Index of ME/CFS Published Research

An A-Z index of the most important published research

30th April 2020

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 April 2020.

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.

Please support our vital work

We are a national charity working hard to make the UK a better place for people whose lives have been devastated by an often-misunderstood neurological disease.

If you would like to support our efforts and ensure we are able to inform, support, advocate and invest in biomedical research, then please donate today.

Just click the image opposite or visit our JustGiving page for one-off donations or to establish a regular payment. You can even establish your own fundraising event.

Or why not join the ME Association as a member and be part of our growing community? For a monthly (or annual) subscription you will also receive ME Essential – quite simply the best M.E. magazine in the UK today!
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**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. We will be publishing a new guide early in 2020.

### 1. Nomenclature and definition


Link: [https://bmjopen.bmj.com/content/4/2/e003973](https://bmjopen.bmj.com/content/4/2/e003973)


*Journal of Internal Medicine* 270 (4): 327-338  
Link: [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3427890/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3427890/)

Link: [https://jamanetwork.com/journals/jama/article-abstract/2118591](https://jamanetwork.com/journals/jama/article-abstract/2118591)


Link: [http://www.foodsmatter.com/me_and_cfs/cfs_me-causes_general/articles/goudsmit-me-clinical%20entity-10-12.html](http://www.foodsmatter.com/me_and_cfs/cfs_me-causes_general/articles/goudsmit-me-clinical%20entity-10-12.html)

Link: [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5999262/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5999262/)


Link: [https://thescipub.com/PDF/ajbbsp.2010.120.135.pdf](https://thescipub.com/PDF/ajbbsp.2010.120.135.pdf)


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

Campen CM et al. (2020) Cerebral blood flow is reduced in ME/CFS during head-up tilt testing even in the absence of hypotension or tachycardia: a quantitative, controlled study using Doppler echography. Clinical Neurophysiology Practise [Epub ahead or print]. Link: https://www.sciencedirect.com/science/article/pii/S2467981X20300044


**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


4.7 General reviews


**Komaroff A** (2019) Advances in Understanding the Pathophysiology of Chronic Fatigue Syndrome. *JAMA* [Epub ahead of print]. Link: [https://jamanetwork.com/journals/jama/fullarticle/2737854](https://jamanetwork.com/journals/jama/fullarticle/2737854)


**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)


Hornig M, et al. (2015) Distinct plasma immune signatures in ME/CFS are present early in the course of illness. *Science Advances* 1(1): e1400121. Link: [http://advances.sciencemag.org/content/1/1/e1400121](http://advances.sciencemag.org/content/1/1/e1400121)


Lande A et al. (2020) Human Leukocyte Antigen alleles associated with Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS). *Scientific Reports* 10: 5267. Link: [https://www.nature.com/articles/s41598-020-62157-x](https://www.nature.com/articles/s41598-020-62157-x)


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


Coffin JM and Stoye JP. (2009) A New Virus for Old Diseases? *Science* 326(5952): 530. Link: [http://science.sciencemag.org/content/326/5952/530](http://science.sciencemag.org/content/326/5952/530)


### 4.11 Ion channels


4.12 Metabolomics


**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


**Melvin A et al.** (2019) Circulating levels of GDF15 in patients with Myalgic Encephalomyelitis/Chronic Fatigue Syndrome. *Journal of Translational Medicine* 17 (409). Link: [https://www.repository.cam.ac.uk/handle/1810/299333](https://www.repository.cam.ac.uk/handle/1810/299333)


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)


4.24 Post-mortem research


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/yye92zu8](https://tinyurl.com/yye92zu8)


### 6. Sociology


Cuesta A et al. (2019) Fibromyalgia, Chronic Fatigue Syndrome, and Multiple Chemical Sensitivity: Illness Experiences. *Clinical Nursing Research* [Epub ahead of print]. Link: [https://tinyurl.com/y68aa9ak](https://tinyurl.com/y68aa9ak)


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


BACME. (2015) British Association for CFS/ME: Therapy and Symptom Management in CFS/ME. Link: [https://www.bacme.info/](https://www.bacme.info/)


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


Bolton MJ et al. (2020) Low-dose naltrexone as a treatment for chronic fatigue syndrome. *BMJ Case Reports* 13 (1). Link: https://casereports.bmj.com/content/13/1/e232502


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The ME Association Index of Published ME/CFS Research

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Shepherd C. (1997) *Long-term treatment is being used*. Letter to the editor in response to ‘Giving thyroid hormones to clinically hypothyroid but biochemically euthyroid patients’. *BMJ* 315(7111): 814. Link: [http://www.bmj.com/content/315/7111/813](http://www.bmj.com/content/315/7111/813)


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


10.4 Quality of life


### 10.5 Severe ME


### 11. Vaccinations


12. Children and adolescents


Ascough C et al. (2020) Interventions to treat pain in paediatric CFS/ME: a systematic review. BMJ Paediatrics Open 4 (1). Link: https://bmjpaedsopen.bmj.com/content/4/1/e000617


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](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](http://adc.bmj.com/content/94/10/752.info)


Haig-Ferguson A, et al. (2009) Memory and attention problems in children with chronic fatigue syndrome or myalgic encephalopathy. *Archives of Disease in Childhood* 94(10): 757-762. Link: http://adc.bmj.com/content/94/10/757.info


Harland MR et al. (2019) Paediatric chronic fatigue syndrome patients’ and parents’ perceptions of recovery. *BMJ Paediatrics Open* 3 (1). Link: https://bmjpaedsopen.bmj.com/content/3/1/e000525


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](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](http://adc.bmj.com/content/early/2017/01/19/archdischild-2016-311198)


Oliver L and Patel K. (2012) Co-morbid conditions in children with chronic fatigue syndrome/myalgic encephalomyelitis (CFS/ME) – a retrospective case note review of a large cohort. *Archives of Disease in Childhood* 97(Supplement 1): A105. Link: [http://adc.bmj.com/content/97/Suppl_1/A105.1](http://adc.bmj.com/content/97/Suppl_1/A105.1)


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

All-Party Parliamentary Group on ME. (2020) Inaugural meeting to re-establish APPG led by Carol Monaghan MP with Dr Charles Shepherd and the MEA providing secretariat. Link: https://www.meassociation.org.uk/2020/01/the-all-party-parliamentary-group-on-me-to-re-convene-please-invite-your-mp-to-attend-09-january-2020/


14. Healthcare


Cuesta A et al. (2019) Fibromyalgia, Chronic Fatigue Syndrome, and Multiple Chemical Sensitivity: Illness Experiences. *Clinical Nursing Research* [Epub ahead of print]. Link: [https://tinyurl.com/y68aa9ak](https://tinyurl.com/y68aa9ak)


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