

# Musculoskeletal Disorders in Surgeons: A Literature Review

Yuping Derek Li MS; Gurvinder Kaur MD; Benjamin Smith; Aruna Ganju MD  
Northwestern University Feinberg School of Medicine



## Introduction

The medical community is becoming increasingly aware of surgeons' physical stress and fatigue in the operating room environment. Spine surgery requires surgeons to adopt non-ergonomic positions for variable amounts of time in attempt to decompress neural elements, stabilize the spinal column, and correct spinal deformity. While patient outcomes are a focus of healthcare in this country, the impact of surgery on the surgeon has received far less attention. This study aims to gain insight into the epidemiology of musculoskeletal complaints among surgeons as well as highlight various interventions that are currently being developed.

## Methods

We conducted a literature search for articles published between 1990-2017 with a primary focus on epidemiology of work-related musculoskeletal complaints among surgeons. The key words utilized in the search were the following: (1) surgeon, (2) musculoskeletal pain, (3) occupational disease, (4) epidemiology, and (5) ergonomics. Subsequently, the reference results were examined for additional studies.

## Results

In survey-based studies, 50-86% of surgeons reported some physical symptoms or discomfort. The most common symptoms reported were neck pain/strain, low back pain, and radiculopathy. One study reported 43% of surgeons had to take breaks from operating due to their symptoms; another study reported 26.7% of surgeons took time off of work due to these work-related injuries. Additionally, there is no clear consensus on the cumulative impact of surgeons' years of experience or annual caseload with work-related musculoskeletal disorder. Current strategies being utilized include microbreaks during surgery as well as physical support devices.

## Conclusions

The impact of surgery on the surgeon has only recently begun to be investigated. Given the significant effect on surgeons, particularly spine surgeons, better kinematic studies of the surgeon and ergonomics of the operating room are needed. In addition, preliminary interventions including microbreaks and body supports have shown promise.

## Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe the importance of the ergonomics of the operating room, and 2) Identify current interventions being used to alleviate work-related symptoms in surgeons.

## References