

## Product Supervision

Prof. Hashizume, Center for Advanced Medical Innovation Kyushu University



### "Real" and "Objective" assessment develops skills for first class surgeons.

Laparoscopic Suture Simulator evaluates skills in laparoscopic intestinal suture, as well as simple skin suture and forceps training. This simulator also provides true to life experience by using real clinical devices. And also life-like softness and anatomy of the intestinal wall and dermis.

### Features

1. Innovative assessment criteria and quantitative measurement provide objective feedback for trainers.
2. Trainees' personal skills assessment data can be saved for reviewing and analysis.
3. True-to-life simulated tissue that provides convincing hands-on experiences.
4. Real clinical instruments can be used.
5. A variety of training options
6. All in one unit is convenient for training

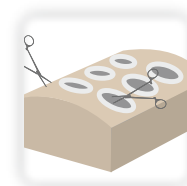
### Training Skills

- Laparoscopic intestinal suture
- Skin suture under direct vision
- Handling of laparoscopic instruments

## Product Supervision

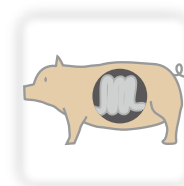
Prof. Hashizume, Center for Advanced Medical Innovation Kyushu University

### Integrating Advantages of Different Training Models



Box Trainers

- ✓ Easy to use
- ✗ Simple task only



Wet Lab

- ✓ Realistic
- ✗ Hard to set and clean up



VR Simulators

- ✓ Objective skill assessment
- ✗ No realistic sense



### Laparoscopic Suture Simulator - assessment system-

- ✓ Easy to use
- ✓ Realistic tissue response
- ✓ Objective feedback



## Laparoscopic Intestinal Tract Suture

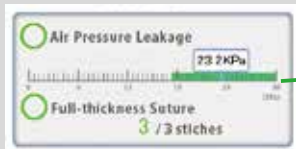
Use forceps to start training in suture skills. Trainees' skills can be assessed in 5 criteria.

### Assessment Criteria

5 assessment criteria give feed-backs are given in two levels:

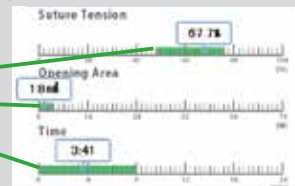
#### ● Successfulness:

Higher possibility of leak-free suturing



#### ● Skills level:

Lower negative impact on patients



**Acceptable Range**

#### 1 Is the wound sutured without a leak?

Air leak from the sutured area can be checked by applying air pressure on the intestinal tract sheet.

#### 2 Is suture completed through muscular layer to mucosal layer?

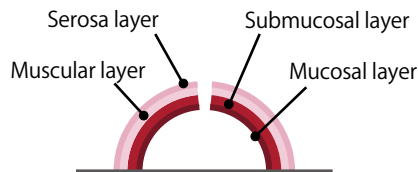
#### 3 Is ligature appropriate for suture?

#### 4 How much open area is there in mucosal layer?

#### 5 How long does it take for suturing procedure?

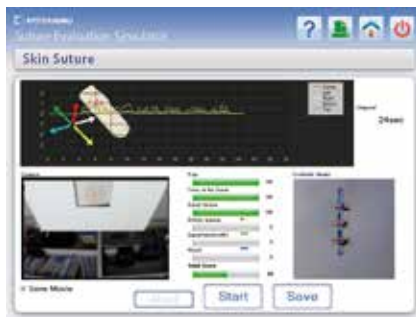
### Life-like Intestinal Tract

Intestinal tract has four layers with respective characteristics. When holding with forceps and suturing, these four layers react like tissue.



## Evaluation on Skin Suture under Direct Vision

Simple interrupted skin suturing can be assessed quantitatively by validated criteria. Objective evaluation score encourages trainees to hone their skills.



## Laparoscopic Forceps Training

Forceps Training mode enables dry box training for handling of laparoscopic instruments.



\* Laparoscopic instruments and training pad or games are not supplied with the set.

### Assessment Criteria

#### 1. Force and tension

- Time
- Force on tissue
- Suture tension



#### 2. Image analysis

- Spacing of stitches
- Width of stitches
- Wound dehiscence

### Specifications :

Set Includes:			Manikin Size:
1 monitor	1 torso body	30 pieces of suturing sheet (intestinal tract)	W50 x D110 x H160 cm
1 touch-monitor	1 unit base		93 kg
1 video camera for assessment (intestinal tract suture)	1 printer	30 pieces suturing sheet (skin)	Power:
1 video camera for assessment (skin suture)	1 key board		AC100-240V, 50/60 Hz
1 video camera for procedure recording	1 set of trocar		Power Consumption:
	1 container		180 VA
	1 instruction manual		

\* Forceps are not included.