



IT'S NOT THE MUSCLES THAT CRACK, IT'S THE MIND

Technological advances have influenced every aspect of our lives, including sports. Technology allows athletes to optimize their training and performance. For example, the bicycles ridden by professional cyclists and the clothes they wear are intended to improve both efficiency and aerodynamics. When it comes to nutrition, athletes can use an app to track their calories down to the number of grams of muesli they add to their yogurt. Sir Dave Brailsford, the manager of professional cycling team Ineos Grenadiers, refers to this type of behavior as *marginal gains*.¹ If necessary, a professional athlete will weigh each leaf of lettuce. According to Brailsford, marginal gains are the difference between good, better, and best. Perhaps, however, the difference between winning and losing is mainly in one's mind.

Psychological counseling is not a new concept in sport, but it is recently used more reactively than proactively. Why seek help if things are going well? The answer: opportunity for marginal gains, which can be found both in the mind and the body. The mind should be considered a muscle. It can be trained, through mindfulness, how to deal with suffering or an injury, manage stress before a competition, and devise steps to make small improvements.

By learning how to refocus quickly, people can become better at dealing with mental fatigue, which can sometimes be more important than physical fatigue. The 2022 Australian Open men's singles final is a great example. Rafael Nadal lost the first two sets to Daniil Medvedev and was a break behind in the third. Nadal won the final because he was mentally stronger than his opponent.

According to Antonia E. Stephen, MD, and Darshan Hemendra Mehta, MD, MPH,² "mindfulness is inherently about making a conscious choice about how to respond to that which is taking place around us, even when it is beyond our control."

Mental toughness is seen as an asset in many fields,

including athletics.^{3,4} There are many techniques and resources on mental toughness, but there is little training within surgical residency to help trainees perform well under pressure—apart from developing their clinical and technical skills. Numerous studies have examined surgical resident burnout and attrition.⁵ There is, however, limited surgical literature focused on mental toughness—my Google search found only one study that compared mental toughness in surgeons with that of Olympic athletes.⁶

In a pilot study, ophthalmology residents showed improvements in stress and burnout after a single mindfulness-based session.⁷ The results of this study support the use of mindfulness to decrease stress and burnout and enhance resilience in ophthalmology residents. Only a minority of residents practice mindfulness meditation, but most who do believe it reduces stress effectively and are interested in receiving further training. These results support initiatives to include mindfulness training within residency programs. ■

1. Mansfield S. The ultimate guide to marginal gains and the 1% principle. Coach SME. Updated December 9, 2018. Accessed March 27, 2022. <https://coachsme.co.uk/the-ultimate-guide-to-marginal-gains-and-the-1-principle>

2. Stephen AE, Mehta DH. Mindfulness in surgery. *Am J Lifestyle Med.* 2019;13(6):552-555.

3. Crust L, Azadi K. Mental toughness and athletes' use of psychological strategies. *Eur J Sport Sci.* 2010;10(1):43-51.

4. Gucciardi DF, Peeling P, Ducker KJ, Dawson B. When the going gets tough: mental toughness and its relationship with behavioural perseverance. *J Sci Med Sport.* 2014;19(1):81-86.

5. Shweikeh F, Schwed AC, Hsu CH, Nfonsam VN. Status of resident attrition from surgical residency in the past, present, and future outlook. *J Surg Educ.* 2018;75(2):254-262.

6. Colbert SD, Scott J, Dale I, Brennan PA. Performing to a world class standard under pressure—can we learn lessons from the Olympians? *J Oral Maxillofac Surg.* 2012;50(4):291-297.

7. Rosdahl J, Kingsolver K. Mindfulness training to increase resilience and decrease stress and burnout in ophthalmology residents: a pilot study. *Invest Ophthalmol Vis Sci.* 2014(55):5579.

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