

**Physician Burnout and Associated Factors: Anaesthesia vs Orthopaedics**Sangeeta Choudhary<sup>1</sup>, Suman Karir<sup>2</sup>, Rashi<sup>3</sup>, Rajendra Rayal<sup>4</sup><sup>1</sup>Assistant Professor, Department of Anaesthesia, PDU Medical College, Churu, Rajasthan, India<sup>2</sup>Assistant Professor, Department of Anaesthesia, PDU Medical College, Churu, Rajasthan, India<sup>3</sup>Assistant Professor, Department of Anaesthesia, PDU Medical College, Churu, Rajasthan, India<sup>4</sup>Assistant Professor, Department of Orthopaedic, PDU Medical College, Churu, Rajasthan, India

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**Abstract:****Background:** Physician burnout is a multidimensional occupational phenomenon characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment. High-risk specialties such as anaesthesia and orthopaedics are particularly vulnerable due to demanding workloads and high professional responsibility.**Objectives:** To assess the prevalence of physician burnout and compare associated occupational factors between anaesthesia and orthopaedics departments.**Materials and Methods:** This retrospective observational study was conducted at DB Hospital, Churu, over six months. A total of 100 physicians (50 anaesthesiologists and 50 orthopaedic surgeons) were included. Burnout and associated factors were analyzed using departmental records. Statistical analysis was performed using chi-square tests, with  $p < 0.05$  considered statistically significant.**Results:** The overall rate of burnout was 46%. More anaesthesiologists (52%) than orthopaedic surgeons (40%) reported feeling burned out. Emotional exhaustion was significantly correlated with anaesthesia ( $\chi^2 = 6.84$ ,  $p = 0.009$ ), whereas physical fatigue was significantly correlated with orthopaedics ( $\chi^2 = 5.21$ ,  $p = 0.02$ ). Long working hours were significantly correlated with burnout in both specialties ( $\chi^2 = 8.93$ ,  $p = 0.003$ ).**Conclusion:** Physician burnout is common in both specialties, with specialty-specific contributing factors. Targeted interventions are required to reduce burnout and improve physician well-being.**Keywords:** Physician Burnout; Anaesthesia; Orthopaedics; Occupational Stress; Emotional Exhaustion.This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.**Introduction**

Burnout among doctors is a big problem in today's healthcare systems because it affects how well they do their jobs, their health, and the safety of their patients [1]. It is a mental illness that comes from long-term stress at work and is marked by feeling emotionally drained, losing your sense of self, and not feeling like you've accomplished anything [2].

Studies from around the world show that burnout rates are very different in different medical specialties. Doctors who have a lot of work to do, work long hours, and have to make decisions quickly are more likely to burn out [3]. Burnout has been linked to more mistakes in medicine, less happy patients, and more doctors leaving their jobs [4].

Anaesthesiology is known to be a high-risk field because of the constant need for vigilance during surgery, the need to work nights and weekends, and the stress of dealing with medical and legal issues [5]. Several studies have shown that emotional exhaustion and depersonalisation are very common among anaesthesiologists [6,7]. Burnout is a big

problem in this field due to things like long hours, changes to the body's natural sleep-wake cycle, and not enough time to recover [8].

Orthopaedics has a lot of job-related stress, even though the way the work is set up is different. Orthopaedic surgeons frequently engage in extended and physically taxing surgical procedures, resulting in musculoskeletal strain and fatigue [9]. Previous studies have shown that burnout among orthopaedic surgeons is linked to physical exhaustion, a heavy workload, and a lot of administrative work [10].

A lot of research has shown that things like too much work, not enough work-life balance, not enough staff, and inefficiencies in the organisation are major causes of physician burnout [11–13]. Individual factors, such as age, gender, years of experience, and how people deal with stress, may also make them more likely to burn out [14].

Even though more people are becoming aware of the problem, there aren't many studies that compare burnout rates between anaesthesia and orthopaedics, especially in secondary and tertiary care hospitals in

developing areas [15]. To create targeted interventions, it's important to know how burnout patterns are different for different specialities.

This study seeks to assess the prevalence of physician burnout and its associated factors among anaesthesiologists and orthopaedic surgeons in a tertiary care hospital setting.

### Materials and Methods

**Study Design and Setting:** A retrospective observational study conducted at DB Hospital, Churu.

**Study Duration:** Six months.

**Study Population and Sample Size:** One hundred physicians were included: 50 from anaesthesia and 50 from orthopaedics.

### Inclusion Criteria

- Physicians working in anaesthesia or orthopaedics
- Minimum one year of clinical experience
- Complete departmental records available

### Exclusion Criteria

- Physicians on prolonged leave
- Incomplete records

**Data Collection:** Data were obtained from departmental records, including demographic details, working hours, night duties, workload indicators, and documented burnout-related symptoms.

**Statistical Analysis:** Data were analyzed using SPSS version 25. Categorical variables were expressed as frequencies and percentages. Associations were assessed using chi-square tests. A p value < 0.05 was considered statistically significant.

### Results

**Demographic Characteristics:** Of the 100 physicians, 56 were male and 44 were female. The majority (62%) were aged between 30 and 45 years. Demographic details are presented in Table 1.

**Table 1: Demographic Characteristics of Study Participants**

Variable	Anaesthesia (n=50)	Orthopaedics (n=50)
Male	28 (56%)	28 (56%)
Female	22 (44%)	22 (44%)
Age 30–45 years	32 (64%)	30 (60%)

**Prevalence of Burnout:** Overall burnout was observed in 46 physicians (46%). Burnout prevalence was higher among anaesthesiologists

(52%) compared to orthopaedic surgeons (40%). The distribution of burnout is shown in Table 2.

**Table 2: Prevalence of Burnout by Specialty**

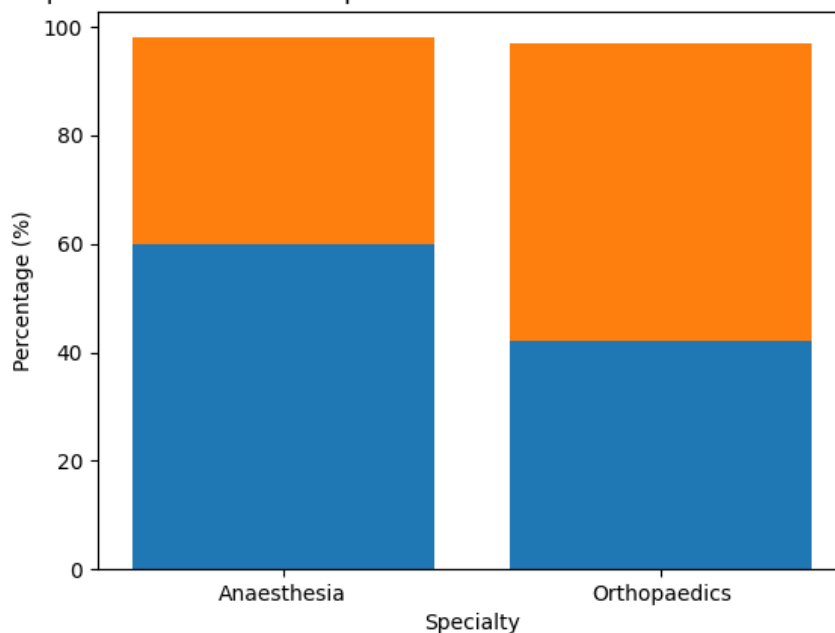
Specialty	Burnout Present	Burnout Absent
Anaesthesia	26 (52%)	24 (48%)
Orthopaedics	20 (40%)	30 (60%)

**Burnout Components and Associated Factors:** Emotional exhaustion was significantly more common among anaesthesiologists ( $\chi^2 = 6.84$ ,  $p = 0.009$ ). Physical fatigue showed a significant association with burnout among orthopaedic surgeons ( $\chi^2 = 5.21$ ,  $p = 0.02$ ). Long working hours

(>60 hours/week) were significantly associated with burnout across both specialties ( $\chi^2 = 8.93$ ,  $p = 0.003$ ).

The comparative distribution of burnout components is illustrated in Figure 1.

Comparison of Burnout Components Between Anaesthesia and Orthopaedic

**Figure 1: Comparison of Burnout Components Between Anaesthesia and Orthopaedics****Discussion**

The current study reveals a significant incidence of physician burnout, especially among anaesthesiologists, aligning with prior literature that categorises anaesthesia as a high-risk speciality [16,17]. The elevated incidence of burnout among anaesthesiologists may be ascribed to the necessity for constant vigilance, emergency responsibilities, and disruption of circadian rhythms [18].

Emotional exhaustion was the predominant facet of burnout among anaesthesiologists, consistent with previous studies indicating significant psychological strain in this field [19]. Long hours and night shifts made burnout even more likely, which is a pattern that has been well-documented in research on occupational health [20].

Orthopaedic surgeons demonstrated a relatively lower overall prevalence of burnout; nevertheless, physical fatigue was identified as a significant contributing factor. The physically demanding nature of orthopaedic practice, characterised by extended surgeries and repetitive manual tasks, likely elucidates this association [21,22].

Stressors related to workload were prevalent in both specialities, corroborating evidence that excessive working hours and insufficient staffing are universal contributors to burnout [23]. Burnout has been shown to make patient safety, healthcare quality, and keeping doctors on staff worse [24].

The results show how important it is to use interventions that are specific to each speciality. To reduce burnout, it is important to make changes to

organisations, redistribute workloads, provide mental health support, and start wellness programs in institutions [25].

Despite its limitations due to a retrospective design and single-center context, the study offers significant comparative insights into burnout trends within two high-risk specialities.

**Conclusion**

Physician burnout is common among both anaesthesiologists and orthopaedic surgeons, with anaesthesia exhibiting greater emotional exhaustion and orthopaedics reflecting increased physical fatigue. To improve the health of doctors and the quality of care, it is important to deal with occupational stressors that are specific to each speciality.

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