



ISEM EAST CHAPTER 2014

(The 1st Meeting, 21 May 2014, Tokyo)

Three C Model: A Positive Spiral for Technical Education

(The contents were originally from ISEM 2014)

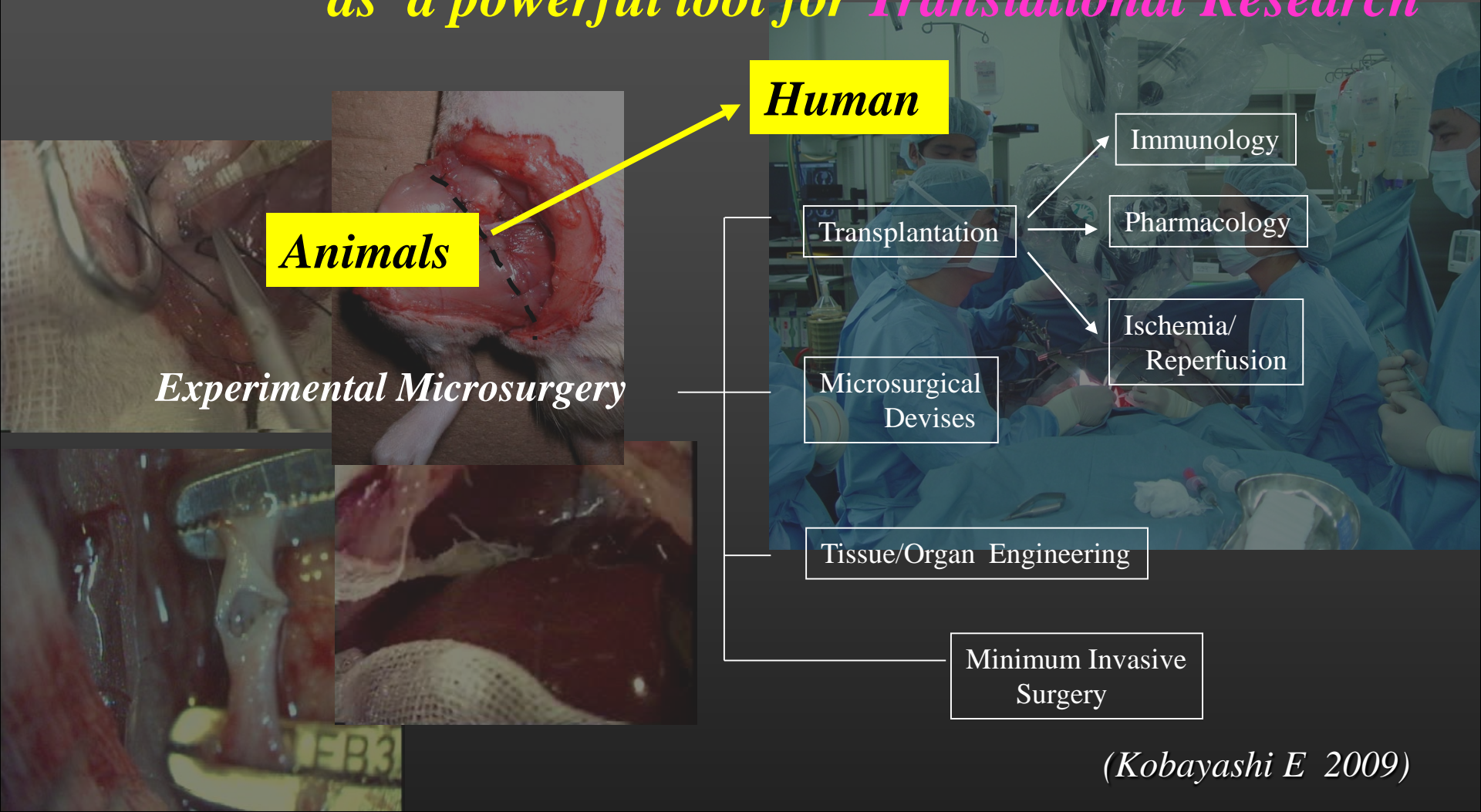
Keio University



Eiji Kobayashi, MD, PhD

**Department of Organ Fabrication,
Keio University School of Medicine, Japan**

A Proposal Concept of 'Translational 'Microsurgery *Experimental Microsurgery covered world-wide area as a powerful tool for Translational Research*



3 C Approach

教育を科学する

3 C Approach

- **Curriculum:**

Teaching is driven by a written curriculum which is given to the students to guide their learning

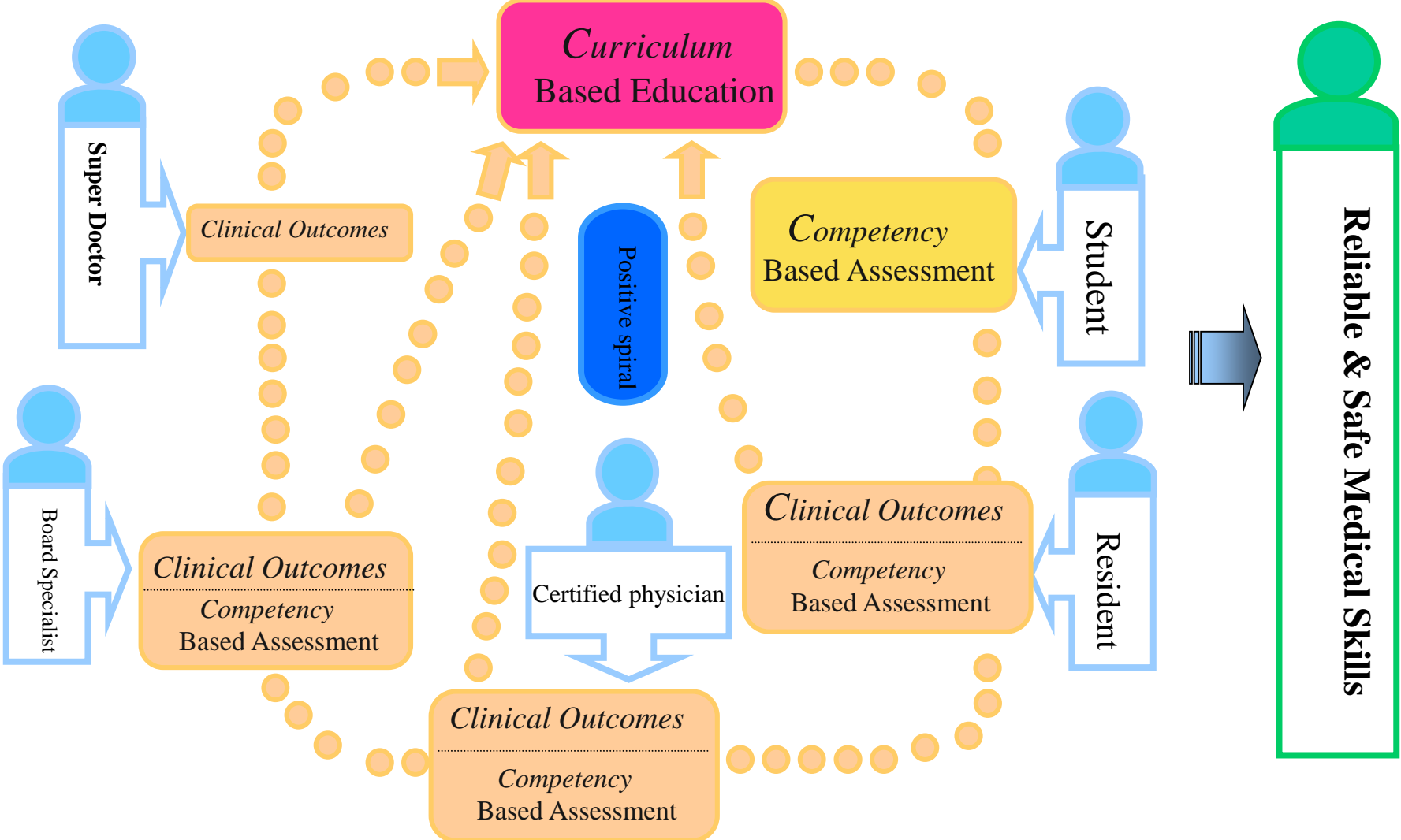
- **Competency:**

After the teaching, learners are evaluated to see if they have acquired the desired competency

- **Clinical outcomes:**

Learners report their clinical experiences over the long term, to evaluate the value of the training in the clinical practice of medicine

Proposal Educational System; 3 C



Education for Medical Students

Bright Knife メスよ、輝け

「メスよ輝け」は、1989年から4年半、ビジネスジャンプ(集英社)で掲載された、高山路爛原作、やまだ哲太画の医療漫画のタイトル。

Contents

Laparotomy How to use surgical materials



Observation

- Gastrectomy
- Observation
- Suture 1. Hand
 2. Staple



Manage for organ injury

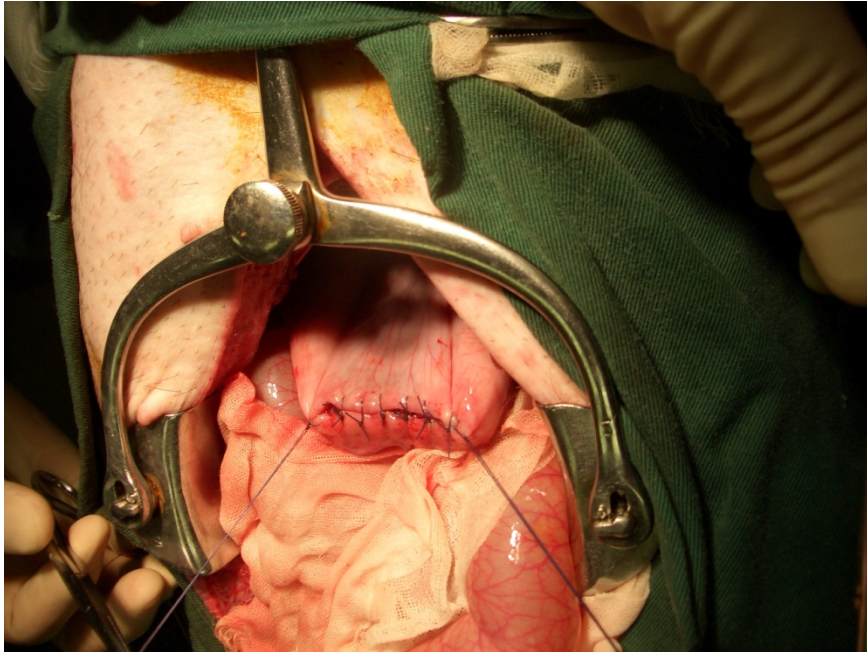
- Splenectomy



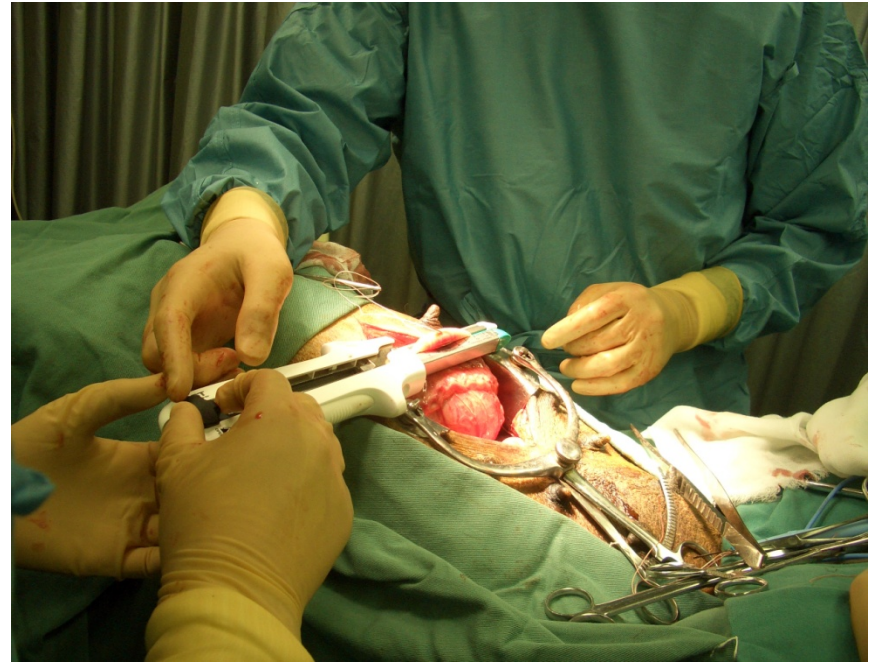
Close the abdomen



Scientific Competency



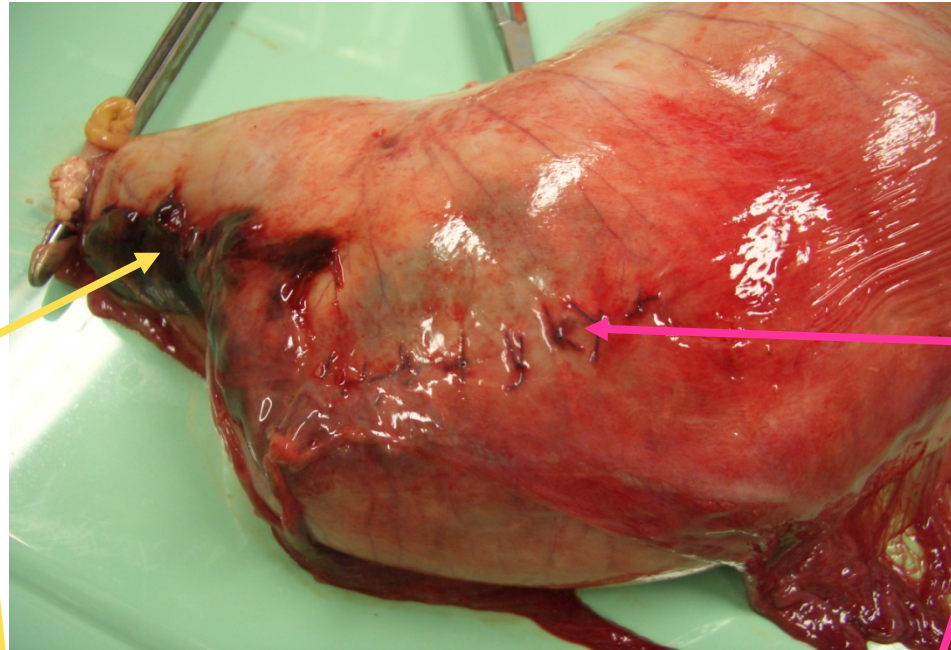
Albert-Lembert Suture



Anastomosis by GI stapler

Morphological Evaluation

-Hand Swen vs Stapled Anastomosis-



Auto-Suture

Hand-Suture



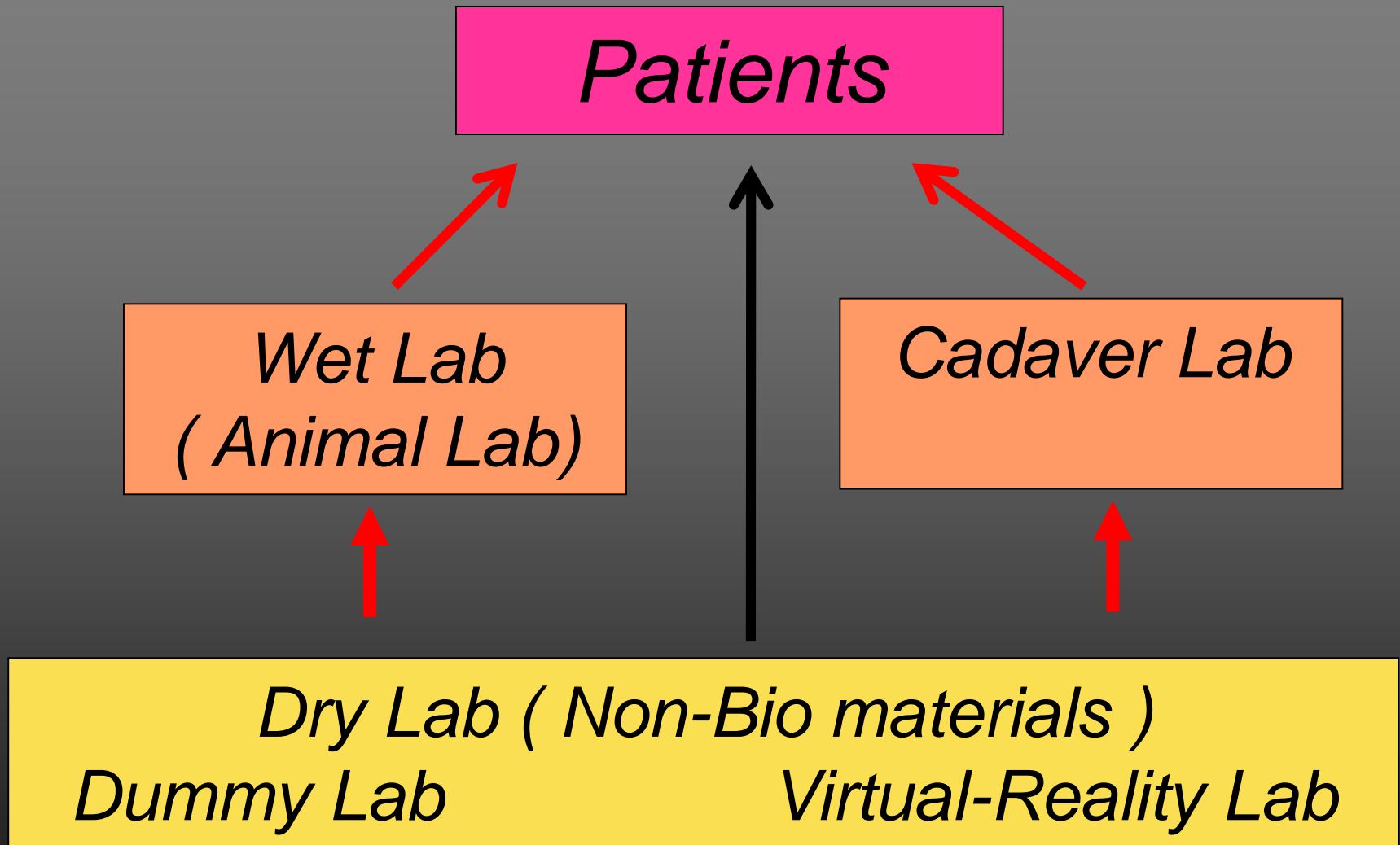
Required time for the suture of porcine stomach

Method	Minutes (Mean + / - SE) (range of required time)
Hand-Swen Anas	66 + / 10.0* (50-105)
Stapled Anas (GIA)	14 + / - 4.5* (3-27)

*:Values with different superscripts are significantly different (P<0.01).

(Tanaka H & Kobayashi E 2006)

Practical Approach for Education



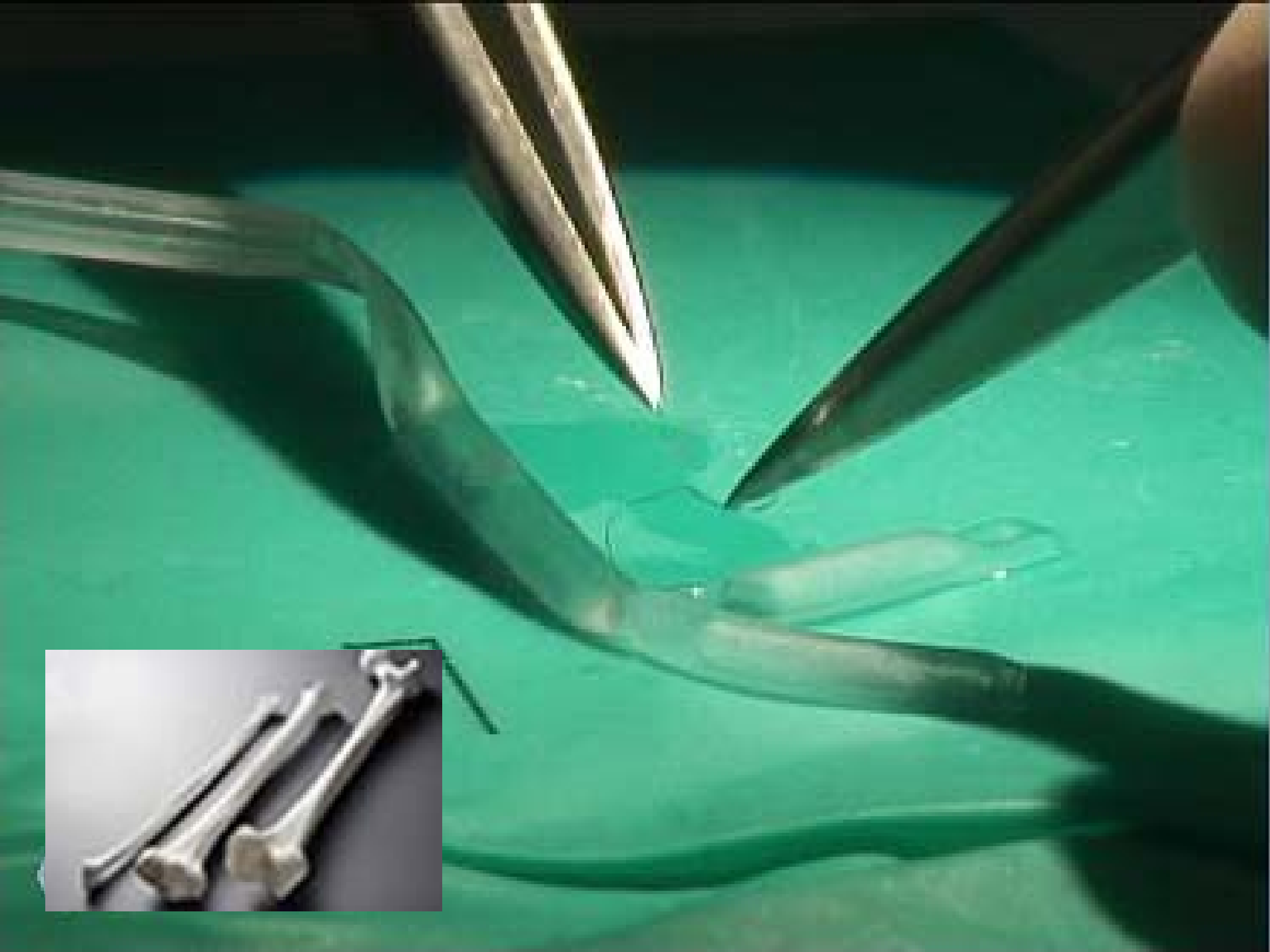
(E Kobayashi 2014)

3 R Approach

動物福祉の観点から

Replacement

実験動物を使わない方法を
駆使する



Education for Tube Insertion

by use of the scarified pigs



DAY 1



DAY 2

Survey Before (Q1)



Lecture (Show Video)

N = 30



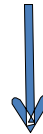
Divide into Randomized 2 Groups

Group A

N = 15



Mannequin
Simulation



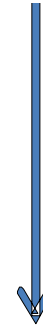
Live Animal Training Work Shop



Survey After (Q2 or Q3)

Group B

N = 15



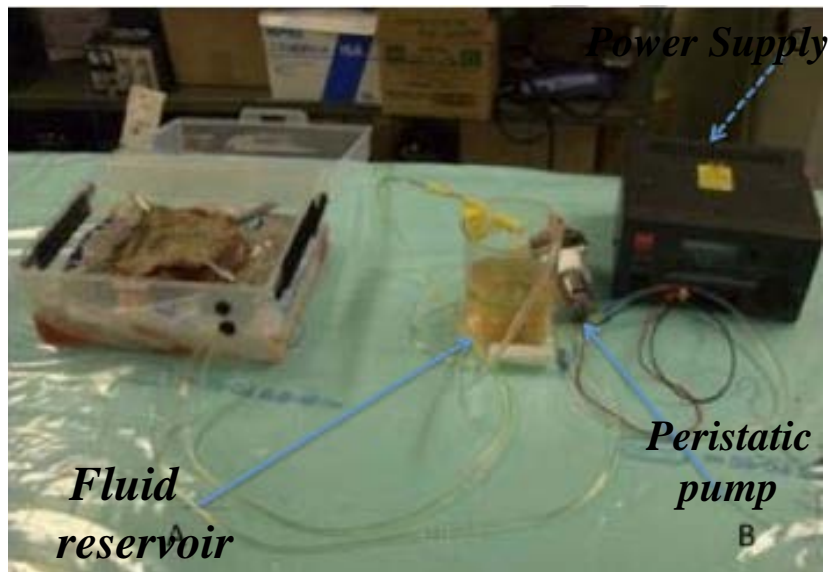
Evaluation
(OSCE Method)

(Hishikawa S, et al Am Surg 2009)

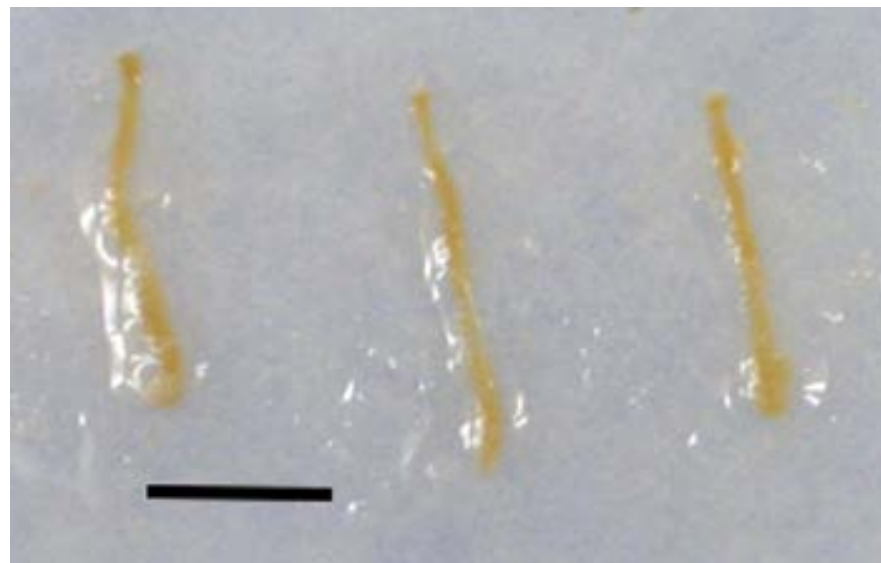
Reduction

実験動物の数を減らす
有効利用をする

The cryopreserved kidney is perfused by a peristaltic pump after thawing and contained entirely in a “Bento” lunchbox



A total 32 trainees participated in the five separate training sessions

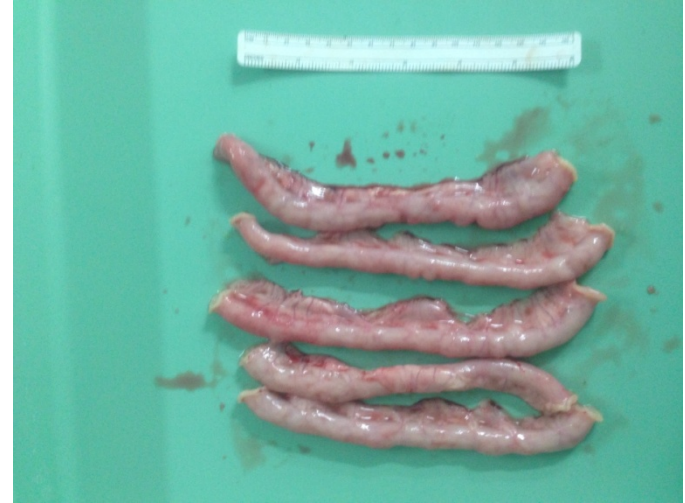


(Konno K, et al. Transplantation Research 2012)

Educational Model by use of the abdominal walls obtained from the scarified experimental pigs

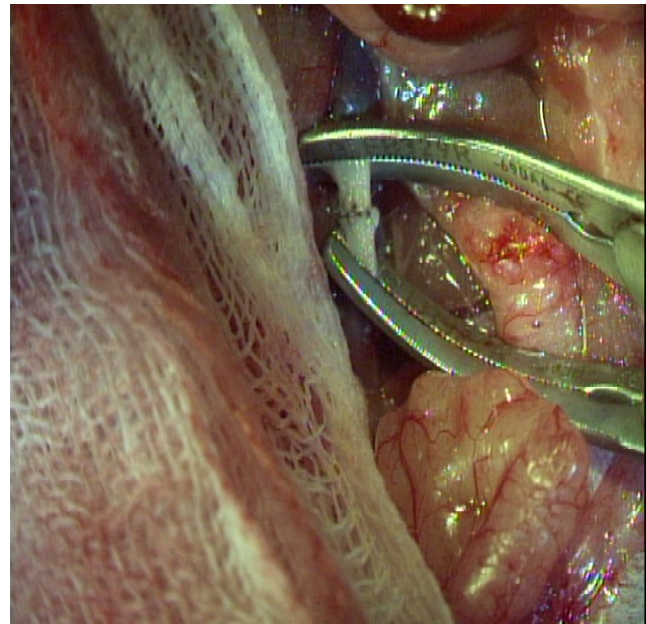
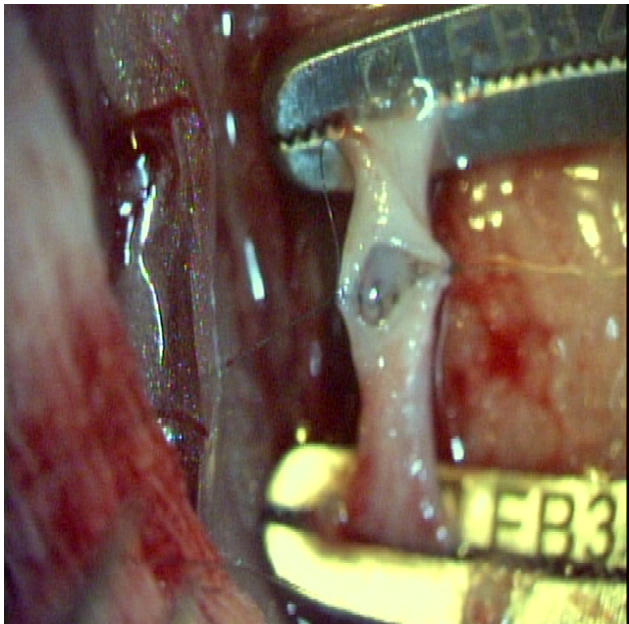
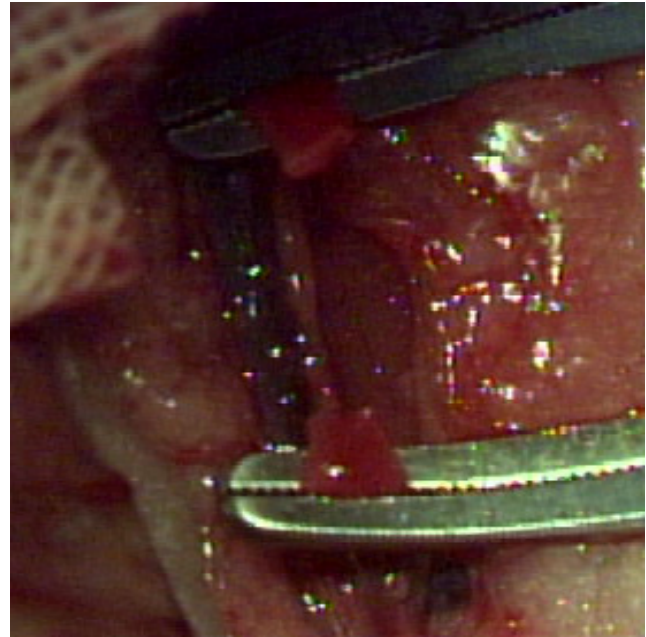
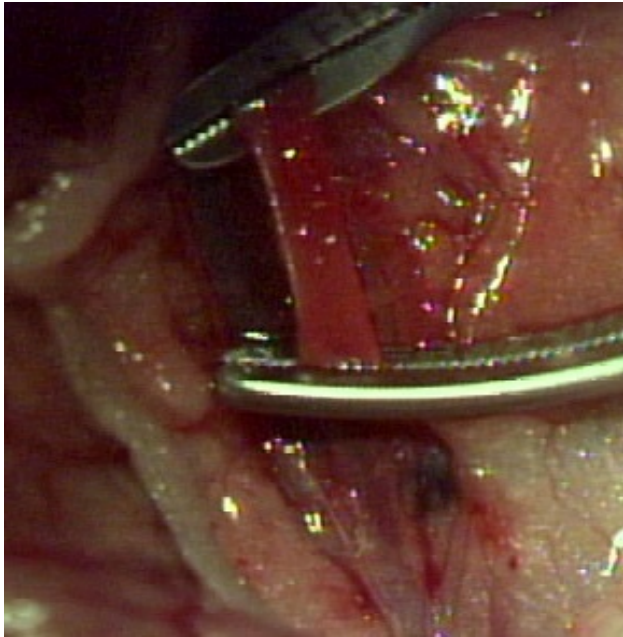


Educational Model by use of the intestine obtained from the scarified experimental pigs

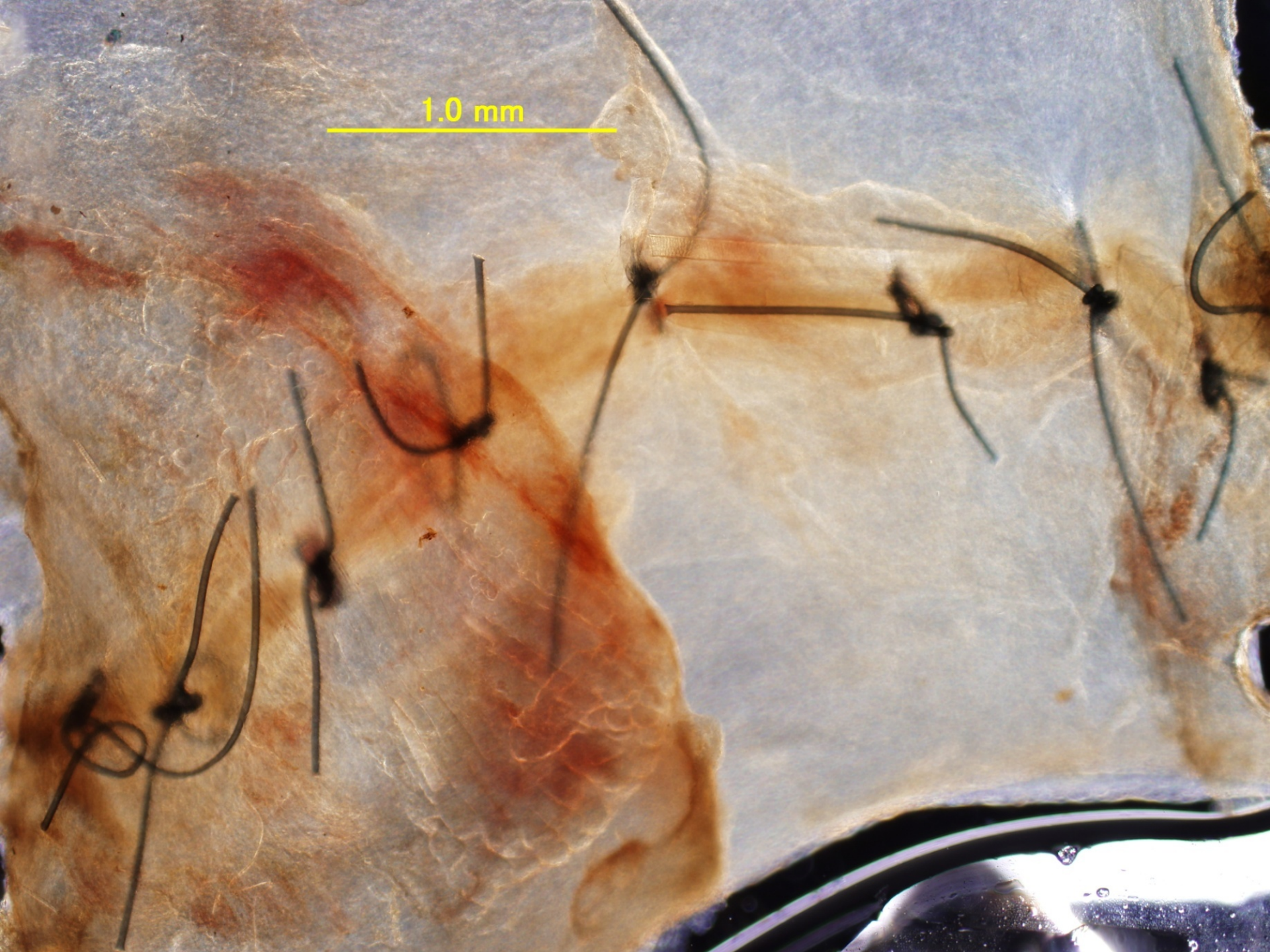


Refinement

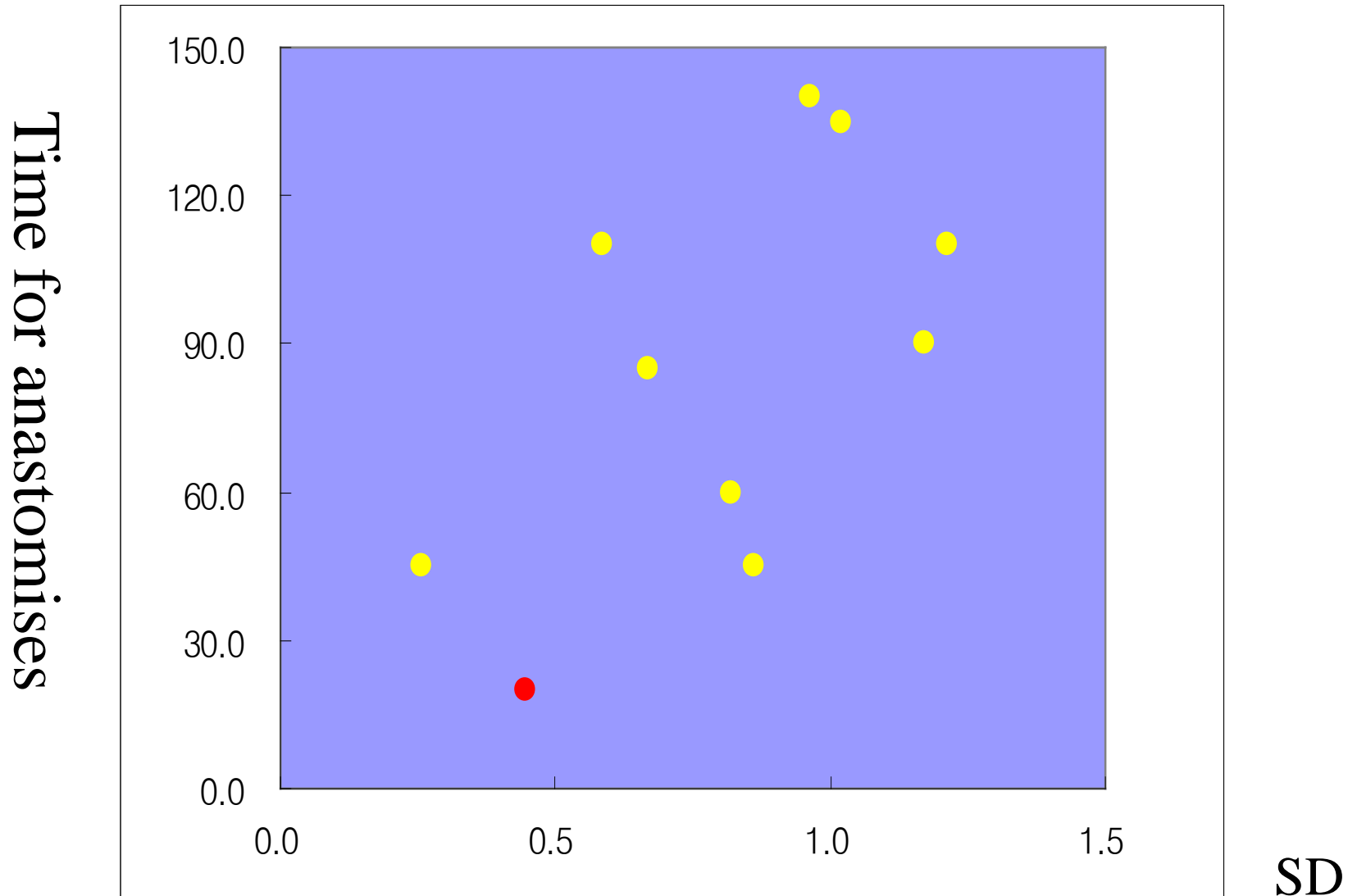
手術プロトコールを洗練する



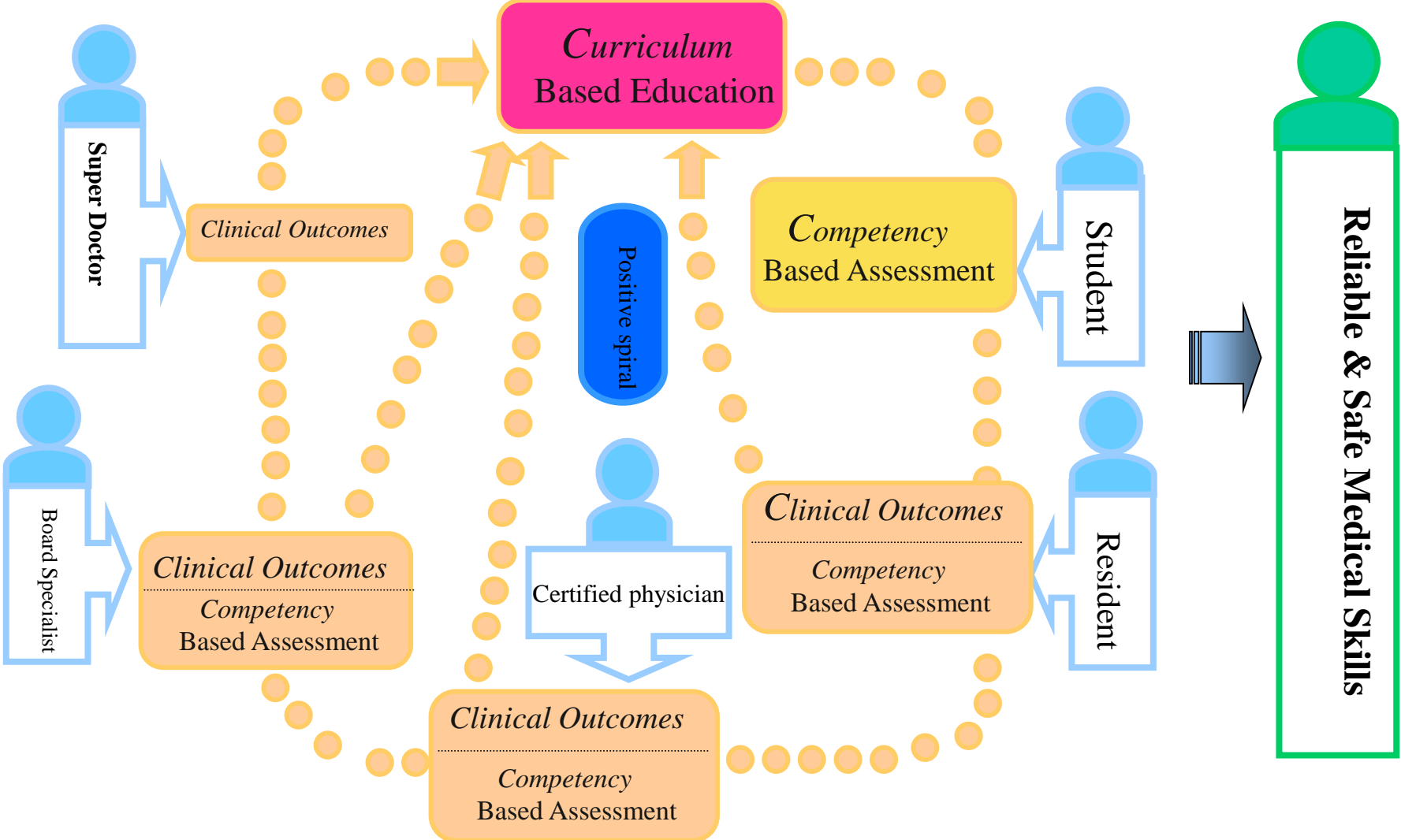
1.0 mm

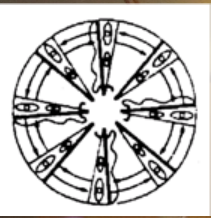


Competency for the stitched site



Proposal Educational System; 3 C





See you in Tianjin, China 2016



Thank you for supporting ISEM 2014



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PROF. EIJI KOBAYASHI

10th President of the ISEM
Project Professor of Department of Organ Fabrication,
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May 19, 2014

Dear Professor Kobayashi,

The Japanese contribution has been always determinant and highly important in our beloved Society, the ISEM.

I cordially greet Prof. Nozawa, Prof. Kajimoto, Prof. Ito, Prof. Kobayashi, Prof. Uemoto and your colleagues! The Congress in Kyoto was a wonderful and unforgettable event. Thank you very much for the great organization!

And again, I would like to express a heartfelt welcome toward the new councillors from Japan: Dr. Fujimoto and Dr. Nakao.

I would like to address this message to the Participants of the Meeting on 21 May, 2014.

National Chapters has a grandiose importance within the ISEM. Like many arms, joining hands – reflecting also the symbolic logo of our Society. National Chapters and laboratories contributed a lot to the international world of microsurgery both in clinical and experimental fields. Not only MDs, but experts of DVM, and BSc/MSc in biological sciences are also cordially welcomed! Because in this multidisciplinary society we are a big family, but the common denominator is the *microsurgery*, the high-standard microsurgical techniques. The benefit of these techniques has been shared with the veterinary medicine (clinical and experimental) and zoobiological research too, that should be enforced further.

Thus, the trainings also for veterinary surgeons is highly important, using Prof. Kobayashi's 'positive spiral' 3-C education system. I cordially greet the initiative act, the East Japanese Chapter of the ISEM –co-organized by Dr. Hiroshi Ishi– being open also for veterinary surgeons. I encourage all the participants to actively join our Society, and feel its multidisciplinary attitude and enjoy its scientific contacts.

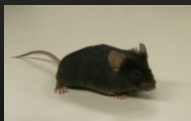
Wishing you very good work, successful courses and wonderful, inspiration-full microsurgical activities!

Hope to see you during the forthcoming congresses of the ISEM in 2016 (Tianjin, China) and in 2018 (Budapest, Hungary)!

Sincerely yours,

Norbert Nemeth M.D., Ph.D.
president of the ISEM
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Why we can not contribute companion animals , while we killed experimental animals ?



(Kobayashi E 2009)

A Proposal Concept of Two Way Approach

Human Trail

Veterinary Medicine



Classical Way

A Proposal Way

(Kobayashi E 2009)



Frankensyein's Monster
(1 8 1 8 The first edition)



Mary Shelly (1797-1851、 UK)



De viribus electricitatis in motu musculari commentarius
(筋肉の運動による電気力について)'(1771)



Luigi Galvani (1737-98、 Italy)



Frankenweenie
(1984, 2012)

Tim Burton (1958- 、 USA)



Japanese Chapter of ISEM (The East Branch)

•*Monthly One Day Training*

We will use dry lab models in basic skills. Ten meeting will be opened while we help to progress the skills of competent participants.

•By more than 80% of attendance in every year, the young veterinary surgeons will receive *the certificate for a year*.

•Recommendation to be a *member for ISEM*

We encourage that young veterinary surgeons will present their works in ISEM 2016 in China.

•This is *volunteer work*. We would like to donate some money for *Shelter Animals*.

(Ishii & Kobayashi 2014)