

Fatigue:

Investigation and Management



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Fatigue is physical and/or mental exhaustion that can be triggered by stress, medication, overwork, or mental and physical illness or disease.

Fatigue is an important problem for patients and physicians. While frequently self-limiting or resolving, it can represent an important diagnostic and therapeutic challenge. Significant occult organic disease, while rare, must be identified. A complete history, including a thorough review of systems, an exploration of affect and impact of illness, psychological or psychiatric problems, expectations and impact of fatigue on function must be carefully explored if an organic cause is not obvious or likely.

Patients without an obvious diagnosis must perceive that organic causes are carefully sought. Confidence in the physician and the diagnostic process is essential. Patient-specific fears and concerns should be sought and addressed. The possibility, or probability that an organic disease will or will not be found should be identified early on in the process of care. Judicious use of consultants to address specific questions can also improve function and outcomes.

Conservative measures that have long-term health benefits and may reduce fatigue can be introduced during the diagnostic process,

especially if the history and physical examination do not reveal a clear cause for fatigue.

When limited evidence of an organic illness is found, the diagnosis may have limited explanatory power. For example, a positive anti-nuclear antibody test in the absence of other evidence of connective tissue diseases does not explain fatigue.

Suggestions for each step in the diagnostic process are provided below.

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History

Patients need an opportunity to fully describe what they are feeling and how it began. Initial

physical symptoms may suggest a diagnosis. Vague, non-specific, subjective and multi-system symptoms are less consistent with an organic illness. If a potential diagnosis becomes apparent, be it psychological or physical, it should be pursued.

If the history is not revealing of an organic disease, a complete review of systems must be performed.

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The presence of pre-existing organic illness or significant risk factors for organic disease, including advanced aged, cardiac risk factors, diabetes and smoking all increase the probability of an underlying organic illness.

However, most patients with fatigue do not have a clearly causal organic illness but many suffer from sleep problems or problems with distress or anxiety. Anxiety and sleep problems, their severity and chronicity, should also be assessed.

Given the impact of fatigue on patients, a “FIFE” assessment is crucial:

- **F:** “How do you **feel** about your illness?” (help the patient name an emotion)
- **I:** “What **ideas** do you have about what is making you tired?”

- **F: Function:** “How has this illness affected your life and those at home with you? What have you had to give up doing? Who does things for you?”
- **E:** “What do you **expect** or hope I can do for you?”

Medications

Prescription and non-prescription drug use, including nicotine, alcohol, caffeine, other recreational drugs and homeopathic treatments should be identified and quantified in terms of amount and duration.

Examination

Physical examination should look for signs of anxiety or stress. Skin, joints, hands, lymph nodes, thyroid, “backwards heel toe eyes closed gait” (ensure the patient is stable enough to safely perform this maneuver) and bedside forced expiratory volume in the first second assessment may be useful additions to the more routine elements of examination.

Occult diseases to consider

- B12 deficiency (toe position and vibration, B12 level)
- Thyroid disease
- Celiac sprue: (obesity, weight loss, elevated aspartate aminotransferase [AST] alanine aminotransferase [ALT]—tissue transglutaminase [tTG] and IGA levels if high pretest suspicion of celiac sprue)

- Sleep disorders: sleep apnea (obesity, hypertension, hypersomnolence), narcolepsy, idiopathic hypersomnolence, restless leg syndrome
- Liver disease: ferritin, liver function tests
- Excess alcohol consumption—lab may show mean corpuscular volume 100 to 105—platelets 50 to 150, low: serum magnesium levels, creatine kinase (CK), blood urea nitrogen (BUN), potassium

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Investigations

Investigations appropriate for all patients with fatigue:¹

Routine:

- Complete blood count, electrolytes, BUN, creatinine, glucose, AST ALT, alkaline phosphatase, B12, ferritin TSH, CK, tTG

Take-home message

Irrespective of cause, patients presenting with fatigue represent an important opportunity for physicians to help patients live better and healthier lives. The presence or absence of a detectable organic illness should have no bearing on the seriousness with which the complaint of fatigue is taken.

- Chest x-ray
- Consider home sleep study and serum magnesium levels

Management: key points

Physicians must facilitate acceptance when no diagnosis is forthcoming. Management requires an effective therapeutic alliance between a patient and physician. Physicians must strive to help patients accept that a serious organic disease is not present and facilitate self-care behaviours that can ameliorate fatigue.

Accepting that no known organic cause is apparent can be ego dystonic to patients and physicians. Explaining early on in the work-up that a single diagnosis is unlikely may facilitate acceptance as can obtaining second opinions.

- **Homeopathic treatments** undoubtedly offer placebo benefits and need not be discouraged if safe and not overly expensive
- **Regular structured exercise** of limited intensity and duration that is slowly increased over time may help. Exercise should not continue to exhaustion or fatigue

- **Stress management**, mindfulness and psychological or psychiatric assessment should be pursued whenever appropriate. No disease is improved by chronic stress, and chronic stress is a risk factor for CVD almost equal to smoking or diabetes
- **Internet resources** on sleep hygiene, self-care and stress management may be of use (below)
- **Restful sleep** is important. Sleep hygiene should be assessed and sleep studies utilized if there is concern of an underlying sleep disorder
- **Self-care**: patients who have a severe inability to effectively care for themselves may have a history of physical, psychological or sexual abuse. This can be screened for and referred for expert treatment if necessary (it is very hard for you to make changes to help yourself. Sometimes this can be due to abuse earlier in life, either physical, sexual or psychological. Is this something that has happened to you?)



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The limits of medical knowledge

Many patients feel strongly that some underlying illness is responsible for their fatigue. This belief may of course be correct and it remains possible that extrinsic causes for severe fatigue will be identified in the future. It is not inappropriate for physicians to acknowledge this possibility (it is possible that there is a cause for fatigue that medical science has yet to discover). In the meantime, I would recommend visiting your doctor if the symptoms change and taking steps to improve your quality of life including regular exercise, good diet and stress reduction. **Dx**

Further reading

1. Cornuz J, Guessous I, Favrat B: Fatigue: A Practical Approach To Diagnosis In Primary Care. *CMAJ* 2006; 174(6):765-7.
2. Nijrolder I, van der Windt D, de Vries H, et al: Diagnoses During Follow-Up Of Patients Presenting With Fatigue In Primary Care. *CMAJ* 2009; 181(10):683-7.
3. Watanabe N, Stewart R, Jenkins R, et al: The Epidemiology Of Chronic Fatigue, Physical Illness, And Symptoms Of Common Mental Disorders: A Cross-Sectional Survey From The Second British National Survey Of Psychiatric Morbidity. *J Psychosom Res* 2008; 64(4):357-62.

Internet resources

1. Mayo Clinic: <http://www.mayoclinic.com/health/chronic-fatigue-syndrome/DS00395>. Accessed: November 15, 2009.
2. University of Maryland Medical Center: http://www.umm.edu/sleep/sleep_hyg.htm. Accessed: November 15, 2009.
3. Relaxation Response: <http://relaxationresponse.org/steps/>. Accessed: November 15, 2009.