

ADOPTION OF ERGONOMIC PRACTICES AMONG SURGEONS PRACTICING OPEN, LAPAROSCOPIC, AND ENDOSCOPIC TECHNIQUES: A SURVEY FROM THE SAGES ERGONOMICS TASK FORCE

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BACKGROUND

Work related pain and musculoskeletal injuries are common among surgeons and are linked to poor intraoperative ergonomics

AIM

Characterize ergonomic practices and prevalence of pain after operating among surgeons performing open, laparoscopic and endoscopic procedures

METHODS

Population and Setting: practicing surgeons and residents in the USA and Canada

Survey: developed by SAGES Ergonomics Task Force and disseminated via convenience sampling of society/hospital listservs and social media

Data collection: practice patterns, demographics, ergonomic behaviors, postoperative pain with reference images for each type of procedure

Data analysis: descriptive statistics

POPULATION	
Characteristic	N=114
Median Age (years)	43.0
Sex	53% Male, 46% Female, 1% Decline to answer
Median Yrs in Practice	9
Hand dominance	96% right, 4% left
Glove size	28% -6.5, 27% -7.5, 16% -7, 12% -6, 11% -8, 4% -5.5, 1% -8.5
Practice Type	68% Academic, 16% Hospital employed, 5% Private group, 11% Other
Specialty	42% General or MIS, 21% Acute Care, 18% Bariatric (not mutually exclusive)
% of population performing type of operation	96% open, 76% lap, 54% robotic, 37% endoscopic

RESULTS: Ergonomics

17% of open surgeons report consistent adherence to ergonomic best practices

16% of laparoscopic surgeons report consistent adherence to ergonomic best practices

7% of endoscopists report consistent adherence to ergonomic best practices

Adherence to ergonomic guidelines by type of procedure

Adherence defined as % who follow recommendations more than half the time to always

Recommendation Category	Open	Laparoscopic	Endoscopic
Upper Body	38%	35%	21%
Lower Body	39%	40%	57%
Core/Mid Body	40%	NA	52%
Table	70%	69%	76%
Monitor	NA	52%	64%
Tower/Cords/Pedal placement	NA	NA	26%

RESULTS: Pain

43% of surgeons experience pain more than half the time to always after a typical day of operating: 23% among surgeons who only practice open surgery and 49% among surgeons who also perform other minimally invasive procedures

Body Part	% of surgeons reporting pain more than half the time to always after operating
Back	25%
Neck	18%
Upper Extremity	11%
Lower Extremity	10%
Elsewhere	12%

22% of surgeons have had a work-related injury

CONCLUSION

- Adherence to ergonomic best practices among surgeons is strikingly low despite high rates of work-related pain
- Adherence to ergonomic best practices varies by type of procedure and by category of recommendation
- Pain is more commonly reported in the back and neck
- Pain is more commonly reported among surgeons who practice minimally invasive procedures

NEXT STEPS

- Targeted ergonomic training
- Improved awareness
- Identification of barriers to implementation

Overall goal: reduce pain, extend career longevity, enhance surgeon well-being

THANK YOU!

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