



Mindfulness for surgeons

Why surgeons need mindfulness

In addition to having the knowledge and technical skills to practice surgery, an ideal surgeon is attentive and focused, relaxed, deals with contingencies calmly, flexible and resilient, unburdened by previous cases or external situations, and is warm and compassionate to patients, families and colleagues.

In reality, surgeons, like most humans, are typically not really present. Our minds are commonly described as ‘monkey minds’, restless, confused and easily distracted, with attention easily hijacked by stimuli, little different from a monkey that jumps from branch to branch side-tracked by fruits or anything of fleeting interest. Humans tend to daydream and ruminate about negative events, past failures and future worries.^{1,2} The mind reacts to such events resulting in anger, irritation, frustration, excitement, sadness or disgust. This highly reactive and untamed mind can result in depression, anxiety, addictions and interpersonal conflicts. In short, the untrained mind is prone to being unhappy.^{1,2}

Mindfulness is an alternate mind state or way of being to the typical stressed and untrained state that predisposes physicians and surgeons to fatigue and burnout.^{3–8} Mindfulness is distinct from other stress management techniques such as going on holiday or using alcohol, both of which are forms of escaping from the problem. After the holiday or upon sobering up, the problem remains or is worsened. There is no escaping from stress as there will always be stress. However, instead of running away from stress, an alternative approach is to change the way we generate and relate to it. Mindfulness allows practitioners to look at their stress calmly, accepting the situation and then responding appropriately. Mindfulness is not a way out of daily troubles but instead is a ‘way in’.

What mindfulness is (and what it isn't)

Mindfulness is among the most poorly understood terms in contemporary psychological parlance. It is often confused with meditating, yoga or any number of ostensibly ‘new age’ fashions. Admittedly, it is true that mindfulness has a tradition stretching back more than 2500 years with roots in the Buddhist tradition where mindfulness and compassion are seen as the path for genuine happiness and enlightenment. However, modern conceptualizations of mindfulness have less to do with religion or spirituality and more to do with attempting to cultivate a very particular mental state, one characterized by continuous awareness of the present moment in a calm and accepting manner. Rather than ruminatively chewing on events that occurred in the past or frenetically evaluating what the future may bring, the attention of the mindful person rests here and now.

In some ways, however, mindfulness is also defined by what it is not. It is not religious. Though developed and practiced by Buddhists, mindfulness does not concern itself with deity worship,

spirits or the afterlife, and does not require sitting in a lotus position chanting. Though traditional mindfulness meditation is practised while seated, one can learn and practise mindfulness in many ways from sitting on a chair or walking from the car park to the hospital to possibly even while performing a procedure. Mindfulness does not involve stopping thinking, which is almost impossible to do while awake and conscious. Mindfulness will not eliminate stress and disappointments. However, mindfulness will allow a person to accept stress and frustration as part of life.

Being attentive to the present moment involves knowing and accepting the emotional state we are in, whether we are relaxed, tense, frustrated, happy, neutral, grateful or angry. In this mindful state, we are also aware of current bodily sensations (e.g. the breath, the feel of the gloves hugging the hands) as well as of environmental stimuli (e.g. soft wind on the face while walking from the car park).

A mindful person is calmly accepting of whatever will happen, resulting in a relaxed mind. For example, if a surgeon accidentally nicks a major vessel, the surgeon curses himself, thinking that he should not be making mistakes. Worrying that this patient will die on the table does not help the impending disaster. He starts barking at his assistant who then makes more mistakes. The theatre atmosphere feels heavy and the anxious anaesthetist makes a poor judgment call. On the other hand, a surgeon who calmly accepts the accident as part of the life of even the most skilled surgeon will be focused and unruffled and can address the major bleed more effectively, supported by an unflustered team. Without denying their existence or import, mindfulness can tame the emotional parts of the brain (e.g. limbic system and amygdala) while enhancing the logical prefrontal cortex to come up with a repertoire of options.⁹

Viewed in this manner, mindfulness is perhaps less foreign or off-putting to the surgeon. Indeed, the physical and psychological state of calm engagement, absorption, and focus the best surgeons experience while operating is a good example of the advantages mindfulness can bring to performance. This desirable state, sometimes called a ‘flow’ experience, is a period of total immersion and union with the activity.¹⁰

To reiterate, mindfulness is not a religious practice and instead is a mind training exercise. The best way to develop the ability to be mindful is to practise, beginning with short periods of mindfulness exercises then progressively incorporating mindfulness into daily activities. Learning mindfulness is not different from learning a new sport or a new surgical technique. It requires regular practice, patience and an open attitude to the learning.

Mindfulness and professional surgical practice: why should we care?

So mindfulness is not a religion, nor is it a cult. It is a way of being mentally and physically ‘present’ that is familiar to many surgeons (at

least in work) and bears a resemblance to experiences of flow. The question that remains, however, is why surgeons should care about mindfulness or consider its practice as a part of their professional development. Although there are few studies of mindfulness among health-care professionals, early results are promising.¹¹ Studies among other non-professional and patient populations, however, suggest that mindfulness interventions and practice are associated with benefits in a massive range of mental and physical health outcomes.

Briefly, mindfulness has been linked to better quality of life,^{12,13} subjective well-being and mood,^{11,14} subjective health,¹⁵ and sleep;¹⁶ objective benefits are evident in patient samples including persons with pain, hypertension and arthritis.¹⁴ Mindfulness lowers stress,¹⁷ anxiety and depression,^{14,18} and emotional exhaustion,^{4,6,11} prevents depression relapse,¹⁹ and reduces the extent to which stress produces depression and anxiety.²⁰ Emotional reactivity to stressors is reduced^{21–24} and recovery may be enhanced.²⁵ Cognitively, mindfulness is associated with improved executive functioning,²⁶ better attention,^{27–29} reduced emotional interference in cognitive tasks,³⁰ more situationally appropriate decision-making³¹ and better behavioural regulation.²³ Relevant to doctors, mindfulness lessens the chance of physician diagnostic errors³² and promotes better connection with patients.^{3,6} Finally, mindfulness interventions have been linked to sustained improvement and recovery of immune function,^{26,33,34} greater antibody titer response to influenza vaccinations,³⁵ greater telomerase activity,³⁶ as well as increases in left-sided anterior activation³⁵ but reduced limbic reactivity^{37–41} in brain imaging work. These effects are not inconsequential, with reviews suggesting a standardized effect size of 0.5 on health.¹⁵ Similar to aspirin preventing future cardiovascular events,^{42–44} mindfulness appears to be protective against physician burnout.^{4,6}

Given that many surgeons naturally practise a form of mindfulness while performing surgery, it is a short step to allowing this way of being to extend to other areas of life. Given the chronic, high levels of stress and burnout surgeons' experience,⁴⁵ and the repeatedly demonstrated benefits of mindfulness in terms of such outcomes, developing the capacity to be mindful may have immediate and very real mental and physical health benefits.

Mindfulness and the surgeon: how to do it

So mindfulness interventions appear to work. The average surgeon, however, may or may not have the time to allocate evenings for 8 weeks in formal training (e.g. MBSR⁵) or to sit and meditate for substantial amounts of time. Fortunately then, while mindfulness skills can be acquired in this way, they can also be obtained in small 'doses', structured to fit around the busy professional and personal lives most surgeons live. Instructions for mindfulness exercises and meditations are offered online (e.g. www.calm.auckland.ac.nz⁴⁶) and in books (e.g. Siegel's book 'Mindsight: the new science of personal transformation'⁴⁷).

Beginners can start with short daily exercises of 5 min, gradually lengthening the duration; regular practitioners allocate 30 min to formal practice as well as incorporating mindfulness states into daily activities. To begin, find a quiet place and time with minimal distraction or interruption. Remind yourself to try to focus on the

exercise for 5 min. Close your eyes and assume a half smile (creates a gentle positive state) and take three slow, deep breaths; pay attention to the sensations of breathing. After that, simply breathe normally while paying attention to the process. Sooner or later, you will inevitably get distracted by thoughts, sounds or judgments. When this happens, simply notice the distraction and return to breath. At the end of 5 min, gradually cease the practice and be grateful for having those 5 min of quiet.

As when you learn a new sport, the DIY approach can only bring you to a certain level of proficiency. Many beginning meditators give up too quickly because they notice their minds are very busy and judge themselves as unable to be mindful. In actual fact, the contrary is true in that they are becoming mindful of their baseline busy mental state, which already indicates significant progress. To further enhance mindfulness skills, attending suitable courses or having one-on-one mindfulness coaching will be very helpful. Like any new skill, practice and patience is important. Try not to focus on the end point or outcome as the process itself is beneficial. Studies have shown that naïve mindfulness trainees notice improvement in mental and health outcomes, with brain changes and increased immune functioning with 4–8 weeks of regular practice.^{6,13,35}

Within the demanding and stressful life of a surgeon, mindfulness is an alternative way of being. The evidence is strong in terms of the physical and psychological benefits of mindfulness. Though it requires practice, learning it is not hard and will pay benefit for both surgeons and their patients.

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