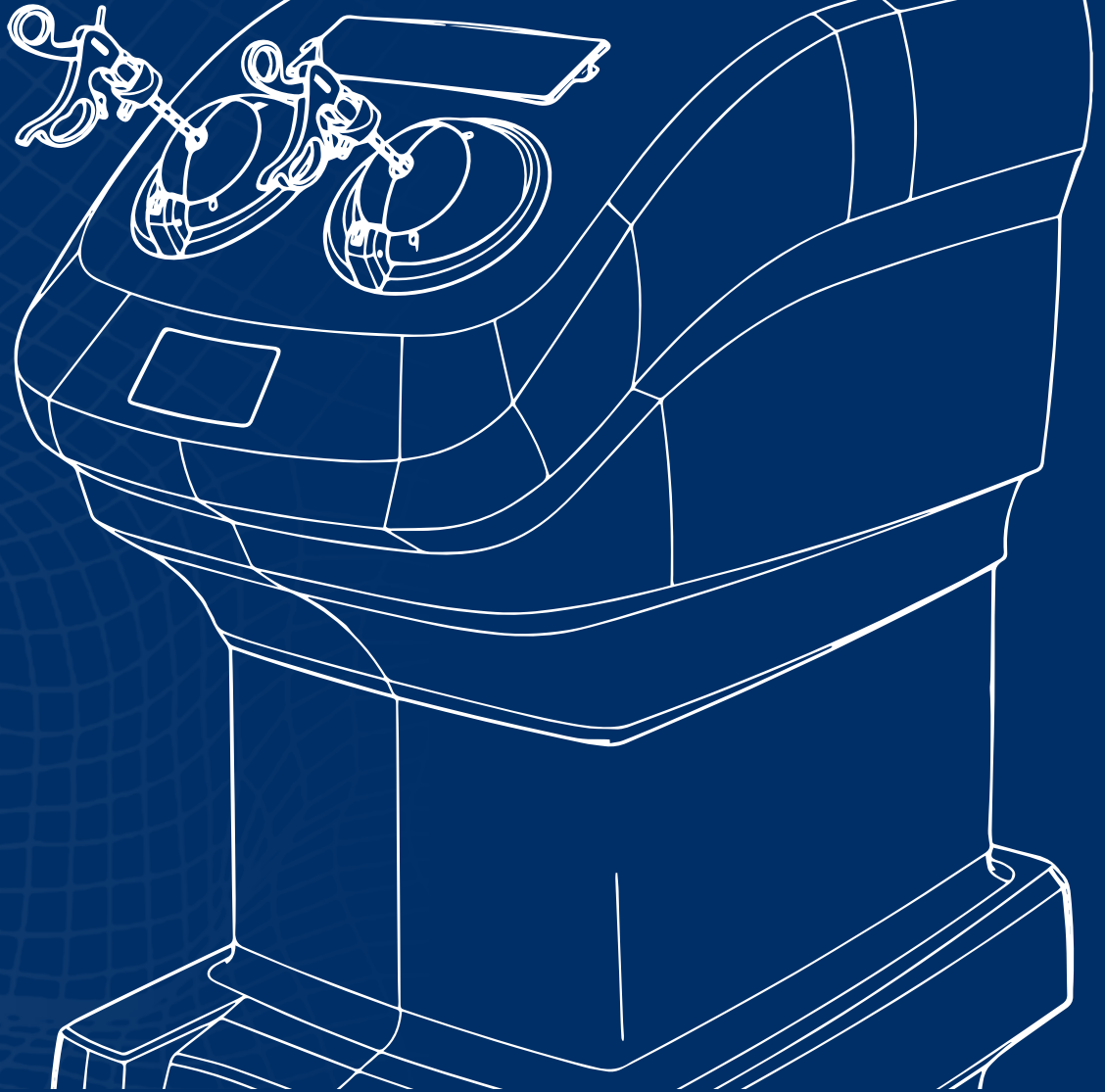
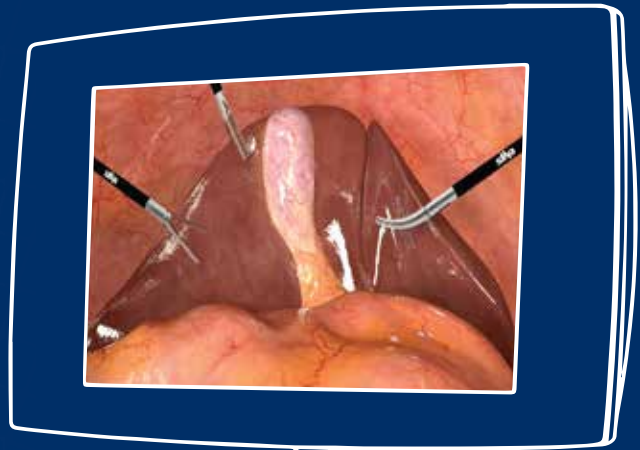




SinaSimlap

Laparoscopic Surgery Simulator



Ultra-realistic Simulation

Continuous Training

No Consumable Cost



About SinaSim_{lap}

SinaSim_{lap} is a combination of computer hardware, mechanical user interface and software modules which simulates the procedures and environment of Laparoscopic Surgeries, based on Virtual-Reality environment. This system not only greatly reduces the consumable cost of training, but also will ensure maximum efficiency in learning Laparoscopic surgery techniques.

SinaSim_{lap} Includes of tens of essential trainings to teach the basic Laparoscopic surgery skills to the Trainees. These skills include camera navigations, 2D and 3D path navigations, cone placement, peg placement, object manipulation, sorting and different instruments applications.

SinaSim_{lap} also includes trainings of advanced Laparoscopic surgeries such as Cholecystectomy, Appendectomy, Hysterectomy, Ectopic pregnancy, Dermoid cyst, Lobectomy, etc.



Specifications

SinaSim _{lap}	
Console Type	Ergonomic Stand Posture
Total dimensions (L*W*H-adjustable)	97 x 74 x 168-188 cm ³
Total weight	120 kg
No. of total active DOFs	1 adjustable height
No. of total passive DOFs	12
Communication frequency	200 Hz
Display type	IPS, with eye-care technology
Display resolution	4k (3840 x 2160 pixels)
Workspace of each handle	15x15x15 cm ³
Accuracy of pos./orient.	±1mm / ±0.5 degrees
Resolution of pos./orient.	±0.5mm / ±0.2 degrees



| You may adjust almost everything!

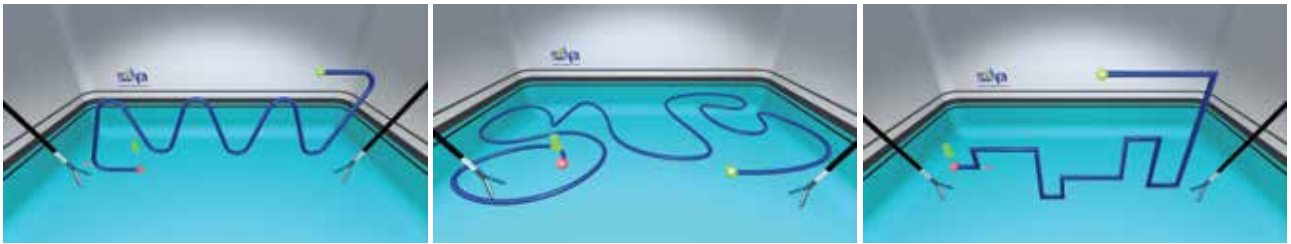
A well-designed workplace combined with a well-designed equipment makes it possible to work and practice in a balanced position without unnecessary strain on the body. Although the actual performance of the operation depends on the surgeon itself, an ergonomic workstation can make the learning process much easier and more comfortable. By designing an almost fully adjustable simulator, many options now sit right on top of your station and using two bottoms you can raise and lower the platform that holds your instruments easily. These features make it simple to practice surgery and grasp all the benefits of working with a simulator.



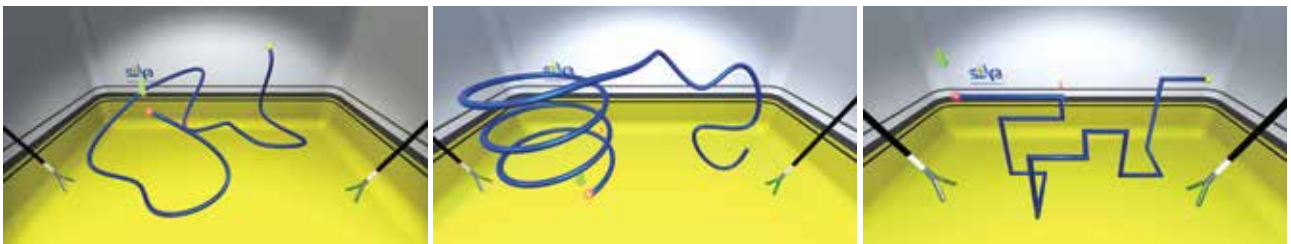
Basic Surgery Skills

In this section, surgeons may improve their 3D hand-eye coordination and handling skills through a 2D Laparoscopic view during the different sets of tasks and levels:

2D Navigation Practice



3D Navigation Practice



Object Manipulation



■ Sorting Objects

■ Pegs Placement

■ Object Orientation

Surgical Skills:

- Electrosurgery Skills
- Camera Navigation
- Grabbing, Cutting, Clipping

Surgical Instruments Variety:

All Simulations can be done with most common and standard tool tips:



Maryland



Scissor



Hook



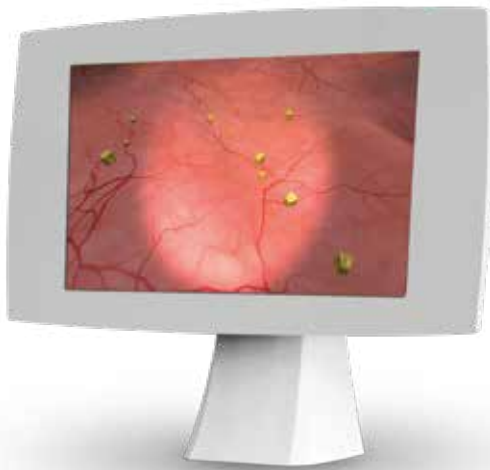
Needle Holder



Grasper



Clip Applicator



Operation Modules:

Users can master essential elements of full surgical procedures and experience the true realities of a surgery while working in an ultra-realistic simulated anatomy and experiencing complete surgical steps.



Cholecystectomy:

- Elevating the Gallbladder
- Clipping the Cystic duct and Artery
- Dissection of the Hepatocystic triangle
- Dissection and freeing of Gallbladder
- Removing the Gallbladder



Ectopic Pregnancy:

- Salpingectomy
- Tubal occlusion by cutting the Fallopian tubes
- Extracting an ectopic pregnancy from a Fallopian tube
- Myoma suturing in deformable tissue



Hysterectomy:

- Transecting the round ligaments
- Right and left Uterine artery dissection
- Vaginal cuff opening
- Retroperitoneal dissection
- Removal of Uterus
- Suturing to remove the Uterus



Appendectomy:

- Dissecting the Appendix Adherence & Mesentery
- Shrinking and clipping the Loop
- Cutting and removing the Appendix

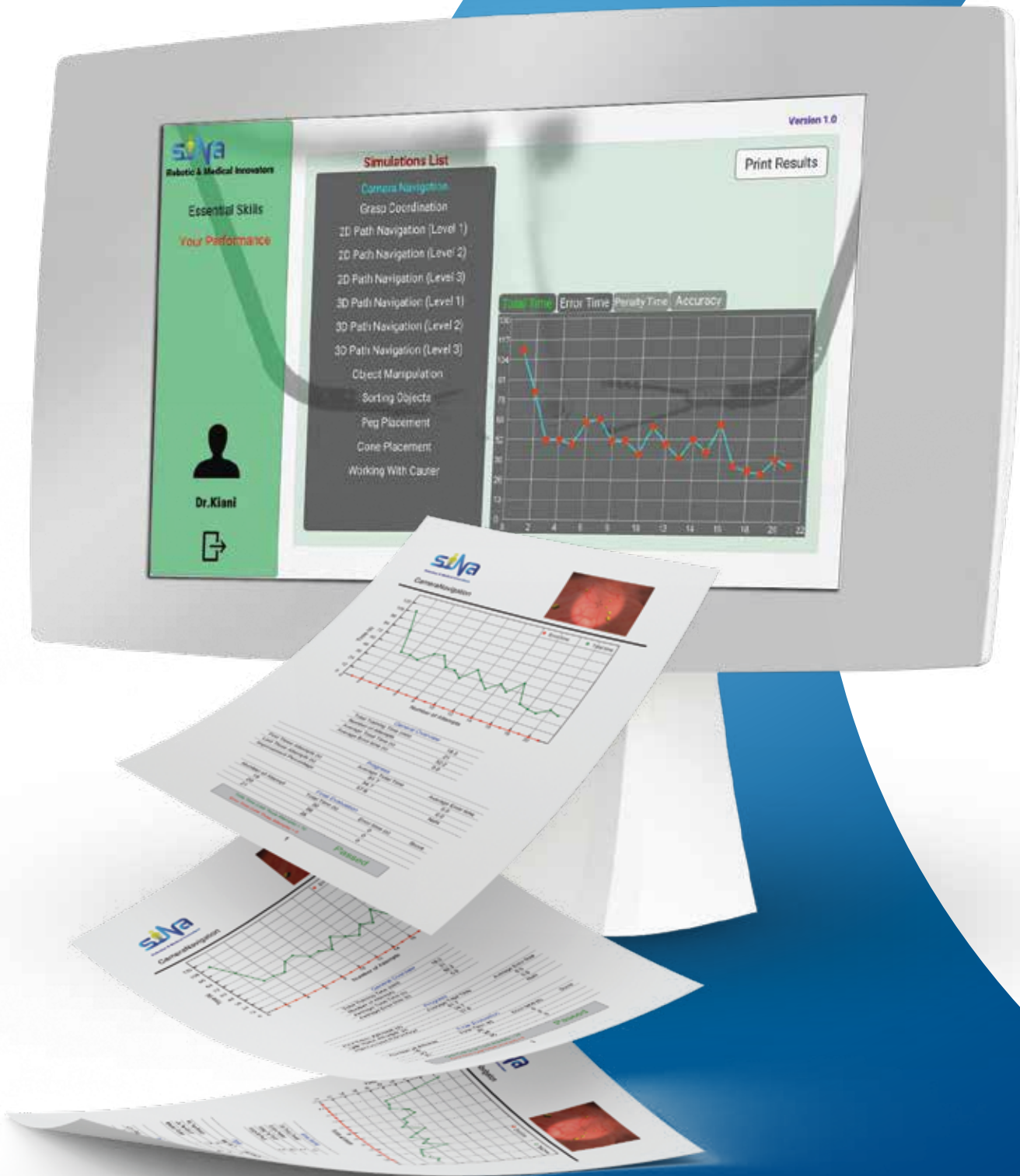


Dermoid Cyst:

- Cutting and removing the Cyst

Training Progress Report:

Using **SinaSim^{lap}**, users can observe and monitor their progress during their training courses through the provided progress report panel. Users' progress reports are recorded and each user can only observe his/her own results, while the supervisors can access to all users' records.





Robotics & Medical Innovators

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