

Optimising esports performance – Healthy body, healthy mind

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There has been a recent trend of esports organisations teaming up with medical teams, doctors and therapists to keep their players in tip-top condition. The likes of Werder eSPORTS and Borussia E-Sports recently added AOK Bremen as their health partner. Magic Gaming is now working with Orlando Health as their official medical team. The above is unsurprising with these teams' links to sports, but a number of the world's leading esports orgs are also investing more into this area. From treating injuries to preventing them, and more generally looking at the general physical and mental well-being of pro players.

To get a better understanding of the importance of health and well-being in esports for the pros, we asked **Dr. David Amirrezvani, a Doctor of Physical Therapy, Certified Ergonomic Assessment Specialist**, to write a two-part guest-post series. Amirrezvani is both passionate about, and focused on, esports. He's worked with collegiate teams in both Overwatch and CS:GO to date, and you can find out more about him here.

Across the pro esports landscape in 2019, competition is fiercer than ever. Players work to optimise their precision, reflexes, communication skills, and game knowledge. They finely tune the techniques in which they excel while also strengthening areas in need of improvement.

Unfortunately, in competitive gaming, maintaining one's physical and mental health is often overlooked. As players dedicate hours to improving their gaming ability, their real-life health can suffer. Whether it's from sitting for an extended duration with poor posture, increased stress after a crucial loss, or a lack of consistent, restful sleep, the adverse effects of gaming can severely worsen a player's overall health.



Dr. David Amirrezvani

Reduce Stress, Anxiety, and Burnout

Regular exercise has been shown to improve overall mood while decreasing the risk of suffering from depression, anxiety, and other forms of mental stress. High levels of competition among esports athletes can cause immense amounts of physiological stress. Exercise can help mitigate these stressors and provide mood stability when competing at high levels. Regulating physiological stress is an essential component of optimising competitive performance.

Learning to harness the positive aspects of physiological stress towards providing a competitive advantage is key for esports athletes, and exercise can be a means of reaching those goals. The effects of exercise on mental health are profound from a subjective standpoint, but also very obvious from a fundamental physiological level. Regular aerobic exercise has a virtually immediate effect on the body's neurochemical make-up by reducing the body's stress-related hormones, such as cortisol and adrenaline.

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These hormones are responsible for regulating our heart rate, respiratory rate, and blood pressure. Management of these physiological responses to stress is vital for maintaining a level head and clear mind during competition. Additionally, aerobic exercise can help boost the release of endorphins, dopamine, serotonin, and norepinephrine, all of which contribute to an overall feel-good sensation. Achieving high levels of positive neurotransmitters through the means of regular exercise is one of the safest and most effective methods of performance enhancements the human body can sustain.

Boosts Brain Power: Information Processing & Cognitive Retention

Over the years, research has shown that regular exercise has significant positive benefits on an individual's overall cognitive performance. Exercise has been shown to increase the volume of selective regions of the brain, specifically the prefrontal and temporal cortices, which are responsible for advanced thinking and memory retention. Additionally, exercise has demonstrated a positive impact on psychomotor speeds or reaction time, improved memory retention, and increased executive functioning of the brain, all of which are essential characteristics and functions specific to esports athletes.

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Over the years, neuroscientists and performance specialists have found that exercise stimulates the release of brain-derived neurotrophic factor (BDNF), which is a protein that facilitates a process known as neurogenesis. By promoting neurogenesis via exercise, neuron reserves in the hippocampus increase, thus providing better emotional regulation, a boost to memory and cognitive retention, and enhanced spatial navigation. Any esports athlete would agree that these brain functions are vital to performance optimisation.



*Improving your mental and physical health could improve your overall performance in-game. Credit:123rf
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Alternative Sense of Achievement

Esports athletes are known for grinding to achieve the results they desire, especially at the top competitive levels. Consistently participating in high levels of stressful competition provides only one form of achievement for the players – winning. The levels of self-worth vary among esports athletes, but a significant emphasis is placed on overall success, which can lead to unhealthy mental states in the face of loss or poor competitive performance.

A routine of regular exercise can provide these athletes with an alternative sense of achievement outside of gaming. Whether setting new lifting/running PRs, achieving weight loss/gain milestones, or

obtaining a desired physique through hard work and dedication, exercise for esports athletes plays a vital role for both physical and mental well-being.

This is the first in a two part series on Esports Insider by Dr. David Amirrezvani. The second will be published in the near future!

Disclaimer: *This post was authored by David Amirrezvani, Esports Medicine and Performance, Doctor of Physical Therapy, Certified Ergonomic Assessment Specialist and a CSCS (Certified Strength and Conditioning Specialist).*