

Fatigue

Definition / Supporting Information

Fatigue describes an extreme and / or unusual tiredness, a decrease in physical performance, or an excessive need for rest. Patients may describe feelings of sleepiness, weariness, irritability, lassitude, and boredom. Fatigue should be distinguished from weakness, which refers to diminished body or muscle strength – ie, inability to generate or maintain force.

Keywords / also known as: lethargy, tiredness

Essential History

Ask about:

- Age of onset
 - Fatigue is more likely to be pathological in very young children and is rarely reported in infants
- Performance in school, sports, and other organised activities, particularly:
 - Difficulty in running
 - Keeping up in a physical education (PE) class
 - Clumsiness
 - Lack of agility
 - Need for daytime naps
 - Disturbed sleep
- Duration of symptoms and progression
- Medications eg, Levetiracetam, Topiramate
- Sleep patterns, bedtime routines (including television, gadgets and other devices in bedrooms)
- Low mood
- Preceding infections and illnesses
 - Apparent minor illnesses may precipitate prolonged fatigue in adolescents
- Social history
 - Bereavement

'Red Flag' Symptoms and Signs

Ask about:

- Weakness
 - 'Floppiness' in infants

- Limb weakness in older children
 - May indicate neuromuscular disorder
- Altered consciousness
- Prolonged fever
- Weight loss
- Hypersomnia
- Listlessness / tiring during feeding in infants

Look for:

- Lymphadenopathy
- Hepatomegaly / splenomegaly
- Abdominal mass
- Anaemia / pallor
- Petechiae
- Hyperpigmentation of the gums and buccal mucosa
 - Addison's disease
- Faltering growth
- Signs of cardiac, pulmonary, gastrointestinal, neurological, or renal disease
- Low mood
 - Consider suicidal intent

Differential Diagnosis / Conditions

- Cyanotic or congestive heart disease
- Anaemia
- Hypothyroidism
- Recurrent or chronic infection
 - Otitis media
 - Sinusitis
 - Tonsillitis
- Upper respiratory tract allergies (eg, rhinitis)
 - Often mistakenly considered insignificant
- Endocrine disorders
 - Hypothyroidism
 - Diabetes mellitus
- Inflammatory diseases
 - Juvenile idiopathic arthritis and other autoimmune conditions
 - Inflammatory bowel disease
 - Coeliac disease
- Pulmonary disease
 - Underlying disease is usually evident before fatigue becomes severe

- Immunological disorders
 - Human immunodeficiency virus (HIV) infection
- Chronic kidney disease
- Inherited metabolic disease
- Malignancy
 - Leukaemia or lymphoma occasionally develops insidiously, with fatigue as the major symptom.
 - See Suspected cancer: recognition and referral [[NICE guideline NG12, Section 1.10.3](#)]
- Disturbed sleep
- Lead poisoning
- Infections
 - *Mycoplasma pneumoniae* infection
 - Often low grade and without fever
 - Hepatitis, cytomegalovirus, toxoplasmosis
 - Infectious mononucleosis
 - Symptoms usually resolve in several weeks, but the occasional patient may have an atypical or more prolonged course
 - Initial clinical findings either persist or are intermittent over several months or, in rare cases, years, and typically include chronic fatigue
 - Lyme disease
 - See Lyme Disease: Diagnosis [[NICE guideline NG95, Section 1.2](#)]
 - Transmitted by tick bite, often presents with erythema migrans rash, which develops after around a week.
- Eating disorders
- Safeguarding concerns
 - Neglect
 - Poisoning
 - Emotional abuse
- Alcohol and / or drug abuse
- Emotional disorders
- Chronic fatigue syndrome (CFS)
 - See Chronic fatigue syndrome / myalgic encephalomyelitis (or encephalopathy): Diagnosis and management [[NICE clinical guideline CG53, Section 1.3.1](#)].
 - This diagnosis should be made after other possible diagnoses have been excluded and the symptoms have persisted for 3 months in a child or young person.
 - The diagnosis should be made or confirmed by a paediatrician.
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- Healthcare professionals should consider the possibility of CFS / myalgic encephalitis (ME) if a person has fatigue with all of the following features:
 - New or specific onset (ie, it is not lifelong)
 - Persistent and / or recurrent
 - Unexplained by other conditions
 - Has resulted in a substantial reduction in activity level
 - Characterised by post-exertional malaise and / or fatigue (typically delayed, for example by at least 24 hours, with slow recovery over several days)
- And one or more of the following symptoms:
 - Difficulty with sleeping, such as insomnia, hypersomnia, unrefreshing sleep, a disturbed sleep–wake cycle
 - Muscle and / or joint pain that is multisite and without evidence of inflammation
 - Headaches
 - Painful lymph nodes without pathological enlargement
 - Sore throat
 - Cognitive dysfunction (eg, difficulty thinking, inability to concentrate, impairment of short-term memory, and difficulties with word-finding, planning, organising thoughts, and information processing)
 - Physical or mental exertion makes symptoms worse
 - General malaise or ‘flu-like’ symptoms
 - Dizziness and / or nausea
 - Palpitations in the absence of identified cardiac pathology

Investigations

To be undertaken by non-specialist practitioners (eg, General Practitioner (GP) Team):

- Initial laboratory evaluation can include:
 - Full blood count
 - Urea and electrolytes, blood glucose
 - Consider Addison’s disease if hyperkalaemia, hyponatraemia, and hypoglycaemia
 - Liver function tests (including calcium, albumin)
 - Erythrocyte sedimentation rate
 - C-reactive protein
 - Thyroid function tests
 - Coeliac serology
 - Viral serology including Epstein–Barr virus
 - Routine urinalysis (protein, blood, glucose, and infection screen)
 - Faecal calprotectin if available

To be undertaken by specialist practitioners (eg, Emergency Department / General Paediatric Team):

- Adrenocorticotrophic hormone stimulation test
 - Definitive diagnostic test for Addison's disease
- Central nervous system (CNS) imaging if abnormal neurological signs
- Lyme serology
- Toxin screens (eg, chronic lead exposure or acute lead intoxication) (see Toxbase [[National Poisons Information Service](#)])
- TORCH screen
 - Toxoplasmosis
 - Other viruses
 - Rubella
 - Cytomegalovirus
 - Herpes simplex and HIV

Treatment Approach

For the management of CFS, see Chronic fatigue syndrome / myalgic encephalomyelitis (or encephalopathy): Diagnosis and management [[NICE clinical guideline CG53, Section 1.4](#)].

To be undertaken by specialist practitioners (eg, Emergency Department / General Paediatric Team(s)):

- Treatment for organic diseases depends on the underlying condition
- After significant organic disease is ruled out, most patients require multidisciplinary management
 - Introduce bio psychosocial model of illness
 - Review daily routines and stresses
 - Suggest modifications of lifestyle and approach to life's situations
- Appropriate parental expectations must be emphasised
- The normal variability in performance and behaviour of healthy younger children must be kept in mind.
- Emotional support: signpost to local support and counselling services
- Referral to physiotherapy and psychologist / psychiatrist may be warranted
- If emotional fatigue is thought to exist:
 - The patient (especially adolescents) must be made to understand that organic diseases have been ruled out
 - The patient must be made aware of any possible emotional basis for the fatigue
 - Reasons for any psychiatric referral must be made clear

When to Refer

Refer to specialist practitioners (eg, Emergency Department / General Paediatric / Community Paediatric / Child and Adolescent Mental Health Service Team(s)) if:

- Any 'red flag' signs or symptoms
- Positive coeliac serology studies
- Hypotonia in infants
- Suspected malignancy
- Suspected affective disorder, depression, or suicidal intent
 - See Depression in children and young people [[NICE guideline CG28, recommendation 1.3.2.2](#)]
- Suspected CFS

'Safety Netting' Advice

- Advise families to seek urgent medical review if:
 - Any 'red flag' symptoms develop
 - Weight loss
 - Weight gain
 - Constipation
 - Rectal or vaginal bleeding
 - Joint swelling
 - Thirst
 - Increased urine frequency
 - Diabetes

Patient / Carer Information

****Please note: whilst these resources have been developed to a high standard they may not be specific to children.***

- [Chronic fatigue syndrome](#) (Web page), the NHS website
- [Chronic fatigue syndrome / ME](#) (Web page), Patient

Resources

National Clinical Guidance

[Chronic fatigue syndrome / myalgic encephalomyelitis \(or encephalopathy\): Diagnosis and management](#) (Web page), NICE clinical guideline CG53, National Institute for Health and Care Excellence.

[Evidence based guideline for the management of CFS / ME \(chronic fatigue syndrome / myalgicencephalopathy\) in children and young people](#) (Guideline), Royal College of Paediatrics and Child Health.

[Depression in children and young people: identification and management](#) (Web page), NICE clinical guideline CG28, National Institute for Health and Care Excellence.

[Suspected cancer: recognition and referral](#) (Web page) NICE clinical guideline NG12, National Institute for Health and Care Excellence.

[Coeliac disease: recognition, assessment and management](#) (Web page), NICE clinical guideline NG20, National Institute for Health and Care Excellence.

[Lyme Disease](#) (Web page), NICE clinical guideline NG95, National Institute for Health and Care Excellence.

Suggested Resources

****Please note: these resources include links to external websites. These resources may not have national accreditation and therefore PCO UK cannot guarantee the accuracy of the content.***

Farmer A, Fowler T, Scourfield J, Thapar A. Prevalence of chronic disabling fatigue in children and adolescents. *Br J Psychiatry* 2004;184:477-481. [[PubMed](#)]

Mears CJ, Taylor RR, Jordan KM, et al; and the Pediatric Practice Research Group. Sociodemographic and symptom correlates of fatigue in an adolescent primary care sample. *J Adolesc Health* 2004;35(6):528e.21-528e.26. [[PubMed](#)]

Smith MS, Martin-Herz SP, Womack WM, Marsigan JL. [Comparative study of anxiety, depression, somatization, functional disability, and illness attribution in adolescents with chronic fatigue or migraine](#). *Pediatrics* 2003;111(4 pt 1):e376-e381. [[PubMed](#)]

Jason LA, Bell DS, Rowe K, et al. [A pediatric case definition for myalgic encephalomyelitis and chronic fatigue syndrome](#). *J Chronic Fatigue Syndr* 2006;13:1-28.

Jason LA, Porter N, Shelleby E, et al. A case definition for children with myalgic encephalomyelitis / chronic fatigue syndrome. *Clin Med Pediatr* 2008;1:53.

Crawley EM. [The epidemiology of chronic fatigue syndrome/myalgic encephalitis in children](#). *Arch Dis Child* 2014;99(2):171-174. [[PubMed](#)]

Brigden A, Loades M, Abbott A, et al. Practical management of chronic fatigue syndrome or myalgic encephalomyelitis in childhood. *Arch Dis Child* 2017;102:981-986 [[PubMed](#)]

[Action for ME](#) (Website), AYME.

[Dehydration](#) (Web page - log-in required), Spotting the Sick Child

[Chronic Fatigue Syndrome](#) (eLearning - requires log-in), RCPCH Compass

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