

RESEARCH BRIEF

An Effective Link: Exercise & Anxiety Disorders

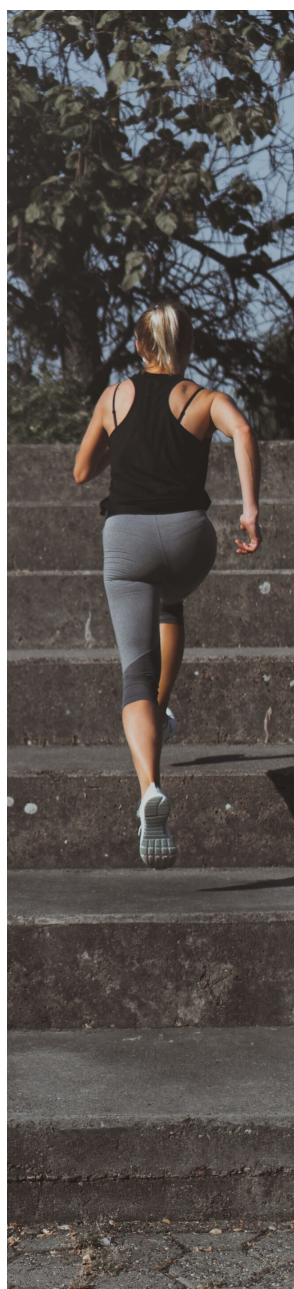
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An Effective Link: Exercise & Anxiety Disorders

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Exercise is an important tool for treating anxiety, according to the 2021 American College of Occupational and Environmental Medicine (ACOEM) clinical practice guideline on anxiety disorders.¹ In this new ACOEM guideline, an intensive review of 27 high-quality research articles led medical experts to moderately recommend aerobic exercise for the treatment of patients with anxiety disorders to decrease symptoms. The research panel found that the available medical evidence supported the use of moderate or high-intensity exercise to effectively reduce anxiety symptoms over both a short and long-term recovery. Strengthening exercise and resistance training was also found to be beneficial. Although flexibility exercises appear ineffective for reducing anxiety-related symptoms, yoga is recommended in select cases.



Anxiety disorders are the most common mental health conditions in the United States, affecting 40 million adults every year.² The prevalence of anxiety and other mental health disorders has been on the rise during the COVID-19 pandemic, as indicated by a greater than 30% increase in new-onset adult with recent symptoms of anxiety and depressive disorders in 2021, most notably among those aged 18–29 years.³

Part of the problem may be due to sedentary pandemic pursuits. We know that exercise is an important part of being healthy, but less than 25% of people in the United States met recommended physical activity levels even before pandemic restrictions took effect.⁴ So what should we be doing?

Exercise that works

Regular physical activity is beneficial both for promoting overall well-being and reducing anxious feelings. In a workplace- based step challenge, participants who completed 10,000 or more steps in 100 days improved their anxiety levels by 5% compared with those who completed fewer steps.⁵ Engaging in 50 minutes of yoga twice a week can decrease anxiety levels in as little as two months.⁶ Treadmill running has been shown to significantly reduce symptoms of anxiety while increasing overall energy levels.⁷ Another study looked at resistance training in young adults with and without anxiety found that both groups experienced significantly reduced anxiety symptoms with exercise, and that participants with anxiety had an even greater reduction in worry.⁸ A recommendation-to-practice article in the journal of *American Family Physician* found that meditative exercise such as yoga, tai chi, and qi gong, have no negative effects and that they are helpful adjunctive therapies for those with depression or anxiety.⁹

But how does this work? Researchers explored the neural mechanism of walking versus running and found that exercise training and getting regular workouts modifies brain function to be more resilient in the face of stress.¹⁰

This mechanism can be important when strategizing preventative wellness measures as well as when treating chronic anxiety. Animal studies have shown that engaging in physical activity increases both serotonin and noradrenaline levels in the brain, which are similar responses to antidepressant medications.¹¹

The dose of exercise may be important. High-intensity workouts were found to be especially productive at reducing anxiety symptoms.^{12,13} High intensity workouts can be any type of exercise that gets your heart beating near your maximum heart rate for 10 minutes at a time. However, maintaining a regimen of high-intensity activities can be more difficult and many people find vigorous workout programs difficult to sustain. But even exercising one time has been found to significantly reduce anxiety.¹⁴

Engaging in 50 minutes of yoga 2x a week can decrease anxiety levels in as little as two months.

While exercise is linked to a reduction in anxiety symptoms, the opposite is also true: In a study of university students, sedentary behavior was linked to increased stress, anxiety, and depression, with higher levels of symptoms reported in groups with more sedentary time.¹⁵

The impact of anxiety

Anxiety disorders encompass many different diagnoses, including generalized anxiety disorder, phobic disorders, social anxiety disorder, panic disorder, agoraphobia, specific phobias, and adjustment disorder.¹ Although everyone is likely to experience anxiety at some point, people with anxiety disorders have feelings of nervousness, worry, fear, and apprehension that are excessive or incapacitating for the given situation. Physical signs and symptoms such as muscle tension, headaches, nausea, and trouble falling or staying asleep may also manifest.¹⁶ In 2019, 1 in 6 U.S. adults experienced mild, moderate, or severe symptoms of generalized anxiety disorder in a 2-week window.¹⁷

The burden of anxiety-related mental health disorders goes beyond the personal; anxiety and depression cost the global economy \$1 trillion each year.¹⁸ Mental health can affect all aspects of life and may result in increased absenteeism and reduced productivity at work. According to the ACOEM clinical practice guideline, an important strategy for health care providers of patients with anxiety disorders is to avoid permanent work restrictions. Instead, temporary leave or modified work schedules that include periodic breaks can help patients regain a normal routine.¹ Investing in workplace mental health initiatives can support employees and reduce healthcare expenditures, as demonstrated by the World Health Organization finding that average employee healthcare costs fall by \$4 for every \$1 spent on employee wellness.¹⁸

Traditional treatments that help patients with anxiety disorders function in their daily lives include cognitive behavioral therapy (CBT) and medications such as anti-anxiety agents and antidepressants are prescribed to help patients function in their daily life. The ACOEM anxiety disorders guideline recommends CBT in conjunction with aerobic and strengthening exercise as a first-line treatment strategy. However, some patients may be apprehensive to try medications, preferring lifestyle-based treatments with limited or no adverse effects that produce additional health benefits such as weight loss and blood pressure reduction.⁹ Engaging in regular workouts, walks, or meditative practice provides everyone, and especially those with anxiety disorders, an opportunity to help prevent and decrease the symptoms of worry in our everyday lives.

Dig into the latest peer-reviewed research

Since the release of the ACOEM clinical guideline, we've found additional interesting peer-reviewed research about the link between anxiety and exercise.



Baduanjin exercise can alleviate anxiety and depression of patients with COVID-19 in Square cabin hospital

By X Zhang, J Zhang, M Li, Y Yuan, J Sun

Medicine, 2021

Patients with mild COVID-19 isolated in a hospital housing facility exercised four times a day for 20 minutes each. Even in the high-stress environment, those that participated in the exercise program had lower scores of anxiety and depression.

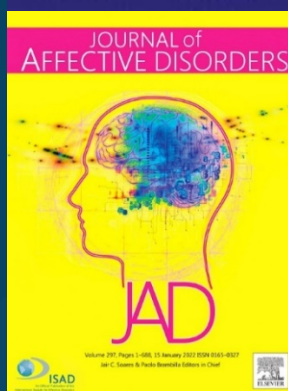


Physical activity reduces anxiety and regulate brain fatty acid synthesis

By A. Liskiewicz, M Prybyla, A Wojakowska, L Marczak et al.

Molecular Brain, 2020

Mice developed different ratios of chemicals in the brain when they accessed an exercise wheel, seeing metabolic changes to the brain associated with reduced anxiety levels and may affect behavioral modifications.



Resistance exercise training among young adults with analogue generalized anxiety disorder

By B Gordon, C McDowell, M Lyons, M Herringabe

Journal of Affective Disorders, 2021

For two months, twice weekly, participants who experienced anxiety completed increasingly difficult resistant training. Exercises included barbell squat, dumbbell lunge, and abdominal crunches. Those that attended the one-on-one resistance training showed significantly reduced anxiety and worry symptoms compared to the control group.



Working out the worries: A randomized controlled trial of high intensity interval training in generalized anxiety disorder

By J Plag, P Schmidt-Hellinger, T Klippstein, J Mumm, et al.

Journal of Anxiety Disorders, 2020

Patients with anxiety did high-intensity versus low-intensity training. Both intervention groups had improved clinical measures, but those in the high intensity training had effects that were twice as positive.

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