



SURGEON, HEAL THYSELF

Optimising
Surgical
Performance
by
Managing
Stress



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Uttam Shiralkar

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Performance by Managing Stress

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About the author

Uttam Shiralkar qualified and worked as a surgeon for 15 years in the UK, India and USA, before entering the field of psychological medicine. A developing interest in psycho-oncology and the medical problems he faced after a car accident were some of the reasons that contributed to this move.



While pursuing a career in psychological medicine, it became clear to him just how much of an impact a surgeon's psychology could have on clinical outcomes. He felt the need for surgeons to be made aware of this issue in a bid to address some of the shortcomings of the current system of surgical practice. To share this knowledge, he authored his first book titled *Smart Surgeons, Sharp Decisions*.

A good-quality surgery is said to have two key elements: safe judgement and good technical skills. The first book was about the first part: the judgement. It was well received by surgeons in various part of the world and the British Medical Association (BMA) awarded it a 'highly commended book' prize. The *Journal of the American Medical Association* (JAMA) and the *ANZ Journal of Surgery*, among other journals, also had complimentary words to say.

This was more than enough encouragement for Dr Shiralkar to set about writing on the second key element for successful surgery: the technical skills. In this book, titled *Cognitive Simulation*, he wrote on the importance of cognitive factors and how surgeons can use cognition to improve operative skills.

Currently, in addition to fulfilling his commitment as a consultant in the NHS, Uttam is actively involved in coaching surgeons at various levels of their careers on a range of issues, providing mentorship, conducting research, speaking at meetings and conducting workshops.

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CHAPTER 1

Preface

An on-call surgeon was asked to see a patient in the accident and emergency unit. The patient was an obese woman in her thirties who was involved in a car accident. She was unconscious, her skin was pale and blood was seeping from her nose. The surgeon found her tachycardiac, hypotensive and breathing rapidly. He also noted that, even with an oxygen mask at full flow, her oxygen saturation was not adequate. To make sure that the patient's airway was not blocked, he placed the oxygen mask over the mouth and pressed the bellows. The oxygen level rose to 98%. He realised that the patient needed endotracheal intubation and requested the on-call anaesthetist, Dr Jones, to carry out an immediate intubation. Dr Jones took the laryngoscope and pushed the blade through the patient's mouth. Unable to see into the larynx due to collected blood, Dr Jones put in the suction cannula and brought up a cupful of clotted blood. When she tried to insert the endotracheal tube, the oxygen saturation started falling, going down to 70%. Attempts to push the tube further proved futile and the patient became cyanosed. When the saturation fell to 60%, Dr Jones pulled the tube out and put back the mask. Shortly, the oximeter reading went up to 97%. After a while, when she tried to insert the tube again, the oxygen saturation dropped as before, and the mask was put back once more. However, this time the saturation did not go up and the patient started becoming cyanosed in spite of being under the mask with full oxygen flow.

Realising the critical situation, the surgeon called for a tracheostomy set, a brighter light and an experienced assistant from another operating room. Amid the buzz of hectic activity in this stressful situation, he tried to remain calm. He reassured himself that the tracheostomy was going to be a straightforward procedure, as he just needed to make an incision through the cricothyroid membrane. With that thought, he placed his fingers to locate the edge of the patient's thyroid cartilage, but due to the thick fat around the neck, he was unable to feel through it. That made him feel uncertain and hesitant, exactly what a surgeon is not supposed to experience in these situations! He was conscious that time was running out and four minutes without oxygen would leave the patient with brain damage.

Grasping the scalpel, the surgeon made a quick incision. As the assistant held the retractors, he started dissecting with scissors but struck a vein. Immediately blood filled the wound and it became difficult to see the operative field. Suction was necessary but the apparatus was clogged from the previous use. An additional overhead light was brought in but it still was not bright enough. He had to mop up the blood with gauze and, feeling around with his fingertips, palpated the ridge of the thyroid cartilage and the gap of the cricothyroid membrane below. He then forced the blade down on the thyroid cartilage and cut through with small, sharp strokes, though blood and poor light obscured the wound. When the blade scraped against bony cartilage, he worked the tip into a gap he thought was the cricothyroid membrane. As the tissue gave way, he made an opening. As the surgeon tried to insert the tracheostomy tube, he felt some blockage and had to twist, turn and jam it in. The ventilation tubing was attached to the tracheostomy tube but when the bellows was pressed, the air bubbled out of the wound! The tracheostomy tube was not in the trachea! The patient had been without an airway for about three minutes. Meanwhile the patient's saturation had dropped below detection point. Her heart rate started dropping and within a few seconds the pulse disappeared! The surgeon put his hands on the patient's chest and began giving chest compressions. Just then the anaesthetist managed to insert a paediatric-size endotracheal tube into the vocal cords and establish the airway. In a few seconds the patient responded, her pulse returned, the saturation started improving. All the people in the room exhaled, as if they, too, had been denied their breaths.

I have retold above the stressful operative situation that Dr Atul Gawande eloquently depicted in his book *Complications*.¹ You may have experienced similar incidences or have heard comparable stories. Over the last 15 years, I have gathered a great deal of understanding regarding how surgeons manage stress in the operating room. This understanding is based on interacting with surgeons across specialties, seniority and nationalities. I have also made specific observations about master surgeons and noticed what these top surgeons do differently from the rest. I found, apart from knowledge and technical skills, that what helps these master surgeons most is the way they handle stress more effectively in critical situations and deliver better clinical outcomes.

I did not stop with anecdotal opinions based on what I saw but went through evidence-based studies to support or refute the views. Studies have been carried out to assess surgeons' performance in stressful situations. Researchers have systematically collected observations about surgeons' behaviour and performance from a range of sources, including physiological monitoring, self-reported questionnaires and other objective investigations. This allows us to know how a surgeon deals with stress by analysing a range of objective parameters rather than just trusting our perception.

It's not just surgeons who experience performance-related stress. I have scanned through research on other aspects of performing under stress from similar demanding professions such as aviation, the military and sports. All the information gathered has one common conclusion: beyond a certain level, stress is detrimental to a satisfactory performance outcome. It weakens performance and sets the stage for failure. Under stress, it is not only surgeons, but also the likes of pilots and air traffic controllers, law enforcement officers, and others in highly stressful circumstances, who make errors in judgement. Internationally reputed athletes miss their well-practised shots under stress. Business leaders, when under extreme stress, make poor decisions. Stress is not just any other adversary for a performer; it is a landmine in a career path, waiting for you to put your foot on it. In this book I will elaborate on some of the findings that I have gathered in the last 15 years.

There are many attributes that make a surgeon successful. Attributes like knowledge, judgement and decision making are the most important. Whether you are choosing an appropriate procedure for a patient or making sense of investigations you carried out, stress negatively impacts your thinking and will affect decisions. In addition to affecting thinking,

stress downgrades psychomotor skills. Any performer, be it a musician or an athlete, will tell you that psychomotor performance is compromised under excessive stress. We can observe this in our everyday skill of driving. You may have observed a car driver trying to make a U-turn on a busy, narrow street. The driver will feel under stress from an impatient truck driver behind her who cannot go around until she makes the turn. She is likely to hit the curb or stall the car, taking longer than usual if the truck driver starts expressing his impatience by blowing the horn. This further delays the irked truck driver and causes embarrassment for the car driver.

In extremely stressful moments, many surgeons perform below their capability. Counterintuitively, researchers have revealed that when people are desperate to do their best, they fail to do so. Statistics have proven these points by showing that professional sportspeople rarely perform better than their average in pressure moments and some, even the elite, do worse. You may not realise the damaging effect of stress on your performance as many other factors often mask it. You may think you made an incorrect decision because you did not have the necessary information, but the reality may be that due to the stress, you were unable to access the information even though it was available. When you have tried various ways to improve your performance, without much success, you should consider the possibility that inadequate stress management could be holding you back.

Today, we feel increased stress in our professional lives. Surgeons across specialties and regions live in a high-pressure atmosphere, where on each working day they may feel that as though their lives are 'on the line'. More than before, practising surgeons feel that they have to work harder, perform better and have better outcomes. Every decision they make or procedure they perform may seem to have a bearing on their career. A negative outcome can create problems in an atmosphere where anything can damage the surgeon's professional reputation that has been earned with years of hard work and great outcomes.

There are various reasons for increased stress in the surgical profession: information overload, administrative pressures, technological advances, complexities of the surgical procedures and political atmosphere, among others. Some surgeons have reached a point where they say, 'In the morning when I start driving from my home to my operating list, I wonder if I will be able to do the cases without any major problems.' This can be seen as 'performance anxiety', fear about whether you are

able to perform satisfactorily. Nowadays we see the risk of performance anxiety extending to other areas of our lives. The ongoing sensation that you will have to perform at your best and the underlying reservations as to whether you can perform as expected lead to stressed exchanges and strained relationships in personal lives. As a consequence of stress, the surgeon's spouse often experiences the 'short-fused' surgeon unleashing stress on family members. At times, these problems become so unmanageable that interpersonal conflict becomes a regular event. Suddenly, the middle-aged surgeon starts feeling as though he or she is under siege on every front. In view of the fact that surgeons work longer hours and that the surgical field is becoming more competitive, stress has become a plague in the current professional environment.

An observation that surprises me is that a significant number of surgeons with whom I have interacted take a casual approach to managing stress in their professional lives. Very few of them appear to think about how to handle stressful situations better until it is too late. Very few have strategies that are in line with the current scientific understanding of stress management. Like many surgeons over the decades, they simply model what they have observed from their trainers or mentors and hope it works. Do not get me wrong, these strategies can work, but many times they don't.

Traditionally, surgeons suppress feelings of stress as part of their training. They have also been indoctrinated to believe that expression of feelings of stress is a sign of weakness and unbecoming to a good surgeon. Some surgical residency programmes are similar to military training in which constant stress is considered an essential part of the training itself. As a result, most surgeons withhold and bottle up their feelings and emotions of stress. In addition, several teachers and mentors in male-dominated surgical specialties like orthopaedic surgery have traditionally frowned upon trainees who display stress-related emotional feelings. The result is that a majority of surgeons are left feeling helpless as to how to vent their stress-related feelings and emotions.

My purpose in writing this book is twofold. First, to provide a user-friendly and easy-to-read book on stress management specifically aimed at surgeons – practical strategies that individual surgeon can use. The second purpose is to inoculate surgeons against the detrimental effects of stress, so that they can perform to their maximum potential in critical moments such as during a complex procedure, an intraoperative complication or a high-stakes case.

It is expected that by managing stress during surgical performance, the patient outcome will improve. However, one needs to be clear on one thing: The success of stress management should not be judged solely by the outcome. With the management of stress, the best you can do is your best, which for a particular case may not be good enough. Managing stress allows you to perform closer to your potential and this increases the chances of a successful outcome. Managing stress puts you in a position to experience a successful outcome because it allows experience, knowledge and skills to do the talking without holding you back.

This concept is supported by research done in various disciplines, including aviation, business, and the military, as well as medicine and surgery, in particular. It shows that training people to cope with stress in their professional lives is an unused strategy for unleashing their capabilities. Further, this strategy helps them perform at their true proficiency rather than having it compromised due to stress. This book provides the tools for developing the coping skills that allow a surgeon to do his/her best even in the most stressful situations.

The more conversant you are with the effect of stress on performance, the more skilful you are likely to become at coping with it. This book provides readers with some powerful stress-management strategies that can be used when they are involved in a critical situation or are anticipating one in the near future. Some of the solutions can be applied immediately. These solutions are described in Chapters 8 and 11, so if you are currently in the midst of a stressful situation and if you feel ill equipped to handle it, look at this section now for a 'quick fix'. Chapters 9 and 10 offer long-term strategies to help build confidence, optimism and tenacity. With these techniques, you can immunise yourself against distress so that your capability is not reduced by it. We have found this strategy to be lacking in many surgeons, even the experienced ones. Even if you feel that you are good at handling stress, the information in this book will help you to share the knowledge with other surgeons who may benefit from your experience and will appreciate your help.

Almost all surgeons undergo stress in their work and yet they have to perform in the face of it. With the strategies described in this book, I have observed that, over time, they realise that while mustering knowledge and technical skills provides them with basic requirements, their real ticket to success comes from being able to cope well under stress. The information in this book has given surgeons specific solutions, as

well as helped them prepare long-term coping strategies to better deal with stressful incidents. It is hoped that it will also help you, not just in critical moments but also in any situation that matters in your clinical life.

You will be able to apply the cutting-edge information from what is provided by cognitive science. In stressful situations, you will have less distorted thinking, less indecisiveness and more creative ideas. I believe that when you enter an operating room to perform a very complex procedure, you will see that as more of a challenge than as a crisis, and you will come out a feeling that you performed to the best of your capabilities.

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- 1 Gawande A. *Complications: a surgeon's notes on an imperfect science*. New York: Henry Holt & Company; 2002.



CHAPTER 2

Why should we pay heed to stressed surgeons?

No aspect of life is more stressful than work-related stress. This is not surprising, considering the importance of a career in our lives. Work provides us with purpose and is linked to our personal identity. A significant number of us do not work simply to earn a living but for personal satisfaction. The number of people reporting high levels of work-related stress has more than doubled in the last few years. The United Nations has recognised occupational stress as 'The 20th Century Disease' and the World Health Organization has described job-related stress as a worldwide epidemic.¹

Although stress is an issue for people in every field, it is more prevalent among medical professionals due to factors integral to care-giving work. The problems of stress among health professionals have been highlighted in recent years. Surgery has been further singled out as putting people at higher risk. Despite its significant impact, not enough progress has been made in preventing core issues related to work stress in surgery. Although it is perceived to be one of the most stressful of all medical specialties, proportionally, there is little in surgical literature that has specifically explored this issue.

A stratified cross-sectional survey of doctors was carried out in Canada to compare the levels of distress among the major medical specialties. The responses revealed that emergency physicians and surgeons reported the highest levels of distress, while administrative physicians and community health specialists reported the lowest. Thus the

survey confirmed the perception that surgery is one of the most stressful disciplines.²

Surgery is physically demanding and intellectually challenging. A surgeon's evening may be filled with the residual stress from the day's happenings; a procedure may have been unexpectedly difficult, a patient in an intensive care unit may have developed a complication, the morbidity and mortality meeting may have been embarrassing, and interaction with a resentful patient may have generated a sense of helplessness.

Stress is so pervasive in surgery that it is not a matter of whether surgeons will experience stress, but of when and how. Moreover, there are many different ways in which surgeons experience stress and individual variations in experiencing the stress are more important; i.e. 'how' is more important than 'when'. These variations contribute significantly to the degree of distress experienced by an individual. Being highly driven professionals, surgeons have attributes that make them more vulnerable to stress. Individuals who are compulsive and have high standards of performance are attracted to surgical specialties. Common terms used to describe surgeons are inflexible, controlling and perfectionist, features of Type A personality. This personality characterises driven and high-achieving individuals. They are impatient and assertive. Those who display more of these Type A personality attributes are likely to experience more difficulty coping with stress. Attributes like dedication, although desirable as a professional, increase susceptibility to stress.³ Surgeons are reputed to be fiercely competitive, with assertive tendencies such that the working atmosphere can be described as 'cut-throat'. Some surgeons are very difficult to get along with and are too critical of others. People manage to put up with them, not because of their position, but because some of them know that these surgeons are even harder on themselves. As they say, 'sparse on compliments and ruthless in self-criticism'.

There was a very busy and well-known surgeon in the USA, Dr CK, who displayed compassion, kindness and a caring attitude to his co-workers and patients, whether seeing patients in the office or in the hospital. However, his demeanour in the operating room was a whole different story. It was not uncommon for him to yell, shout, demand and be rude to his co-workers. In the operating room, as the day went on, he would become increasingly agitated and unpredictable in his