



# The Benefits of Physical Exercise for the Brain

**BRAIN AWARENESS WEEK 2025**



**5** ironmans  
beat Alzheimer

# The Benefits of Physical Exercise for the Brain

## Memory Boost

Regular sessions of aerobic exercise can increase or at a minimum slow down the decrease in the size of the hippocampus, a key structure for memory formation and consolidation, which can improve memory function.

## Head & Heart

Exercise is good for cardiovascular health, which can support improved brain and cognitive functioning. A healthy heart and circulatory system are better at delivering blood and oxygen to the brain.

## Enhanced Mood

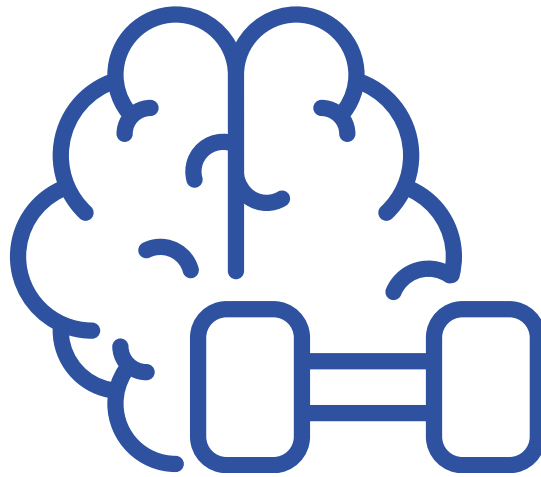
Exercise stimulates the release of endorphins and serotonin, improving overall mood and reducing symptoms of depression and anxiety.

## Reduced Stress

Exercise helps the brain manage stress by reducing the stress response, boosting resilience, and promoting the release of mood-enhancing chemicals, while also regulating stress-related hormones and pathways.

## Interplay with Brain Disorders

Engaging in regular physical activity not only reduces the risk of brain disorders, but can also improve brain health for individuals already living with a brain condition.



## Easier Learning

Exercise supports neuroplasticity, which is the brain's ability to form new neural connections and to modify existing ones, facilitating learning and adaptation.

*WHO guidelines on physical activity and sedentary behaviour (2020).*

For more information, visit: [www.who.int/health-topics/physical-activity](http://www.who.int/health-topics/physical-activity)

## EVERY MOVE COUNTS

Being active has significant health benefits for hearts, bodies and minds, whether you're walking, wheeling or cycling, dancing, doing sport or playing with your kids.





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*Physical activity should be a key part of mental health care! It can help individuals with severe mental illness by reducing depressive symptoms and boosting cognitive function.*



**Isabel Maurus**

Clinic for Psychiatry and Psychotherapy,  
LMU Munich

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*Every human being has the power to sculpt their own brain and our research has expanded on this idea, showing that moderate exercise not only benefits individuals but can also influence the brain development of future generations, even reaching grandchildren.*



**José Luis Trejo Perez**

Cajal Institute

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*All the body's systems are positively affected by being physically active, including our brain! This is related to the fact that our cardiovascular health improves when we exercise regularly.*



**Madelene Bruce Danielsson**

Stiftelsen Silviahemmet (Silviahemmet Foundation)

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*Physical activity boosts brain health by improving blood flow, reducing inflammation, and supporting new brain cell growth. I love longboard dancing because it's a thrilling mix of movement, balance, and fun — fueling both body and mind.*



**Sabine Krofczik-Wilhelm**

Geneva College of Longevity Science

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*Regular physical activity is the non-pharmacological strategy with the highest evidence-based effect to prevent or reduce activity restrictions in patients suffering neurodegenerative diseases, ideally associated with balanced diet, regular social interactions, and cognitive stimulations.*



**Vincent Gremeaux**

Institute of Sport Sciences and Sports Medicine Depts, Université de Lausanne

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*Physical exercise is a powerful tool in managing schizophrenia and affective disorders, not only improving physical health but also reducing psychiatric symptoms and enhancing cognitive function.*



**Peter Falkai**

European Brain Council

## References

- Anderson E, Shivakumar G. Effects of exercise and physical activity on anxiety. *Front Psychiatry*. 2013;4:27. Published 2013 Apr 23. doi:10.3389/fpsy.2013.00027
- Crombie KM, O'Connor PJ. Exercise and Anxiety. *Curr Top Behav Neurosci*. 2024;67:199-222. doi:10.1007/7854\_2024\_498
- España-Irla G, Gomes-Osman J, Cattaneo G, et al. Associations Between Cardiorespiratory Fitness, Cardiovascular Risk, and Cognition Are Mediated by Structural Brain Health in Midlife. *J Am Heart Assoc*. 2021;10(18):e020688. doi:10.1161/JAHA.120.020688
- Hillman CH, McDonald KM, Logan NE. A Review of the Effects of Physical Activity on Cognition and Brain Health across Children and Adolescence. *Nestle Nutr Inst Workshop Ser*. 2020;95:116-126. doi: 10.1159/000511508. Epub 2020 Nov 6. PMID: 33161407.
- Mandolesi L, Polverino A, Montuori S, et al. Effects of Physical Exercise on Cognitive Functioning and Wellbeing: Biological and Psychological Benefits. *Front Psychol*. 2018;9:509. Published 2018 Apr 27. doi:10.3389/fpsyg.2018.00509
- Nowacka-Chmielewska M, Grabowska K, Grabowski M, Meybohm P, Burek M, Matecki A. Running from Stress: Neurobiological Mechanisms of Exercise-Induced Stress Resilience. *Int J Mol Sci*. 2022;23(21):13348. Published 2022 Nov 1. doi:10.3390/ijms232113348
- Raji CA, Meysami S, Hashemi S, Garg S, Akbari N, Ahmed G, Chodakiewitz YG, Nguyen TD, Niotis K, Merrill DA, Attariwala R. Exercise-Related Physical Activity Relates to Brain Volumes in 10,125 Individuals. *J Alzheimers Dis*. 2024;97(2):829-839. doi: 10.3233/JAD-230740. PMID: 38073389; PMCID: PMC10874612.



#Move4YrBrain



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