

# Systematic Review of the Efficacy and Purpose of Student Surgical Interest Groups

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## INTRODUCTION

There is an unmet need in the surgical workforce, with up to 25% of Australasian surgeons planning to retire from public work in the next 5 years.

Current obstacles to medical students pursuing surgical careers include lack of exposure, low confidence in surgical skills, and perceived work-life barriers.

Student surgical interest groups (SIGs) could theoretically contribute to early comprehensive surgical exposure, augment surgical interest, and address preconceptions about the field.

## OBJECTIVE

- This review aimed to examine the purpose (goals and activities provided), and effect (self-reported increase in student surgical interest), of surgical interest groups worldwide.

## WHAT DID WE DO?

- A comprehensive electronic search of MEDLINE, EMBASE, PubMed, and Google Scholar.
- Analysis of articles providing detail on the purpose and efficiency of medical-student led SIGs.
- Quality was assessed for papers with survey methodology.
- Inclusion up to June 12, 2022.

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## RESULTS

- 28 papers were included in the analysis including 13 surveys. These were of moderate quality.
- The analysed SIGs had 100-1000 student members, and a diverse range of funding sources and faculty involvement.
- Almost all SIGs had published pre-established objectives.
- The most common initiatives provided by SIGs were surgical lectures/teaching and practical skills workshops.
- Surveys suggested SIGs positively influenced self-reported student interest in surgical careers (78.6%), confidence in surgical knowledge (80%), confidence in practical skills, knowledge about surgical careers and lifestyle, mentorship opportunity, and research involvement.

Fig 1. Geography of Analysed SIGs

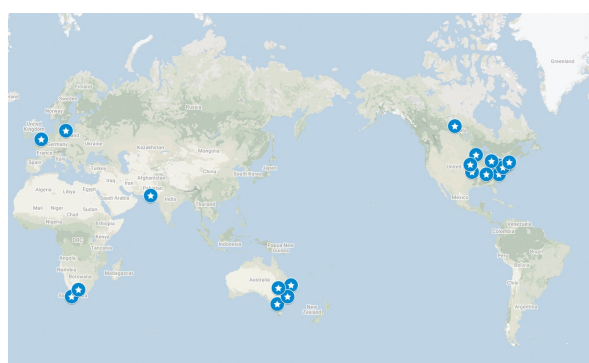


Fig 2. Purpose of SIGs

### Initiatives Provided by Analysed SIGs

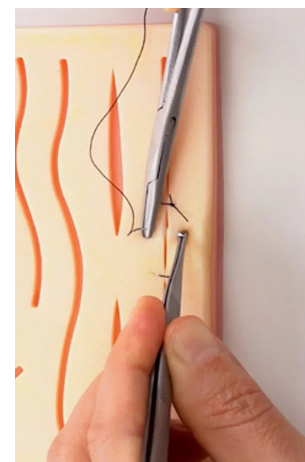


Fig 3. Efficacy of SIGs

Authorship/Year of Publication	Career choice	Surgical knowledge	Practical skills
Asif 2014	No effect	NP <sup>a</sup>	+ <sup>b</sup> - 55% found useful
Brahmandam 2021	No effect	NP	NP
Davis 2019	+ - qualitative	+ - qualitative	NP
DeBolle 2019	+ - unspecified greater percent of students match into surgical specialties	NP	NP
Dolan-Evans 2013	No effect	NP	NP
Grover 2016	+ - 85% more students matched into surgical specialties	NP	NP
Kashkoush 2017	+ - unspecified greater percent of students match into surgical specialties	NP	NP
Li 2013	NP	+ - 51/59 found useful	+ - 45/56 found useful
Mickelson 2017	+ - qualitative	+ - qualitative	+ - qualitative
Naples 2020	+ - 71% found influential	+ - 84% found influential	NP
Ologunde 2014	+ - 62.3% found useful	NP	NP
Otten 2018	+ - qualitative	NP	+ - qualitative
Salna 2016	+ - general surgery entrance rates tripled in 8 years	NP	NP
Song 2019	+ - qualitative	No effect	+ - qualitative
Vakayil 2020	+ - qualitative	NP	+ - qualitative

<sup>a</sup> NP = data not published. <sup>b</sup> + = positive effect.

## CONCLUSIONS

- Student SIGs make a unique contribution to early medical student experience through positive effect on promoting surgical careers to students.
- They deliberately target relevant metrics that influence surgical career choice within their stated goals/mission:
  - Surgical theory/practical skills
  - Career information
  - Mentorship opportunities
  - Research involvement
- There is a significant number of worldwide publications and data on the purpose and efficacy of SIGs. Weaknesses include possible bias in self-publication of efficacy, and lack of longitudinal data.