

September 2023

Q: What is exercise?

A: The American College of Sports Medicine (ACSM) defines exercise as “planned, structured and repetitive bodily movement done to improve or maintain one or more components of physical fitness” (2001). This definition encompasses a wide variety of activities, such as walking, aerobic and nonaerobic movement, and strength training. The concept of exercise as medicine has been discussed in relation to a wide variety of health conditions, including cognitive decline, cancer, cardiac rehabilitation, mental health disorders, and addiction (Netz, 2017). Exercise has been investigated as a potential add-on to pharmacological treatment of depression, as well as a non-pharmacological option for treatment in patients who do not respond to antidepressant medications or experience side effects (Netz, 2017).

Q: What are the potential mechanisms of action underlying exercise as a treatment for major depressive disorder (MDD)??

A: Because a combination of biological and psychosocial pathways is implicated in the etiology of depression, the antidepressant effects of exercise may be dependent on multiple factors (Schuch et al., 2016a). A 2019 review of the antidepressant mechanisms of physical activity presented a conceptual framework that included neuroplasticity, inflammation, oxidative stress, the endocrine system, self-esteem, social support, and self-efficacy (Kandola, Ashdown-Franks, Hendrikse, Sabiston, & Stubbs, 2019).

Q: Is exercise recommended as a treatment for MDD in the Military Health System (MHS)?

A: Yes. The 2022 VA/DoD Clinical Practice Guideline for the Management of Major Depressive Disorder gives a “weak for” strength of recommendation for exercise as an adjunct to other evidence-based treatments for depression.

The MHS relies on the VA/DoD clinical practice guidelines (CPGs) to inform best clinical practices. The CPGs are developed under the purview of clinical experts and are derived through a transparent and systematic approach that includes, but is not limited to, systematic reviews of the literature on a given topic and development of recommendations using a graded system that takes into account the overall quality of the evidence and the magnitude of the net benefit of the recommendation. Recommendations for or against a treatment may be characterized as strong or weak based on a variety of factors (e.g., confidence in the quality of the evidence, weight of treatment benefits versus risks, feasibility). The CPGs also state if there is insufficient evidence to develop a recommendation. A further description of this process and CPGs on specific topics can be found on the VA clinical practice guidelines website.

Q: Do other authoritative reviews recommend exercise as a treatment for MDD?

A: Yes. Other authoritative reviews have identified evidence substantiating the use of exercise for the treatment of MDD.

Other recognized organizations conduct systematic reviews and evidence syntheses on psychological health topics using grading systems similar to the VA/DoD CPGs. Notable among these is Cochrane, an international network that conducts high-quality reviews of healthcare interventions.

- Cochrane: A 2013 systematic review of exercise for depression found moderate clinical benefit of exercise versus no treatment or control (Cooney et al., 2013)

Q: What conclusions can be drawn about the use of exercise as a treatment for MDD in the MHS?

A: While there is a great deal of research on exercise interventions for the treatment of MDD, much of the research suffers from methodological flaws. Despite these shortcomings, exercise interventions are safe, acceptable, and show good adherence in MDD patients. The current VA/DoD Clinical Practice Guideline for the Management of Major Depressive Disorder suggests exercise as an adjunct to other evidence-based treatments for MDD. For additional guidance on selecting a treatment for MDD, please visit the PHCoE Clinician Resources section of the intranet and navigate to clinical support tools.

References

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