

Opposition to Oxford Health NHS Foundation Trust: “Coping with Coronavirus: Fatigue”

We, the undersigned, request immediate withdrawal of the Oxford Health NHS Foundation Trust leaflet “Coping with Coronavirus: Fatigue” for the following reasons;

- The leaflet conflates post viral fatigue with myalgic encephalomyelitis (“ME”)
- The leaflet purports to provide information for post-COVID-19 rehabilitation but is predominantly comprised of rehabilitation advice for ME / CFS
- The information provided is incorrect or misleading
- The advice provided is potentially detrimental to patients and may result in deterioration and exacerbation of disability

A detailed explanation of our concerns can be found below.

Rest

The leaflet states:

Resting too much, for example spending most of the day in bed or doing very little, will lead to loss of fitness and muscle strength. When you then try to resume normal activities, you may find that you cannot do as much as you expect to do, and then rest more, causing further loss of fitness in a vicious cycle.

When very fatigued and unwell, it makes sense that people change the way they do things. Some may reduce the hours they work or stop altogether. Others may do fewer enjoyable activities, particularly socialising and physical exercise. Others avoid doing anything new and rest more during the day. Gradually, they can become less fit.

(Page 3)

These comments are in contradiction to advice for post viral fatigue, which is to have adequate rest and pace activities within the energy available.

In relation to ME these comments suggest that ME is a condition caused by deconditioning. However, a vast amount of research has now identified that people with ME have abnormalities

in the central nervous system such as neurocognitive, sleep, autonomic and sensory disturbances. Cognitive impairments including slow processing of information, poor attention, word finding, and working memory are some of the most functionally disabling symptoms¹⁻⁸. Research has also shown abnormalities in the immune system⁹⁻¹¹, in the endocrine (hormonal) system^{12,13} and in muscle (causing energy metabolism impairment)^{14,15}.

Therefore, ME is *not* a condition that is caused by deconditioning, and rest is *not* harmful for people with ME who need to allow their bodies to address these neurological, immunological, hormonal and metabolic abnormalities. In fact, people with ME state that they wish they had been told to rest in these early stages of the condition¹⁶.

Graded Exercise Therapy

One of the recommended treatments detailed in the leaflet is Graded Exercise Therapy (“GET”).

“Graded exercise has been shown to be effective in reducing fatigue and getting back your fitness after CFS.”

(Page 6)

The leaflet suggests starting at a low level and gradually building up, and states that exercise should be:

“Performed every day - good days and bad - otherwise the benefits of the activity already gained by your body will be lost.”

(Page 7)

Graded Exercise Therapy (GET) is again based on the theory that ME is as a result of deconditioning.

However, ME charities do not recommend GET as it has been found to exacerbate symptoms for people with ME and can cause long term harm. This was highlighted in a survey by ForwardME along with academic research group in Oxford, who found that 80% of people with ME reported having adverse events after GET³⁴ and led the report to conclude: “GET is shown to cause considerable deterioration in physical and mental health.”

Research has shown that exercise in people with ME leads to abnormal physiological responses including:

1. reduced maximum heart rate¹⁷⁻¹⁹
2. reduced maximum oxygen consumption¹⁹⁻²¹
3. reduced cardiac output^{17,18,22}

4. insufficient blood pressure increase on exertion^{20,23}
5. decreased capacity to use oxygen¹⁷
6. anaerobic threshold and maximum exercise are reached at much lower oxygen capacity^{19,24}
7. exhaustion reached more rapidly and accompanied by relatively reduced intracellular concentrations of ATP²⁵
8. increased intracellular acidosis in exercising muscles and reduced post-exercise recovery from acidosis^{26,27}
9. activation and worsening of symptoms which can be immediate or delayed by several days^{28,29}
10. when exercise is repeated the next day, abnormalities are more severe³⁰
11. decreased cognitive functioning and prolonged reaction time³¹
12. prolonged recovery period: usually 24 hours, often 48 but can last days, weeks or cause a relapse^{17,30,32}

Physical exertion elicits a reaction so distinctive that many researchers use exercise as a way to aggravate the illness so that it can be studied.³⁵

Cognitive Behaviour Therapy (“CBT”)

Another treatment recommendation stated in the leaflet is CBT.

“To help with difficulties in pacing activities Cognitive Behaviour Therapy (CBT) is a form of therapy which has been shown to be helpful for CFS/ME. It helps you to identify thoughts and beliefs which maintain the problems, and gradually test out ways of changing these. CFS/ME may relate to longstanding problems such as depression, chronic worry, perfectionism or low self esteem.”

(Page 7)

Any treatment that addresses the physiological symptoms of ME as psychological will perpetuate the detrimental processes caused by over exertion, as described above.

Following the Forward ME patient survey, the report concludes that “while [CBT] may be effective for a minority in helping with mental health challenges such as depression or anxiety, it is shown to be ineffective in a considerable proportion of people and even led to almost half of respondents reporting worse symptoms.”

What should be recommended

Work is currently underway to produce appropriate guidance for post-COVID rehabilitation to allow for identification and management of post viral fatigue syndrome to avoid exacerbation of symptoms and progression towards developing ME. **We would be happy to share this with you once finalised so that it can be used as a replacement for this publication.**

The emphasis should be on management of post Covid-19 fatigue and preventing the development of ME/CFS. This comes from effective management of post viral fatigue, in the form of paced activity, adequate sleep and nutrition. Inappropriate management may result in development of ME and reduces the likelihood of people being able to return to work³⁶.

The recommended treatments of CBT and GET do not improve employment and illness benefit status. As a matter of fact, a systematic review of available data found that after CBT and GET more patients were unable to work and more were receiving illness benefits³⁶.

In brief, patients are advised to practice pacing techniques, which are a primary tool for managing energy and avoiding post exertional malaise. While some pacing guidance advocates a “quota-contingent” approach (undertaking activities according to an amount/distance/goal with the aim of improving function) for someone with ME, or recovering from a viral infection, this will ultimately push them beyond their limits and cause a symptom exacerbation and subsequent decline in abilities.

The recommended pacing technique is “symptom contingent” where activities are driven by perceived symptom levels, with the aim of avoiding symptoms and conserving energy. Patients who are given a period of enforced rest from the onset have the best prognosis. Moreover, those who work or go back to work should not be forced to do more than they can to try and prevent relapses, long-term sick leave and medical retirement³⁶.

Pacing approaches that utilize wearable heart rate monitors also may be effective to manage energy levels before symptoms present. This approach helps patients avoid functional activities that exceed the heart rate at ventilatory anaerobic threshold, and therefore may help patients avoid accessing a dysfunctional aerobic energy system.

If a person is able to pace their activities to avoid symptom exacerbation, they may move on to low level, functional stretches and exercises that have been prescribed by a physiotherapist who is skilled in understanding ME management. Further information is being collated and produced in conjunction with the Chartered Society of Physiotherapists along with other specialists involved with this letter, and will be available as soon as possible.

Conclusion

The information and advice provided in the Oxford Health NHS Foundation Trust leaflet “Coping with Coronavirus: Fatigue” is inaccurate, misleading and contains potentially harmful recommendations.

We urge immediate withdrawal of this publication.

Suitable guidance will be produced and made available for distribution.

Signed

Dr Michelle Bull
DHRes MSC GradDipPhys MCSP
Chartered Physiotherapist
Physios for ME

Sonya Chowdhury
Chief Executive
Action for M.E.

Dr Nicola Clague-Baker
Associate Professor (Physiotherapy)
PhD, MPhil, BA(hons), GradDipPhys, PGCAPHE, SFHEA,
MCSP
Physios for ME

Jane Colby
Executive Director
Tymes Trust

Todd E Davenport PT, DPT, MPH, OCS
Professor & Program Director
University of the Pacific
Scientific Advisor
Workwell Foundation

Natalie Hilliard, BSc(hons) MCSP
Chartered Physiotherapist
Physios for ME

Dr K.N. Hng
MBChB, MRCP, PG Cert in WBME, FHEA
NHS Junior Doctor and ME Patient
Author of "Doctor with M.E: My journey with "Chronic
Fatigue Syndrome"

Janice Kent
Director
reMEMber

Priscilla Kew
OMEGA Chair

Bill Kent MBE
Secretary
reMEMber

Simon Lawrence
Chair
25% ME Group

Karen Leslie, BSc(hons) MCSP
Chartered Physiotherapist
Physios for ME

Countess of Mar
Chair of Forward ME

ME Research UK

Dr Ben Marsh
Consultant Paediatrician

Carol Monaghan MP
Chair of APPG on ME

Esperanza Moreno
UK Coordinator
#MEAction UK

Miss Nina Muirhead
BA(oxon) BMBCh(oxon) MRCS DOHNS Med
PGDipDerm
NHS Dermatology Oncology Surgeon
Chair of CMRC Education Working Group

Dr Charles Shepherd
Medical Advisor
ME Association

Nigel Speight, MA, MB, BChir, FRCP,
FRCPCH, DCH
Paediatrician

Staci Stevens MA
Founder & Exercise Physiologist
Workwell Foundation

Dr William Weir, FRCP
Infectious Disease Consultant

References

- 1 Carruthers BM, van de Sande MI, De Meirleir KL, Klimas DG, Broderick G, Mitchell T, Staines D, Powles ACP, Speight N, Vallings R, Bateman L, Baumbarten-Austrheim B, Bell DS, Carlo-Stella N, Chia J, Darragh A, Jo D, Lewis D, Light AR, Marshall-Gradisnik S, Mena I, et al. Myalgic encephalomyelitis: International Consensus Criteria. *J Intern Med* 2011; 270: 327-338. [PMID: 21777306] <http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2796.2011.02428.x/pdf>
- 2 Tirelli U, Chierichetti F, Tavio M, Simonelli C, Bianchin G, Zanco P, Ferlin G. Brain positron emission tomography (PET) in chronic fatigue syndrome: preliminary data. *Amer J Med* 1998; 105(3A): 54S-58S. [PMID: 9790483]
- 3 De Lange F, Kalkman J, et al. Gray matter volume reduction in the chronic fatigue syndrome.
- 4 Chen R, Liang FX, Moriay J, et al. Chronic fatigue syndrome and the central nervous system. *J Int Med Res* 2008; 36: 867-74. [PMID: 18831878]
5. Barnden LR, Crouch B, Kwiatek R, Burnet R, Mernone A, Chryssidis S, Scroop G, Del Fante P. A brain MRI study of chronic fatigue syndrome: evidence of brainstem dysfunction and altered homeostasis. *NMr Biomed* 2011; 24: 1302-12. [PMID: 21560176]
- 6 Lange G, Steffener J, Cook DB, Bly BM, Christodoulou C, Liu WC, Deluca J, Natelson BH. Objective evidence of cognitive complaints in Chronic Fatigue Syndrome: a BOLD fMRI study of verbal working memory. *Neuroimage* 2005; 26: 513-24. [PMID: 15907308]
- 7 Michiels V, Cluydts R, Fischler B. Attention and verbal learning in patients with chronic fatigue syndrome. *J Int Neuropsychol Soc* 1998; 4: 456-66
- 8 Demittract MA, Crofford LJ. Evidence for and pathophysiologic implications of hypothalamic-pituitary-adrenal axis dysregulation in fibromyalgia and chronic fatigue syndrome. *Ann NY Acad Sci* 1998; 840: 684-97. [PMID: 9629295]
- 9 Broderick G, Fuite J, et al. A formal analysis of cytokine networks in chronic fatigue syndrome. *Brain Behav Immun* 2010; 24: 1209-17. [20447453]
- 10 Brenu EW, Staines DR, Baskurt OK, Ashton KJ, Ramos SB, Christy RM, Marshall-Gradisnik SM. Immune and hemorheological changes in chronic fatigue syndrome. *J Transl Med* 2010; 8: 1. [PMID: 20064266]
- 11 Brenu EW, van Driel ML, Staines DR, Ashton KJ, Hardcastle SL, Keane J, et al. Longitudinal investigation of natural killer cells and cytokines in chronic fatigue syndrome/myalgic encephalomyelitis. *J Transl Med* 2012; 10: 88. [Epub ahead of print] [PMID: 22571715]

- 12 Demitract MA, Crofford LJ. Evidence for and pathophysiologic implications of hypothalamic-pituitary-adrenal axis dysregulation in fibromyalgia and chronic fatigue syndrome. *Ann NY Acad Sci* 1998; 840: 684-97. [PMID: 9629295] 58
- 13 White AT, Light AR, Huguen RW, et al. Differences in metabolite-detecting, adrenergic, and immune gene expression after moderate exercise in patients with chronic fatigue syndrome, patients with multiple sclerosis, and healthy controls. *Psychosom Med*. 2012;74:46-54. [22210239]
- 14 Wong R, Lopaschuk G, Zhu G, Walker D, Catellier D, Burton D, Teo K, Collins-Nakai R, Montague T. Skeletal muscle metabolism in the chronic fatigue syndrome. In vivo assessment by ³¹P nuclear magnetic resonance spectroscopy. *Chest*. 1992; 102: 1716-22. [PMID: 1446478]
- 15 Myhill S, Booth NE, McLaren-Howard J. Chronic fatigue syndrome and mitochondrial dysfunction. *Int J Clin Exp Med* 2009;2:1-16. [PMID: 19436827]
16. Leary, S, Sylvester, J, Shorter, E and Moreno, E. Your experience of me services *ME action UK*. 2019
- 17 De Becker P, Roeykens J, Reynders M, et al. Exercise capacity in chronic fatigue syndrome. *Arch Intern Med* 2000;160:3270-77. [PMID: 11088089]
- 18 Inbar O, Dlin R, Rotstein A, Whipp BJ. Physiological responses to incremental exercise in patients with chronic fatigue syndrome. *Med Sci Sports Exerc* 2001; 33: 1463-70. [PMID: 11528333]
- 19 Jones DE, Hollingsworth KG, Jakovljevic DG, Fattakhova G, Pairman J, Blamire AM, Trenell MI, Newton JL. Loss of capacity to recover from acidosis on repeat exercise in chronic fatigue syndrome: a case-control study. *Eur J Clin Invest* 2012; 42: 186-94.. [PMID: 21749371]
- 20 Farquhar WB, Hunt BE, Taylor JA, Darling SE, Freeman R. Blood volume and its relation to peak O₂ consumption and physical activity in patients with chronic fatigue. *Am J Physiol Heart Circ Physiol* 2002; 282: H66-71. [PMID: 11748048]
- 21 Jammes Y, Steinberg JG, Mambrini O, Brégeon F, Delliaux S. Chronic fatigue syndrome: assessment of increased oxidative stress and altered muscle excitability in response to incremental exercise. *J Intern Med* 2005; 257: 299-310. [PMID: 15715687]
- 22 Peckerman A, La Manca JJ, Dahl KA, Chemitiganti R, Qureishi B, Natelson BH. Abnormal impedance cardiography predicts symptom severity in chronic fatigue syndrome. *Am J Med Sci* 2003; 326: 55-60. [PMID: 12920435]
- 23 Streeten DH. Role of impaired lower-limb venous innervation in the pathogenesis of the chronic fatigue syndrome. *Am J Med Sci* 2001;321:163-7.

- 24 Vermeulen RCW, Kurk RM, Visser FC, Sluiter W, Scholte HR. Patients with chronic fatigue syndrome performed worse than controls in a controlled repeated exercise study despite a normal oxidative phosphorylation capacity. *J Transl Med* 2010; 8: 93. [PMID: 20937116]
- 25 Wong R, Lopaschuk G, Zhu G, Walker D, Catellier D, Burton D, Teo K, Collins-Nakai R, Montague T. Skeletal muscle metabolism in the chronic fatigue syndrome. In vivo assessment by ³¹P nuclear magnetic resonance spectroscopy. *Chest*. 1992; 102: 1716-22. [PMID: 1446478]
- 26 Chaudhuri A, Behan PO. In vivo magnetic resonance spectroscopy in chronic fatigue syndrome. *Prostaglandins Leukot Essent Fatty Acids*. 2004; 71: 181-3. [PMID: 15253888]
- 27 Jones DE, Hollingsworth KG, Taylor R, Blamire AM, Newton JL. Abnormalities in pH handling by peripheral muscle and potential regulation by the autonomic nervous system in chronic fatigue syndrome. *J Intern Med* 2010; 267: 394-401. [PMID: 20433583]
- 28 Yoshiuchi K, Farkas I, Natelson BH. Patients with chronic fatigue syndrome have reduced absolute cortical blood flow. *Clin Physiol Funct Imaging* 2006; 26: 83-6. [PMID: 16494597]
- 29 VanNess JM, Stevens SR, Bateman L, Stiles TL, Snell CR. Postexertional malaise in women with chronic fatigue syndrome. *J Womens Health (Larchmt)* 2010; 19: 239-244. [PMID: 20095909]
- 30 Van Oosterwijck J, Nijs J, Meeus M, Lefever I, Huybrechts L, et al. Pain inhibition and postexertional malaise in myalgic encephalomyelitis/chronic fatigue syndrome; an experimental study. *J Intern Med* 2010; 268: 265-78. [PMID: 20412374]
- 31 La Manca JJ, Sisto SA, DeLuca J, Johnson SK, Lange G, Pareja J, Cook S, Natelson BH. Influence of exhaustive treadmill exercise on cognitive functioning in chronic fatigue syndrome. *Am J Med* 1998; 105: 59S-65S. [PMID: 9790484]
- 32 VanNess JM, Snell CR, Stevens SR. Diminished cardiopulmonary capacity during post-exertional malaise. *J Chronic Fatigue Syndr* 2007; 14: 77-85.
- 33 Leary, S, Sylvester, J, Shorter, E and Moreno, E. Your experience of me services ME action UK. 2019
- 34 ME Research UK. Forward-ME survey on patients' experiences of CBT and GET; 2019 [cited 2019 Dec 11]. Available from: <https://www.meresearch.org.uk/cbt-and-get-survey/>
- 35 VanNess JM, Snell CR, Davenport TE, Stevens SR. Opposition to Graded Exercise Therapy (GET) for ME/CFS. 2018. Available from: <http://workwellfoundation.org/wp-content/uploads/2019/07/ME-CFS-GET-Letter-to-Health-Care-Providers-v4-30-2.pdf>

36 Vink M., Vink-Niese F. Work Rehabilitation and Medical Retirement for Myalgic Encephalomyelitis/Chronic Fatigue Syndrome Patients. A Review and Appraisal of Diagnostic Strategies. *Diagnostics*, 9, 124. September 2019.