Attracting undergraduate students to surgical specialties through a week-long summer course: a 5-year single-center experience.

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Introduction – Why?

- Choosing a medical specialty?
  - Clinical exposure!

- Surgical summer school
  - Providing an accurate and realistic view of daily practice
  - Informing and inspiring medical students
  - Attracting them into surgical specialties

Family medicine?  Non-surgical?  Surgical?
Introduction – What?

- Annual week-long summer course
  - Organized locally
  - Close collaboration with medical students

- Interactive case discussions
  +

- Hands-on training models

- Participation:
  - Voluntary registration
  - Based on motivational letter (limited spots)
Surgical summer school anno 2017

- September 11th 2017 – September 15th 2017

- Collaboration between 11 specialties active in the operating theatre
  - Anesthesiology
  - Ear-nose-throat medicine
  - General surgery
  - Gynecology
  - Neurosurgery
  - Orthopedic surgery
  - Plastic surgery
  - Urology

- 41 participants
  - 26 ♀; 15 ♂
  - Third year medical students -> before internships
Surgical summer school – Day 1

**AM - Welcome and introduction to surgery**
- Surgical education
- ITCIT
- Personal testimonies

**PM - Hands-on workshops**
- Basic principles
  - Principles of sterility
  - Introduction to the surgical toolkit
  - Laparoscopic instruments
- Workshop ENT; Head & neck surgery
  - Neuronavigation
  - Tooth extraction
Surgical summer school – Day 2

**AM** - Video cases and live streaming
- Plastic surgery
- General & digestive surgery

**PM** - Hands-on laparoscopy workshop
- Simsei laparoscopic trainer
  - Laparoscopic suturing
- Simendo VR simulator
Surgical summer school - Day 3

**AM - Video cases and live streaming**
- Ear nose throat medicine
- Orthopedics

**PM - Hands-on laparoscopy workshop**
- Orthopedic surgery
  - Arthroscopy
  - Osteosynthesis
- Gynecology
  - Hysteroscopy simulation
    - Low fidelity
    - Virtual reality – PelvicSim Mini
Surgical summer school - Day 4

**AM - Video cases and live streaming**
- Cardiac surgery
- Vascular surgery

**PM - Hands-on laparoscopy workshop**
- Cardiac & vascular surgery
  - Endovascular toolkit and safe navigation
    - Low fidelity & virtual reality
  - Vascular ultrasound
  - Vascular suturing
  - Endoscopic vein harvesting
- Anesthesiology
  - Sim-man case + debriefing
  - Intubation
Surgical summer school - Day 5

AM - Video cases and live streaming
- Gynecology
- Urology

PM
- Visit to the surgical laboratory
- Closing ceremony
Surgical summer school – Social program

Dinner

Closing reception
Participants’ feedback

In general I would rate this summer school… (out of 10)

I have achieved all of my personal learning goals during this summer school…

- Neutral: 4 (10%)
- Agree: 20 (50%)
- Completely agree: 15 (38%)
- No opinion: 1 (3%)

Total: 40 (100%)
Participants’ feedback

I think that the content is well adjusted to the participants’ knowledge level...

I think that the used teaching methods are appropriate...

![Pie charts showing participant feedback](chart1.png)

![Pie charts showing participant feedback](chart2.png)
Participants’ feedback

There was a good balance between the various teaching formats (theory, case discussions, hands-on)...

Participants were encouraged to actively participate in the program...
Prospective study

- **Goal:** examine effect on **interest** in surgical career choice

- **Methods:**
  - Questionnaire at the start and end
    1. Demographic information
    2. Opinion about choosing surgical specialties
  - E-mail follow up

- **Study population:** 243 participants over 5 years
  - 145 ♀; 98 ♂
  - 121 after 4th year of med school
  - 122 after 3rd year of med school

- **Outcome:**
  1. Increase in interest?
  2. Final career choice?
Results – Summer school increases participants’ interest

187 out of 209 responses (89%) indicated an increase in interest!
Results – Impact on choices (short term)

Career choices at start of the summer school

Which specialty would you apply for right now?
- Family medicine
- Mixed application
- Non-surgical hospital specialty
- Surgical hospital specialty

Career choices immediately after summer school

Which specialty would you apply for after this summer school?
- Family medicine
- Mixed application
- Non-surgical hospital specialty
- Surgical hospital specialty

56 ♂ 69 ♀

60 ♂ 79 ♀
Results – Impact on choices (long term)

Follow-up period: 2 years; n = 80

Before summer school

- Which specialty would you apply for right now? (Beginning of summer school)

After summer school

- Which specialty would you apply for right now? (After summer school)

Final career choices

- Which specialty did you apply for? (Follow-up after 2 years)

Gender: Male and Female

Surgical specialty: 44 / 71

21  ♂

23  ♀

Surgical specialty: 49 / 71

23  ♂

26  ♀

Surgical specialty: 37 / 71

18  ♂

19  ♀
Conclusion

- Innovative and practical course, mixing theory and hands-on
- Feedback of participants is encouraging
- Increased interest in surgical specialties post-summer school