



CHRONIC FATIGUE (CFS), FIBROMYALGIA (FM) & CHEMICAL INTOLERANCE (MCS)

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These three conditions overlap hugely. All are generally associated with the “full rain barrel” - elevated body burden of toxins (chemicals, metals, mycotoxins). Diagnosis and treatment overlaps. Most will exhibit hypersensitive sense of smell, light and sound sensitivity, possible visceral sensitivity (e.g., interstitial cystitis or irritable bladder, colon, GERD). This appears to be due to a resetting of the afferent nervous system: e.g., action potential for firing sensory nerves in nose very low compared to control. Light and sound probably same basis, as is visceral proprioception.

After taking a careful history, I obtain genomics (usually Neurogenomics, which covers MTHFR and the GSTs, or Detoxigenomics with MTHFR added on if there is a relevant family history of breast, ovarian, cervix, uterine or prostate - estrogen related - tumors) I use the genomics to dictate supplementation to replenish/upregulate function. (See **Genomics**)

Diagnostic tests can also include baseline chemistries, urine metals provocation, Toxic CORE (Metagenics), mycotoxins, thyroid, adrenals, CDSA, others as indicated.

Treatment includes detoxification (sauna for sure, chelation if indicated), possibly LDA if universal reactor or seriously allergic/sensitive to multiple foods, inhalants, chemicals (LDA works for all three categories)

CFS: mitochondrial function can be partially blocked by chemical or metal toxins, producing a deficiency of metabolic energy. (Pb and Hg especially have high affinity for the -SH groups in the oxidative phosphorylation machinery, and decrease energy production, and I have seen two young men with high Pb and Hg fire up nicely after a couple months' chelation). MTHFR SNPs also can produce difficulty in the operation of the Krebs Cycle or reversible structural defects in mitochondria – i.e., deficient carnitine, slowing substrate transport into mitochondria, or CoQ10 deficit making for fewer intact oxidative phosphorylation complexes) all leading to less metabolic energy and chronic fatigue. Also, the **von Ardenne phenomenon:** tightness of precapillary sphincters throughout the body leads to poor tissue perfusion, decreased delivery of oxygen to cells adjacent to capillary beds, also decreased delivery of substrate into peripheral tissues, with resulting fatigue, poor exercise tolerance, possibly muscle pain or even fibromyalgia. (Diagnosed with high venous oxygen, as blood shunts back toward the heart after bypassing the capillary beds.)

FM: this in my opinion tends to be a disease of excessive proprioception. Like the nose, eye and ear hypersensitivity mentioned above (action potentials have been measured in the literature), there is often excessive proprioception sensitivity, so muscles hurt simply because they exist. Chemical and metal toxins play huge role here in my experience, and approach is similar to CFS.



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Diagnosis and treatment similar. Have had very good results with metals chelation and sauna.

MCS: Similar to CFS and FM. Full “rain barrel” and allergic or neurogenic reactions to stimuli - formaldehyde in clothing stores, toluene in perfumes, etc. Typically have acute changes in brain blood flow on SPECT scanning with exposures to trigger chemicals. (“Brain fog.”) Affects memory, focus, word finding, reversible with effective detoxification and perhaps with immunotherapy (LDA – not always necessary but great help when it is)

Diagnosis and Rx as above although LDA plays more prominent role here as desensitization to stimuli (including chemicals in LDA shot) helps symptoms faster than detox by itself, in many cases.