

Implementing Ergonomics to Reduce the Rates of Musculoskeletal Injuries

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DESCRIPTION

The high prevalence of musculoskeletal pain in surgeons and interventionists, it is critical to investigate the effect of ergonomics on cardio-thoracic surgeon health. Cardiothoracic surgeons have been plagued by musculoskeletal pain for decades, most commonly in the neck and back, as a result of poor surgical ergonomics. A lack of dedicated ergonomics training may predispose surgeons to work-related musculoskeletal disorders. In PubMed, Google Scholar, and other databases, we looked for studies on surgical ergonomics and the prevalence of musculoskeletal disease among surgeons and interventionists. When possible, data from quantitative studies and meta-analyses are presented.

Many studies have found that work-related pain is extremely common in surgeons, with rates as high as 87% in minimally invasive surgeons. Several optimizations have been discussed, including proper table height, monitor positioning, and loupe angles. Finally, some programmes have found that implementing ergonomics training has been effective in lowering the rates of musculoskeletal pain among surgeons. Work-related stress injuries in the operating room are more common than we realized. Many factors have contributed to this situation, including smaller incisions and technological advancements. Finally, work-related injuries are underreported and understudied, and the field of surgical ergonomics is still ripe for studies.

Cardiothoracic surgery is similar to high-performance sports in that it requires consistency of excellence and stamina. This relationship by emphasising the importance of deliberate practise, coaching, and other high-performance athletic techniques. As we recognize this role, we must also recognize the challenges associated with that identity. Athletes subject their bodies to tremendous physical stress, so maintaining good form and technique, or healthy ergonomics, is essential to their training. Unfortunately, surgical ergonomics has been consistently underappreciated, understudied, and underemphasized. Anecdotally, we see far too many surgeons with hunched necks and poor postures.

The gradual breakdown of the body as a result of years of operation is a sneaky process. Surgeons and medical practitioners should learn more about "motion study and time study" in the Operating Room (OR) to eliminate inefficiency and increase the longevity of a surgeon's career. Unfortunately, not much has changed over the last century. Training surgeons lamented that "from an ergonomic standpoint, most major operations are, at first glance, a mess." The physical consequences are dire.

Musculoskeletal (MSK) pain is extremely common among surgeons, with estimates ranging from 66% to 94% among those performing open surgeries. Approximately 60% of surgeons report neck pain after a year. Some require surgery to correct MSK issues; a study of spine surgeons found that 4.6% of patients required surgery. Possibly as a result of a proudly Stoic culture, surgeons are hesitant to seek help and continue to suffer in silence as a result of poor ergonomics. According to a 2009 survey, 65% of 130 British surgical consultants who experienced pain never sought help or advice. 54.5% sought help from a co-worker, 22.7% self-medicate, 13.6% sought help from their general practitioner, 4.5% sought help from a physiotherapist, and 4.5% simply informed their practice's occupational health department. The reluctance to seek help, combined with long work hours, poor nutrition, and a lack of sleep, creates the perfect storm for injury and is the polar opposite of elite athletic training. Invasive techniques, as well as the need to twist and contort into awkward angles, are becoming more common. Subjecting ourselves repeatedly over time.

Furthermore, the increasing use of Tran's catheter therapies in surgery has introduced new ergonomic challenges, such as wearing heavy lead aprons. Vascular surgeons, orthopaedic surgeons, interventional cardiologists, and radiologists have all studied the long-term negative effects of wearing 40-pound suits that are unevenly distributed across the body. Despite having faced these challenges for years, an ergonomically sound solution remains elusive. Recently, there has been a paradigm shift in surgical training from one that ignores stress and discourages conversations about well-being and burnout to one that is beginning to foster surgeon wellness. The Society of Thoracic Surgeons (STS) held a roundtable discussion around "Strategies

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for Surgeons to Prevent Burnout". Similarly, the Society for Vascular Surgery (SVS) established a Wellness Task Force, which focuses, in part, on highlighting pain from operations and its

effects on surgeon wellness. Initiatives like these highlight the importance of ergonomics research in order to ensure that a surgeon's career does not deteriorate over time.