

**LAP Mentor™**

# Flexible Solutions

Simbionix delivers advanced simulation-based laparoscopic training using state-of-the-art learning tools. The LAP Mentor™ simulators provide cost-effective solutions suitable for various settings. Each platform is fully compatible with all simulation modules from basic laparoscopic tasks and skills and suturing (with interchangeable suturing handles), to complete procedure training; The LAP Mentor™ delivery platform intelligently enables the addition of new modules.



## LAP Mentor™

The LAP Mentor™ robust simulator is of advanced ergonomic design. A tactile experience of tissue resistance feedback via the surgical tools provides a true-to-life feel of performing laparoscopic surgery.



## LAP Mentor™ Express

LAP Mentor™ Express desktop platform is a non-haptic laparoscopic training system provided at minimum cost.

## REALISTIC HANDS-ON TRAINING FOR LAPAROSCOPIC SURGERY

LAP Mentor™ is specifically designed to provide comprehensive training in the field of laparoscopic surgery to new or experienced surgeons across disciplines. Training with cutting-edge technology provides the advantage of a unique and valuable training tool for realistic hands-on training that mimics the look and feel of an actual surgical procedure.

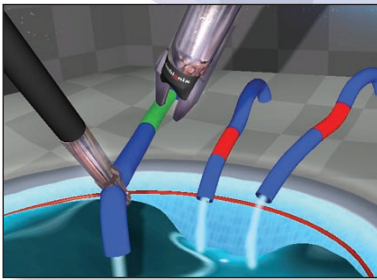
## AN EVER-EXPANDING LIBRARY OF MODULES

The LAP Mentor multi-disciplinary surgery simulator has been developed in close collaboration with the medical community to provide a meaningful and valuable training solution. The comprehensive library of modules provides a curriculum for the training of specific basic laparoscopic **tasks and skills modules** alongside basic and advanced **complete procedure modules**.

Unique state-of-the-art technology enables high fidelity procedure simulation for learners to experience a range of complex laparoscopic procedures in a safe environment. Providing the highest level of hands-on training, the LAP Mentor platforms are available with or without tactile experience when using the surgical tools for enhancing true-to-life feel of tissue resistance during surgery simulation.

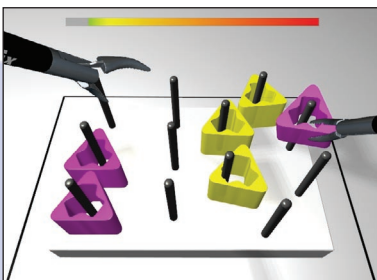
Laparoscopic procedure training add-on modules are continuously being developed in pace with on-going surgical advances, to provide the most value possible for the LAP Mentor system.

### TASKS AND SKILLS MODULES:



#### Laparoscopic Basic Skills

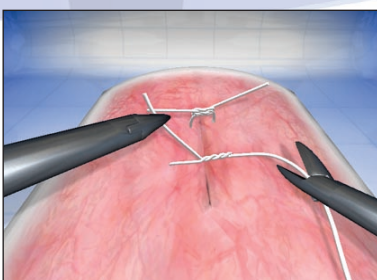
Enables the trainee to acquire basic-level skills essential to building confidence and ease with laparoscopic techniques. Exercises in a non-anatomic setting provide a relaxed environment outside of the operating room for both individuals and teams, aimed at improving orientation, eye hand coordination and manual skills.



#### Essential Tasks

Provides practice on three essential tasks, including peg transfer, pattern cutting and placement of ligating loop, similar to the Fundamentals of Laparoscopic Surgery Program (FLS) developed by SAGES. The module enables implementing a training curriculum for the tasks, while heavily relying on self practice and optimizing proctor time.

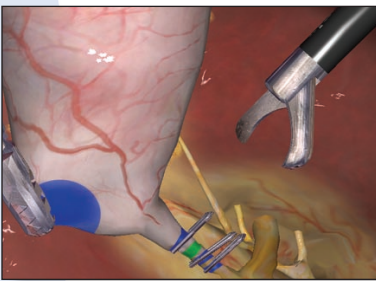
Breakthrough virtual reality technology provides an efficient and enjoyable environment to practice the tasks repetitively and independently until reaching the desired proficiency level.



#### Suturing

Two unique and realistic modules designed to train until proficient at intracorporeal suturing and knotting techniques for all fields of laparoscopic surgery, including suturing basic skills, such as needle loading, needle insertion, knot tying, interrupted suture and continuous suture. The advanced tasks include practicing 'backhand' technique, and suturing in difficult suture line angles as encountered in procedures.

All tasks are illustrated by instructional videos that greatly enhance the training process. Real suturing handles enable realistic training.

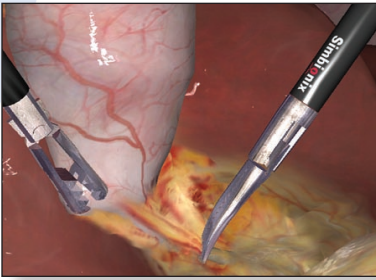


### Procedural Tasks - Lap Chole

A didactic step-by-step tutorial of the Lap Chole procedure. Each task focuses on one critical step of the procedure: Achieving the critical view of the cystic duct and artery, safe clipping and cutting and dissection of the gallbladder from the liver bed. Instructions on safe procedure performance are applied to the anatomical setting.

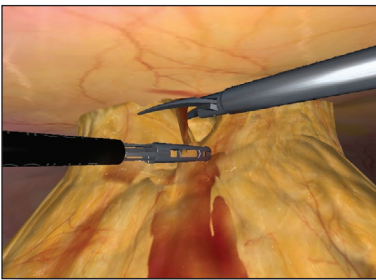
This module helps surgeons identify the visual cues associated with traction/counter-traction of tissue as well as identifying areas requiring additional practice.

## COMPLETE PROCEDURE MODULES:



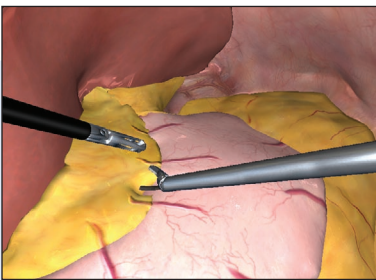
### Lap Chole

The realistic Lap Chole procedure simulation resembles a true-to life experience, enhanced even more by tactile feedback. The module provides patient cases of easy to difficult anatomical variations to the cystic duct and positions of arteries, which may otherwise not be experienced during a training period. The module enables free-style training using different techniques, alternative approaches, and acquisition of the skills and knowledge necessary to safely cope with possible complications.



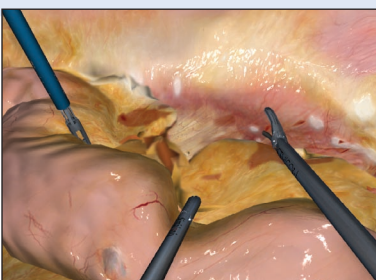
### Incisional Hernia

Provides surgeons with true-to-life experience of laparoscopic incisional hernia repair in a controlled and safe environment. Trainees gain an in-depth understanding of abdominal anatomy, skills for carefully separating the adhesion to expose the hernia defect, appreciation of potential complications, and practice safe use of prosthetic mesh and devices used to fixate, suture and staple the mesh.



### Bariatric - Gastric Bypass

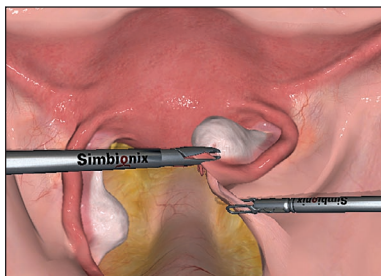
Provides surgeons with the opportunity to perform advanced tasks including creation of the gastric pouch, measurement and division of the jejunum, gastrojejunal anastomosis and enteroenterostomy anastomosis. Trainees practice the technical aspects of laparoscopic Roux-en Y creation and jejunojejunostomy, and gain an in-depth understanding of intra-operative problems during lap bypass surgery and how to avoid them. Familiarity with instruments is gained by experience with a variety of procedure specific surgical instruments, while instructional movies enhance knowledge of the procedure.



### Colorectal - Sigmoidectomy

The module provides an environment in which to perform a wide range of tasks before encountering them in the operating room: from vessel isolation through creation of the anastomosis. Trainees learn to determine the best approach to the procedure, practicing real-time clinical decision-making and working safely to prevent complications and respond to injuries.

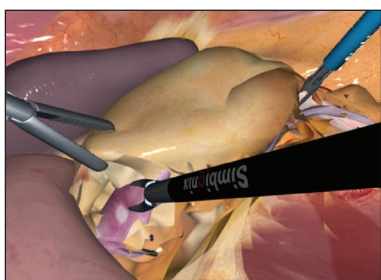
An anatomical 3D map, on-demand real-life videos, procedural instructions and trocar placements complete this exceptional training module.



## Gynecology

Enhances knowledge and provides the opportunity to practice fundamental GYN procedures: Laparoscopic tubal sterilization, salpingostomy, salpingectomy and salpingo-oophorectomy.

Trainees encounter a range of patient pathologies and gain experience with various techniques and surgical instruments. Included in this module is a variety of complications and emergency situations such as bleeding at the implantation site, a ruptured fallopian tube and a blood-filled abdominal cavity.



## Urology - Nephrectomy

Simulates the important challenges of the laparoscopic procedure, including colon mobilization, exposure and dissection of the renal hilum and mobilization of the upper pole. Trainees encounter various left and right anatomical variations and make the decision to spare or remove the adrenal. The module is complete with educational aids such as procedural instructions and real-life videos, trocar placements and performance reports.

## Educational Content

Didactic features and educational aids are developed in collaboration with medical educators, including 3D maps, procedural instructions, videos of real-life procedures, trocar configurations and much more.

## Technical Skills Reporting and Assessment

Performance reports provide feedback to both the learner and the educator in order to assess skill level and training success. Metric categories include: Time and economy of movements, safety and electrosurgical dissection, procedural errors and more.

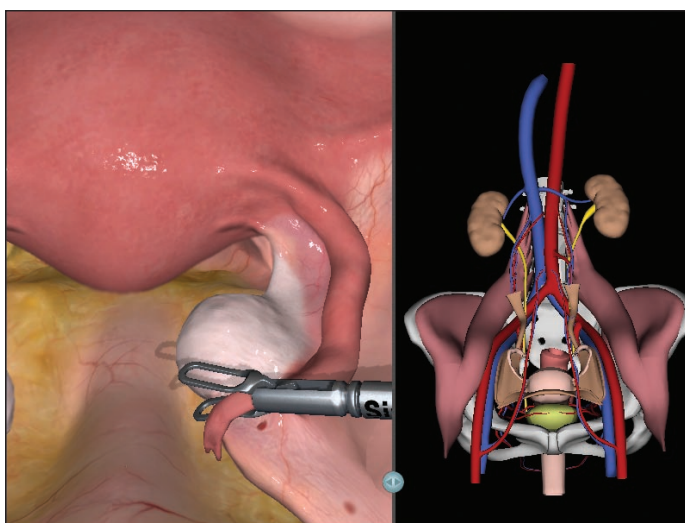
## Training Course Administration

The LAP Mentor™ library of modules enables training modules to be custom-built for learners of all levels and across disciplines. A user and group administration is included for organization of trainees, courses and workshops. Viewing and exporting of performance reports to the learner and educator facilitates learning, research and future certification.

## Evidence of Effective Training

*"The results of this study enable the definition of a competency-based training curriculum for laparoscopic surgery. All tasks have been proven to be construct valid, and learning curve analysis proves that novice surgeons improve their performance with repeated practice on the simulator."* (Darzi et al, MMVR Annual Meeting, 2007)

*"Training on the LAP Mentor procedural simulation is superior to training on basic VR simulators and has been shown to improve performance in the operating room."* (Reznick et al Surgical Education Annual Meeting, 2009)





### Simbionix - To Advance Medical Simulation

Simbionix is the world's leading provider of simulation and training products for medical professionals and the healthcare industry. Founded in 1997, the company is committed to delivering high quality products, advancing clinical performance and optimizing procedural outcomes. Simbionix cooperates with physicians on a regular basis to produce the most reliable and effective training and supporting systems.

### The Simbionix Line of Medical Training Simulators



#### Headquarters:

Simbionix USA Corp.  
7100 Euclid Avenue, Suite 180, Cleveland, OH 44103 USA  
Tel +1-216-229-2040, Fax +1-216-229-2070, Toll-free: 1-866-SIMBIONIX, or +1-866-746-2466  
infousa@simbionix.com

#### Subsidiary:

Simbionix Ltd.  
6 Hamelacha St., Northern Industrial Zone, Lod 71520 Israel  
Tel +972-8-9211177, Fax +972-8-9211188  
info@simbionix.com

#### MED:

1422 Delgany, Suite 101, Denver, CO 80202 USA  
Tel: +1-303-413-0201, Fax: +1-303-413-0251  
www.etrinsic.com

[www.simbionix.com](http://www.simbionix.com)

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