

The module: Clinical problem solving

TATT:
Tired All
The Time



Aim

The aim of this session is that you should use the example of patients presenting to report that they are “tired all the time” to explore how to build conceptual structures which will help you to diagnose and manage complex multi-factorial conditions.

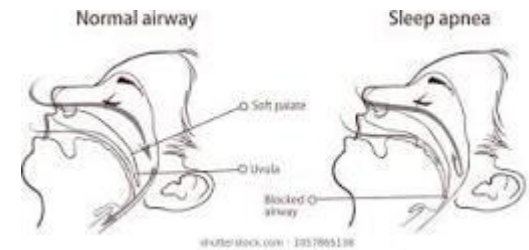
Learning outcome:

By the end of this cycle you will be able to:

- * identify and map in the logical way the topics relevant to the understanding, diagnosis and management of a patient who reports feeling “tired all the time”**
- * be able to construct and analyze questions of the type used in the ESA**



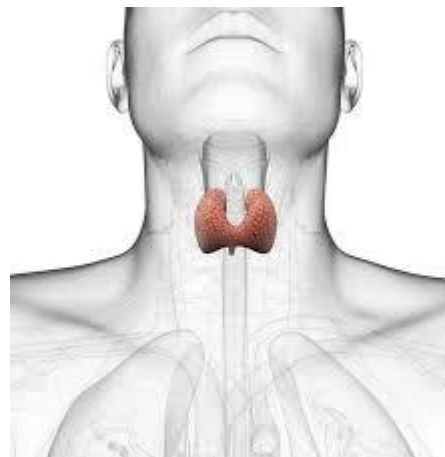
Just about the most common reason for patients attending their General Practitioner is to report feeling “tired all the time”.



SADNESS IS



**...feeling tired
all the time.**



Feeling tired is normal human experience and can occur either

- **because of a lack of physical energy**
- **because of a lack of psychological motivation to act**

“Physical energy” is the capacity of the tissues of the body to engage in their normal metabolic activity.

To function normally tissues require:

- 1- oxygen
- 2- fuel to provide energy
- 3- the stimulus of a wide variety of chemical messengers to drive metabolism.
- 4- Some tissues also require period of recuperation in a different state to maintain their function (most obviously the brain, which needs sleep)

The metabolism of cells may be depressed if they receive too little oxygen.

Poor oxygen supply may therefore be due to:

- **poor lung function** (obstructive pulmonary disease (COPD), or diseases affected the interstitial tissues in the lung or blood flow through it)
- **insufficient functioning hemoglobin**
- **insufficient blood flow.**

Oxygen transport in the blood requires normal levels of hemoglobin

Making hemoglobin requires **iron** and vitamins such as **B12**. If these are deficient then there will be **anemia**, as will also happen if the processes which make red blood cells are disturbed.

hemoglobin may be present, but not functioning, as happens in low level carbon monoxide poisoning.

Cells also need **glucose. If the concentration of the glucose in the blood is low, or more commonly glucose cannot enter cells (Diabetes) then metabolism will be compromised.**

Even if blood flow is well supplied with oxygen and glucose, it may not reach the tissues in adequate amounts. This commonly happens in 'heart failure'

The metabolism of cells is affected by a wide variety of chemical signals. Thyroid hormones determine overall metabolic rate.

Chemical messengers produced by the immune system or by pathogens often produce profound feelings of tiredness – lethargy, both acutely and sometimes long term (Chronic Fatigue Syndrome).

Patients may also feel tired because their sleep is chronically disrupted. There may be obvious causes such as new parenthood or shift work, or more subtle issues such as “sleep apnea” when breathing stops for short periods during the night leading to repeated transient waking.

psychological problems

most commonly depression, which is associated with disturbance of appetite and sleep disruption such as early wakening. Depression is associated with chemical disturbances in the brain.

You should therefore, be able to see that the multitude of possible interacting reasons for “TATT” leads to considerable diagnostic and management challenges, which require the doctor to access concepts across the full range of basic and applied medical sciences.

Group work: constructing questions

Hussein is 56 years old, and was diagnosed with type 2 diabetes five years ago. He is struggling to maintain his blood glucose within acceptable limits on his current regime of diet and oral hypoglycaemic drugs, and you need to decide with him what should be done next.

a- List three risks of poor control of blood glucose in patients with Diabetes

Mohammad is 13 years old. A few weeks ago he had a non-specific viral illness, and since then has begun to feel very tired. His mother has noticed that he is losing some weight, and he is complaining of being very thirsty. His teachers are complaining that his frequent visits to the toilet at school are disrupting classes.

a- Why might you smell an acetone-like odour on his breath?