

Treating CFS & FM: The Stepwise Approach

Charles W. Lapp, MD

Hunter-Hopkins Center

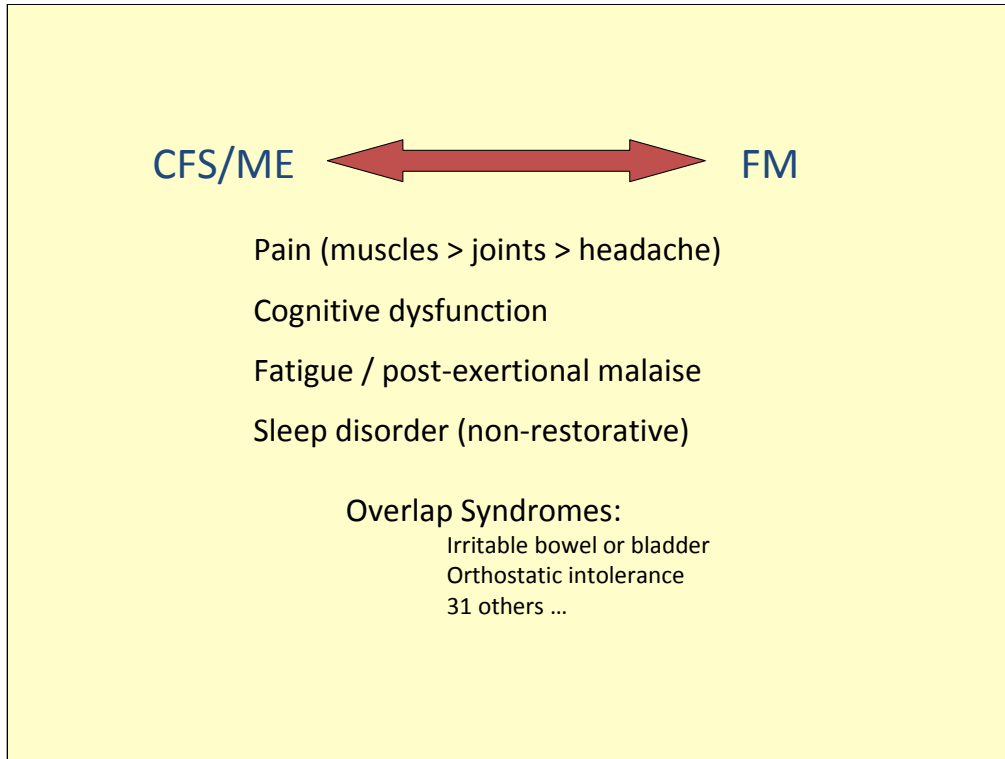
Charlotte, North Carolina

www.drlapp.net

An update to a lecture that I originally gave in Nashville TN over 10 years ago.

I want to thank the CFIDS Association of America for asking me to update and present this program ...

Please sit back and just enjoy the program! It is not necessary to madly scribble notes as I move along because the CAA will make this program available on their website, and if you download the PowerPoint slides from their website I have included all of my remarks in the "Notes" section.



Addressing two fairly new illnesses: CFS (or CFIDS, or ME) and FM

CFS was first described in 1988, FM in 1990

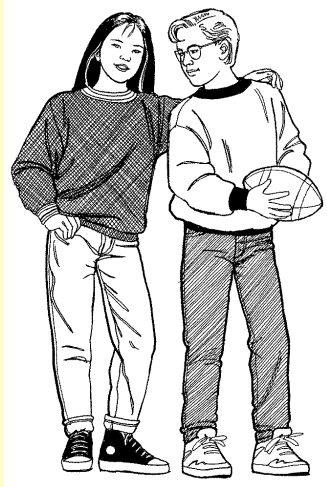
Prior to 1980's there was no definition of these illnesses and patients were thought to be either hypochondriacal or "crazy"

Four cardinal symptoms ("the pain, the brain, the energy drain, and oh I wish I could sleep again!")

We later recognized that patients with CFS or FM (PWCs) were much more likely than normal healthy people to suffer with overlap syndromes such as IBS, OAB, OI, TMJ, pelvic pain, prostatitis, and many others.

CFS & FM

“Like Brother & Sister”



- Different definitions
- Similar symptoms
 - Fatigue
 - Sleep disorder
 - Aches and pains
 - Cognitive difficulties
 - Overlap syndromes
 - IBS, OAB, OI, TMJ...
- Biochemical and genetic differences

Like brother and sister because they share the same symptoms and overlap syndromes
But ... different definitions (I'll explain), and biochemical and genetic differences

Substance P, glutamate and other excitatory neurotransmitters are elevated

in FM

Genomic studies can separate CFS from FM, and even reflect severity of

illness!

Chronic Fatigue Syndrome

Case Definition and Criteria

1988 and 1994

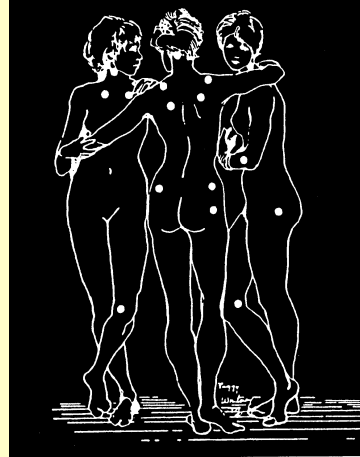
An international working group was convened by the CDC in 1988 and a research case definition was crafted.

This was improved and re-published in 1994.

Although this definition was developed for research purposes, it has considerable utility for practicing clinicians.

Fibromyalgia

- Widespread pain for at least 3 months
- At least 11 of 18 classical tenderpoints
 - Top/bottom
 - Left / right
- Axial tenderness



1990 American College of Rheumatology Criteria

In 1990 the American College of Rheumatology convened a group of FM experts to develop a research definition of their own.

To determine the criteria for FM, Wolfe et al studied 558 patients.

FM patients (n=293), control patients (n=265)

Controls were age- and sex-matched patients with neck pain syndromes, low back pain syndromes, trauma-related pain syndromes, and possible SLE or RA. This research group concluded that pts with FM were characterized by chronic widespread pain for at least three months, at least 11 of 18 tender points (in all 4 quadrants of the body), and tenderness along the spine or breastbone.

The ACR criteria are about 88% accurate (“specific”) in determining FM from other rheumatologic conditions.

Stepwise Approach to Management

SYMPTOMATIC THERAPY...

SUPPORTIVE THERAPY

NUTRITION

ACTIVITY (Energy Conservation)

EDUCATION

In 1992 Dr. Paul Cheney and I were working together in Charlotte NC. We felt that there should be some standardized evidence-based program to manage these debilitating illnesses, which is why we developed our Stepwise Approach.

Over the years this program has been widely adapted by other physicians, and many aspects of the program have been improved and expanded.

Education

- CFIDS Association of America
 - www.cfids.org
- Fibromyalgia Network
 - www.fmnetnews.com
- Managing CFS and FM: A Seven Part Plan by Dr. Bruce Campbell
 - www.cfidselfhelp.org

Our program begins with education. We still educate our patients one-on-one, face-to-face, and new patients leave our office with a DVD about CFS and FM, a binder of pertinent articles, as well as a 3-6 month treatment plan.

Education begins with reassuring a patient that they have a recognized disorder. Most people are relieved just to hear that they are not dying and that they aren't crazy. The more you know about a medical condition, the more equipped you will be to handle its ups and downs.

This slide lists several sources of excellent and reliable information. ..

For those who want to learn more about pacing, setting limits, coping, and obtaining ongoing support, Dr. Bruce Campbell offers written material, CDs, and even online courses on these subjects.

It is hard to find one source for all the information you need to manage your illness, so Dr. Campbell and I have teamed up to produce just such a website ... coming soon!

Activity

Four Key Aspects of CFS & FM

- Exertional
- Positional
- Hypersensitivities
- Stress intolerance

The second step is to discuss Activity, and in this category there are 4 key aspects that you need to understand.

The first aspect is a “no-brainer”: exertion – even normal every day activities – make things worse, and if you overdo it, then you may trigger a flare that lasts for hours to weeks. This is what we call Post-Exertional Malaise (an extended period of symptom exaggeration following mental or physical exertion).

On the other hand, if you just lay around every day you will get stiff and sore, and deconditioned.

By “positional aspect” I mean that there is something magical and restorative about lying flat. Sitting or standing are difficult, but lying flat makes you feel better.

When people contract CFS or FM it is as if the central nervous system becomes super-sensitive to everything: sound, light, odors, temperature, and even medications.

The least obvious of the 4 Key Aspects is stress intolerance. You may have noted that you get worse with emotional or even physical stress. You may not have noticed that mental stress – like reading, concentrating on paperwork, or focusing on a computer screen -- are just as tiring as physical work.

Activity -- Pacing

- Rest periods
 - 2-3 times daily for 10-30 minutes
 - Supine or semi-recumbent
 - Clear your mind!
- Limit setting
 - Roller-coaster versus couch potato
 - Most PWCs push and crash
 - Energy conservation

One of the first things we teach new patients is to accomplish everything in small steps followed by rest.

It is also important to “recharge your batteries” 2 or 3 times during the day
10-30 minutes
supine or semi-recumbent
Clear your mind

Until PWCs learn to make lifestyle changes and set limits on their activity, there is a tendency to either push ‘n’ crash or to not do anything at all for fear of triggering symptoms: roller-coasters and couch potatoes

The majority of PWCs have difficulty “slowing down” their lifestyle, so there is a tendency toward pushing and crashing, and a real need for learning how to conserve energy.

Activity -- Energy Conservation

- Develop a highly individualized activity plan
- Start slowly and increase slowly
- Avoid traditional exercise regimens
- Consider referral to a rehabilitative therapist
- Activity plans and therapies are focused on meeting IADLs and improvement in function

Activity plans must be highly individualized, based on personal tolerances and abilities.

Activity/exercise should start slowly and increase slowly. Some experts suggest an activity/rest ratio of 1:3. For example, the person exercises for 30 seconds and rests for 90 seconds. The initial goal is to prevent further deconditioning.

A typical aerobic or conditioning program is inadvisable. CFS activity programs begin with exercises that help with ADLs and then move on to strengthening and conditioning exercises. Examples are: hand stretches, sitting and standing, picking up and grasping objects, light stretching and strengthening exercises using only body weight as resistance. When these are mastered and well-tolerated, stretch bands and light weights can be added, then aerobic activities like walking, biking, or pool therapy.

We frequently use the concept of “energy dollars” to explain the concept of energy conservation.

Let’s say you have 10 EDs per day

Every activity has an energy cost ...

The goal is to end up with 1 or 2 EDs left at the end of the day

If you spend more energy dollars than you have, then you have to make them up the next day

Examples

Activity

Monitoring & Setting Limits

- Worst case: couch- or bed-bound
- Evidence: you *can* and *must* be active
- Objective limits
 - Pedometer (1000-5000 steps)
 - Aerobic interval activity
 - Heart rate limited
 - Two questions ...

Many people with CFS/FM are reluctant, because of past experience and “horror” stories from other patients, to begin any type of activity/exercise program.

The evidence shows that you *can* and *must* be active

Can: Physical therapist Lisa Clapp studied interval exercise in 10 patients with CFS ... ¹

Must: Two analyses of all the literature on the treatment of CFS revealed two predictors of improvement: ^{2,3}

- (1) willingness to make lifestyle changes
- (2) a regular activity program

There are several ways to monitor your activity so that you don't over-do or under-do it.

Invest \$5 in a step meter or pedometer. Experience has shown that most PWCs take 1000-5000 st/d

Stay within the aerobic exercise range

At HHC we frequently measure the anaerobic threshold by CPXT

Experience shows that patients flare when they exceed their AT

Once we know that AT, we can teach patients to limit the time spent or

HR so as to not exceed AT

Lastly, you can ask two questions after exertion:

- (1) How do I feel afterward?
- (2) How do I feel the next day?

Activity should not trigger post-exertional malaise

2. [Interventions for the Treatment and Management of CFS](#) JAMA 2001 Sep 19;286(11):1360-1368, P Whiting, AM Bagnall, et al

3. [Exercise Therapy for CFS](#) Cochrane Review, 2004: (3):CD003200 M Edmonds, H McGuire, J Price

Nutrition

- Healthy and balanced diet
- SCANT
 - Sugar
 - Caffeine
 - Alcohol
 - Neurotoxins (aspartame, MSG, nightshade family)
 - Tobacco
- Sensitivity to dairy and gluten

There is no specific diet that is best for people with CFS/FM, but experience has taught us that certain foods are tolerated better than others. For example, a diet high in red meat and fat causes lethargy and indigestion or abdominal "fullness" in many patients. Why? Because red meat and fatty foods like fried foods and gravy are harder to digest than lighter foods. In very simplistic terms, heavier foods require more energy to digest.

A "prudent diet" of fruits, vegetables, complex carbohydrates (like potato, rice, and pasta) and light meats (chicken, turkey and fish), is tolerated much better.

We have also learned that certain food groups and habits are not tolerated well in CFS/FM. These are Sugar, Caffeine, Alcohol, Neurotoxins, and Tobacco – recollected by the anagram, SCANT.

Most PWCs crave sugar and note that sugar can provide a much-needed burst of energy. However, using sugar for a "quick fix" leads quickly to a hypoglycemic "crash", and the need for more sugar. The sugar junkie finds himself on a roller coaster of sugar ups-and-downs.

Caffeine is also frequently used for an energy boost, but it too leads to a "crash" later on.

Alcohol is not physically tolerated by most PWCs, and tobacco is simply unhealthy.

Aspartame (NutraSweet™ or Equal™, etc) is widely used as a sugar substitute, but many people do not know that this purported "natural" product is broken down in the body to methyl alcohol and formic acid. Formic acid (formaldehyde) is used as embalming fluid, and methyl alcohol is the highly toxic contaminant that may cause blindness and kidney failure. In simplistic terms, aspartame just adds more toxins to the overburdened PWC, and in our experience frequently leads to headache or increased fatigue.

MSG (monosodium glutamate, or just glutamate) is frequently added to food products to impart a "savory" taste. Although mostly associated with Asian or Chinese foods, glutamates can be found in yeast or yeast products, bouillon and broth, pectin, soy products, seasonings, anything fermented.

Neurotoxins can cause headaches, nausea, fatigue, joint and muscle pain, abdominal pain / cramps, numbness, palpitations, anxiety, and depression.

Try to reduce your intake of SCANT, but you need not avoid them altogether.

Many people with CFS/FM are sensitive to dairy products and wheat (or gluten). If you suffer with abdominal complaints consider a 4 or 5 day trial diet that excludes any dairy products and wheat. We call this our Modified Elimination Diet, and copies are available from the office.

Specific Symptomatic Therapy

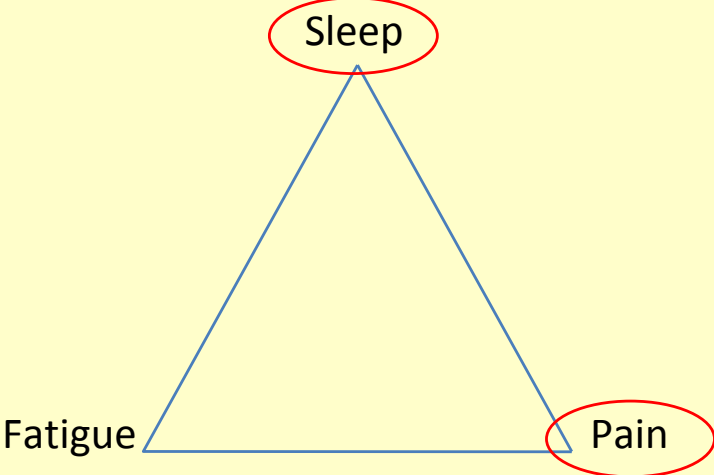
- Sleep management
- Pain management
- Cognitive dysfunction
- Orthostatic intolerance
- HPA Axis



Of these four, sleep is probably the most important to treat.

Due to time limitations, I will emphasize sleep and pain therapies today.

CFS Triangle



Symptomatic Management: Sleep

Sleep management is key

- Good sleep habits
 - Regular sleep and wake times
 - Use the bed only for sleeping
 - Never try to make yourself sleep
 - Hide the clock from view,
 - Move to another room until you are really sleepy
 - Don't be afraid of insomnia
 - Avoid naps

Sleep management is key to improvement for CFS.

A common perception is that people with CFS sleep all the time. While it may appear that this is the case, we do know that whatever amount of sleep that they do get is not restorative.

PWCs also experience fatigue, achiness and “mental fogginess” that lasts about 1-2 hours after rising (dysania).

Sleep problems include: difficulty falling asleep, hypersomnia, frequent awakening, intense and vivid dreaming, restless legs, periodic leg movements and nocturnal myoclonus (jerking).

Simple sleep habits are the first step of management and include: establishing a regular bed-time routine and waking time, use the bed only for sleeping, never try to make yourself sleep, hide the clock from view, if you're unable to sleep get up and move to another room until you are really sleepy (try reading, soft music, or relaxation tapes); don't be afraid of insomnia (you'll do just fine the next day; quiet rest is almost as good as sleep); and omitting daytime naps.

Medications for Sleep

- Medications for short period of time
 - OTC meds
 - Melatonin, tryptophan, valerian
 - Diphenhydramine, doxylamine
 - Clonazepam (0.5-1mg) + TCA (doxepin, trazadone)
 - Non-hypnotics (Lunesta, Rozerem, Sonata)
 - Hypnotics (Ambien)
 - Most CFS patients do not tolerate sedating meds at normal doses
 - Stimulant medications may be indicated
- Sleep studies and referral to sleep specialist

Unmedicated sleep architecture is best, but pharmaceuticals may be helpful.

First consider OTC sleep products (melatonin, tryptophan, valerian) or a simple antihistamine like diphenhydramine (Benadryl, Tylenol PM, Advil PM) or doxylamine (used in Nyquil). If this is not beneficial, then start with a prescription sleep medication in the smallest dose possible and for a brief period.

In patients who have trouble both falling asleep and staying asleep, a particularly useful combination is clonazepam (0.5 – 1mg hs) to initiate sleep and low dose tricyclic or tetracyclic antidepressants to help maintain sleep. Examples: doxepin (10-25mg), amitriptyline (10-25mg) or trazodone (25-50mg).

Next step would be a non-hypnotic medication such as Lunesta (eszopiclone), Rozerem (ramelteon), or Sonata (zaleplon). These work to naturally stimulate the sleep center of the brain, and are not thought to be addictive.

Hypnotic: Ambien® (zolpidem), useful for both sleep initiation and maintenance. Zolpidem increases the depth of sleep but users may adapt to the drug over time, and many users experience retrograde amnesia, parasomnias (like sleep walking or sleep eating).

Benzodiazepines can be helpful, but are associated with unfavorable characteristics such as habituation, adaptation, and adverse effects on stage 3 and 4 sleep.

Analgesics and/or non-steroidal anti-inflammatory drugs (NSAIDs) can be used for pain and often benefit sleep as well.

Sleep and sedative medications may produce their own problems and undesirable side effects and judicious use of these drugs is necessary. Many PWCs are extremely sensitive to medications, and are advised to start with very low doses and increase gradually to tolerance.

PWCs who are very sleepy during the day might benefit from stimulant medications (Provigil, Nuvigil, Ritalin or Adderall) to help keep them alert and focused during the day.

Studies have shown that up to 80% of PWCs have primary sleep disorders such as sleep apnea, periodic leg movements (rest less legs), and narcolepsy -- so if sleep is poor seek the help of a sleep specialist.

Symptomatic Management: Pain

- Non-pharmacologic
 - Heat / cold
 - TENS / EMS
 - Liniments / topicals
 - Physical therapy
 - Biofeedback
 - Balneo- or aqua-therapy
 - Acupuncture
 - Chiropractic
- Pharmacologic
 - Antidepressants
 - Analgesics
 - Antiepileptics (AEDs)

CFS pain originates from muscles (sometimes described as “deep pain”), joints (arthralgias), headaches (typically pressure-like), and allodynia, which is generalized hyperalgesia or soreness of the skin to touch. The fibromyalgia pain can be improved with a regimen of stretching exercises and light conditioning.

Pharmacologic and non-pharmacologic therapies are used as well.

Non-pharmacological therapies that are helpful in CFS and FM include ...

Drug therapy is to be avoided, if possible, due to possible habituation/addiction and adverse effects.

There are currently three major categories of drug therapy, however.

Symptomatic Management: Pain

- Simple analgesics
 - acetaminophen, aspirin or NSAIDs
- Antidepressants
 - Amitriptyline, desipramine, nortriptyline
 - Venlafaxine, duloxetine, milnacipran
- Anti-Epileptic Drugs (AEDs)
 - Pregabalin, gabapentin, others
- Non-opioid analgesics (tramadol)
- Referral to pain management specialist
 - Narcotics are not recommended except in consultation with pain management specialists

Begin with NSAIDs (ASA, acetaminophen, ibuprofen)

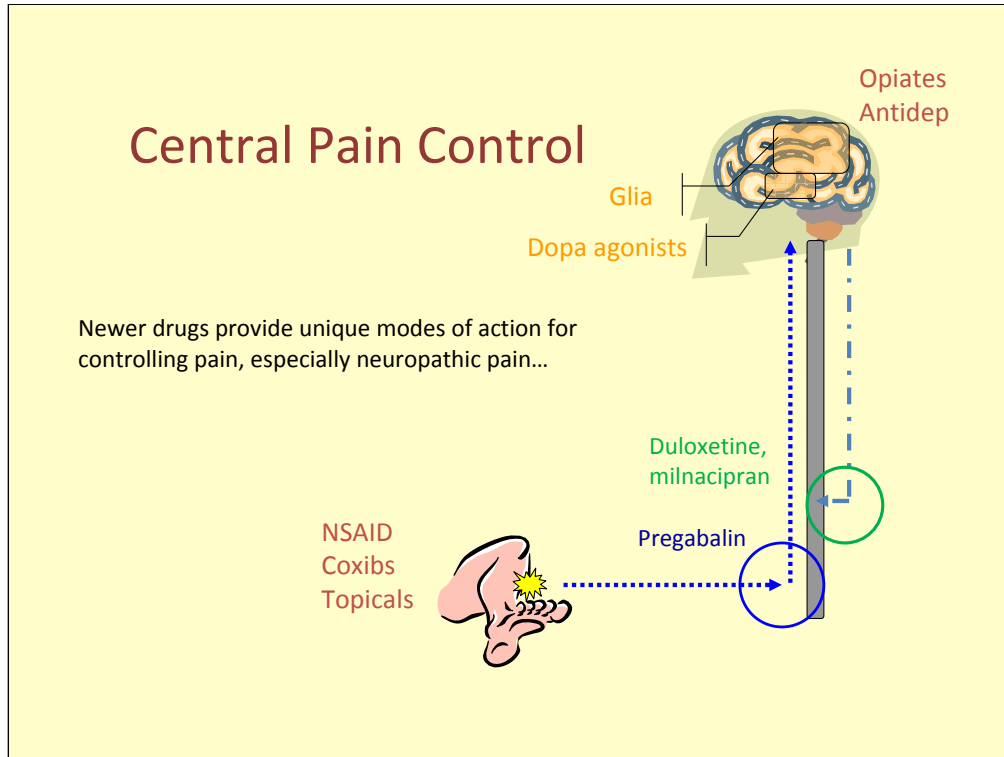
Low doses of tricyclic antidepressants (amitriptyline, desipramine, nortriptyline) can be helpful and use to be the first drugs of choice. However, these medications are frequently associated with significant side effects such as dry mouth, blurred vision, and weight gain. More importantly, they tend to work less well over time.

More recently, NSRIs (Norepinephrine-Serotonin reuptake Inhibitors) have been shown to be effective for pain, have fewer side effects, tend to be weight neutral, and they are durable. That is, they remain effective after months of use. These include venlafaxine/Effexor, duloxetine/Cymbalta, and milnacipran/Savella. Cymbalta and Savella have been FDA approved for fibropain.

Epilepsy drugs have long been known to reduce atypical or neuropathic pain, and have been useful in both CFS and FM. The first drug of this type was gabapentin / Neurontin. More recently pregabalin / Lyrica has been FDA approved for the treatment of fibropain.

My next choice for pain control is tramadol (aka Ultram, Ultracet, Ryzolt). This drug is in a unique class called "opiate / non-opiate." Tramadol has the strength of codeine but fewer adverse reactions and is rarely addictive. Therefore, it is very effective and more safe for PWCs than narcotic medications.

If narcotics are considered, consider referral to a pain management program.



Pain is sensed in the periphery by nociceptors and carried to the spinal cord by peripheral nerves.

In the spinal cord, peripheral nerves “connect” with the ascending pain fibers in the posterior spinal column. These ascending nerves carry pain signals to the brain.

Medications like ibuprofen, naproxen, Celebrex, Mobic and Lidoderm work at the nociceptor site, peripherally, to reduce pain.

Opiates and narcotics (hydrocodone, oxycodone, morphine) and the antidepressant medications work in the brain to affect pain, mostly by blocking opioid receptors.

Anti-epileptic drugs like pregabalin work at the junction between peripheral and ascending nerve fibers in the spinal cord actually block pain from going to the brain.

There is also a descending nervous system that acts on the spinal cord to *inhibit* pain signals from reaching the brain. This descending or inhibitory system is activated by medications such as Cymbalta or Savella.

In the past couple years researchers have been seeking new methods of controlling pain. One way is by using high doses of dopamine agonists like Requip or Mirapex; another way is to activate the inhibitory glial system using LDN (low dose naltrexone).

Supplements

Multivitamin	Magnesium, calcium
B12	Vitamin D3
Lysine	NADH, acetyl carnitine
DHEA	d-Ribose

Let me make a brief comment about vitamins and supplements:

First there is no “cure” for either CFS or FM. The current state-of-the-art management of CFS/FM is to first manage lifestyle and second manage the symptoms. If you don’t adjust your lifestyle first, you will never get better. Let me be clear -- medications do not cure, they only manage the intolerable symptoms until nature does the healing.

People with CFS and FM frequently become discouraged with the lack of a cure and the slow progress toward recovery. For that reason, many succumb to misleading information about vitamins, supplements, and nutraceuticals in an effort to feel better. Let’s be honest – if these treatments worked, everybody would be getting better. The truth is, for *every person* who improves with alternative therapies, there are *thousands* who have failed to respond/improve.

At HHC we use two criteria before recommending supplements: (1) there has to be a scientific basis for their use, and (2) a majority of individuals who use them must benefit. Based on these criteria, there are only six supplements that we recommend regularly: B12, Vitamin D, Lysine, NADH (or carnitine), DHEA, and ribose. We feel that a good multivitamin, magnesium, and calcium can optimize health, and so we include them on our list.

Advanced Therapies

Growth hormone Low dose cortisol

Transfer Factor Isoprinosine

Ampligen

Treatment of CFS and FM does not end with lifestyle changes and symptomatic treatments. There are also advanced therapies and theoretical treatments.

The literature supports the use of growth hormone and low dose cortisol in many PWCs whose hypothalamic-pituitary –adrenal axis (HPA axis) is suppressed by their illness. That is, the hypothalamus, pituitary, adrenals, and other glands (such as the thyroid and sex glands) function poorly. In such cases, the use of hormones and steroids may provide modest benefit.

Some patients who suffer recurrent infections or viral symptoms may benefit from transfer factor or isoprinosine, which are thought to reduce viral load and possibly modulate the immune system.

Lastly, Ampligen is an immune modulator that has been under study since 1988 for the treatment of Chronic Fatigue Syndrome. The manufacturer, Hemispherx Biopharma, is currently seeking FDA approval for the use of this drug in CFS. Currently, however, it is an experimental drug only available at the Hunter-Hopkins Center and Dr. Dan Peterson's clinic as part of an experimental protocol.

Theoretical Treatments

Peterson	St. Amand
Lerner	Marshall
Montoya	Wilson
Pall	Cheney
Glutathione	

Lastly, I will mention that several well-known “researchers” have proposed *theoretical treatments* for the management of CFS and FM. None of these has been shown to be particularly effective in scientific, randomized, placebo-controlled studies. In fact, they may only be helpful in a small subset of persons with CFS/FM. My personal opinion is that they should be applied cautiously and only by physicians who are especially knowledgeable in their use.



HUNTER-HOPKINS CENTER

**7421 Carmel Executive Park
Charlotte, North Carolina
704 543 9692**

Web: www.drlapp.net

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Questions & Answers

Charles W. Lapp, MD
Hunter-Hopkins Center

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