

Assessment and personalized advice for fatigue in Systemic Lupus Erythematosus using an innovative digital tool: the Lupus Expert system for the Assessment of Fatigue (LEAF) study.

SUPPLEMENTARY DATA

Supplementary Document 1

> I can detect a low level of physical activity. You are probably not active enough, and that can be a cause of your fatigue.

Physical activity is **one of the most effective proven interventions to improve fatigue** in systemic lupus erythematosus.

In addition, physical activity has a lot of other **positive impacts**: less pain interference, better physical function, cardiovascular risk reduction, bone strength amelioration, and even positive impact on the mood!

In studies, physical activity in systemic lupus erythematosus was reported to be **safe** and **well tolerated**, with rare adverse effects, and no reported deleterious effects on disease activity or inflammation.

I remind you that the **international recommendation** is to get:

- at least **150 minutes per-week of moderate-intensity activity** (brisk walking, riding a bike, dancing, hiking...) or **75 minutes per-week of vigorous activity** (running, swimming, tennis...), or a combination of both.

- **muscle-strengthening activities** (Pilates, swimming...) **2 days per week**

- **flexibility activities** (yoga, stretching...) **2 days per week**

If you suffer from **joint pain**, you would prefer water sports, bike riding or brisk walking. These kinds of activities reduce the pressure on joints. But you can do other exercises if you keep the impact low, move gently and slowly, and do not overdo it.

To have more **motivation** for physical activity, you should pick activities that you enjoy or find a friend to exercise with, set realistic goals and reward yourself when you reach them, and make physical activity a part of your daily routine.

If you are 40 years old or more, or if you have cardiologic issues, it is advisable to undergo a medical examination before starting a physical activity. You should also consult your rheumatologist because physical activity may not be fully recommended if you have a lupus flare.

Supplementary document 2**> You experience severe insomnia associated with significant impairments of daytime functioning.**

You should talk to a health-care professional about it.

Many different reasons can affect the quality of your sleep: pain, disease activity, anxiety or depression, glucocorticoid (but you cannot stop it or reduce it without your doctor's approval!), bad sleeping habits, or even some medical conditions (gastric reflux, hyperthyroidism, sleep apnea...).

So here is some advice to maintain good sleep hygiene: you should keep regular sleep hours, make sure your bedroom is dark, quiet and not too hot, minimize screen time and relax before bedtime, exercise regularly, avoid late big meal, coffee and alcohol before going to bed.

Adults usually need around 8 hours of sleep for an optimal daytime functioning (although some people require more or less sleep).