GLOBAL SURGERY COURSE: *EVALUATION OF COURSE OUTCOMES & FUTURE COURSE PLANNING*

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https://www.worldatlas.com/maps/singapore

INTRODUCTION / BACKGROUND

- Access to surgical care remains a significant problem in rural areas in LMICs
- Lancet Commission for Global Surgery 2030
  - Gross disparities in access to safe surgical care worldwide – 5 billion people do not have access to safe, affordable surgical and anaesthetic care
  - Key focus areas:
    - health-care delivery and management
    - **workforce, training, and education**
    - economics and finance
    - information management
  - Insufficient number of surgically trained personnel
  - Concentration of surgically trained personnel in urban areas
- Improving education and training can help to build up surgical skills for surgeons operating in rural areas

INTRODUCTION

- Current gaps:
  - Lack of sufficient surgical training courses in Asia focusing on rural surgery
  - Lack of LMIC involvement in surgical care training
  - Lack of literature on surgical training courses being conducted in Asia
- Aim of our course:
  - To develop a multidisciplinary global surgery course that will help surgeons operating in rural areas in Asia to gain confidence in performing essential emergency surgical procedures
  - To collaborate with participants to refine and adapt the course for countries in the region

INTRODUCTION

- The Global Surgery Course / Surgery in Rural and Austere Environments Course (SIRAEC):
  - Didactic lectures to build up cross disciplinary surgical knowledge
  - Hands-on practical cadaveric dissection sessions
  - Guest speaker/participant sharing sessions
- Course participants from LMICs were sponsored (though funding/donations) to improve access to training opportunities

METHOD

- Course Design
  - Core procedures to be covered were based on the Bellwether procedures and the World Bank Disease Control Priorities (Essential Surgery)
  - Faculty invited from various surgical disciplines to contribute and revise course content
    - General Surgery, O&G, Orthopedics, Urology, Plastic surgery, Anesthesia, Cardio-thoracic surgery, Pediatric surgery
  - Training separated by specialty; lectures followed by hands-on session

- Course Evaluation
  - Pre-course questionnaire administered at the start of the course + post- course questionnaire repeated at the end
    - Total of 54 participants/respondents
    - Assess pre-/post-course confidence, satisfaction, strengths/weaknesses and procedures they felt should have been included/were unnecessary
  - Combination of quantitative (Likert scale) and qualitative questions (open-ended)

RESULTS/OUTCOMES

- Procedure confidence
  - Universal increase (all participations) in participants saying they were more confident to perform the procedures taught (answered “agree” or ”strongly agree”)
  - This included procedures that more than half of the respondents said they performed regular
- Strengths
  - Hands-on sessions (n=8)
  - Knowledgeable instructors (n=11)
  - Good organization (n=9)
- Weaknesses
  - Course length and time allocation (n=11)
    - Prefer longer practical sessions (n=7) /shorter theory sessions (n=4)
    - Sessions too packed (n=4)
    - suggest sharing of materials online before the start of the course (n=1)
  - Procedure coverage (n=7)
    - Specific skills not covered e.g. obstructed hernia, lap surgery, pericardial window

RESULTS/OUTCOMES

- Suggestions on procedures to be covered
  - Urinary diversion and managing ureteric/bladder injuries (n=12)
  - Commonly performed gynecological procedures and obstetric complications (n=12)
  - Trauma surgery (n=9)
  - Bowel resection/repair and stool diversion (n=8)

DISCUSSION/LIMITATIONS

- Diverse training background of participations = different training needs
  - Variations between countries
  - Variations within the same country (urban vs rural)
- Course content initially decided by organizers from an urban country (Singapore)
  - Have to take into consideration course feedback to refine/improve course
- Assessment focused on self-assessment of confidence/competency
  - No observed component to assess knowledge, skills and behavior (limited resources)
- Limited number of course participants (due to funding)

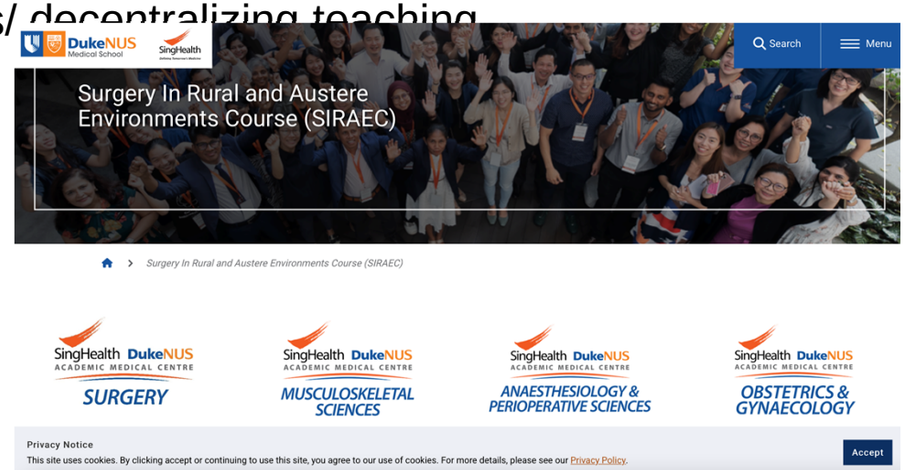
CONCLUSION/FUTURE WORK

- Managed to achieve goal of improving confidence levels of rural surgeons in Asia
- However, need to refine course content to be more targeted to training needs and include assessment
- Global Surgery – still a fairly new term / not yet well defined
  - No clear guidelines for content and assessment for a “global surgery course”
  - Will need more time to develop curriculum

CONCLUSION/FUTURE WORK

- Course this year:
  - Shift of didactic lectures to online pre reading material = more practical time during the course
  - Inclusion of MCQ quiz to assess knowledge component
- Other future work
  - Targeted needs assessment in partner countries – better adaptation of course
  - Scaling up of course and transferring ownership to the LMICs/ decentralizing teaching

https://www.duke-nus.edu.sg/sdghi/learn-with-us/surgery-in-rural-and-austere-environments-course-(siraec)



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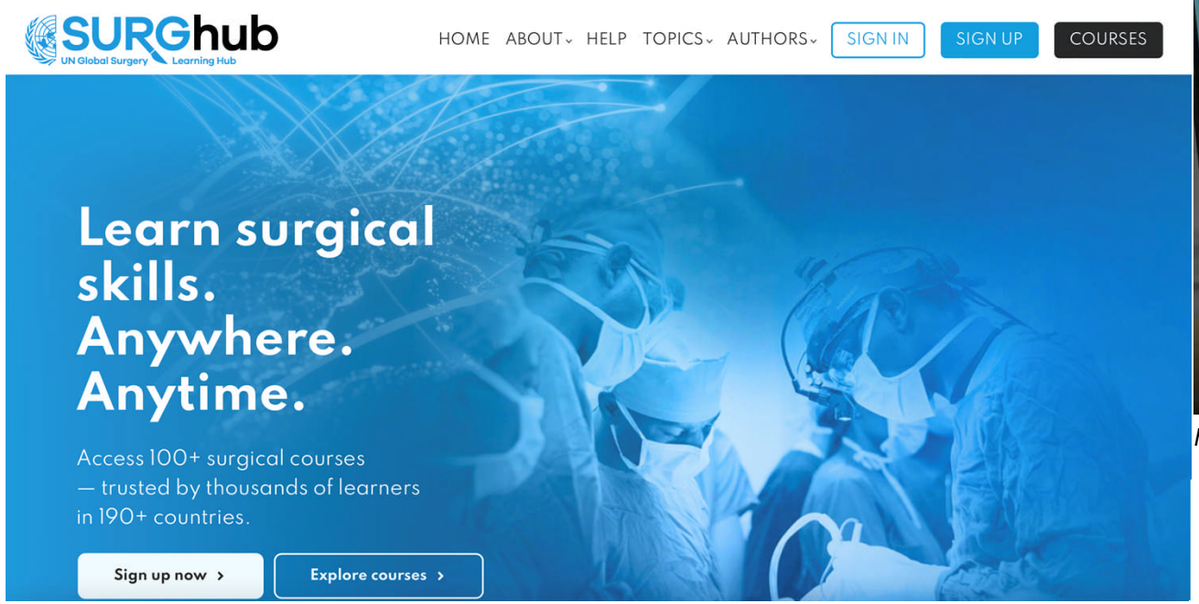
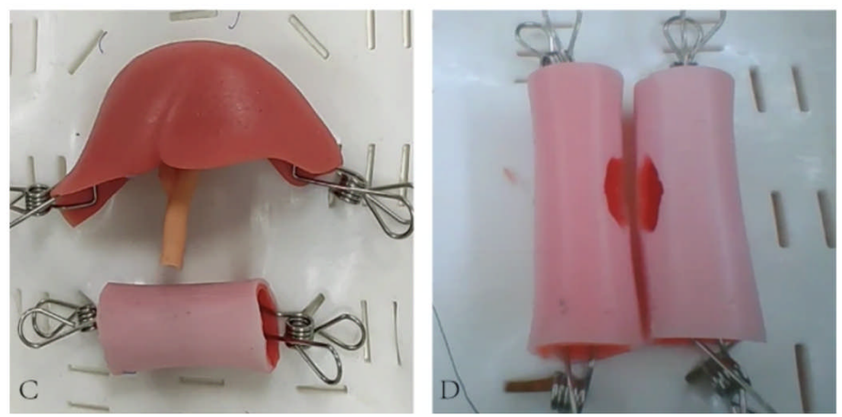


https://www.surghub.org

https://healthiar.com/fundamental-surgery-brings-affordable-vr-training-to-surgeons



Z. Zhu et al., "A randomized cohort study on the use of 3D printed models to enhance surgical training in suturing techniques," Sci. Reports 2024 151, vol. 15, no. 1, pp. 1–10, Jan. 2025, doi: 10.1038/s41598-024-84887-

Q&A