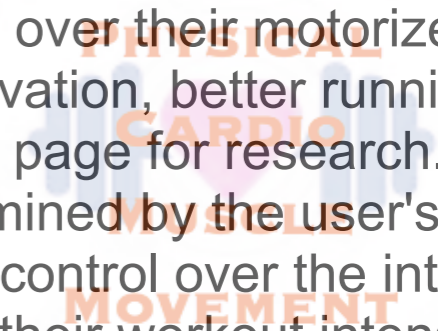


Non - motorized treadmills are great! They can make you a stronger runner!

PERFORMANCE 101



Non-motorized treadmills, also known as manual treadmills, can offer several benefits over their motorized counterparts. These treadmills can lead to greater calorie burn, improved muscle activation, better running technique, improved balance and stability and more. Read on for details and see next page for research.

- More control over workout intensity: The speed of a non-motorized treadmill is determined by the user's efforts is a major reason I recommend them. This means that the user has complete control over the intensity of their workout, which can be a plus for those who want to push themselves or vary their workout intensity. Makes HIIT so much easier and better (see research below).
- Better for posture and form: Manual treadmills can encourage better posture and form since the user must use their own power to move the belt. This can help to engage core muscles, improve balance and stability, and reduce the risk of injury.
- Better running technique: Using a non-motorized treadmill can help improve running technique, as users have to focus on maintaining proper form and engaging their muscles to move the belt. This can lead to more efficient and effective running technique, potentially reducing the risk of injury.
- Greater muscle activation: Non-motorized treadmills can lead to greater activation of leg muscles during running or walking compared to motorized treadmills. This is because users have to use more effort to move the belt, engaging their muscles more.
- Greater Glute engagement: I am always suggesting to runners to use their glutes more (our largest skeletal muscle). Non-motorized treadmill training can lead to greater activation of the gluteus maximus muscle during running compared to a motorized treadmill. This may be because running on a non-motorized treadmill requires more effort from the user, as they have to propel themselves forward with their own power rather than relying on a motor. This increased effort can engage the gluteus maximus muscle more, leading to greater activation and potential strengthening over time.
- Improved balance and stability: Some research suggests that using a non-motorized treadmill can improve balance and stability, particularly in older adults.
- Improved calorie burn: Because non-motorized treadmills require the user to power the movement themselves, they can burn more calories compared to motorized treadmills at the same speed and duration of exercise. This can be particularly beneficial for those looking to lose weight or improve their cardiovascular health.
- Energy-efficient: Since there is no motor involved, these treadmills don't consume any electricity, making them an environmentally-friendly option.

Research

These studies suggest that non-motorized treadmills can offer a range of benefits, including improved sprint performance and technique, increased trunk muscle activation during walking, and improved lower body power and agility in athletes when compared to conventional treadmill. Some of these studies also suggest that non-motorized treadmills can offer performance benefits for high-intensity interval training, including improvements in cardiorespiratory fitness, anaerobic power, and targeted muscle activation.

- A study published in the Journal of Sports Science and Medicine found that using a non-motorized treadmill improved running economy and performance in trained distance runners. The study found that participants were able to maintain their running speed for longer on the manual treadmill compared to a motorized treadmill at the same speed.
- Another study published in the Journal of Strength and Conditioning Research found that using a non-motorized treadmill improved sprint performance and power output in recreationally active men. The study found that participants were able to generate more power and reach higher maximum speeds on the manual treadmill compared to a motorized treadmill at the same speed.
- A third study published in the Journal of Human Kinetics found that using a non-motorized treadmill improved VO₂max, a measure of cardiorespiratory fitness, in sedentary women. The study found that after 8 weeks of training on the manual treadmill, participants showed a significant increase in VO₂max compared to a control group.
- A study published in the Journal of Sports Science and Medicine found that using a non-motorized treadmill led to greater activation of the gluteus maximus muscle during running compared to a motorized treadmill. This suggests that manual treadmills may be a good option for those looking to target their glutes during their workouts.
- Another study published in the Journal of Strength and Conditioning Research found that using a non-motorized treadmill improved balance and stability in older adults. The study found that after 12 weeks of training on the manual treadmill, participants showed significant improvements in measures of balance and stability compared to a control group.
- A study published in the Journal of Applied Physiology found that using a non-motorized treadmill led to greater activation of leg muscles during running compared to a motorized treadmill. The study found that participants had greater activation of their quadriceps, hamstrings, and calf muscles when running on the manual treadmill at the same speed as the motorized treadmill.
- A study published in the Journal of Sports Science and Medicine found that using a non-motorized treadmill improved sprint performance and running technique in male sprinters. The study found that participants had better ground contact time, stride length, and stride frequency when running on the manual treadmill at maximum speed compared to a motorized treadmill.
- Another study published in the Journal of Exercise Rehabilitation found that using a non-motorized treadmill improved trunk muscle activation during walking compared to a motorized treadmill. The study found that participants had greater activation of their abdominal and lower back muscles when walking on the manual treadmill at the same speed as the motorized treadmill.
- A study published in the Journal of Strength and Conditioning Research found that using a non-motorized treadmill improved lower body power and agility in rugby players. The study found that after 6 weeks of training on the manual treadmill, participants showed significant improvements in lower body power and agility compared to a control group.
- A study published in the International Journal of Sports Medicine found that using a non-motorized treadmill for HIIT resulted in greater improvements in cardiorespiratory fitness compared to using a motorized treadmill. The study found that after 8 weeks of training, participants in the manual treadmill group had a greater increase in VO₂max compared to the motorized treadmill group.
- Another study published in the Journal of Strength and Conditioning Research found that using a non-motorized treadmill for HIIT led to greater improvements in anaerobic power compared to using a motorized treadmill. The study found that participants in the manual treadmill group had greater improvements in measures of anaerobic power and capacity compared to the motorized treadmill group.
- A third study published in the Journal of Sports Science and Medicine found that using a non-motorized treadmill for HIIT resulted in greater activation of leg muscles and increased energy expenditure compared to using a motorized treadmill. The study found that participants had greater activation of their quadriceps, hamstrings, and calf muscles when performing HIIT on the manual treadmill at the same intensity as the motorized treadmill.