

## Breaking barriers to remain healthy and fit during a residency in anaesthesiology

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Submitted: 29-Dec-2021

Revised: 03-Jan-2022

Accepted: 11-Jan-2022

Published: 03-Feb-2022

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### ABSTRACT

Anaesthesiology is a high-demand speciality of medicine in terms of long and unpredictable work hours, stressful work requirements, pressure for a cent per cent productivity in academics, clinical work and research. Higher stress levels can cause non-communicable diseases like hypertension, obesity and depressed immunity, among many others. In the journey as a trainee anaesthetist, vigorous and diligent efforts are needed to gain perfection in knowledge and skills ultimately. While this path is being transversed, it is essential to address physical and mental fitness by exercising it to the recommended benefits, to ward away stress and burnout. In this special article, the authors will discuss the barriers young anaesthesia trainees face to staying healthy and fit during their training and practical and appropriate measures to mitigate the same through intervention at various levels of hierarchy.

**Key words:** Anaesthesiologists, lifestyle modification, mental health, physical health

<b>Access this article online</b>
Website: <a href="http://www.ijaweb.org">www.ijaweb.org</a>
DOI: 10.4103/ija.ija_1110_21
Quick response code


### INTRODUCTION

Anaesthesia providers closely experience the consequences of non-communicable diseases (NCD) in operating room (OR) settings or in intensive care units (ICU), and physical activity is the most important component of lifestyle modification. The World Health Organization (WHO) report on promoting physical activity in the health sector focused on three key indicators: monitoring of physical activity, counselling on same by health professionals, and training in physical activity in curricula of health professionals.<sup>[1]</sup> The doctors are considered reliable sources of health-related information and must encourage physical activity for their patients.<sup>[2]</sup> It has also been reported that better advice and counselling are done by the healthcare providers who act on the same.<sup>[2]</sup>

In the journey as a trainee anaesthetist, vigorous and diligent efforts are needed to gain perfection in knowledge as well as skills ultimately. Thereafter,

it continues as a life-long pursuit to keep refining knowledge and skills as per the latest medical and technological advances for big critical decisions as a senior consultant.<sup>[3]</sup> In this process, physical activity, fitness and mental well-being are partly ignored for various reasons. Higher stress level too adds to the development of NCDs like hypertension, higher body mass index, high levels of cortisol and suppression of immunity.<sup>[4]</sup> To reduce this huge burden of illness setting in young anaesthetists, physical activity and fitness are paramount. It would not be inapt to say that postgraduate (PG) trainees or residents are essential stakeholders in team anaesthesia. This special article

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**How to cite this article:** Chhabra S, Malhotra N, Bajwa SJ, Choubey S, Sasidharan S, Sahn N. Breaking barriers to remain healthy and fit during a residency in anaesthesiology. *Indian J Anaesth* 2022;66:77-81.

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## HEALTH CONCERNS

The health concerns in PG trainees can be broadly divided into physical and mental.

### Physical health

Lack of physical activity or devoting less than 30 min each day to any form of moderate physical activity, at least 5 days in a week, is considered inactivity. Collectively, this amounts to 150 minutes per week of moderate physical activity and can be translated to 75 minutes of vigorous physical activity, as recommended by 2019 guidelines of the American College of Cardiology (ACC)/American Heart Association (AHA) for primary prevention of heart diseases.<sup>[5]</sup> To achieve a reduction in levels of physical inactivity throughout the globe, new WHO 2020 guidelines on physical activity have been described.<sup>[6]</sup> Thus, the mere act of being active at our workplaces does not account for physical activity, and there is a definite need to promote physical activity and fitness.

Currently, cardiovascular diseases are the most common NCDs across the globe. Physical activity is a significant component of first-line management of hypertension and raised level of cholesterol.<sup>[7]</sup> For substantial health benefits, aerobic (150–300 min of walk or 75–150 min of vigorous physical activity), as well as muscle-strengthening exercises (at least twice a week), need to be performed.

In a study conducted by Rao *et al.*,<sup>[8]</sup> the authors have narrated that despite the majority of undergraduate residents having normal body mass index (BMI), only about half of them used the sports facility available at their institutions. The residents quoted lack of time, exhaustion and lazy attitude as the major factors hindering moderate to vigorous physical activity. It is to be noted that the majority of undergraduate residents had normal BMI, but their age is also less than those doing residency. With the duty hours increasing at the level of PG training and mentally draining duties for anaesthesia residents, the results of this study, although not very favourable, cannot be extrapolated to PG trainees in anaesthesia. Along with lack of physical activity, sedentary time has been considered as an independent risk factor of poor health. It has

been recognised that despite engaging in moderate to vigorous activity for a significant duration, the number of hours counted as sitting time are harmful. The sedentary way of life decreases the lipoprotein lipase, which is linked to the development of heart diseases. With the technological advances in anaesthesia, the residents can monitor the patients in OR and ICU from a distance sitting conveniently close to a central monitor.

### Ways to improve physical health

To promote fitness in young anaesthesia trainees, WHO guidelines on physical activity should be introduced as religiously as basic life support or any other guidelines of our curricula as there are clear-cut health benefits. In an attempt to study the provision of teaching physical activity in United Kingdom (UK) colleges, the authors concluded that only 56 medical colleges taught the same to future doctors in contrast to only 13% in the United States of America (USA).<sup>[9]</sup>

The ergonomics, infrastructure, and furniture can be planned to promote more getting up and less sitting time, such as sit-stand stations and standing desks.<sup>[10]</sup>

Role modelling in any form influences a trainee better than any other technique. A faculty is a role model for the trainee as a teacher, clinician or person. Although it has been found that a faculty's teaching performance is considered more important than their role as a clinician or personal qualities,<sup>[11]</sup> the influence of personal qualities cannot be negated. The senior colleagues/mentors must set up an example in front of trainee residents about time management and the importance of physical health and fitness in their day to day lives. Informal discussions at the workplace or short tea-club meetings should be planned effectively to motivate each other. The use of fitness tracking apps where a group of people can link up with each other's progress is worth mentioning. In our country, such a level of interaction between faculty and residents needs a big cultural shift from strict teacher-student relationships to junior-senior colleague relationships.

Individual behaviour change is an essential aspect without which all other strategies will fail. Sessions of self-motivation and confidence building by organising meetings with the experts in sports and fitness can be a good idea to emphasise the benefits of good physical health.

At the departmental level, the work environment and duty hours of residents must be considered. The fitness

goals discussed should not be unrealistic. A good strategy is workplace health promotion plans which can include anything from weight management, nutritional intervention and overall wellness promotion.<sup>[11]</sup> A record can be maintained for trainees with a positive family history of NCDs, and the interventions can begin for them early in life to prevent setting in of NCDs. This requires policy decisions that can ultimately improve the health and wellness of PG trainees. A stretching session before starting work in the operating room or a 10-minute break for a walk in the afternoon are not difficult to achieve targets for workplace health promotion.

Another very effective way of improving physical activity amongst anaesthesia trainees is a campaign by the Indian Society of Anaesthesiologists (ISA)- ISA fit anaesthesiologist campaign. Under this, the members can register, and they will be notified of the walking and running events being held, physically or virtually. Such events may look sporadic, but since any walkathon or marathon requires pre-training, for participation in an event, daily habit of walking or running is required to prepare oneself for the event.

In 2005, Dr David Sabgir started a Walk with a Doc campaign, a community campaign to promote physical activity and fitness in their community. Such events also help relieve the stress and burnout of healthcare providers.<sup>[12]</sup>

### Mental health

Stress is a normal physical, emotional, or intellectual response of the body to the changes in self or the environment. The stress, if managed well, might help in excelling in the professional and personal lives. However, if coping strategies are inadequate or ineffective, stress can become chronic and can lead to burnout. Burnout is a psychological condition that manifests as emotional exhaustion, depersonalisation, and reduced perception of personal achievements and results from chronic stress beyond the individual's capacity to cope. Burnout is specific to work-related causes, which differentiates it from depression.<sup>[13]</sup>

In an Indian study, the stress of anaesthesia residents was measured using the perceived stress scale (PSS) in which a score of 20 is considered a high level of stress. The result was a PSS of 18-20, which is a borderline high-stress level requiring lifestyle modification. In the same study, burnout was measured using Burnout clinical subtype questionnaire-12, and it was found that although anaesthesia residents had a high level

of overload dimension of burnout, they had low burnout when lack of development or neglect were considered. Thus, despite the burden of work and long working hours, the young trainees are motivated and determined to pursue their goals.<sup>[14]</sup>

Both stress and burnout have, unfortunately, become more common among residents of clinical specialities because of the ongoing excessive demands of the occupation, which unfortunately has further escalated in the pandemic.<sup>[15,16]</sup> Doctors with stress are at a greater risk of causing errors in their management/treatment and are also associated with undesirable social attitudes to the demands of their patients and relatives. Burnout has been documented as a risk factor for significant medical errors.<sup>[17,18]</sup>

Amongst the concerns of stress and burnout in the young trainees, the issue of alcoholism and drug abuse is worth mentioning, although much scientific literature is unavailable in this context as most of the work is done covertly. Anxiety, stress at work or personal life have been implicated, and the doctors are reluctant to seek treatment as they fear issues in their professional future.<sup>[19]</sup>

A study investigating the association between junior doctors' working hours and clinical indicators of mental health in Australia concluded that weekly more than 50 working hours doubled their odds of developing a common mental disorder. This observation was irrespective of the age or gender of the junior doctors.<sup>[20]</sup>

### Ways to improve mental health

Several workplace interventions can be done to improve the mental health of the anaesthesia trainees [Table 1].<sup>[21]</sup> Identifying local factors responsible for stress such as the number of working hours, number of night duties or weekend duties seem manageable. Specific activities to promote health and lifestyle can be promoted, and their pre-and post-intervention effects can be gauged for eliciting the effectiveness. Participation of residents in departmental policies can satiate their need to be heard. Involving them in managerial roles to run programmes for the well-being of residents can have positive outcomes too. During scientific sessions, like research activities and thesis formulations, the guides can maintain cordial conversations during the mentorship.<sup>[22]</sup>

Social support networks, if adequate, can cushion the effects of occupational stress and protect the vulnerable

**Table 1: Recommendations to actions that can be taken at the national/ISA/institutional, faculty or individual level**

Hierarchy	Actions recommended
At Management Level (Level of Indian Medical Association/ISA/Institutional Management Boards)	<ol style="list-style-type: none"> <li>1. Screening/assessment of personality profiles for the speciality<sup>[14]</sup></li> <li>2. Reducing training hours</li> <li>3. Reducing the number of elective cases per day</li> <li>4. Reducing call duties<sup>[15]</sup></li> <li>5. Creating conducive work environments</li> <li>6. Stress management classes should be part of the curriculum<sup>[16]</sup></li> <li>7. Availability of a psychological counsellor and confidential high-quality integrated mental health resources<sup>[17]</sup></li> <li>8. Establish clear pathways for those who need help</li> <li>9. Assess intervention satisfaction in residents who have taken help<sup>[18]</sup></li> <li>10. High quality qualitative and survey research to better understand the perceived needs of the population diagnosed with stress<sup>[19]</sup></li> <li>11. Interactive programmes between faculty and residents to provide a common ground to discuss problems</li> <li>12. Comfortable workplace ergonomics, keeping in mind the capabilities and limitations of the worker.</li> </ol>
At the level of instructors/faculty/seniors	<ol style="list-style-type: none"> <li>1. Be compassionate</li> <li>2. Reducing stress should be made an essential component of training</li> <li>3. Identify internal and/or external stress factors</li> <li>4. Emphasis on increasing communication skills</li> <li>5. Establish professional debriefing, support and mentorship<sup>[20]</sup></li> <li>6. Faculty ear-marked for dealing with resident's welfare</li> <li>7. Strict adherence to work timings and schedules</li> <li>8. Ensuring daily/weekend breaks and monitoring residents basic requirements<sup>[21]</sup></li> <li>9. Establish a "no-blame" culture and reach out to those facing difficulty coping<sup>[20]</sup></li> <li>10. Obligatory mental health checkups using objective measurement tools like self-report questionnaires, heart rate variability, and cortisol levels<sup>[22]</sup></li> <li>11. Proving quality psychosocial interventions for residents identified with stress or burnout</li> </ol>
At the level of peers/resident	<ol style="list-style-type: none"> <li>1. Make sure that your basic needs are adequately catered to</li> <li>2. Remain connected to your support system - family and friends (outside work circles)</li> <li>3. Identify a peer/faculty at work you trust and establish a relationship with them for any SOS situation<sup>[23]</sup></li> <li>4. Take short designated breaks between work when you are completely detached from patient care.</li> <li>5. Strive towards a 'problem-solving' attitude</li> <li>6. Accepting that high adrenaline situations are an inherent part of our working culture and those random periods of high demand are inevitable in our work environment.</li> <li>7. Retain the right to say "no" when you are unable to take any more stress.</li> <li>8. Understand that there are limits to physiological and psychological recovery in medical science. Sometimes, outcomes are not as you expected, and it isn't your fault.</li> <li>9. Remain updated with the evolving medical literature and stay up-to-date with the assignments during residency</li> <li>10. Limit unnecessary social media time<sup>[24]</sup></li> <li>11. Monitor yourself and gauge your mental health</li> <li>12. Give honour to yourself and your colleagues for having the opportunity to be a part of patient care and save lives.</li> <li>13. Resort to techniques such as cognitive behaviour therapy (CBT), mindfulness, yoga, physical fitness, music</li> <li>14. Do not hesitate to ask for help</li> </ol>

ISA: Indian Society of Anaesthesiologists

young trainees. Early identification of alcoholism or substance abuse, beginning as surveillance at medical colleges, is a necessary step in this direction.<sup>[23]</sup> Healthcare workers, especially young trainees, are burdened both physically and mentally. Promoting physical activity has a positive effect on mental well-being and boosts confidence and resilience.<sup>[24,25]</sup>

## SUMMARY

The WHO, in 2020, has declared stress in the workplace as the worldwide health epidemic of the 21<sup>st</sup> century. Stress and burnout are highly prevalent

among residents and other medical professionals. This, unfortunately, comes with a cost to doctors, patients and the health care system. Over the past decade, the number of doctors who stayed above threshold levels of stress has stayed remarkably constant at around 28%. Over the past twenty years, adequate research has been underway/published internationally on the prevalence of stress and burnout in medical schools. However, no standard interventions are routinely taken as an intervention to the findings of the said studies. Regrettably, the demands of the medical profession, such as long hours of work, extended durations of absence from home and loved ones, coping with

unfavourable outcomes at the hospital, performance pressure, personal risk of infection, does take a toll on the mental health of the residents and staff. Identifying the risk factors at every level, working towards avoiding the stressors, and most importantly, seeking help at the right time, providing adequate support and care when needed, and ensuring that systematic problems affecting residents are eliminated, can help mitigate the mental morbidity, ensure better performance and bring all-round well-being to a great extent.

#### Financial support and sponsorship

Nil.

#### Conflicts of interest

There are no conflicts of interest.

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