

# **An International Evaluation of Burnout among Limb Lengthening and Reconstruction Surgeons**

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## **INTRODUCTION:**

Burnout in the medical profession is increasing, especially after the pandemic. Since limb reconstruction surgeons are routinely faced with complex patients that require complicated management strategies, there are strong risk factors for developing burnout. While burnout studies have been performed in other orthopaedic surgical subspecialties, to our knowledge, this has never been investigated among limb reconstruction surgeons. The aim of this study was to evaluate the incidence and contributing factors to burnout among international limb reconstruction surgeons.

## **METHODS:**

An anonymous, IRB approved, secure database survey was emailed to international limb reconstruction surgeons. The survey included demographic questions, 4 open-ended questions, and two validated measures: patient Health Questionnaire 4 (PHQ-4) to screen for symptoms of anxiety and depression and the Maslach Burnout Inventory-Human Services Survey for Medical Personnel (MBI), the gold standard tool for assessing burnout in health professionals. Statistical analysis was performed using the Kruskal-Wallis test and the Mann-Whitney test.

## **RESULTS:**

A total of 103 completed responses were compiled from surgeons representing at least 16 different countries. On average, the responding surgeons were 83% male and defined themselves as 20% early-career (1-10 years' experience), 47% mid-career (11-20 years' experience), or 33% senior (21 years or more experience). They averaged a 54-hour work week with 5 call nights a month and 12 limb construction cases per month.

The PHQ-4 results demonstrated normal total scores, as well as normal scores in each of the subgroups for anxiety and depression across all 103 respondents. There were no differences between the three career levels (early, mid, senior).

The MBI results demonstrated high emotional exhaustion in 19%, high depersonalization in 15%, and low personal accomplishment in 24% of respondents. Overall, 38% displayed burnout symptoms and 16% exhibited severe burnout. Although not statistically significant, the mid-career group was the most affected.

When asked how the surgeon deals with complications or disappointing results that occur in his/her patients, 31% of the respondents described unhealthy, prolonged responses to dealing with complications including rumination, self-blame, internalization, loss of sleep, and having it affect their personal and professional lives.

A total of 52% reported having wellness counseling available in the workplace but only 6% use these services; 23% stated they have previously or currently been treated with counseling and/or medication to help with mood and/or anxiety.

In total, 56% of participants were comfortable with conflict situations. Response themes identified included trying to actively avoid these situations, feeling exhausted by them, and having more difficulty dealing with colleague conflict than patient conflict.

## **DISCUSSION AND CONCLUSION:**

We believe this is the first study to evaluate burnout in limb reconstruction surgeons. Given the international nature of the participants, the findings indicate that burnout is a global concern among limb reconstruction surgeons with 38% of the respondents exhibiting burnout symptoms and 16% at risk for severe burnout. The results of the study help to define the scope of the problem in limb reconstruction. Further initiatives to develop wellness programs for limb reconstruction surgeons that assist in identifying and mitigating burnout will be necessary.