than those without this syndrome. This concept further implies that there might be some fault in the metabolism of people with CFS. The fact that people with chronic fatigue syndrome have less
amount of body potassium as compared to healthy people has fueled a new interest. A precise connection between the low level of potassium electrolytes and CFS is being observed. Most of the potassium in human body is deposited in muscles, brain, blood and other internal organs. P

However, people with CFS are advised to do light physical activities to remain healthy because an idle life without activities is dangerous for health and may bring about different kinds of health issues for the patients. While exercising, patients should not jump to heavy exercises; rather, they should rely on gradual progress because a sudden jump to heavy physical activity is harmful in such conditions and may possibly deteriorate the situation. Starting with a light 10 minute walk per day is a very good starting point and may be enough to make you feel better. As you feel comfortable with this, increase the duration and/or intensity gradually.
Exercise Therapy

Although physical exercise is a good remedy to fight chronic fatigue syndrome, it is not always easy for the sufferers to follow it. CFS patients remain in constant confusion about whether to exercise or not. Naturally, patients are not in the best position to exercise for they experience severe muscle pain and fatigue and therefore, they need a lot of rest. On the other hand, if they remain idle without any exercise for too long they might face other health problems like heart disease, loss of bone mass and muscles wasting. In addition, inactivity may further fuel lethargy and apathy. Regular exercise, gentle in nature, is beneficial and if patients remain consistent then they will feel much better.

The positive effects of exercise cannot be denied. Physical activity, if done regularly, results in an increased productivity and health. Regular exercise reduces tension and anxiety level and gives a positive and fresh start to your days. The reason why it releases tension might be because of the production of endorphins (natural pain killers) and the feeling of achievement that one is able to harness the physical potential of one’s body. These endorphins are also natural anti-depressants, and indeed people feel much better during and after exercise. Physical activity also decreases the risk of heart diseases.

Patients are advised to consult their doctors before starting exercise. Once they are pronounced fit for such activities, only then they should opt for it. Once allowed by their doctor, they should follow a slow pace and then gradually pick up momentum for heavy exercises involving extended period of activity. Patients can also make use of the services of a physical therapist. It is more appropriate in cases where a patient, given his/her condition, needs particular kind of exercise which can be supervised by the therapist. The most effective exercises for CFS patient are swimming, walking, and riding a standing bike, aerobics and rowing machine. Patients should not indulge in activities that may aggravate the condition. Some of the activities which should be avoided are high-impact activities such basketball and very strenuous exercise such as weightlifting. On the other hand, they are encouraged to get involved in yoga, tai chi and
breathing exercises as they are very helpful in giving a sense of wellbeing to the patients. Consistency and regularity in exercising is as much important as exercise itself. Without consistency, the effectiveness of exercise will be lessened. Initially, the exercise duration and frequency should be minimal for almost a week. After a week a gradual change should be introduced both in the frequency and duration of the exercise. To put it more simply, the patient should progressively move to next step from 10 minutes exercise in a day to 1 hour a day after two months.

It is highly advised that patients avoid overexertion during exercise. One should not go beyond the normal endurance capacity of the human body because it affects the overall performance. Excess of everything is harmful and the same is true for exercise. Therefore, avoid overdoing it for it causes muscles pain which in turn disturbs the weekly exercise routine.

If you are a CFS patient and take exercise seriously (i.e. you are an athlete), you should start using L-glutamine and vitamin C. The former is an amino acid while the latter is a water-soluble vitamin. Both enhance recovery and help your body repair itself quicker. These will also help to lessen the feelings of pain and soreness in your muscles. You should take 5 grams of L-glutamine immediately after exercise and another 5 grams before bed. For vitamin C, take 500-1000mg (i.e. 0.5 to 1 gram) daily.

II. Occupational Therapy

Occupational therapy is an emerging field in health sciences. Being an OT, as it is universally abbreviated, serves as skilled treatment applicable to numerous cases, including CFS. People who receive OT achieve and sustain mental and physical liberty in their lives. OT basically teaches how to live life normally in face of challenges and limitations.
III. Nutrition Therapy

A balanced diet is vital to maintain good health. The less the food you eat is balanced, the more prone you are to diseases. When you first feel the symptoms of CFS you should realize that there might be some association between CFS and a diet that is unbalanced. On examination, you may come to know that there is some basic nutritional deficiency that has caused the problem. By addressing this gap you will be able to solve, or greatly alleviate your problem of chronic fatigue.

A very pertinent issue in CFS patients is **sodium (salt)**. Sodium is an essential nutrient for fluid balance and various other functions in the body. We require about about 1.5-3 grams of salt per day. It roughly equals to the amount of salt in 1 ¼ of teaspoon. The average consumption of salt per day in America is about 10 grams, hence most persons consume far too much salt. This results in high blood pressure (140/90 or higher), which is a health hazard.

However, CFS patients are actually frequently low in salt. Deficiency of sodium in blood may cause the following problems.

- Aching in skeletal muscles
- Severe fatigue
- Increase in PH level in the blood
- Excessive sweating during light physical activities
- Cardiac arrhythmias and
- Orthostatic tachycardia

Other problems may include hypotnatremia which is not only common in competitive sports but some non-competitive sports have also registered a number of such cases. Fortunately, hyponatremia of moderate nature can be cured by consuming more dietary sodium.

If you have low blood pressure (100/70 or below) you should increase your salt intake. Add salt to the table, in cooking, and salty foods. On the other hand, people with high
blood pressure (140/90 or higher) should limit their salt intake, but high blood pressure is not common in CFS patients.

The amount of fluid in the body is crucial to good health and energy levels. Food balance in the body is regulated by fluid intake, fluid output, and salt intake.

Adrenal hormones, such as "aldosterone" and "cortisone", control fluid balance and level of nutrients. Aldosterone is primarily responsible for regulating potassium and sodium level in the blood. The high level of potassium in blood can be controlled through secretion of aldosterone by kidney. The mechanism is quite simple. As aldosterone is released it causes kidney to excrete potassium and retain more sodium. Secretion of aldosterone is also triggered by low level of sodium in the blood. High potassium level also reduces the level of sodium but high volume of potassium or low level of sodium stress adrenals. Whole vegetables, fruit and their juices are a major source of potassium.

Cortisol breaks down muscle tissues to form amino acids when there is dietary protein deficiency. This excessive pressure on adrenals could potentially cause adrenal fatigue coupled with decreased cortisol followed by decrease in glycogen secretion, metabolic disturbance, impaired gluconeogenesis and hypoglycemia. There is also a risk of decreased neuromuscular activities combined with low resistance to infections, stress or inflammation. With decreased resistance to stress and ailments the body becomes more prone to Epstein Barr virus or other similar viruses. Epstein Barr, found in some CFS patient, acts more actively in this situation. This particular infection is due to weakness in immune system rather than a direct cause of CFS. CFS patients may develop fibromyalgia due to deficiency of protein combined with high level of cortisol production and breakdown of muscle tissues.

Since adrenals are the basic source of aldosterone and cortisol, when adrenals are exhausted the level of aldosterone or cortisol also drops. The decrease in aldosterone is followed by increase in potassium level, decrease in sodium, blood sugar and body fluids and ultimately leads to hypotension and dehydration. Rigorous exercise or
caffeine intake may also cause stressed adrenals. Water consumed in excessive quantity results in “dilutional hypernatremia”, a condition in which body experiences high water/low sodium level. Faulty adrenal leads to physiological problems. Excess of potassium in blood coupled with low level of sodium and hypotension indicate adrenal deficiency. These indicators are the core symptoms of Addison disease, a severe and progressive adrenal ailment linked with adrenocortical hypo-function combined with insufficient production of aldosterone and cortisol. Some of the basic symptoms of Addison disease include fatigue, weakness and orthostatic hypotension. Victims of Addison disease apparently look healthy but under tense situations they face serious adrenocortical deficiency. Interestingly CFS patients also exhibit similar behavior. This resemblance raises a question whether CFS has any link with Addison disease or not.

The proper functioning of Adrenal is dependent on balanced physiological conditions. Any slight problem with physiological function may disturb working of Adrenal. The absence of balanced diet in our food may invite the core symptoms of Addison disease and ultimately lead to adrenal deficiency. To maintain a good adrenal health it is therefore, important to go for healthy and balanced diet. Look into different factors related to the condition. For instance, how calcium carbonate neutralizes digestive acids more effectively than calcium citrate. It is suggested to use calcium citrate together with hydrochloric acid tablets in order to allow proper digestion. The primary function of HCL produced by the stomach is to assist and accelerate digestion.
IV. Dietary/Herbal Supplements

CFS can be managed by adopting balanced diet coupled with sufficient sleep assisted by using herbs and supplements. Following is the list of recommended herbs for chronic fatigue management.

i. Basil

Basil has large deposits of magnesium. The concentration of magnesium increases when basil is dried. The primary role of magnesium is that it serves as a relaxant and reduces fatigue to a considerable level. As they carry negligible side effects, natural sources of magnesium are preferred over synthetic supplements which may cause bloating and loose stools and in some cases also inhibit the absorption of drugs taken for blood pressure. Basil is one of the best naturally occurring supplements for chronic fatigue.
ii. Echinacea

This herb is usually consumed in the form of tea. If taken regularly, it can strengthen the immune system and give relief to CFS patients. However, it important to note that the daily dose of this particular herb should not exceed the limit as recommended by a doctor. Exceeding the recommended dose may cause problems like diarrhea and stomach cramps.

iii. Astragalus
Generally regarded as powerhouse of antioxidants, this herb is useful in energizing the immune system. Both the leaf and the flower are equally beneficial. A paste of leaves and flower is generally available and the best way to use this compound is by diluting it in water and drinking regularly. Another option is of over the counter supplements which are equally effective.

iv. Ginseng

It is more common in Asian countries and is considered very effective in augmenting energy levels and boosting the flow of oxygenated blood to vital parts of the body like the brain. With a healthy brain a person becomes active and alert. Ginseng is available in the form of capsules or tablets and the recommended dose is 300mg twice a day. There are also liquid extracts available over the counter as an alternative. The main function of Ginseng, as is evident from the above discussion, is to boost blood flow by making it more fluid, therefore, it is highly advised that those who are already under such medication (blood-thinners such as warfarin) should consume this herb with greater care - always consult your doctor before starting any new supplement.
v. Vitamin A

CFS may be caused by a particular kind of virus. One of the main functions of Vitamin A is to increase the number of T-cells. T-cells are mainly responsible for fighting against diseases; therefore, intake of vitamin A may be useful in treating symptoms of CFS and boosting the immune system. Some of the natural sources of vitamin A are carrot, cantaloupe, mangoes, broccoli, kale and spinach. However, supplements are also available which can be taken after consulting a doctor; pregnant women should not use vitamin A supplements.

vi. Vitamin C

Vitamin C is important in strengthening the immune system. CFS patients are advised to take a daily dose of vitamin C. Another important function of vitamin C is the production of adrenal gland hormones. Physical and mental stress is among the main important determinants of CFS therefore, people with such conditions should maintain healthy adrenal glands. A healthy adrenal is a guarantee of reduced fatigue and exhaustion. 500mg of vitamin C daily is the recommended dosage for people with CFS. Some of the natural sources of vitamin C are the following:

- Watermelon
- Citrus fruit
- Tomatoes
- Red pepper
- Pineapple
- Potatoes
- Cauliflower and
- Broccoli.

vii. B Vitamins

Fatigue may also be caused by the deficiency of the B vitamins. Supplements of vitamin B complex are available over the counter which can be taken by CFS patients.
However, the deficiency of B12 and B6 in the CFS patients has more negative effects than any other type of vitamin B as the lack of these two can cause acute anemia. The main function of B12 and B6 is the production of red blood cells. Healthy red blood cells are crucial to avoid anemia, which otherwise may cause severe fatigue. Another important contribution of vitamin B is the production of T-cells in the body which strengthens our immune system. With a strong and healthy immune system our body is in a better position to respond to viruses and diseases which might lead to CFS or exacerbate its symptoms. Although vitamin B is available in the form of supplements nevertheless, there are also rich natural sources like fish, poultry, meat, eggs vegetables and peas.

viii. Omega 3s

Omega 3 supplements are highly beneficial even in people not affected by CFS as omega 3s help to keep the body in an anti-inflammatory state. This reduces the risk of conditions such as heart disease and cancer, helps the brain perform at its peak, and enhances the body's immune and reparatory systems. Oily fish, seaweed, nuts and seeds are rich in omega 3s; alternatively, start a daily supplement. If you opt for a supplement, choose one that is marine-sourced (i.e. from fish oil or algae) as this type is much more effective than terrestrial-sourced (e.g. from flaxseed) supplements.
ix. 5HTP

5HTP is a derivative of the amino acid tryptophan that is converted to serotonin in the body. The latter is a brain chemical that is responsible for regulating your sleep (helping you to sleep better), improving your mood, and decreasing pain sensation.

Supplementing with 5HTP is very effective for CFS, as it enhances sleep and mood, and lessens headaches and pain. In many respects, it is superior to anti-depressants as it does not carry their side effects. However, do note that you should never change the dose or stop your anti-depressants before consulting with your doctor.

You should take 5HTP with four ounces of fruit juice on an empty stomach about 30 minutes before bed. Start with a dose of 50mg - if you notice that you do sleep better that night, stay on that dose and increase it only if after some time you start having trouble with sleep again.

If you do not notice any improvement (which would not be surprising since 50mg is a very low dose), start increasing your dose by 50mg each night (up to a maximum of 300mg) until you fall asleep within 30 minutes.

In a small number of CFS patients (perhaps 5-10%), 5HTP actually causes them to become more alert (instead of sleepy). If this is the case for you, discontinue taking 5HTP at bedtime and instead start taking it during the day with food. Start with a dose of 50mg three times daily (50mg with each meal) and gradually build up to 100mg three times daily with food (i.e. a total of 300mg per day). Taking 5HTP with food will not make you sleepy or alert, but you will still benefit from its other properties. Please note that it may take up to two weeks of taking 5HTP daily to start seeing improvements in sleep, pain, moods and energy.

5HTP can be taken with anti-depressants and prescription sleeping pills, but you should always consult with your doctor before starting a new supplement.
x. Magnesium

We have already mentioned magnesium when talking about basil. Let's talk a bit more about the benefits of this mineral and whether you may need a magnesium supplement. Magnesium is a natural muscle relaxant and sedative, and confers benefits to CFS patients as it mitigates fatigue, muscle tightness, constipation, anxiety and insomnia.

Particularly if you don't have a daily bowel movement, it will be beneficial to start using a magnesium supplement containing at least 700mg of magnesium per day.

V. Sleep Therapy

You should have a consistent sleeping routine. The human body has a biological clock which helps it maintain a regular wake-sleep routine. The clock usually gets disturbed if there is no regular sleep routine. One feels sleepy at bedtime if the clock is functioning properly. You should follow the clock. Staying up even when one is feeling sleepy is not a wise move, experts say. However, sleeping before you feel sleepy also disturbs one’s sleep routine. An important fact to know about sleeping is that one should follow a relaxing sleeping routine, which may include warm bath, light reading or taking warm milk.

Sleep Habits

There are many things that can be done to have a better night's sleep:

• Time to sleep and wake up should be consistent over a period of time and changing the routine may cause health problems.
• When it is almost the time to sleep, create a comfortable ambiance, maybe a light read or warm bath.
• Avoid over eating in order to have a restful sleep.
• Once in bed you should fall asleep within 20 minutes and if it does not happen then change the room and come back after spending some time in another room.
• Avoid decorating your room in a way which might disturb your sleeping tempo.
• Exposure to sunlight during daytime allows you to sleep in a more relaxing manner.
• Sleep time in adults range form 7- 9 hours a day. This pattern remains unchanged even in old age.
• Avoid sleeping in the evening if you want to sleep well during night.

CFS not only affects you physically, rather it has also deep emotional and psychological implications on your mind. People with moderate or acute CFS problems may lose or leave their jobs, give up planning for future, lose interest in hobbies and become aphatic.

Similarly people with CFS also have to compromise in many respects, which more probably will lead to feelings of isolation and depression. It is not always easy for both CFS patients and family/friends to face the challenges of the condition. Following are few of the issues which a counselor needs to address while treating CFS patients and family members.

VI. Cognitive Behavioral Therapy [CBT]

The main idea working behind this therapy is the concept that the way we think can influence and cause certain health problems. The basic objective of CBT is to assist a patient by changing the way he/she thinks about his/her disease. Through this therapy, CFS patients are made to accept the diagnosis through changing what they used to think of as negative or harmful.

CBT is not meant to cure CFS but to improve the symptoms. It also improves the daily activities, emotional well-being and coping techniques. The continuing symptoms are behavioral because the symptoms are thought to continue even after the body recovers. Nevertheless, this group also upholds the idea that there is certain physical trigger to CFS. It was these ideas that made CBT an effective and necessary treatment owing to its unique and successful approach to the condition.
CBT has improved the condition of many CFS victims and therefore, is recommended as a therapy by the NHS.
Chapter 4.

Alternative Therapy

I. Yoga as a Natural Remedy

Yoga has attracted much attention recently and experts recommend it as the most productive exercise for FMS and ME/CFS patients. It is a relaxing way of stretching your muscles and allows you to loosen tight muscles and joints. Yoga gives you freshness and energy and as you progress to more advanced levels, it also acts as a cardiovascular exercise. For some, yoga is only a body workout but if it is practiced in its more original form that involves breathe control, and meditation, it may give deeper satisfaction and peace.

Before going for Yoga it is important to consult your doctor whether it suitable for you or not. With the approval of your doctor you should start with slow steps without making big jumps in to higher levels. Get familiar with one or two easy poses each day and try to understand the effect of such moves on your body and mind. You should move to advance levels only when you feel that it is not aggravating your symptoms. Yoga can be practiced through a guided approach where one hires a Yoga expert or it can be done on your own with self-guided instruction. In case of self-guided practice you should be sure about practicing different moves correctly. Don’t start with complex moves; rather rely on simple ones like lying on the floor. You can also get help from self-guided videos available in the market or internet. Many FMS and ME/CFS patients experience dizziness as they progress to upright postures. Don’t allow different positions and postures to pose problems for you. If you are concentrating on positions like sitting, standing or lying down make sure you don’t fall and get injured.
II. Acupuncture

Various studies have shown that Acupuncture is an effective treatment. There is still an air of confusion regarding why and how this works. However some researchers are of the opinion that this method might induce complex chemical changes in the brain and body. The procedure triggers nerve cells to send signal to brain and spinal cord and as a response special hormones are released, which possibly stop the pain and give you a soothing feeling. The effectiveness of Acupuncture has been studied using computer generated brain images. The treatment increases pain threshold in CFS patients. It is this increase that provides patients with long lasting pain relief. The acupuncture is also known to deactivate portion of the brain responsible for the pain. Furthermore, acupuncture also provides relief from pain basically by channelizing our internal in a proper way. Known as ‘chi’ (CHEE) this stream of energy that flows through meridians in the body and each of these meridians is linked to an organ or group of organs. The level of ‘chi’ should be in equilibrium. Too much or too little of it can cause health problems. In order to understand this phenomenon let’s take a water stream as an analogy. Blockage in the stream builds pressure up the stream and ultimately water spills out over the weaker points of the bank. Too much water causes floods and becomes catastrophic for plants and animals on its way. Following the analogy our body
also feels a pressure with blocked nerves and to reduce this pressure and channelize it in a correct path, you can employ acupuncture.

**Pros and Cons of Acupuncture**

It is always important to compare the possible benefits and risks of different treatments if you are considering various treatment options for CFS.

Some of the results that are highly guaranteed by practitioners are given as:

- Less pain
- Better sleep
- Relaxation
- Possible immune system boost
- Better overall health

The effectiveness of acupuncture can be advocated by saying that after 20 acupuncture treatments, patients showed considerable improvement in pain and quality of life. The effect lasted for almost 12 weeks after the treatment was withdrawn. As compared to other similar treatments acupuncture is relatively safer and effective. Employed as an additional therapy while other treatments are underway, it offers the following benefits:

- Minimum risk.
- Negligible side effects.

- Acupuncture therapy involves minimum risk. There are some but they can be avoided if a qualified practitioner is hired. Some of the risks are listed below that non-sterile needles may cause.
- Possibility of organ damage
- Bruising.
- Nausea.
- Fainting
• Dizziness.

In United States qualified acupuncturist are required to use sterile needles and destroy them after each use but this practice may not be standard in other countries.

III. Acupressure

Originating from ancient China, acupressure therapy helps improve the flow of internal energy in human body. The treatment is not scientifically approved, yet it is considered safe and people prefer it assuming that it might offer some benefit. CFS as we know is a disease with a lot of general indicators. To improve overall health of a patient these general indicators are targeted by the acupressure practitioners. The human body has several pressure points on it. These points normally become hard and stiff and in order to release pressure from these points a targeted massage is done without exerting extra pressure on the target. Below is a brief description of pressure points used to deal with symptoms of digestion, muscle stiffness, anxiety, insomnia, breathing problems, headaches and other similar health issues.

1. The point on the area where the toes join the foot.
2. On the top of the foot, above the big toe and the second toe, about two finger widths from the base of the toes.
3. On the inner area of the foot, just beneath the extended bone joined to the big toe.
4. On the inner area of the foot on the rear of the ankle bone.
5. In the fleshy part of the hand, between the first finger and the thumb.

Largely unheard of in the west, the acupressure therapy is very popular in China. It is considered as an alternative medicine and is preferred over conventional medication. Strengthening the immune system and promoting wellbeing is the essence of acupressure technique. However, it is advised to consult a doctor before opting for acupressure therapy. If you have serious health issues like diabetes, cardiovascular disorder or any other similar condition you should talk to your doctor and follow his/her expert advice.

IV. Tai Chi

It is an old Chinese technique used to relax the body and release tension. Tai Chi literary means ‘moving meditation’ and has been very popular in USA in the last ten years or so. The technique was first introduced in China some 900 hundreds years ago and is still being practiced with the same popularity. The effectiveness of this therapy on people with CFS has been scrutinized several times and it has been found that Tai Chi is more helpful in situations where a patient experiences restricted movement or energy. Unlike other techniques, Tai Chi does not involve forceful physical movements or
exercises. Unlike other similar therapies, patients are not required to run, jump or do aerobics. What a patient needs to do is give one's body a fluid like movement in well-disciplined manner repeating each move in cycle. This kind of movement is popularly known as physical poetry because of its rhythm. The concept of ‘chi’ is very central to Traditional Chinese Medicine (TCM). ‘Chi’ means “life energy” and according to TCM it flows in our body and keeps us healthy. When the flow is disturbed we feel ill. Through specialized techniques, TCM professionals improve the flow of ‘chi’ and our health. Tai Chi and acupressure techniques are employed to enhance the flow of ‘chi’ in our body. ‘Tai Chi’ can be a great relief for people with CFS. By allowing one’s body to move, Tai Chi enhances internal energy and brings health and peace to the body and soul. Although, it does not involve rapid and forceful physical movements but even then one should start it with simple moves and then progress to more advanced stages. There is no hard and fast rule to practice Tai Chi, and everyone can do it and enjoy the benefits. It is important to stand on the ground firmly in order to practice Tai Chi properly. This is particularly vital for CFS patients because they experience balance problem while standing. All those who are fresh starters should refrain from movements which might cause problems by causing risk of imbalance and falling down. Don’t forget to consult your doctor prior to practicing such therapies.

There are plenty of Tai Chi learning centers in the country. You can visit your local YMCA, rehabilitation facilities or hospitals.

V. Therapeutic Massage

Therapeutic massage involves different techniques of physical massage including pressure and physical manipulation. Rolfing, Reiki and the Bowen Technique are all types of Therapeutic Massage. There are also many other techniques practiced as alternative-medicine techniques. Bodywork is an alternate treatment and is usually suggested as a complementary treatment rather the only required treatment.
VI. Massage Therapy

Distinguishing between Swedish massage and therapeutic massage is important before going into more detail. The basic purpose of Swedish massage is relaxation whereas therapeutic massage helps you maintain proper body functions. Myofascial release and neuromuscular therapy are popular techniques employed by clinical massage therapists to make connective tissues and muscles work smoothly. The therapeutic massage can treat people with FMS or CFS, provided a suitable type of massage is performed targeting certain symptoms. Massage is more effective for those people who cannot exercise on their own. Before availing services of a massage therapist, get complete information about the qualification and affiliation of the therapist. Always prefer licensed therapist and if necessary also share any other relevant problem with the therapist before starting the therapy formally.

Treating Fibromyalgia with Massage

FMS patients experience severe pain in their body and may be sensitive to touch or external pressure on their bodies. They might not be able to bear pressure caused by deep-tissue pressure. Therefore, it is important to have an open communication with your therapist when it comes to how much pressure you can bear on certain parts of your body.
Treating Chronic Fatigue Syndrome with Massage

A slow and targeted massage is highly recommended because it is effective in mitigating anxiety and treats sleeplessness in CFS patients. As far as FMS concerned, it depends on how aware the therapist is and how sensitive you are to pressure.

VII. Rolfing

Rolfing involves deep-tissue work in order to bring body segments in to a proper shape. The notion behind this therapy is that fibrous connective tissues in our body sometimes contract and become hard losing natural elasticity and thus cause problem in our muscles and skeleton.

Treating Fibromyalgia with Rolfing

Fibromyalgia can be treated effectively with Rolfing therapy. The pressure created by Rolfing coupled with deep tissue massage is very helpful in dealing with fibromyalgia, yet some claim that performing high pressure massage might be painful for FMS patients.
This therapy is productive in enhancing specific symptoms of CFS. However these evidences are not enough to deduce that Rolfing is completely helpful. While opting for Rolfing you should be careful about the level of pain and pressure it might cause.

**VIII. Homeopathic Treatment**

Homoeopathist usually go for detailed history immediately after the initial diagnosis of CFS. The main focus should be on the distinct features and uniqueness of the symptoms. Uniqueness may include a particular kind of sensation a patient feels in the muscles. Some patients have headache or twitching associated with the syndrome. Importance will also be given to general reaction on the part of patients such as response to weather, temperature, food, preferences and dislikes. In instances where the precise cause of CFS is known, such cause should be given special attention. Some of the particular causes which may need special attention are influenza, gastroenteritis and glandular fever. Prescription of homeopathic medicine is not an easy task as it requires a lot judgment and demands time. It is also important for the patients to be patient when taking more than one medicine at a time.

Some of the medicines generally indicated by CFS are discussed in the following paragraph. Nonetheless there are a number of cases where homeopathic medicines taken by patients are not the ones targeting fatigue as a symptom but they produce positive results. The following discussion will make it clear that a number of symptoms are shared by different kinds of homeopathic medicines and why it becomes important to consult an expert homoeopathist before taking such medicines. It is also advised to consult a doctor in order to avoid any serious problem.

**i. Gelsemium:**

CFS featured with weakness coupled with drowsiness, dizziness, dullness and trembling. Another indicator is the feeling of muscle weakness and heaviness. There might be a spell of tremors and involuntary jerks in the muscles. The victim feels heaviness in the head and vision problem. He/she feel stress in moist environment, chill weather and might experience anxiety and mental pressure.
ii. Kali phosphoricum:

It is considered to be one of the best medicines for CFS. It is more effective if the illness is followed by spells of influenza. Anxiety and nightmares are the most common symptoms for Kali Phosphoricum. The victim might experience memory loss, fear of crowd or agoraphobia. Patient might feel muscle weakness, pain and aches. Symptoms can be reduced by having enough sleep, eating well and moving around lightly.

iii. Mercurius solubilis:

Generally written in abbreviated form as Merc sol, it serves as an effective medicine for treating glandular fever (Caused by the Epstein-Barr virus). Grandular fever, on becoming severe, may lead to CFS and in this case too, prescription of this medicine is highly effective. The patient may experience sore throat coupled with enlargement of cervical lymph nodes and secretion of saliva. Patients may also experience sensitivity to temperature, restlessness at night, nightmares and insomnia. There will be severe pain muscles combined with tender bones. Another problem associated with it is memory loss and poor recall of names.

iv. Scutellaria:

This wild plant is found in North America. Known for its medicinal value in treating epilepsy, anxiety and headaches, Scutellaria is popularly termed as ‘Mad-dog skull cap’. Scutellaria has been described as “sheet-anchor in treating influenza neuroses”. Scutellaria is highly productive in fighting CFS particularly one that follows flu. Patients in this situation normally feel nervous and forgetful coupled with continuous headaches and tired limbs and muscles.

v. Zincum metallicum:

Depression and restlessness are the main features of Zincum picture. Certain other symptoms more common to zincum picture are:

- Sensitivity to noise
• Restless legs
• Poor memory
• General weakness
• Numbness
• Uneasy sensation in limbs

Alcohol worsens the symptoms; therefore, avoid alcohol as much as possible.

vi. Nosodes:

It is the homeopathic procedure to treat CFS and has proven to be effective especially when the victim has experienced a continuous illness from a particular disease. The main sources of material are microorganism and diseased tissues. In certain cases where flu is followed by CFS, the best homeopathic approach is to use Influenzinum. However, Glandular fever can be treated effectively with Glandular fever nosodes.

IX. Meditation /Relaxation

Some of the possible justification as to why Meditation/Relaxation or Exercise works to treat CFS and FM are given below.
• CFS victims usually experience shallow and rapid breathing. Due to this, they face inadequate delivery of oxygen to burn the food at the cellular level. In order to cope this situation experts recommend meditation for it helps in improving shallow and rapid breath. Mediation if practiced regularly for some time may allow CFS patients to enhance their breathing capacity to an optimal level. CFS patients have very low relaxation response and considerably high stress response resulting in shortened breath, high heart rate, and stiff muscles and severe exhaustion. By practicing meditation one can easily reduce stress level, increase relaxation response, experience better sleep, normal heartbeat rate and enjoy normal metabolic activity.

• CFS and patients normally complain about aching and hardened muscles usually leading to sleep disorders. By following regular routine of meditation practice one can successfully fight these problems. People who meditate regularly do not need to use prescription drugs. It is also said that some people with CFS have greatly reduced or eliminated use of prescription drugs for sleep and pain through regular meditation.

Meditation releases tension and gives CFS patients a fresh start pushing behind all the stress and mental pressures. CFS patients have been found to have weak ‘information filtering’ capability. The disadvantage of this weakness is that a lot of information enters the brain and results in mental pressure. Some people face a lot of hardship in areas where there is a huge flow of information and they search for quieter place for peace. Meditation gives them mental peace by enabling them to focus or concentrate on single point. Through regular mediation these patients can greatly enhance the information filtering capacity. It is also suggested that people with CFS find it hard to recognize and filter unnecessary information or stimulus. People with normal brain function have the capacity to ignore certain external stimuli like, in many cases, less desired odors or unwanted background noise. Unfortunately CFS patient’s brain finds it challenging to do
such task. Since meditation improves the power of concentration and focus, therefore it is considered useful for treating such disorders.

**X. Biofeedback**

The following therapeutic remedies have helped people with CFS.

- People with morning stiffness, tender points and pain have shown significant improvement by using “Electromyography biofeedback”.
- Fibromyalgia accompanying CFS has been treated effectively by using methods like Meditation and CBT and both methods have proven to be highly productive.

Biofeedback is highlighted as the best treatment for eradicating stress and similar conditions. It is also useful in fighting against eating disorders, blood pressure, headache and certain other disorders related anxiety. Another important aspect of Biofeedback is its ability to make people think and relax deeply focusing on inner self. It is generally performed by professionals like Physiologists, Kinesiologists, General Physicians and Psychologists. However, other qualified healthcare workers can also perform it. One of the attractive aspects of Biofeedback is that it comes with no side effects. Nevertheless, it is not recommended for all cases. There are studies both in favor of and against the effectiveness of Biofeedback treating CFS-Fibromyalgia. It is highly advised to consult a professional before going for this procedure.
XI. Hypnotherapy

Hypnotherapy is a widely known therapy. A patient is first prepared by the therapist creating a mental environment in which the patient feels relaxed and tranquilized. By employing certain techniques of suggestion power, the therapists induces positive changes in your brain and gives you physical as well as mental relief.
Chapter 5.

Life Style Changes

I. Activity Pacing and Limits

The illness enforces a limit on lifestyle, and the symptoms of which can be coped with the change in lifestyle. This is known as *pacing*. Moreover, it reduces the activity level of oneself. The magnitude varies according to the severity of symptoms. Usually it ranges from 50% to 80% reduction. Rest period is one of the part of pacing as well.

CFS patients need to find new ways of doing things. Since their physical potential is decreased and they need more physical rest, therefore, in getting used to this situation their family and friends can contribute by playing a supportive role.

II. Importance of Quality Sleep

Sleep is also a major factor, which has strong effects in both CFS & Fibromyalgia patients. Poor sleep is a distressing matter that can be overcome by medication or supplements (especially 5HTP). Sometimes changes in lifestyle also work. Improvement in sleep can be achieved by building proper routine to get to bed and create a favorable environment to sleep.

Good sleep is triggered by few things namely, place of sleep, the noise around including spouse snoring, and temperature of the room. Some partners prefer to sleep in a separate place to avoid noise or other disturbance. This further helps control other factors effecting good sleep.

III. Dealing with Brain Fog

A mental exertion, which is very common in most of CFS patients, is known as ‘brain fog or fibro fog.’ This problem is a combination of confusion, lacking focus, struggling for words and problem with short term memory. It can be overcome with the help of family
members who provide support. Patients with brain fog can keep lists and other reminders as a technique to cope with the fog. Short instructive notes can be kept inside cupboards, bathroom, refrigerator etc.

1. Brain fog most often appears in patients when they are involved in more than one activity in a time, such as talking while driving. A simple solution is proper concentration on one individual activity.

2. CFS patients cannot tolerate many sensory inputs coming from various sources at a time and hence get confused. They can only have clear thinking when noise and the scale of light are accommodative to them.

3. Having proper physical environment helps reduce the chance of sensory overload.

4. Another very common strategy is the building of routine habits to resist fog effect on brain. An example can be putting keys in the same place every day.

5. One final strategy for CFS patients is to know the good hours of the day when they can be fully productive. Some patients really face worse hours daily hence they need to be sensitive to that time of the day. They need to identify certain good hours daily.
IV. Stress Susceptibility

One of the most difficult challenges for CFS patients is stress. CFS is stressful in itself, which bring the patients more prone to stress. The challenge becomes huge with the stressful additives and more exposure to stress.

Prevention - avoiding stressful situations - is a main stress management strategy. This involves abstinence from allergic food, avoiding places which add to enhanced stress, and finally keeping oneself away from anxious people. In addition, you should avoid negative people and people who do not make you feel good about yourself.

Doing things in same manner all the time and having a proper timetable for daily routine is another stress-coping method.

V. Measures to be Taken at Special Events

Special events differ from normal days. For example, vacations, holidays or ceremonies ask for more energy and precautionary measures. Sometimes non-routine events may also result into a relapse of CFS. Family members may be helpful in these situations using the following strategies.
1. In special events when organized or participated in, patients need to take fewer roles in them. Some of the activities need to be avoided like cooking many dishes, extending time of stay and indulging in noisy atmosphere. One good technique is to ask family members to bring one dish with them to the party.

2. More rest is required before, during (if possible) and after the special event. Having more rest helps the patient to store more energy which leads to decrease the probability of deterioration.

3. Getting oneself involved less or voluntarily avoiding some activities according to their symptoms is beneficial to the patient.

VI. Effective Dietary Changes

Healthy diet is always a key for healthy life. When it comes to CFS it’s very important to have healthy diet, as it helps in keeping the patient in a better condition, reduces symptoms, and can get rid of CFS altogether (especially since CFS is sometimes caused by dietary imbalance). A good diet gives a sense of better feeling, more energy and improves your immune system.

Eating the right food is very important. If you are overweight, you should strive to achieve a healthy weight. You should not opt for extreme and fad diets. One change at a time is helpful to clearly examine the effect on your health. Abrupt changes, even beneficial ones, may lead to worsening symptoms.

Your diet should be based on these principles:

- Eat the right number of calories for how active you are, so that you balance the energy you consume with the energy you use. If you eat too much, you’ll put on weight. If you eat too little, you’ll lose weight. The average man needs around 2,500 calories a day. The average woman needs 2,000 calories. Most adults are eating more calories than they need, and should eat fewer calories.
- Eat a wide range of foods to ensure that you’re getting a balanced diet and that your body is receiving all the nutrients it needs.
You should adhere to the following principles for a healthy diet conducive to ameliorating CFS:

**a) Base your meals on starchy foods**

Starchy foods should make up around one third of the foods you eat. Starchy foods include potatoes, cereals, pasta, rice and bread. Choose wholegrain varieties (or eat potatoes with their skins on) when you can: they contain more fibre, and can make you feel full for longer. Most of us should eat more starchy foods: try to include at least one starchy food with each main meal. Some people think starchy foods are fattening, but gram for gram they contain fewer than half the calories of fat.

**b) Eat lots of fruit and vegetables**

It’s recommended that we eat at least five portions of different types of fruit and vegetables a day. It’s easier than it sounds. A glass of 100% unsweetened fruit juice can count as one portion, and vegetables cooked into dishes also count. Why not chop a banana over your breakfast cereal, or swap your usual mid-morning snack for some dried fruit?
c) Eat more fish

Fish is a good source of protein and contains many vitamins and minerals. Aim to eat at least two portions a week, including at least one portion of oily fish. Oily fish is high in omega-3 fats, which may help to prevent heart disease and will help your brain function optimally, which is crucial in CFS (especially in patients who suffer from brain fog). You can choose from fresh, frozen and canned; but remember that canned and smoked fish can be high in salt. Oily fish include salmon, mackerel, trout, herring, fresh tuna, sardines and pilchards. Non-oily fish include haddock, plaice, coley, cod, tinned tuna, skate and hake.

d) Cut down on saturated fat and sugar

We all need some fat in our diet. But it’s important to pay attention to the amount and type of fat we’re eating. There are two main types of fat: saturated and unsaturated. Too much saturated fat can increase the amount of cholesterol in the blood, which increases your risk of developing heart disease. Saturated fat is found in many foods, such as hard cheese, cakes, biscuits, sausages, cream, butter, lard and pies. Try to cut down, and choose foods that contain unsaturated rather than saturated fats, such as vegetable oils, oily fish and avocados. For a healthier choice, use a just a small amount of vegetable oil or reduced fat spread instead of butter, lard or ghee. When you’re having meat, choose lean cuts and cut off any visible fat.

Most people eat and drink too much sugar. Sugary foods and drinks, including alcoholic drinks, are often high in calories, and could contribute to weight gain. They can also cause tooth decay, especially if eaten between meals. Cut down on sugary fizzy drinks, alcoholic drinks, cakes, biscuits and pastries, which contain added sugars: this is the kind of sugar we should be cutting down on rather than sugars that are found naturally in foods such as fruit and milk. Food labels can help: use them to check how much sugar foods contain. More than 15g of sugar per 100g means that the food is high in sugar.
e) Don’t get thirsty

You should be consuming at least 2 litres of fluid each day (about 8 glasses). This is in addition to the fluid we get from the food we eat. All non-alcoholic drinks count, but water, milk and fruit juices are the most healthy. Try to avoid sugary soft and fizzy drinks that are high in added sugars and can be high in calories and bad for teeth. When the weather is warm, or when we get active, we may need more.

f) Don’t skip breakfast

Some people skip breakfast because they think it will help them lose weight. In fact, research shows that eating breakfast can help people control their weight. A healthy breakfast is an important part of a balanced diet, and provides some of the vitamins and minerals we need for good health. Wholemeal cereal, with fruit sliced over the top is a tasty and nutritious breakfast.

Having a breakfast is doubly important in CFS as it will give you energy and will help to prevent brain fog during the day.

g) Role of Protein in the CFS Diet

Protein is an important nutrient in the food for your body. It helps with the maintenance and growth of the body. Around 20% of the materials in your cells and tissues are protein. Moreover, it is vital for hormones, antibodies and enzymes which keep your body alive.

Getting enough protein is crucial for energy levels, and to prevent muscle stiffness and pain.
h) Avoid Coffee and Caffeine Sources

Many CFS patients come to rely on coffee and other caffeine sources including caffeine tablets and energy drinks. Although these may give you a short term spike of energy, they will then cause you to crash and result in aggravated fatigue in the long term. Caffeine will also disrupt your sleep and make it harder to sleep. It is therefore highly recommend that you stop all your intake of caffeine and other stimulants. However, you should slowly wean yourself off it to avoid withdrawal symptoms, which include headaches and apathy. Start decreasing your intake slowly and aim to stop it completely after two weeks.

i) Avoid Chocolate

What applies to caffeine applies to chocolate as chocolate is high in caffeine. In addition, chocolate is very high in sugar, and this combination will give you a short term spike in energy followed by a longer crash, leaving you feeling lethargic and apathic.

j) Avoid Alcohol!

If you have CFS, you should stay away from alcohol as in most people it worsens their condition. Alcohol causes fatigue and tiredness. Moreover, it acts as a depressant, causing your mood to take a nose-dive. Furthermore, it dehydrates the body and puts pressure on the liver, bringing about feelings of lethargy and malaise.
k) Quit Smoking!

Like alcohol, smoking weakens our bodies (especially our immune system) and hinders the absorption and metabolism of nutrients and vitamins. Quitting smoking is one of the best things you can do for you CFS and overall health.

l) Inflammation

Latest research on CFS and Fibromyalgia does not regard them as inflammatory diseases. Nonetheless some experts claim that it might have an association with the fascial inflammation. Moreover it has also been noticed that inflammation may be caused by some illness resulting in extreme pain. Research also reveals that CFS has inflammatory attributes as indicated by the presence of inflammation causing cytokines. Experts prescribe different types of non-steroidal anti-inflammatory (NSAIDs) for these conditions. Some popular NSAIDs are Advil and Aleve taken by majority of patients. However they are believed to have negative side effects lasting for longer periods.
They may also inhibit the function of other medicine you are taking. Natural alternatives on the other hand can be used to mitigate inflammation. Some of the research based natural alternatives have been outlined below:

- **Flavonoids**: Straw berries and grapes.
- **Carotenoids**: Pumpkin, tomatoes, carrots and citrus fruit. Pumpkin and beets
- **Turpenes**: Spinach, tomatoes and Citrus
- **Allyl sulfides**: Onions, Leeks and Garlic
- **Isothiocyanates**: Turnip, Mustard, Cabbage and Kale.

**VII. Food Allergy or Intolerance**

Your CFS may be caused or aggravated by an undiagnosed food allergy or intolerance. This is particularly pertinent if you are also suffering from gastrointestinal distress or irritable bowel syndrome. Uncovering these will yield tremendous benefits

Generally, food allergies are hard to miss: consumption of the offending food will usually cause systemic reactions including rashes and hives in different parts of your body, swelling of lips and tongue, difficulty breathing, nausea and vomiting, and other symptoms that can be life threatening. They are easily diagnosed via a skin prick test or a blood test.

On the other hand, food intolerances are much more subtle and much more prevalent. People who have them may never realize that they are intolerant to a specific food. Unlike in a food allergy (where the tiniest amount of the offending food will cause a reaction), food intolerances come in varying extents. That is, you might be able to eat an amount of the food you are intolerant to, without any problems, but if you eat more than the amount you can handle, you will experience adverse effects. These are generally an upset stomach, nausea, bloating, gas, stomach cramps and diarrhea, and fatigue. The fact that people who are intolerant to a food will still be able to handle some amounts of that food, often makes it hard to diagnose a food intolerance. In addition,
food intolerances cannot be readily diagnosed via a blood test or a skin prick tests. Some special tests have been devised for specific food intolerances; however, these are not always reliable. The best way to identify a food intolerance is using a food-symptom diary and the elimination diet. You’ll learn how to do these in the comfort of your own home in later sections. But first, let’s have a look at the common food intolerances.

a) Lactose Intolerance

Lactose intolerance is the inability to digest lactose, a carbohydrate found in milk and most other dairy products. It is caused by low levels of lactase, the enzyme that digests lactose. There is a range of possible lactase levels, and this causes different extents of lactose intolerance. Someone with zero levels of lactase will not be able to digest any lactose, while someone with low levels will be able to digest small amounts of lactose without any problems or symptoms. If more than this amount is eaten, then bloating, gas, abdominal pain, nausea and diarrhea will result. Lactose intolerance in adults is relatively common and it is estimated that two-thirds of all adults have lower levels of lactase than they had in childhood.
A food-symptom diary, can be used to identify lactose intolerance. If you suspect that you have lactose intolerance, you can use the elimination diet (described in later sections) to confirm this. As there is a range of lactose intolerance, you will need to find your own tolerance levels via trial and error. In fact, the United States National Institute of Health states that "dietary control of lactose intolerance depends on people learning through trial and error how much lactose they can handle." For example, after the elimination diet, you can try drinking a small glass of milk a day and see whether you suffer any gastrointestinal symptoms or not. If you don’t, then go ahead and drink a slightly larger glass of milk. You can keep increasing the amount you drink as long as no gastrointestinal symptoms are experienced.

Milk is high in lactose. Ice cream is also a source of lactose. Yogurt and butter contain smaller amounts and are sometimes tolerated by lactose-intolerant individuals. Aged cheeses (such as mature cheddar) contain practically zero lactose and generally cause no problems for lactose-intolerant individuals. On the other hand, soft cheeses such as cottage cheese do contain significant amounts of lactose.

If you are lactose-intolerant, you need to keep your lactose intake below the amount which causes discomfort. Milk should be avoided or limited, according to your own tolerance level. If yogurt and aged cheese cause no problems, it is important to consume these regularly to ensure you are getting enough calcium. Aged cheeses are also energy-dense and are important foods if you are trying to gain weight. Soya-, rice-, barley-, coconut-, hazelnut- and almond-milk can be used instead of cow’s milk - these contain no lactose. Enzymatic lactase supplements are also available that act like synthetic lactase and will help you to digest lactose.

b) Dietary Fructose Intolerance

Dietary fructose intolerance, also known as fructose malabsorption, is an inability to absorb fructose, the sugar found in fruits and in table sugar (‘sucrose’). It is estimated that 40% of adults may be fructose intolerant. As with lactose intolerance, how much fructose can be tolerated in fructose intolerant persons varies. Generally, they will be
able to absorb less than 25 grams of fructose in one sitting (healthy adults who are not fructose intolerant will be able to absorb up to 50 grams in one sitting; more than this amount will cause digestive discomfort even in un-affected adults). Symptoms include bloating, gas, abdominal pain, nausea and diarrhea after consumption of a fructose-containing food. As in lactose intolerance, you can find out if you are fructose intolerant using a food-symptom diary and the elimination diet. After that, you will need to find your own tolerance level using trial and error.

Foods high in fructose are table sugar (contains 50 g fructose per 100 g), high-fructose corn syrup (contains 50 g fructose per 100 g), honey (40 g fructose per 100 g) and dried fruits (about 20 g fructose per 100 g). Most fruits and fruit juices contain 5-10 g fructose per 100 g. Foods containing sucrose and high-fructose corn syrup are generally high in fructose, as are many wines.

c) Gluten Intolerance/Celiac Disease

Gluten intolerance/Celiac disease, is an inability to digest gluten, a protein found in wheat, barley and rye. Gluten intolerance can result in damage to the intestines if it is not managed properly. Management involves the avoidance of gluten, which is found in practically all foods made from wheat, barley and rye. Bread, pasta, cakes and
breakfast cereals are generally made from wheat, barley and/or rye and will therefore cause problems to persons intolerant to gluten. Symptoms of gluten intolerance include abdominal pain, bloating, constipation, diarrhea, gas, greasy stools, nausea, vomiting, and weight loss. Fatigue, mood swings, eczema and bone pain can also result from gluten intolerance. Estimates of the prevalence of gluten intolerance vary, but it is believed that 1% of the population suffers from it. There are tests that can be done to check whether you are intolerant to gluten or not; however, keeping a food-symptom diary and following the elimination diet can be equally effective for diagnosis.

Although according to conventional medicine, you either have celiac disease or not, it appears that there might actually be a range of gluten intolerance and different intolerances to other components of wheat, barley and rye. Some people report that they can eat small amounts of gluten-containing foods with no problems, but experience symptoms if they eat too much. Additionally, many people report that they get bloating and diarrhea when they consume products made from refined grains - such as white bread and white pasta - but have no problems with whole grains such as brown bread and brown pasta. If you have problems digesting refined grains, try switching to whole grains. If symptoms persist, a food-symptom diary and the elimination diet can help you confirm whether you are gluten intolerant or not.

d) Keeping a Food-Symptom Diary

If you suspect a food intolerance or allergy, but are unsure which food may be causing them, a food-symptom diary can help you to pinpoint the offending food. A food-symptom diary can also help you confirm whether a suspected food is causing the symptoms. This kind of diary is the main tool used by dieticians to identify food intolerances, but you can easily do it yourself.

To keep a food-symptom diary, all you have to do is to write down everything you eat (including beverages, supplements, and medications) and at what time, as well as making a note of the time and intensity of any unpleasant feelings (such as bloating or diarrhea) that occur throughout the day. When writing down your meals, try to quantify
the amount of each food/beverage ingested. You do not need to weigh the food but you can use terms such as ‘a small bowl of …’, ‘two spoonfuls of…’, ‘a small glass of …’, ‘half a cup of …’, ‘one third of a plate of …’ etc… Keep a detailed dairy of the foods eaten and the symptoms experienced for at least one week. After that, you should be able to pick out any trends that occur - for example you may notice that you get diarrhea in the morning after consuming pasta the night before, or maybe you get bloating a few hours after consuming dairy products. As mentioned in the previous sections, there are different levels of tolerances to offending foods, and this is why it is important to make a note of the quantities of the food consumed and the intensity of the symptoms. Using a food-symptom diary for at least a week will allow you to pick out one or a number of foods that may be causing these symptoms. The next step is the elimination diet:

e) The Elimination Diet

Once you have a food suspect, you will need to completely remove that food from your diet for 7 to 10 days. Note that your body is actually intolerant to a nutrient/component and not a single food so you will need to ensure that you remove that component completely from your diet for now. So for example, if from the food-symptom diary you suspect that milk is causing you unpleasant symptoms, then you will need to remove all foods containing lactose while on the elimination diet. The same goes for the other intolerances - consult the previous sections to check which foods contain which offending nutrient. If from the food-symptom diary you suspect that a number of different foods may be causing unpleasant effects (e.g. fruits and other fructose-containing foods as well as milk and other lactose-containing foods), you will need to eliminate one component at a time. For example, remove all fructose-containing foods from your diet for 7 to 10 days. After that, reintroduce fructose-containing foods but eliminate all lactose-containing foods for 7 to 10 days. While on the elimination diet, it is also important to keep a food-symptom diary. Also note that food components can stay in our system for several days, and this is why it is important that the elimination diet is adhered to for at least 7 to 10 days.
The next step to fully confirm your intolerance and to evaluate your individual extent of intolerance is the gradual reintroduction of the offending food group, also known as a ‘food challenge’.

f) Food Challenge

After eliminating the offending food group from your diet for 7 to 10 days (‘elimination diet’) you will be feeling much better and your gastrointestinal symptoms should have subsided or vanished completely. In order to evaluate your individual tolerance level to the offending food group, you should reintroduce it gradually in your diet. Again, keeping a food-symptom diary will be of great help here.

If you have established that you are lactose intolerant, the next step will be to first introduce aged cheeses in your diet. Most lactose-intolerant individuals will be ok with this. Next, introduce yogurts and butter; again most lactose-intolerant individuals will handle these without problems. Next, introduce milk - but only a very small quantity at first. If you suffer no symptoms, increase the amount in a few days. Keep increasing until the unpleasant symptoms reappear. Doing this, you will have confirmed that you are lactose intolerant and would have found out exactly your individual tolerance level. The same protocol should be followed for any food group you may be intolerant to.

VIII. Candida

Candida overgrowth (known as yeast infection) can cause or worsen CFS. Candida is naturally present in our bodies, but an overgrowth is problematic. Generally, its growth is limited by the presence of other harmless bacteria. However, the following factors will kill off beneficial bacteria and change the environment of the body to favor the growth of candida, causing a yeast infections:

- Antibiotic use
- Eating lots of sugary foods
- Using steroids (including corticosteroids)
- Oral contraceptive pill
- Stress

If you feel you may be suffering from a candida overgrowth, the first step is to limit your intake of sugar foods and drinks. It would also be helpful to avoid anything that contains yeast (such as bread, marmite, etc…) for a week or two until your body is back into balance. Thirdly, you should start consuming a daily probiotic supplement (available as yogurt drinks), as this will provide your body with beneficial bacteria that will stop the uncontrolled growth of candida. If you have visible signs of candida overgrowth (oral or vaginal thrush) you should ask your doctor for anti-fungal medication.

**IX. Start a Diary!**

To start taking control of your CFS, you will need to start learning about your body - specifically what makes your symptoms worse and what makes them better. This is important as everyone is different.

Start keeping a daily diary and note down how you were feeling during the day, what your day involved, activities done during the day, amount of sleep you got last night, and what you had to eat and drink during the day. Note also any medicines and supplements that you took. If there were particular times during the day that you felt better or worse, note them down! This will accomplish two things - it will help you identify mitigating/aggravating factors, and will help you identify the times of the day you are most productive.
Chapter 6.

Quick Action Guide

1. After checking with your doctor, start taking 5HTP. Initially, take 50mg 30 minutes before bed on an empty stomach with four ounces of fruit juice. If you fail to fall asleep within 30 minutes and have a restful night, increase the dose by 50mg each night up to a maximum of 300mg per day. In case 5HTP causes you to become more alert instead of sleepy, stop taking it at night and take it with food during the day: three doses of 100mg each with each meal (totally of 300mg).

2. After checking with your doctor, start taking a magnesium supplement at 700mg daily with a meal.

3. After checking with your doctor, start a once-daily multi-vitamin.

4. Make sure you are drinking enough water - at least 2 liters if you are a woman and 2.5 liters if you are a man; more if you live in hotter climates or if you sweat significantly. This is around 6-10 glasses daily. Do not wait to get thirsty to drink.

5. Stop completely all stimulants, coffee, alcohol and smoking.

6. Get into a good bedtime routine. Try to sleep and wake up at the same times each day, and do a relaxing activity about 30 minutes before bed time (e.g. warm bath or light reading). Get at least eight hours of sleep each night.

7. Ask your doctor to check your thyroid function and iron levels.

8. If you have low blood pressure (100/70 or below) start consuming more salt and salty foods.

9. Reduce your intake of sugar and sugar foods, and increase your intake of fruit, vegetables and fish. Opt for high-fiber, starchy carbohydrates (e.g. whole meal bread and pasta) - these should make up one third of all your food intake.
10. If you do not regularly consume fish (less than twice weekly), start a once-daily omega 3 supplement.

11. Do not skip breakfast! Make sure you have something to eat as soon as you wake up, even if it is just something small such as a banana + glass of milk, or a cereal bar + glass fruit juice. If you struggle to eat solid foods in the morning, have a fruit smoothie.

12. If you regularly use anti-biotics or and corticosteroids or and have digestive problems such as diarrhea or constipation, start a daily probiotic supplement.

13. If you are over- or under-weight, try to achieve a healthy weight.

14. Start doing some exercises daily - very slowly at first (e.g. a 10 minute walk) and gradually build it up.

15. If you take exercise seriously, start L-glutamine (5g after training and 5g after bed) and vitamin C (500mg daily) - these will help your body recover faster.

16. Visit a chiropractor/massage therapist - you'll be amazed at how beneficial a session can be.

17. Manage stress levels by finding the time to do pleasurable activities, avoiding people who bring you down or make you feel stressed, and talk with a therapist if you feel this may help you.

18. Investigate possible food intolerances or allergies through a food and symptom diary and elimination diet; or ask a dietitian for help.

19. Start a diary. This will help you identify factors that affect your energy levels and will help to pin point your most productive hours.

20. Find the time to do some pleasurable activities every day. These will energize you mentally and reduce stress levels. If you suffer from brain fog, get into the habit of using checklists and 'to-do' lists.
1. **Acupressure**: The application of pressure with the thumbs or fingertips to the same discrete points on the body stimulated in acupuncture.

2. **Acupuncture**: An ancient Chinese practice of inserting fine needles through the skin to relieve pain.

3. **Adrenal Insufficiency**: The inability of the adrenal gland to produce adequate amounts of cortisol.

4. **Analgesic**: A drug that helps in reducing the perception of pain.

5. **Antibiotics**: Powerful medicines that fight bacterial infections.

6. **Antidepressant**: A prescription medication that is prescribed to relieve moodiness and depression.

7. **Bloating**: Any abnormal general swelling, or increase in diameter of the abdominal area.

8. **Central sensitization**: The increase in the excitability of neurons within the central nervous system where normal inputs begin to produce abnormal responses.

9. **Chronic**: An illness or medical condition that lasts over a long period and sometimes causes a long-term change in the body.

10. **Chronic Fatigue Immune Dysfunction Syndrome (CFIDS)**: Another name used for Chronic Fatigue Syndrome (CFS).

11. **Chronic Fatigue Syndrome (CFS)**: Chronic Fatigue Syndrome (CFS) is a complex and debilitating chronic illness that affects the brain and multiple body systems.
12. **Chronic pain**: Chronic pain persists over a longer period of time than acute pain and is resistant to most medical treatments.

13. **Circadian rhythm**: The daily rhythm that your body adjusts to in order to carry out essential biological functions.

14. **Clinical diagnosis**: When a qualified medical professional identifies a disease from its symptoms.

15. **Clinical trial**: Studies that have direct applicability to patients and their care rather than carried out in lab.

16. **Cognitive Behavior Therapy**: A psychotherapy based on modifying everyday thoughts and behaviors, with the aim of positively influencing emotions including relaxation and distraction techniques.

17. **Cognitive dysfunction**: Problems with concentration/attention, memory impairment, poor word-finding ability, decreased information-processing speed, motor slowing and mental exhaustion.

18. **Comorbidity**: The existence of two or more chronic diseases in one person at the same time.

19. **Cortisol**: An important hormone in the body, secreted by the adrenal glands.

20. **Costochondritis**: An inflammation of the cartilage that joins the ribs to the chest bone. It often resembles pain of cardiac problems.

21. **Cyclical course**: In CFS and FM, this is where the patient alternates between periods of illness and relative well-being.

22. **Deconditioning**: To lose physical fitness through lack of exercise and/or illness.

23. **Depression**: Depression is a mood disorder in which feelings of sadness, loss, anger, or frustration interfere with everyday life for a longer period of time.

24. **Diarrhea**: Frequent, watery, loose bowel movements.
25. **Disoriented**: To cause somebody to feel lost or confused, especially with regard to direction or position.

26. **Dizziness**: Dizziness is feeling faint or lightheaded to feeling weak or unsteady.

27. **Dopamine**: It is a chemical messenger that helps in the transmission of signals in the brain and other vital areas.

28. **Dopamine agonists**: These drugs bind to dopamine receptors in place of dopamine and directly stimulate those receptors.

29. **Dopamine Theory in Fibromyalgia**: A groundbreaking study by Dr. Patrick Woods, a nationally recognized researcher and authority on Fibromyalgia.

30. **Disrupted sleep**: Inadequate or poor-quality sleep.

31. **Earache**: Sharp, dull or burning pain in the ear that may be constant or temporary.

32. **Energy**: The ability to do things.

33. **Exclusion criteria**: Pre-defined factors that exclude a subject from a trial. For example: clinical studies often exclude patients that would be unable to attend for review for any reason.

34. **Fatigue**: Mental or physical exhaustion

35. **Fibro Fog**: Inability of CFS patients to think clearly, short-term memory loss, lack of concentration, and difficulty with word finding.

36. **Fibromyalgia**: A chronic disorder characterized by widespread musculoskeletal pain, fatigue, and multiple tender points.

37. **Flare**: To start up again. To recur, worsen, or intensify suddenly

38. **FM**: Abbreviation for Fibromyalgia.

39. **Functionally impaired**: Inability to function at a normal level
40. **Genetic predisposition**: Increased susceptibility to a particular disease due to the presence of one or more gene mutations.

41. **Headache**: Pain in the head lasting for some time caused by changes in pressure in the blood vessels leading to and from the brain.

42. **Hippocampus**: An area buried deep in the forebrain that helps regulate emotion and memory.

43. **Hormonal imbalance**: When the chemical messengers that regulate our body’s systems no longer function properly.

44. **Hormones**: Chemicals released by cells, glands, or organs in one part of the body that affect cells in other parts of the organism.

45. **Hypochondriac**: Individual unduly preoccupied with personal health and believes that illness is nearly always present or imminent.

46. **Hypothalamic-pituitary-adrenal axis**: It is a complex set of direct influences and feedback interactions among the hypothalamus, the pituitary gland, and the adrenal glands.

47. **Hypothyroidism**: A condition where the thyroid gland fails to produce enough thyroid hormone.

48. **Remission of symptoms**: Disappearance of the signs and symptoms of a disease.

49. **Relapse of symptoms**: The return of signs and symptoms of a disease after a patient has enjoyed a remission.

50. **Restless leg syndrome**: Restless leg syndrome is a sleep disorder characterized by leg discomfort during sleep, which is only relieved by frequent movements of the legs.

51. **Rheumatologist**: A doctor who specializes in the branch of medicine dealing with the study and treatment of rheumatic diseases.
52. **Secondary Fibromyalgia**: Secondary Fibromyalgia is found in association with another condition, i.e. Lupus, or Fibromyalgia following a tragic event (car accident, etc.)

53. **Shortness of breath**: Breathlessness, difficulty breathing.

54. **Short-term memory impairment**: Short term memory loss.

55. **Social Security Disability**: Federal program that provides financial assistance to people with disabilities who have worked long enough and paid Social Security taxes.

56. **Stabbing pain**: Fibromyalgia patients will often refer to their pain as “stabbing pain”.

57. **Stiff joints**: See “morning stiffness”.

58. **Stress**: A person’s physical and emotional reaction to external events taking place around us and within us.

59. **Substantial impairment**: A considerable weakening or effectiveness of something.

60. **Swollen lymph glands**: The enlargement of one or more lymph nodes.

61. **Swollen lymph nodes**: Lymph nodes can become swollen from infection, inflammatory conditions, an abscess, or cancer.

62. **Sympathetic nervous system**: The part of the autonomic nervous system that is active during stress or danger and is involved in regulating pulse and blood pressure, dilating pupils, and changing muscle tone.

63. **Syndrome**: A group of signs and symptoms that together is characteristic or indicative of a specific disease or other disorder.

64. **Tender lymph nodes**: Lymph nodes are glands that play an important part in your body’s defense against infection.
65. **Tender point**: Tender points are pain points or localized areas of tenderness around joints, but not the joints themselves. Tender points are often not deep areas of pain. Instead, they are superficial areas seemingly under the surface of the skin, such as the area over the elbow or shoulder.

66. **Trigger point**: A tight band in muscle or supporting structures, such as skin, ligaments, and fascia (tough linings that support and separate internal body parts). Trigger points are often described as lumps, bumps or ropes.

67. **Viral infection**: Infection caused by the presence of a virus in the body. Viral infections cannot be treated with antibiotics; in fact, in some cases the use of antibiotics makes the infection worse.

68. **Virus**: A submicroscopic parasitic particle of a nucleic acid surrounded by protein that can only replicate within a host cell.

69. **Yuppie-flu**: This is what CFS was initially referred to in the 1980s. It was considered a psychosomatic illness restricted to members of the young middle and upper classes.


13. De Bock K, Eijnde BO, Ramaekers M, Hespel P. Acute Rhodiola rosea intake can improve


