Fatigue and Tiredness

Color Index	IMPORTANT	NOTES	GOLD	EXTRA

OBJECTIVES

1. Define the meaning of fatigue vs. malaise vs. tiredness
2. Discuss the pathophysiology of fatigue and malaise
3. Discuss the common causes of fatigue and tiredness
4. Explain the diagnostic criteria of chronic fatigue syndrome
5. Understand the basic clinical approach to patient with fatigue

DONE BY

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Definitions

Fatigue Is an unpleasant symptom which interferes ability to function to their normal capacity. (Fatigue could be mental or physical or both)
- The European Association for Palliative defines fatigue is a **subjective** feeling of tiredness, weakness or lack of energy.

- **Tiredness** is a symptom of Fatigue and it's one of the most common complaints of people seen in primary healthcare
- **Muscle Tiredness** is called "Asthenia"

(Fatigue is a condition whereas Tiredness is a symptom)

Epidemiology of fatigue

* It is one of the top 10 chief complaints leading to family practice
* Fatigue occurs in up to 20% of patients seeking care
* More in women than men
* Psychiatric illness is present in 60% – 80% of patients with chronic fatigue.

(The most common psychiatric disorders in patients with chronic fatigue is **Depression** followed by **Anxiety** followed by **Sleep Disorders**)

Types of fatigue:

Recent-Acute	• Less Than one month
Prolonged-Subacute	• More than one month till 6 months
Chronic	• Over Six months

Types and Differences:

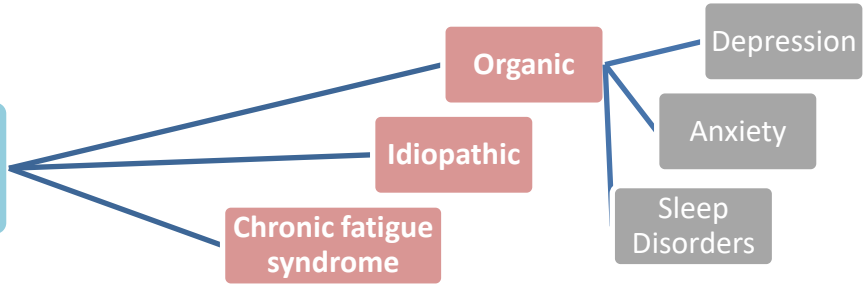
Type	Definition
Chronic fatigue syndrome (CFS)	Clinically evaluated, **unexplained**, persistent or relapsing fatigue. That is **of new or definite onset** and is **not the result of ongoing exertion**; and is **not alleviated** by rest; ▪ Cause reduction in previous levels of occupational, educational, social, or personal activities.
Chronic fatigue	The presence of fatigue for **longer than six months**
Idiopathic chronic fatigue	▪ **No medical or psychiatric explanation can be found.** ▪ persists for over six months and is debilitating **but doesn't meet the criteria of chronic fatigue syndrome.**

Acute Fatigue

- Occurs within short duration. (Less than 4 weeks)
- It's usually results sleep loss or from short periods of heavy physical or mental work.
- It **can be reversed** by sleep and relaxation.

(Usually caused by stress, sleep deprivation)

Chronic fatigue etiologies



Chronic fatigue syndrome

- It is the **constant, severe state of tiredness that is not relieved by rest.**
- It is like the flu, **lasts longer than six months.**
- It interferes with certain activities.
- The exact cause of this syndrome is still unknown.

Fatigue types:

Physical:

prevents participation in activities and impedes activities of daily living.

Cognitive:

Complicates activities such as reading, driving a car and thus prevents leisure activities.

Fatigue symptoms:

- Difficulty or inability to initiate activity (Subjective sense of weakness)
- Reduced capacity to maintain activity (easy fatigability)
- Difficulty with concentration, memory, and emotional stability (mental fatigue)

The impact of fatigue on quality of life:

Fatigue has a strong negative impact on the patient's daily life.

Fatigue consequences:

- Reducing mental and physical Functioning.
- Impairing judgment and Concentration
- Lowering motivation
- slowing reaction time
- Increasing risk taking behavior (like substance abuse)

Evaluation of fatigue:

A. **History** (most important to diagnose fatigue)
B. **Physical examination** (Lymph node, Neural examination, Cognitive functions, Exclude weakness, Anxiety symptoms)
C. **Laboratory studies** (CBC, Iron, Ferritin, MCV, HB to diagnose Anemia)

Evaluating of fatigue is subjective there are no real tests for this with regard to traditional laboratory or imaging studies and It's a subjective lack of physical and/ or mental energy that interferes with usual and desired activities.

History:

* Age, Gender (menopause, Hemorrhage), Occupation abrupt or gradual, related to event.

* Course stable, improving or worsening?

* Duration and daily pattern.

* Factors that alleviate or exacerbate symptoms.

* Impact on daily life/ability to work.

*We most commonly find that causes in Elderly are: Malignancy/Sleep disorders - and in Adult are: sleep deprivation followed by stress.

Physical Examination:

- General appearance, level of alertness, psychomotor agitation or retardation, grooming (psychiatric disorders)
- **Presence of lymphadenopathy**:

a possible sign of chronic infection or malignancy.

- **Evidence of thyroid disease**:

Goiter, Thyroid nodule, ophthalmologic changes.

- **Cardiopulmonary examination:**

Sings of congestive heart failure and chronic lung disease.

- **Neurologic examination**:

muscle bulk, tone, and strength; deep tendon reflexes…. etc.

Lab tests:

CBC with differentials, Chemistry screen (including electrolytes, glucose, renal and liver function tests), TSH, Creatine kinase, if pain or muscle weakness present and Other.
(Like Diabetes, because hypoglycemia can cause it)

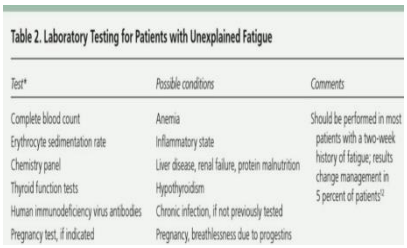


Table 2. Laboratory Testing for Patients with Unexplained Fatigue

Test*	Possible conditions	Comments
Complete blood count	Anemia	Should be performed in most patients with a two-week history of fatigue; results change management in 5 percent of patients[12]
Erythrocyte sedimentation rate	Inflammatory state	
Chemistry panel	Liver disease, renal failure, protein malnutrition	
Thyroid function tests	Hypothyroidism	
Human immunodeficiency virus antibodies	Chronic infection, if not previously tested	
Pregnancy test, if indicated	Pregnancy, breathlessness due to progestins	

Specific clinical signs of organic disease associated with fatigue:

- pallor, tachycardia, systolic ejection murmurs:

Anemia

- Blue sclera:

Iron deficiency

- Jaundice, palmar erythema, Dupuytren's contracture:

Chronic liver disease

- Goiter or thyroid nodule, dry skin, delayed deep tendon reflexes, peri-orbital puffiness, ophthalmological changes **OR** Weight loss, hyperreflexia, tachycardia, atrial fibrillation, fine tremor, goiter:

Hyperthyroidism

- Hypotension, pigmentation in skin creases, scars, and buccal mucosa:

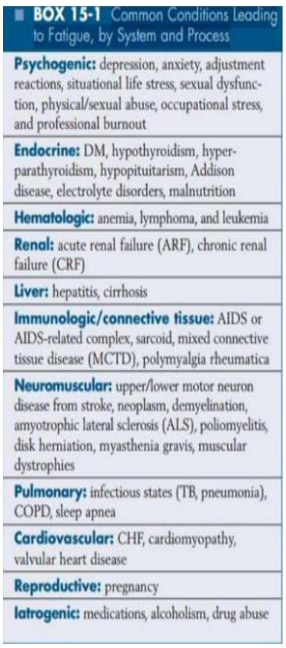
Addison's disease

- Pulmonary stasis, elevated jugular venous pressure, ankle edema:

Heart failure

Possible causes of Fatigue:

- Cancer
- Depression/emotional distress
- Insomnia
- Weight loss/poor nutrition/dehydration
- Infection
- Anemia
- Electrolyte imbalance
- Side effects of medication (Beta blockers, antihistamine)
- Comorbidities



BOX 15-1 Common Conditions Leading to Fatigue, by System and Process

Psychogenic: depression, anxiety, adjustment reactions, situational life stress, sexual dysfunction, physical/sexual abuse, occupational stress, and professional burnout
Endocrine: DM, hypothyroidism, hyperparathyroidism, hypopituitarism, Addison disease, electrolyte disorders, malnutrition
Hematologic: anemia, lymphoma, and leukemia
Renal: acute renal failure (ARF), chronic renal failure (CRF)
Liver: hepatitis, cirrhosis
Immunologic/connective tissue: AIDS or AIDS-related complex, sarcoid, mixed connective tissue disease (MCTD), polymyalgia rheumatica
Neuromuscular: upper/lower motor neuron disease from stroke, neoplasm, demyelination, amyotrophic lateral sclerosis (ALS), poliomyelitis, disk herniation, myasthenia gravis, muscular dystrophies
Pulmonary: infectious states (TB, pneumonia), COPD, sleep apnea
Cardiovascular: CHF, cardiomyopathy, valvular heart disease
Reproductive: pregnancy
Iatrogenic: medications, alcoholism, drug abuse

Treatment of Fatigue:

- Cancer
- Rule out: medical condition, a psychiatric condition, an inadequate sleep situation, a social situation, or a sleep disorder

Nonpharmacologic and pharmacologic.

- Nonpharmacologic: Patient education and understanding normal sleep requirements. - Diet and nutrition have a role;
- Pharmacological approach: stimulants, wake-promoting agents, and other drugs or treatments

Chronic Fatigue Syndrome (Important in MCQ and OSCE)

Features:

- It is the constant, severe state of tiredness that is not relieved by rest.
- It is like the flu, last longer than six months. (lymphadenopathy)
- It interferes with certain activities

Cause:

cause of this syndrome is still unknown. Studies show an association with EBV infection

Diagnosis:

1. Unexplained, persistent or relapsing fatigue: that is of new onset; is not the result of ongoing exertion; is not alleviated by rest; and results in substantial reduction in previous levels of occupational, educational, social, or personal activities

and

2. Four or more of the following: that persist or recur for six months.

- *Headaches of a new pattern or severity*
- *Self-reported short-term memory impairment,*
- *Unrefreshing sleep*
- *Sore throat,*
- *Tender cervical or axillary nodes*
- *Muscle pain,*
- *Multi-joint pain without redness or swelling*

History of CFS:

- Typically report post exertional fatigue and feeling excessively tired after relatively normal tasks
- Patients also report fatigue even after prolonged periods of rest or sleep.
- Typically report problems with short-term memory
- They may report verbal dyslexia as the inability to find particular word during normal speech.

The five main symptoms:

- Reduction or impairment in ability to carry out normal daily activities, accompanied by profound fatigue
- Post exertional malaise (worsening of symptoms after physical, cognitive, or emotional effort)
- Unrefreshing sleep
- Cognitive impairment
- Orthostatic intolerance (symptoms that worsen when a person stands upright and improve when the person lies back down)

Percentage of the common symptoms of patients:

- Easy fatiguability 100%
- Difficulty concentrating 90**%**
- Headache 90**%**
- Sore throat 85%
- Tender lymph nodes 80%
- Muscle aches 80%
- Joint aches 75%
- Feverishness 75%

Physical Examination:

Physical examination often reveals no abnormalities. Some patients may have positive orthostatic vital signs.

Many patients have small, moveable, painless lymph nodes that most commonly involve the neck, axillary region, or inguinal region

Treatment:

- The doctor-patient relationship
- Establishing therapeutic goals.
- Accomplishing the activities of daily living.
- Returning to work.
- Maintaining interpersonal relationships.
- Performing some form of daily exercise.
- Brief regularly scheduled appointments.

CFS Treatment

- Approach Considerations
- CFS has no cure. Treatment is largely supportive and focuses on symptom relief.
- Cognitive Behavioral Therapy (CBT).
- Exercise is not a cure for CFS.
- The patients felt less fatigued following exercise therapy and felt improved in terms of sleep, physical function, and general health.

Graded Exercise Therapy (GET) is not recommended. (The CDC and AHRQ)

SORT: KEY RECOMMENDATIONS FOR PRACTICE

Clinical recommendation	*Evidence rating*	*References*	*Comments*
Exercise therapy should be prescribed for patients with fatigue, regardless of etiology.	A	16-18, 32, 43, 44, 46	There is no evidence that exercise therapy worsens outcomes.
Selective serotonin reuptake inhibitors, such as fluoxetine (Prozac), paroxetine (Paxil), or sertraline (Zoloft), may be helpful for patients with fatigue in whom depression is suspected.	B	22, 49	A six-week trial is recommended to evaluate effectiveness.
Cognitive behavior therapy is an effective treatment for adult outpatients with chronic fatigue syndrome.	A	22, 47, 48	—
Stimulants seldom return patients to predisease performance.	B	21, 45	Stimulants are associated with headaches, restlessness, insomnia, and dry mouth.

A = consistent, good-quality patient-oriented evidence; B = inconsistent or limited-quality patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, go to http://www.aafp.org/afpsort.xml.

Summary- Fatigue

History and physical examination → Exclude CFS if another condition exists.
- Establish prolonged and unexplained fatigue.
- Evaluate mental status; personal and family psychiatric history.
- Exclude other diagnostic possibilities.

↓

Laboratory tests → Exclude CFS if another condition exists.
- Screen to exclude other diagnoses:
  - Serial weights, serial A.M. and P.M. temperatures, CBC, ESR, electrolytes, glucose, ALT, total protein, albumin, globulin, alkaline phosphatase, BUN, creatinine, creatine kinase, Ca, PO_4, TSH, and UA
- Additional tests to support exclusion: serologies (Lyme disease, hepatitis B and C screen, HIV, ANA), PPD skin tests

↓

If fatigue persists for at least six months, evaluate for associated symptoms. → Classify as idiopathic chronic fatigue if associated symptoms are not present.
- Four or more of the following symptoms are present: myalgias, arthralgias, sore throat, lymphadenopathy, headaches, postexertional malaise, impaired memory and/or concentration.

QUESTIONS

QUESTIONS (1)

Which of the following is the most accurate test for chronic fatigue syndrome?

A-Serum Hb, iron and ferritin for exclusion of anemia

B-LFT and RFT for exclusion of renal failure or liver disease

C- None

QUESTIONS (2)

Fatigue is seen more in

A-male

B-female

C-equally affected

QUESTIONS (3)

A patient suffering from fatigue for more than 6 months, non-exertional with muscle pain, tender cervical nodes, multi joint pain and long-term memory loss

A-chronic fatigue syndrome

B- chronic fatigue

C- idiopathic chronic fatigue

QUESTIONS (4)

The main treatment for CFS is

A-exercise and supportive therapy

B- vitamins and omega 3

C-graded exercise therapy

ANSWERS C, B, C, A