Index of ME/CFS Published Research

An A-Z index of the most important published research

30th November 2019

The ME Association
Forward

Welcome to the ME Association Index of Published ME/CFS Research.

This is an A-Z index of the most important published research studies and selected key documents and articles, listed by subject matter, on myalgic encephalomyelitis or chronic fatigue syndrome (ME/CFS). It is correct to 30th November 2019.

The Index will be updated at the end of each month and made available in the research section of the ME Association website. Each update will be accompanied by a website blog of that month’s published research abstracts to help keep you informed of the latest research developments.

The Index adopts the subject headings used in the ME Association’s authoritative clinical and research guide which provides a thorough and fully updated review of current clinical knowledge and research evidence.

The guide is written by Dr Charles Shepherd, Hon. Medical Adviser to the ME Association and Dr Abhijit Chaudhuri, consultant neurologist at Queen’s Hospital in Romford.

The 2019 edition can be ordered from our website shop and is priced at £9.00 for UK residents. It is also available as a Kindle version via Amazon. We are pleased to be able to offer free hard copies to health professionals upon application.

The ME Association are very grateful to Dr Barbara de Barros, Charlotte Stephens and Russell Fleming, for producing this Index which is proving a very popular and helpful resource.

Help us continue our work

If you would like to support our efforts, then please donate – whatever you can afford – and help us make the UK a better place for people with M.E. Just click the image opposite to visit our JustGiving page:

Or why not join the ME Association as a member and become a part of our growing community? For a monthly (or annual) payment you will also receive our exclusive ME Essential magazine.

Please note: Research published after January 2019 (the date of the latest update to our clinical and research guide) is highlighted in purple in the listing below.
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1. Nomenclature and definition


2. Epidemiology


3. Co-morbidity


### 4. Biomedical Research

#### 4.1 Biobank UK ME/CFS


#### 4.2 Biomarker Landscape Project

4.3 Cardiac Function


Campen CM and Visser FC (2018) The Abnormal Cardiac Index and Stroke Volume Index Changes During a Normal Tilt Table Test in ME/CFS Patients Compared to Healthy Volunteers, are Not Related to Deconditioning, *Journal of Thrombosis and Circulation* 107. Link: [https://tinyurl.com/y5nb9dyr](https://tinyurl.com/y5nb9dyr)


4.4 Exercise physiology/testing


4.5 Gastrointestinal and microbiome


Kenyon J et al. (2019) A Retrospective Outcome Study of 42 Patients with Chronic Fatigue Syndrome, 30 of Whom had Irritable Bowel Syndrome. Half were treated with oral approaches, and half were treated with Faecal Microbiome Transplantation. *Human Microbiome Journal* 13. Link: https://tinyurl.com/y2cqxzgf


4.6 Gene expression


4.6.1 Epigenetics

Almenar-Perez, et al. (2019) miRNA profiling of circulating EVs in Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS). *Journal of Extracellular Vesicles, 7*: 139. Link: [https://tinyurl.com/y4b8durc](https://tinyurl.com/y4b8durc)


4.7 General reviews


Maxmen A. (2018) A reboot for chronic fatigue syndrome research. *Nature* 553 (7686): 14-17. Link: [https://www.nature.com/articles/d41586-017-08965-0](https://www.nature.com/articles/d41586-017-08965-0)


4.8 Genetic predisposition


### 4.9 Immunology


**Dibnah B et al.** (2019) Investigating the role of TGF-B and fatigue in Chronic Fatigue Syndrome. *Annals of the Rheumatic Diseases* 78 (2). Link: [https://ard.bmj.com/content/78/Suppl_2/1495.2.abstract](https://ard.bmj.com/content/78/Suppl_2/1495.2.abstract)


4.10 Infection


Asprusten T et al. (2019) EBV-requisitioning physicians’ guess on fatigue state 6 months after acute EBV infection. *BMJ Paediatrics Open* 3 (1). Link: [https://tinyurl.com/y39pwy8r](https://tinyurl.com/y39pwy8r)


**Yamato M and Kataoka Y.** (2015) Fatigue sensation following peripheral viral infection is triggered by neuroinflammation: who will answer these questions? *Neural Regeneration Research* 10(2): 203-204. Link: [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4392663/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4392663/)


### 4.11 Ion channels


### 4.12 Metabolomics


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Registered charity number 801279


Tomas C et al. (2017) Cellular Bioenergetics is Impaired in patients with Chronic Fatigue Syndrome. *PLoS ONE* 12(10). Link: [https://doi.org/10.1371/journal.pone.0186802](https://doi.org/10.1371/journal.pone.0186802)


Yamano E, et al. (2016) Index markers of chronic fatigue syndrome with dysfunction of TCA and urea cycles. *Science Reports* doi: 10.1038/srep34990. Link: [https://www.nature.com/articles/srep34990](https://www.nature.com/articles/srep34990)

4.13 Miscellaneous


### 4.14 Mitochondria and energy production


4.15 Muscle


4.16 Neurology: Autonomic nervous system (ANS) dysfunction


Li H, et al. (2014) Autoimmune Basis for Postural Tachycardia Syndrome. *Journal of the American Heart Association* 3: e000755. Link: [http://jaha.ahajournals.org/content/3/1/e000755](http://jaha.ahajournals.org/content/3/1/e000755)


4.17 Neurology: Central nervous system and neuroimaging


### 4.18 Neurology: Hypothalamic and neuroendocrine function


**Mackay A and Tate WP** (2018) A compromised paraventricular nucleus within a dysfunctional hypothalamus: A novel neuroinflammatory paradigm for ME/CFS. *International Journal of Immunopathology and Pharmacology*. Link: [https://journals.sagepub.com/doi/10.1177/2058738418812342#articleCitationDownloadContainer](https://journals.sagepub.com/doi/10.1177/2058738418812342#articleCitationDownloadContainer)


4.19 Neurology: Neuropsychology and cognitive function


### 4.20 Neurology: Neurotransmitter function


### 4.21 Pain


### 4.22 Phenotypes and sub-groups


4.23 Post-Exertional Malaise (PEM)


Holtzman CS et al. (2019) Assessment of Post-Exertional Malaise (PEM) in Patients with Myalgic Encephalomyelitis (ME) and Chronic Fatigue Syndrome (CFS): A Patient-Driven Survey. Diagnostics 9 (1). Link: https://www.mdpi.com/2075-4418/9/1/26


\textbf{4.24 Post-mortem research}


\textbf{4.25 Sleep disturbance}


### 4.26 Vision


### 5. Psychiatry and psychology


Thompson et al. (2019) Cognitive factors are associated with disability and pain, but not fatigue among physiotherapy attendees with persistent pain and fatigue. Physiotherapy [Epub ahead of print]. Link: https://tinyurl.com/yyep9zu8


6. Sociology


Murray R et al. (2019) Duvet woman versus action man: the gendered aetiology of Chronic Fatigue Syndrome according to English newspapers. Feminist Media Studies. Link: https://tinyurl.com/yyfayo7v


7. Recommendations, challenges and ideas for future research into ME/CFS


8. Clinical assessment, symptoms and diagnosis

8.1 General


Nojima N (2019) Paradox of diagnosis: the positive effects and limitations of diagnosis in myalgic encephalomyelitis/chronic fatigue syndrome (me/cfs) and fibromyalgia (fm) sufferers Osaka Human Sciences 5: 55-70. Link: https://tinyurl.com/y3yqn39o


8.2 Investigations


**8.3 Physical examination**


### 8.4 Symptoms

- Pain – see Biomedical Research, 4.21 above.
- Post-Exertional Malaise – see Biomedical Research, 4.23 above.
- Sleep disturbance – see Biomedical Research, 4.26 above.
- Vision – see Biomedical Research, 4.28 above.

### 9. Management

#### 9.1 Cognitive Behavioural Therapy (CBT)


9.2 Complementary and alternative therapies


9.3 Diet and nutrition


### 9.4 Exercise, Pacing and activity management


9.5 General management


9.6 PACE Trial, The


Vink M. PACE trial authors continue to ignore their own null effect. Journal of Health Psychology 22 (9): 1134-1140. Link: https://www.ncbi.nlm.nih.gov/pubmed/28805519


9.7 Pharmacological treatment


Van Campen LMC and Visser FC (2019) The Effect of Curcumin in Patients with Chronic Fatigue Syndrome/Myalgic Encephalomyelitis Disparate Responses in Different Disease Severities. *Pharmacovigilance and Pharmacoepidemiology* 2 (1). Link: [https://tinyurl.com/qpvhgdm](https://tinyurl.com/qpvhgdm)


9.8 Pregnancy


10. Prognosis and quality of life

10.1 Age


10.2 Mortality


10.3 Prognosis and recovery


### 10.4 Quality of life


10.5 Severe ME


11. Vaccinations


12. Children and adolescents


Collin SM, et al. (2015) Chronic fatigue syndrome (CFS) or myalgic encephalomyelitis (ME) is different in children compared to in adults: a study of UK and Dutch clinical cohorts. *BMJ Open* 5(10): e008830. Link: http://bmjopen.bmj.com/content/5/10/e008830


Crawley E and Sterne JAC. (2009) Association between school absence and physical function in paediatric chronic fatigue syndrome/myalgic encephalopathy. *Archives of Disease in Childhood* 94(10): 752-756. Link: http://adc.bmj.com/content/94/10/752.info


Neale FK et al. (2019) Illness duration, mood and symptom impact in adolescents with chronic fatigue syndrome/myalgic encephalomyelitis? *Archives of Disease in Childhood* [Epub ahead of print]. Link: https://adc.bmj.com/content/early/2019/06/13/archdischild-2018-316720.long


Norris T et al. (2017) Natural course of chronic fatigue syndrome/myalgic encephalomyelitis in adolescents. Archive of Diseases in Childhood doi: 10.1136/archdischild-2016-311198. Link: http://adc.bmj.com/content/early/2017/01/19/archdischild-2016-311198


Solomon-Moore E et al. (2019) Physical activity patterns among children and adolescents with mild-to-moderate chronic fatigue syndrome/myalgic encephalomyelitis. *BMJ Paediatrics Open* 3 (1). Link: https://bmjpaedsopen.bmj.com/content/3/1/e000425


13. Government Documents

13.1 Disability support


13.2 Economic cost to the UK


### 13.3 General reports, debates and statements


**House of Commons (2013) Debate.** 11 February col. 517W. Secretary of State re: ME/CFS WHO classification. Link: https://publications.parliament.uk/pa/cm201213/cmhansrd/cm130211/text/130211w0003.htm#130211150000045

**House of Commons (2013).** Written evidence to Health Select Committee from the ME Association. Link: https://publications.parliament.uk/pa/cm201415/cmselect/cmhealth/401/401vw11.htm


14. Healthcare


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If you would like to support our efforts, then please donate – whatever you can afford – and help us make the UK a better place for people with M.E. Just click the image opposite to visit our JustGiving page:

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