



# Laparoscopic Suture Simulator -Assessment System-

## Real and objective assessment to develop first class surgeons

Laparoscopic Suture Simulator evaluates skills in laparoscopic intestinal suture, as well as simple skin suture and forceps training. Simulate true-to-life scenarios by using real clinical devices, lifelike softness and anatomy of the intestinal wall and dermis.

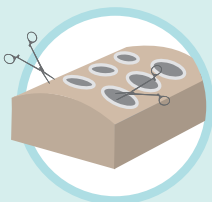


### FEATURES

- 1 | Innovative assessment criteria provide quantitative and objective feedback
- 2 | Individual assessment data can be saved for reviewing and analysis
- 3 | True-to-life simulated tissue that provides convincing hands-on experiences.
- 4 | Actual clinical instruments can be used.
- 5 | A variety of training options
- 6 | Convenient all-in-one unit

### SKILLS

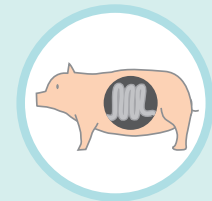
- | Laparoscopic intestinal suture
- | Skin suture under direct vision
- | Handling of laparoscopic instruments



#### Box trainer only

**Disadvantage** Limited to simple tasks

**Advantage** Easy to use



#### Wet-lab

**Disadvantage** Hard to set & clean up, concerns in ethical issues

**Advantage** Realistic



#### Virtual reality simulators

**Disadvantage** Lack of realistic feel

**Advantage** Objective skills assessment

### Integrating Advantages of Different Training Methods

- 1 | Easy to use
- 2 | Realistic tissue response
- 3 | Objective feedback

## Laparoscopic Intestinal Tract Suture

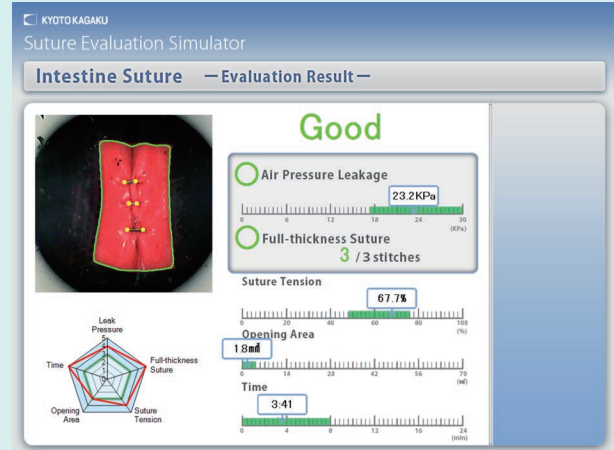
### 1 | Quantitative Feedback combined with Realistic Hands-on Experience

#### Judging success or failure

- 1 Is the wound sutured without a leak?
- 2 Is suture completed through muscular layer to mucosal layer?
- 3 Is ligature appropriate for suture?
- 4 How much open area is there in the mucosal layer?
- 5 How long does the suturing procedure take?

The system utilizes five criteria to evaluate laparoscopic suturing skills.

Each criteria has an "acceptable" range based on expert surgeons to help improve performance.



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

\* Uemura M et al. Surg Endosc. 2014. PMID: 25005015 / DOI: 10.1007/s00464-014-3681-9

### 2 | Lifelike Intestinal Tract

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



### Laparoscopic Forceps Training

Evaluate simple interrupted skin suturing via quantitative assessment criteria. The objective evaluation encourages honing of skills.

Forceps Training mode enables dry box training to handle laparoscopic instruments.



#### DESCRIPTIONS

##### SPECIFICATIONS

Size: W50 x D110 x H160 cm Weight: 93 kg/205lbs Power: AC100-240V, 50/60 Hz  
W19.7 x D43.3 x H63 inch Power Consumption: 180 VA

##### MATERIALS

Soft resin  
Latex free

##### RECOMMENDED DEVICES

Forceps are not included.

##### SET INCLUDES

1 monitor	1 video camera for procedure recording
1 touch-monitor	1 torso body
1 video camera for assessment (intestinal tract suture)	1 unit base
1 video camera for assessment (skin suture)	1 printer
	1 key board

1 set of trocar
1 container
1 instruction manual
30 suturing sheets (intestinal tract)
40 sheets of simulated skin

##### REPLACEMENT PARTS

11395-010	30 suturing sheets (intestinal tract)
11230-010	40 sheets of simulated skin