

# What's the Best Time to Exercise?

## It depends on the goal

*What time of day is best for exercise? For most of us, it is “when we can”. Some of us like to exercise first thing in the morning, others may choose noon, after work, or even 2 AM (I hear there is no wait at the squat rack). But what if the results aren't the same? Is a certain time of day better for fat loss and another better for muscle gains? Does a morning walk help with our blood pressure or would we be better off doing it at night? What if when you exercise ultimately has a big effect, not just on strength and fat loss, but also on heart health, mood, and quality of sleep?*



## Abstract

- **Purpose:** Given known sex differences in response to exercise training, this study quantified health and performance outcomes in separate cohorts of women and men adhering to different ETOD.
- **Methods:** Thirty exercise-trained women (BMI =  $24 \pm 3$  kg/m<sup>2</sup>;  $42 \pm 8$  years) and twenty-six men (BMI =  $25.5 \pm 3$  kg/m<sup>2</sup>;  $45 \pm 8$  years) were randomized to multimodal ETOD in the morning (0600–0800 h, AM) or evening (1830–2030 h, PM) for 12 weeks and analyzed as separate cohorts. Baseline (week 0) and post (week 12) muscular strength (1-RM bench/leg press), endurance (sit-ups/push-ups) and power (squat jumps, SJ; bench throws, BT), body composition (iDXA; fat mass, FM; abdominal fat, Abfat), systolic/diastolic blood pressure (BP), respiratory exchange ratio (RER), profile of mood states (POMS), and dietary intake were assessed.
- **Results:** Twenty-seven women and twenty men completed the 12-week intervention. No differences at baseline existed between groups (AM vs PM) for both women and men cohorts. In women, significant interactions ( $p < 0.05$ ) existed for 1RM bench ( $8 \pm 2$  vs  $12 \pm 2$ ,  $\Delta$ kg), pushups ( $9 \pm 1$  vs  $13 \pm 2$ ,  $\Delta$ reps), BT ( $10 \pm 6$  vs  $45 \pm 28$ ,  $\Delta$ watts), SJ ( $135 \pm 6$  vs  $39 \pm 8$ ,  $\Delta$ watts), fat mass ( $-1.0 \pm 0.2$  vs  $-0.3 \pm 0.2$ ,  $\Delta$ kg), Abfat ( $-2.6 \pm 0.3$  vs  $-0.9 \pm 0.5$ ,  $\Delta$ kg), diastolic ( $-10 \pm 1$  vs  $-5 \pm 5$ ,  $\Delta$ mmHg) and systolic ( $-12.5 \pm 2.7$  vs  $2.3 \pm 3$ , mmHg) BP, AM vs PM, respectively. In men, significant interactions ( $p < 0.05$ ) existed for systolic BP ( $-3.5 \pm 2.6$  vs  $-14.9 \pm 5.1$ ,  $\Delta$ mmHg), RER ( $-0.01 \pm 0.01$  vs  $-0.06 \pm 0.01$ ,  $\Delta$ VO<sub>2</sub>/VO<sub>2</sub>), and fatigue ( $-0.8 \pm 2$  vs  $-5.9 \pm 2$ ,  $\Delta$ mm), AM vs PM, respectively. Macronutrient intake was similar among AM and PM groups.
- **Conclusion:** Morning exercise (AM) reduced abdominal fat and blood pressure and evening exercise (PM) enhanced muscular performance in the women cohort. In the men cohort, PM increased fat oxidation and reduced systolic BP and fatigue. Thus, ETOD may be important to optimize individual exercise-induced health and performance outcomes in physically active individuals and may be independent of macronutrient intake.

*This study initially started to test a group of healthy, fit middle-aged men and women doing 4 workouts weekly, each with a different focus (strength, steady pace endurance, high-intensity intervals, and flexibility). Because they had so many subjects they had to divide them into two groups, a morning group, and an evening group. When they examined the results they found differences between the AM and PM groups. All the participants got leaner and stronger. Women who worked out in the morning lost more body fat, while those who trained in the evening gained more upper-body strength and power. As for men, the performance improvements were similar no matter when they exercised. But those who exercised in the evening had a significant drop in blood pressure, cholesterol levels, feelings of fatigue, and a higher percentage of fat burned for energy.*

*All exercise is good. Our bodies adapt to a schedule so exercising at the same time daily help with our circadian rhythms which aids in sleep. But this study gives food for thought. If you are a woman trying to lose body fat, a morning workout may be the way to go. If you are a man struggling with your blood pressure, consider evening activity. The most important thing is always to get it done, so choose a time to exercise that works with your schedule.*

Morning Exercise Reduces Abdominal Fat and Blood Pressure in Women; Evening Exercise Increases Muscular Performance in Women and Lowers Blood Pressure in Men. *Front. Physiol.*, 31 May 2022 | <https://doi.org/10.3389/fphys.2022.893783>