

# Exercise training improves cardiac parameters in lupus

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(HealthDay) -- For inactive patients with systemic lupus erythematosus (SLE), a three-month exercise training program is associated with improved chronotropic reserve and heart rate recovery, according to a study published online March 21 in *Arthritis Care & Research*.

To investigate the efficacy of an exercise training program in counteracting chronotropic incompetence and delayed heart recovery, Renata Miossi, M.D., from the University of Sao Paulo in Brazil, and associates conducted a randomized 12-week trial of 24 inactive patients with SLE. Participants were divided into training and non-training groups, and an age-matched healthy control group of eight participants also completed the exercise program. Participants were evaluated before and after training, and measurements included chronotropic reserve and

heart rate recovery ( $\Delta\text{HRR}$ ), defined as the difference in heart rate at peak exercise and at the first and second minute after the exercise test ( $\Delta\text{HRR1}$  and  $\Delta\text{HRR2}$ ).

The researchers found that, for patients with SLE, the three-month program resulted in significant increases in chronotropic reserve ( $P = 0.007$ ) and improved heart rate recovery ( $\Delta\text{HRR1}$ ,  $P = 0.009$ ;  $\Delta\text{HRR2}$ ,  $P = 0.002$ ) compared with the no-treatment group. After training, the heart rate response was similar for patients with SLE and healthy controls ( $P > 0.05$ ).

"A three-month [exercise training](#) program was safe and capable of reducing the chronotropic incompetence and the delayed heart rate recovery observed in physically inactive SLE patients," the authors write.

The Laboratory of Physical Conditioning for Rheumatologic Patients, where the research was conducted, received a grant from the Bank of America Merrill Lynch.

**More information:** [Abstract](#)  
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