

# ME SCIENCE LINKS

## Publications on Myalgic Encephalomyelitis



*Studies and articles were selected for those most likely to contain patients fitting the International Consensus Criteria (ICC). Unfortunately, most studies are unclear on choice of criteria. MEadvocacy prefers the ICC, as it clarifies the distinct disease originally labeled ME.*

*Patient cohorts selected by ICC criteria will provide stronger evidence for biomedical abnormalities. Many researchers use the name Chronic Fatigue Syndrome [CFS] in conjunction with or in place of ME, which increases probability of government grant approvals.*

To better understand the ICC:

[http://www.meadvocacy.org/the\\_international\\_consensus\\_criteria\\_what\\_is\\_it\\_do\\_i\\_fit\\_the\\_criteria](http://www.meadvocacy.org/the_international_consensus_criteria_what_is_it_do_i_fit_the_criteria)

To better understand the different criteria used in these studies:

[http://www.meadvocacy.org/analysis\\_of\\_cfsac\\_august\\_2015\\_recommendations\\_for\\_the\\_iom\\_criteria](http://www.meadvocacy.org/analysis_of_cfsac_august_2015_recommendations_for_the_iom_criteria)

### **STUDIES IN CHRONOLOGICAL ORDER - MOST RECENT FIRST**

#### **Elevated brain natriuretic peptide levels in CFS associate with cardiac dysfunction: a case control study**

(2018) Cara Tomas, Andreas Finkelmeyer, Tim Hodgson, Laura MacLachlan, Guy A MacGowan, Andrew M Blamire, Julia L Newton **[Fukuda]**

<http://openheart.bmj.com/content/openhrt/4/2/e000697.full.pdf>

#### **Exercise – induced changes in cerebrospinal fluid miRNAs in Gulf War Illness, Chronic Fatigue Syndrome and sedentary control subjects**

(2017) James N. Baraniuk & Narayan Shivapurkar **[Fukuda, ICC, CCC, IOM]**

<https://www.nature.com/articles/s41598-017-15383-9>

#### **Cellular bioenergetics is impaired in patients with chronic fatigue syndrome**

(2017) Cara Tomas, Audrey Brown, Victoria Strassheim, Joanna Elson, Julia Newton, Philip Manning **[Fukuda]**

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0186802>

#### **Cytokine signature associated with disease severity in chronic fatigue syndrome patients**

(2017) Jose G. Montoya, Tyson H. Holmes, Jill N. Anderson, Holden T. Maecker, Yael Rosenberg-Hasson, Ian J. Valencia, Lily Chu, Jarred W. Younger, Cristina M. Tato, Mark M. Davis **[IOM, Fukuda, CCC, ICC. Those with major depression and substance abuse w/in year of withdrawal were excluded]**

<http://www.pnas.org/content/114/34/E7150.full>

#### **Grey and white matter differences in CFS - A voxel-based morphometry study.**

(2017) Finkelmeyer, He, MacLachlan, Watson, Gallagher, Newton, Blamire. **[Fukuda]**

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5633338/>

#### **Activin B is a novel biomarker for chronic fatigue syndrome/myalgic encephalomyelitis (CFS/ME) diagnosis: a cross sectional study.**

(2017) Lidbury BA, Kita B, Lewis DP, Hayward S, Ludlow H, Hedger MP, de Kretser DM. **[CCC]**

<https://www.ncbi.nlm.nih.gov/pubmed/28302133>

**Myalgic encephalomyelitis/chronic fatigue syndrome and gulf war illness patients exhibit increased humoral responses to the herpesviruses-encoded dUTPase: Implications in disease pathophysiology.**

(2017) Halpin P, Williams MV, Klimas NG., Fletcher, Barnes Z, Ariza ME.  
<https://www.ncbi.nlm.nih.gov/pubmed/28303641>

**Impaired calcium mobilization in natural killer cells from CFS/myalgic encephalomyelitis patients is associated with transient receptor potential melastatin 3 ion channels**

(2016) Nguyen, Johnston, Clarke, Smith, Staines, Marshall-Gradisnik [Fukuda]  
<http://onlinelibrary.wiley.com/doi/10.1111/cei.12882/full>

**Progressive brain changes in patients with chronic fatigue syndrome: A longitudinal MRI study.**

(2016) Shan ZY, Kwiatek R, Burnet R, Del Fante P, Staines DR, Marshall-Gradisnik SM, Barnden LR. [Fukuda, CCC]  
<http://www.ncbi.nlm.nih.gov/pubmed/27123773>

**Metabolic features of chronic fatigue syndrome**

(2016) Robert K. Naviaux, Jane C. Naviaux, Kefeng Li, A. Taylor Bright, William A. Alaynick, Lin Wang, Asha Baxter Neil Nathan, Wayne Anderson, and Eric Gordon [IOM, CCC, Fukuda]  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5027464/>

**Autonomic correlations with MRI are abnormal in the brainstem vasomotor centre in Chronic Fatigue Syndrome**

(2016) Leighton R. Barndena,b, Richard Kwiatekc, Benjamin Croucha, Richard Burnet d, Peter Del Fante [CCC]  
<http://www.sciencedirect.com/science/article/pii/S2213158216300584>

**A Preliminary Comparative Assessment of the Role of CD8+ T Cells in Chronic Fatigue Syndrome/Myalgic Encephalomyelitis and Multiple Sclerosis.**

(2016) Brenu, Broadley, Nguyen, Johnston, Ramos, Staines, Marshall-Gradisnik [ICC]  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4736227/>

**MicroRNAs hsa-miR-99b, hsa-miR-330, hsa-miR-126 and hsa-miR-30c: Potential Diagnostic Biomarkers in Natural Killer (NK) Cells of Patients with Chronic Fatigue Syndrome (CFS)/ Myalgic Encephalomyelitis (ME).**

(2016) Petty, McCarthy, Le Dieu, Kerr  
<https://www.ncbi.nlm.nih.gov/pubmed/26967895>

**Extended B cell phenotype in patients with myalgic encephalomyelitis/chronic fatigue syndrome: a cross-sectional study**

(2016) Mensah, Bansal, Berkovitz, Sharma, Reddy, Leandro, Cambridge  
<http://onlinelibrary.wiley.com/doi/10.1111/cei.12749/abstract>  
<http://www.ncbi.nlm.nih.gov/pubmed/26646713>

**B-Lymphocyte Depletion in Myalgic Encephalopathy/ Chronic Fatigue Syndrome. An Open-Label Phase II Study with Rituximab Maintenance Treatment.**

(2015) Fluge, Risa, Lunde, Alme, Rekeland, Sapkota, Kristoffersen, Sorland, Bruland, Dahl, Mella  
<http://www.ncbi.nlm.nih.gov/pubmed/26132314>

**Characterisation of cell functions and receptors in Chronic Fatigue Syndrome/Myalgic Encephalomyelitis (CFS/ME)**

(2015) Hardcastle, Ekuwa Webu Brenu, Johnston, Nguyen, Huth, Wong, Ramos, Staines, Marshall-Gradisnik  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4450981/>

**Cytokines in the Cerebrospinal Fluids of Patients with Chronic Fatigue Syndrome/Myalgic Encephalomyelitis**

(2015) Peterson, Brenu, Gottschalk, Ramos, Nguyen, Staines, Marshall-Gradisnik  
<http://www.hindawi.com/journals/mi/2015/929720/>

**The Putative Role of Viruses, Bacteria, and Chronic Fungal Biotoxin Exposure in the Genesis of Intractable Fatigue Accompanied by Cognitive and Physical Disability**

(2015) Morris, Berk, Walder, Maes [CFS referenced]  
<http://link.springer.com/article/10.1007/s12035-015-9262-7/fulltext.html>

**Inability of myalgic encephalomyelitis/chronic fatigue syndrome patients to reproduce VO<sub>2</sub>peak indicates functional impairment.**

(2014) Keller, Pryor, Giloteaux  
<http://translational-medicine.biomedcentral.com/articles/10.1186/1479-5876-12-104#CR5>

**Neuroinflammation in Patients with Chronic Fatigue Syndrome/Myalgic Encephalomyelitis: An <sup>11</sup>C-(R)-PK11195 PET Study.**

(2014) Nakatomi, Mizuno, Ishii Wada, Tanaka, Tazawa, Onoe, Fukuda, Kawabe, Takahashi, Kataoka, Shiomi, Yamaguti, Inaba, Kuratsune, Watanabe  
<http://www.ncbi.nlm.nih.gov/pubmed/24665088>

**Evidence in CFS for severity-dependent upregulation of prefrontal myelination that is independent of anxiety and depression.**

(2014) Barnden, Crouch, Kwiatek, Burnet, Del Fante  
<http://onlinelibrary.wiley.com/doi/10.1002/nbm.3261/pdf>

**Innate Immune Changes in the Peripheral Blood of Chronic Fatigue Syndrome Patients: Risk Factors for Disease Progression and Management (pp. 91-130)**

(2014) Goetz, Mikovits, Deckoff-Jones, Ruscetti, LANDRES Management Consultant, MAR Consulting Inc., Private CFS Practice, and others  
[http://www.novapublishers.com/catalog/product\\_info.php?products\\_id=52282](http://www.novapublishers.com/catalog/product_info.php?products_id=52282)

**Decreased oxygen extraction during cardiopulmonary exercise test in patients with chronic fatigue syndrome.**

(2014) Vermeulen RC, Vermeulen van Eck IW. [Fukuda]  
<https://www.ncbi.nlm.nih.gov/pubmed/24456560>

**Oxidative and Nitrosative Stress and Immune-Inflammatory Pathways in Patients with Myalgic Encephalomyelitis (ME)/Chronic Fatigue Syndrome (CFS)**

(2014) Morris and Maes  
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3964747/>

**Mitochondrial dysfunctions in ME/CFS explained by activated immuno-inflammatory, oxidative and nitrosative stress pathways.**

(2014) Morris, Maes  
<http://www.ncbi.nlm.nih.gov/m/pubmed/24557875/?i=5&from=/20010505/related>

**Deficient EBV-Specific B- and T-Cell Response in Patients with Chronic Fatigue Syndrome**

(2014) Loebel, Strohschein, Giannini, Koelsch, Bauer, Doebis, Thomas, Unterwalder, von Baehr, Reinke, Knops, Hanitsch, Meisel, Volk, Scheibenbogen  
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0085387>



**Daily cytokine fluctuations, driven by leptin, are associated with fatigue severity in CFS: evidence of inflammatory pathology**

(2013) Stringer, Baker, Carroll, Montoya, Chu, Maecker, Younger  
<http://translational-medicine.biomedcentral.com/articles/10.1186/1479-5876-11-93>

**Discriminative Validity of Metabolic and Workload Measurements to Identify Individuals with CFS**

(2013) Snell, Stevens, Davenport, Van Ness  
<http://ptjournal.apta.org/content/early/2013/06/26/ptj.20110368.short>

**Altered functional B cell subset populations in patients with chronic fatigue syndrome compared to healthy controls.**

(2013) Bradley, Ford, Bansal  
<http://www.ncbi.nlm.nih.gov/pubmed/23480187>

**Randomized clinical trial to evaluate the efficacy and safety of valganciclovir in a subset of patients with chronic fatigue syndrome.**

(2013) , Kogelnik, Bhango, Lunn, Flamand, Merrihew, Watt, Kubo, Paik, Desai.  
<http://www.ncbi.nlm.nih.gov/pubmed/23959519>

**Evidence for inflammation and activation of cell-mediated immunity in Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS): increased interleukin-1, tumor necrosis factor- $\alpha$ , PMN-elastase, lysozyme and neopterin.**

(2012) Maes, Twisk, Kubera, Ringel  
<http://www.ncbi.nlm.nih.gov/pubmed/21975140>

**Xenotropic murine leukemia virus-related virus-associated chronic fatigue syndrome reveals a distinct inflammatory signature.**

(2011) Lombardi VC1, Hagen KS, Hunter KW, Diamond JW, Smith-Gagen J, Yang W, Mikovits JA.  
<https://www.ncbi.nlm.nih.gov/pubmed/21576403>

**Benefit from B-lymphocyte depletion using the anti-CD20 antibody rituximab in chronic fatigue syndrome. A double-blind and placebo-controlled study.**

(2011) Fluge, Bruland, Risa, Storstein, Kristoffersen, Sapkota, Naess, Dahl, Nyland, Mella  
<http://www.ncbi.nlm.nih.gov/pubmed/22039471>

**Benefit from B-lymphocyte depletion using the anti-CD20 antibody rituximab in chronic fatigue syndrome. A double-blind and placebo-controlled study.**

(2011) Fluge, Bruland, Risa, Storstein, Kristoffersen, Sapkota, Naess, Dahl, Nyland, Mella  
<http://www.ncbi.nlm.nih.gov/pubmed/22039471>

**Postexertional malaise in women with CFS**

(2010) Van Ness, Stevens, Bateman, Snell  
<http://www.ncbi.nlm.nih.gov/pubmed/20095909>

**Unravelling the nature of postexertional malaise in myalgic encephalomyelitis/chronic fatigue syndrome: the role of elastase, complement C4a and interleukin-1beta.**

(2009) Nijs, Van Oosterwijck, Meeus, Lambrecht, Metzger, Frémont, Paul  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2796.2009.02178.x/full>

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**Coenzyme Q10 deficiency in ME/CFS is related to fatigue, autonomic and neurocognitive symptoms and is another risk factor explaining the early mortality in ME/CFS due to cardiovascular disorder.**

(2009) Maes, Mihaylova, Kubera, Uytterhoeven, Vrydags, Bosmans  
<http://www.ncbi.nlm.nih.gov/pubmed/20010505/>

**Acute phase phospholipids related to the cardiolipin of mitochondria in the sera of patients with chronic fatigue syndrome (CFS) chronic ciguatera fish poisoning (CCFP), and other diseases attributed to chemicals, Gulf War, and marine toxins.**

(2008) Hokama, Empey-Campora, Hara, et al.  
<http://www.ncf-net.org/pdf/HokamaCardiolipinCFS2008.pdf>

**Causes of death among patients with chronic fatigue syndrome.**

(2006) Jason LA1, Corradi K, Gress S, Williams S, Torres-Harding S.  
<http://www.ncbi.nlm.nih.gov/pubmed/16844674>

**Clinical Activity of Folinic Acid in Patients with Chronic Fatigue Syndrome**

(2006) Lundell, Qazi, Eddy, Uckun  
<http://www.me-ireland.com/bcell.pdf>

**Exercise Capacity and Immune Function in Male and Female patients with CFS**

(2005) Snell, Van Ness, Strayer, Stevens [Holmes, Fukuda]  
<http://iv.iarjournals.org/content/19/2/387.full.pdf>

**Autoantibodies against muscarinic cholinergic receptor in chronic fatigue syndrome.**

(2003) Tanaka, Kuratsune, Hidaka, Hakariya, Tatsumi, Takano, Kanakura, Amino  
<http://www.ncbi.nlm.nih.gov/pubmed/12851722>

**Physical performance and prediction of 2-5A synthetase/RNase L antiviral pathway activity in patients with CFS.**

(2002) Snell, Van Ness, Strayer, Stevens [Fukuda]  
<http://www.ncbi.nlm.nih.gov/pubmed/12073768>  
<https://pdfs.semanticscholar.org/4916/d5bf6de29dabada4610c968201e736beff3a.pdf>

**A controlled clinical trial with a specifically configured RNA drug, poly(I).poly(C12U), in chronic fatigue syndrome.**

(1994) Strayer DR1, Carter WA, Brodsky I, Cheney P, Peterson D, Salvato P, Thompson C, Loveless M, Shapiro DE, Elsasser W, et al.  
<http://www.ncbi.nlm.nih.gov/pubmed/8148460>

**Changes in the 2-5A synthetase/RNase L antiviral pathway in a controlled clinical trial with poly(I)-poly(C12U) in chronic fatigue syndrome.**

(1994) Suhadolnik RJ1, Reichenbach NL, Hitzges P, Adelson ME, Peterson DL, Cheney P, Salvato P, Thompson C, Loveless M, Müller WE, et al.  
<http://www.ncbi.nlm.nih.gov/pubmed/7893988>

**Immunologic abnormalities associated with chronic fatigue syndrome.**

(1994) Barker E1, Fujimura SF, Fadem MB, Landay AL, Levy JA.  
<http://www.ncbi.nlm.nih.gov/pubmed/8148441>

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### **Decreased natural killer cell activity is associated with severity of chronic fatigue immune dysfunction syndrome.**

(1994) Ojo-Amaize EA1, Conley EJ, Peter JB.  
<http://www.ncbi.nlm.nih.gov/pubmed/8148445>

### **Dysregulated expression of tumor necrosis factor in chronic fatigue syndrome: interrelations with cellular sources and patterns of soluble immune mediator expression.**

(1994) Patarca R1, Klimas NG, Lugtendorf S, Antoni M, Fletcher MA. **[Fukuda]**  
<http://www.ncbi.nlm.nih.gov/pubmed/8148443>

### **Prevalence of Human Herpesvirus 6 Variants A and B in Patients with CFS**

(1994) Safak Yalcin, Hirohiko Kuratsune, Koji Yamaguchi, Teruo Kitani, and Koichi Yamanishi **[Holmes?]**  
<http://onlinelibrary.wiley.com/doi/10.1111/j.1348-0421.1994.tb01827.x/pdf>

### **Chronic fatigue syndrome: immune dysfunction, role of pathogens and toxic agents and neurological and cardiac changes.**

(1994) Hilgers A1, Frank J. [original article in German]  
<http://www.ncbi.nlm.nih.gov/pubmed/7856214>

### **Repetitively negative changing T waves at 24-h electrocardiographic monitors in patients with the chronic fatigue syndrome. Left ventricular dysfunction in a cohort.**

(1993) Lerner AM1, Lawrie C, Dworkin HS.  
<http://www.ncbi.nlm.nih.gov/pubmed/8222798>

**Note:** MEadvocacy uses the term myalgic encephalomyelitis [ME] to describe the disease defined in the International Consensus Criteria [ICC]. Some studies may refer to patients as having CFS [Holmes, Fukuda] or ME/CFS [CCC, IOM]. Patients who fit the criteria for ME also fit the criteria for CFS. But patients who fit the overly broad criteria for CFS may not fit the criteria for ME.