Background

Ergonomics pertains to designing and arranging things people use so that the two interact most efficiently and safely. Over 80% of surgeons experience general injuries exacerbated by operating with less than half seeking treatment. Ergonomic principles have not been incorporated into surgical practice with less than 6% of surgeons receiving formal ergonomic training.

Less than 15% of surgeons report being aware of any ergonomic guidelines.

Poor adherence to ergonomic principles in the operating room leads to increased muscle fatigue and injury which can lead to career changes or early retirement.

Research Objectives

1. Better understand the current status of ergonomics knowledge and work-related injuries among surgeons
2. Identify risk factors for surgery-related injuries
3. Increase surgeon awareness regarding ergonomic principles in the operating room

Methods

• 21 question survey collecting information regarding surgeons' demographics, burnout, work related pain, and ergonomics knowledge was distributed to attending surgeons via anonymous link in an email
• Results were analyzed using Qualtrics software to perform Chi-squared and Pairwise Z-tests

Results

59 out of 98 (60%) of attending surgeons responded
40% reported having a current or previous work-related injury
Most common injuries included:
- Neck (31%)
- Thumb (17%)
- Shoulder (14%)
Surgeons attributed their injuries to:
- Standing for an extended time
- Not taking breaks
- Large case volumes
- Table height
82% of surgeons reported having little to no knowledge of ergonomics
93% reports that applying ergonomic principles in the OR would improve their well-being

Surgeons with smaller (<6)/larger (>8.5) gloves were more likely to report injuries (87.5% vs 42.9%, p = 0.046)

Table 1. Percent of Surgeons with pain by glove size

Table 2. Percent of Surgeons with pain by height

Table 3. Height Distribution of Reported Neck and Shoulder pain

Taller surgeons experienced more neck pain (42% vs 14%) while shorter surgeons were more likely to experience shoulder pain (21% vs 5%)

Conclusions

• Significant number of surgeons experience work-related injuries
• Height and hand size are associated with different types of injuries
• Increased attention to educating surgeons on operating room ergonomic principles is warranted

References