Innovations in surgical education (using endoscopic suture ligation as an example)

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Background

- Surgical education is essential but challenging due to limited access and other constraints.
- Early exposure to endoscopic techniques can enhance engagement and career motivation.

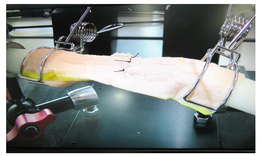


Student Education Program

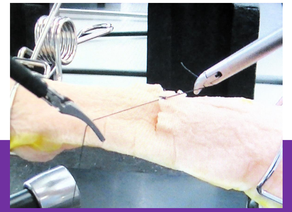
- Intracorporeal suturing is included in the four-week clinical training for 4th- and 5th-year medical students.
- We use an evaluation chart, presented today, to foster student motivation and future interest in the field.

INTESTINAL SUTURE MODEL (KOTOBUKI Medical Inc.)

Students utilize tracing pads and a synthetic organ model crafted from konjac to simulate realistic surgical scenarios.









Konjac（Japanese food）

Evaluation

Quantify accuracy and speed

Provide instruction and evaluation based on the evaluation chart.

Enhance students' understanding and deliver goal-oriented, structured training.



- Trepat measures time
- Intestinal suture evaluated on a 30-point scale for time, needle handling, and accuracy of ligation
- Evaluated twice in the first and fourth week of practice

Outcome

- Square Knot 1 needle
- Comparison of the first and last day

Average reduction of 2:44 per person
All participants reduced procedure time

- Intestinal model
- Square Knot 3 needles

Full score 30

Average growth rate of 6.78 per person
25 out of 28 grows

The Benefits Using an App for Evaluation

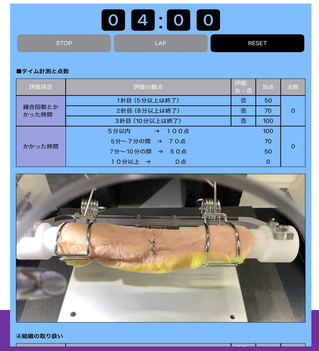
Training Pat Evaluation App



- Minimizes score discrepancies caused by evaluator variability
- Reduces the workout of the evaluator
- Incorporates self-assessment, timer, and record-sharing functions

Deduct points when you do something wrong.

Evaluation app in the intestine model



Assessment and scoring of how the organization handles and operates needles.

The finished intestinal suture is photographed with a camera to evaluate suture failure and other problems.

After completion, time and accuracy are evaluated and displayed in an overall score

Future tasks and goals

- Monitor the students' progress, career trajectories, and development
- Ensure evaluation consistency and reducing evaluator workload
- Establish an internal accreditation system

Conclusion

We aim to continually refine surgical training to improve its quality and foster greater interest in the surgical field.



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