

**surgicalscience**

VIRTUAL TRAINING, REAL SKILLS

**THE EXERCISES MAY BE VIRTUAL,  
BUT THE EXPERIENCE IS REAL.**

**LAPSIM®**



**GOLD  
AWARD  
2015**

# The **LAPSIM®** Advantage.

Better surgical training means safer, more capable surgeons. With clinically proven impact on OR performance, fully customizable curriculum and the industry's highest quality system and service, LapSim® is the unmatched leader in virtual reality laparoscopic training.

## **TARGETED, EFFICIENT TRAINING**

The only VR system with published validation of skill transference to the OR, LapSim® is also the only VR system that offers a fully customizable curriculum, allowing for thousands of unique challenges and increasing levels of difficulty. LapSim® also offers the opportunity to hone in on the critical procedural elements most in need of practice, making the most of valuable training time. The system's unique assessment and performance metrics provide the opportunity for real-time on-screen cues and off-site review.

## **QUALITY & SERVICE**

With LapSim®, you're getting the best technology possible, plus the industry's only true partnership. From day one through the life of the simulator, our simulation specialists will assist in everything from set up, to curriculum customization, to research.

## **ONGOING INNOVATION**

Surgical Science is committed to keeping LapSim® on the leading edge. We are the only company to guarantee annual updates with significant module additions and improvements. These updates are included through our industry leading Upgrade and Service program .

## **THE LAPSIM® HAPTIC SYSTEM**

The LapSim® Haptic System includes a Haptic hardware platform with LapCam, a separate laparoscope; Basic Skills, Task Training and Camera Anatomy Training software modules; all necessary computer and monitor hardware; and a height-adjustable rolling SimFrame to house the system.

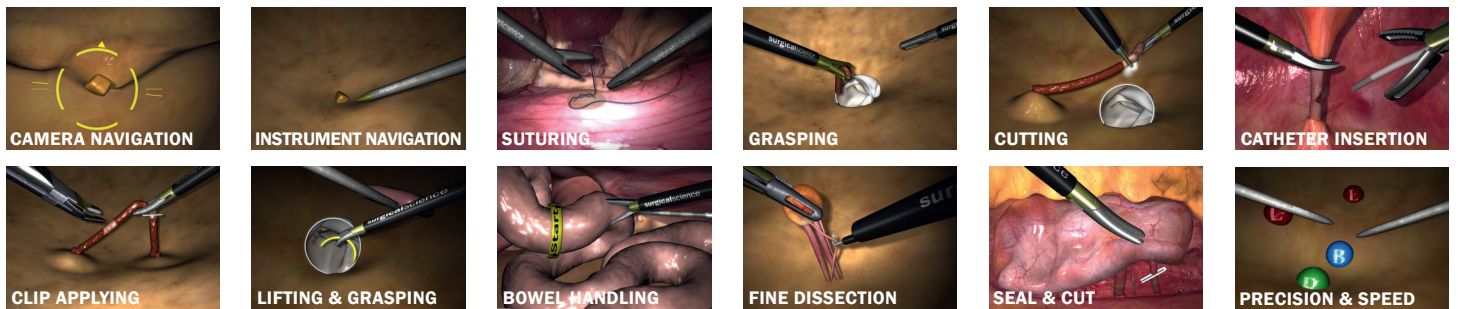


## CUSTOMIZED COURSEWORK. DYNAMIC ASSESSMENT.

High-performance laparoscopic skills come only with repetition. With LapSim®, techniques and complete procedures can be practiced again and again at increasing levels of difficulty, with thousands of new challenges, scenarios and complications to make each experience unique. Each exercise is digitally recorded with detailed metrics, statistics and video debriefing, providing both immediate and long-term skill development feedback.

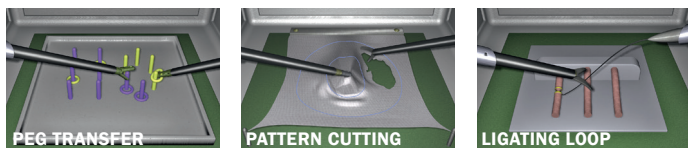
## LAPSIM® CORE SOFTWARE MODULES

### BASIC SKILLS



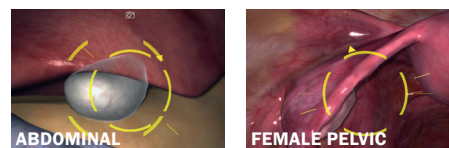
The LapSim® Basic Skills software module includes 13 exercises: Camera Navigation, Instrument Navigation, Coordination, Suturing, Grasping, Cutting, Catheter Insertion, Clip Applying, Lifting & Grasping, Bowel Handling, Fine Dissection, Seal & Cut, Suturing, and Precision & Speed.

### TASK TRAINING



Inspired by guidelines established by SAGES and ideal for FLS skills training, Task Training exercises include Peg Transfer, Pattern Cutting and Ligating Loop.

### CAMERA ANATOMY TRAINING

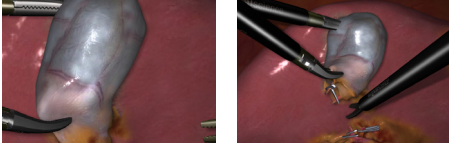


Camera Anatomy Training modules focus on teaching camera handling with straight and angled optics within a virtual anatomy.

The LapSim® suite of validated, fully customizable procedure modules provides a complete training solution for surgeons across multiple disciplines. With clearly defined learning objectives, procedural deconstruction capabilities and endless variations and challenges, LapSim® library of software modules provides surgeons with unparalleled access to skill practice essential to building surgical proficiency.

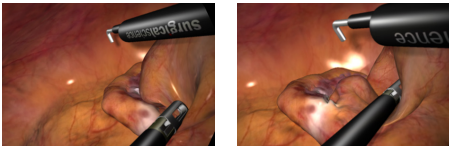
### ADDITIONAL LAPSIM® SOFTWARE MODULES

#### CHOLECYSTECTOMY



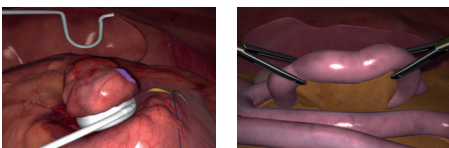
New technology and new procedure. All steps from dissection of the hepatocystic triangle to dissection and freeing of gallbladder from the cystic plate.

#### APPENDECTOMY



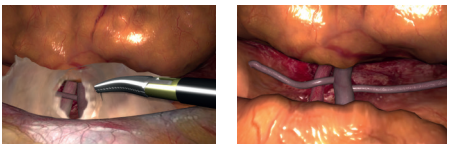
Featuring CaseNetwork®, an integrated cognitive skills trainer for the diagnosis and management, this module simulates various approaches to appendectomy including loop technique, single and dual stapling techniques and optional stapling techniques.

#### BARIATRICS



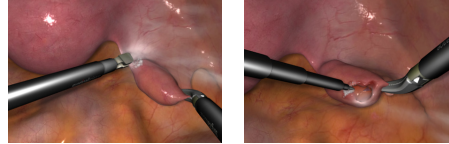
Features procedural deconstruction. Includes simulations of four training tasks: lap-band suturing, jejunal suturing, inspect and measure the bowel.

#### NEPHRECTOMY



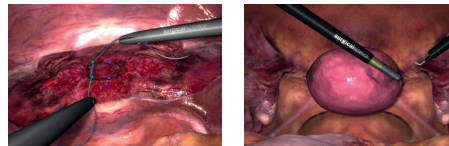
Features procedural deconstruction. Simulates three training tasks, including: kidney dissection, and kidney clipping.

#### GYNECOLOGY - CORE PROCEDURES



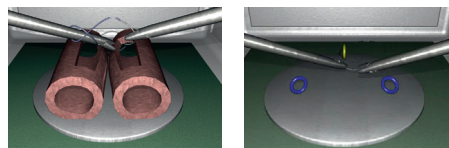
Includes cutting edge simulations of four procedures: Tubal occlusion, Salpingectomy, Salpingostomy and Myoma suturing.

#### HYSTERECTOMY



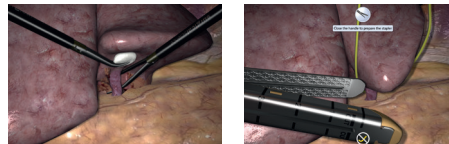
Featuring SimPraxis™, an integrated cognitive skills trainer, this module includes right and left uterine artery dissection, vaginal cuff opening, and suturing of the cuff after removal of the uterus.

#### SUTURING & ANASTOMOSIS



Features a progressively complex, stepwise approach to suturing and knot tying techniques.

#### VIDEO-ASSISTED THORACOSCOPIC SURGERY (VATS) LOBECTOMY



Simulates all key steps of the removal of the upper right lung lobe using a three-port anterior approach. Now also including the Pulmonary Artery structure.

## Proven More Cost-effective than Conventional Training.

According to the Annals of Surgery, “training on VR simulators [is] more cost-effective than conventional residency training ... for residency programs with more than 10 trainees.”

LapSim® Return on Investment = 3.2 years\*

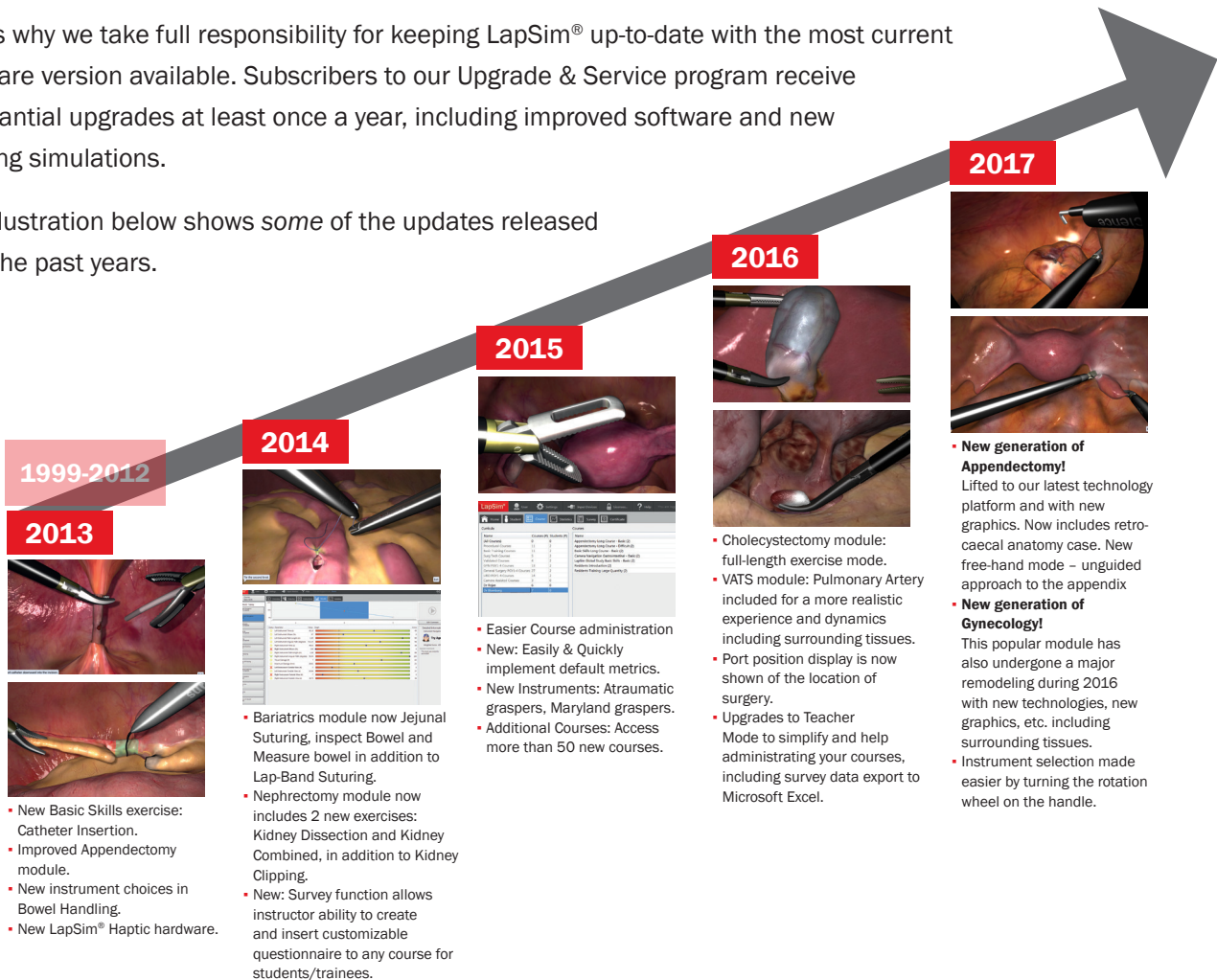
\*Annals of Surgery, Volume 255, Number 5, May 2012

## Upgrade & Service: Keeping You on the Cutting Edge.

A big part of delivering on our commitment to advancing the field of medical simulation training is making sure our software is constantly evolving, improving and available to our users without any hassle.

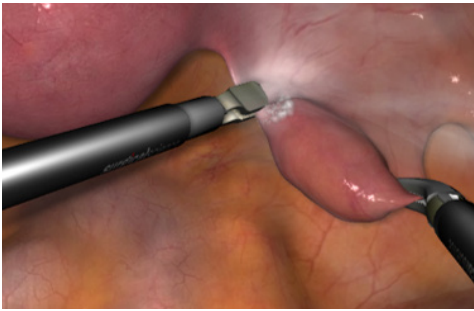
That’s why we take full responsibility for keeping LapSim® up-to-date with the most current software version available. Subscribers to our Upgrade & Service program receive substantial upgrades at least once a year, including improved software and new training simulations.

The illustration below shows some of the updates released over the past years.



LapSim® is the only virtual training system proven to improve OR performance. In fact, multiple randomized published studies have demonstrated that the skills practiced during both short-term and long-term training with LapSim® are directly transferable to the operating room.

## VR TRAINING LEADS TO FEWER ERRORS AND SHORTER OPERATING TIME



**CLINICAL STUDY:** “Effect of virtual reality training on laparoscopic surgery: randomized controlled trial”

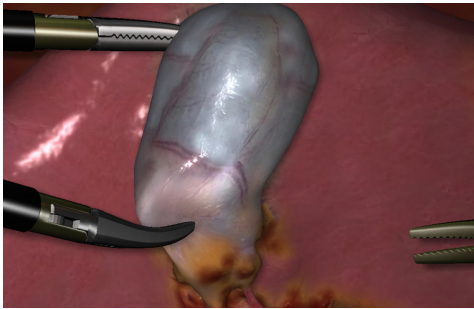
Published in BMJ 2009; 338:b1802 (e-publication, May 14, 2009)

**RESULTS:** After 6 hours of virtual reality-based LapSim® training, the performance level of novices increased to that of a surgeon with 20-50 case experiences and halved the time needed to complete the procedure.

Picture from the Salpingectomy procedure in LapSim®.

Watch the video at: <http://www.youtube.com/surgicalscience>

## VR WARM-UP IMPROVES OR PERFORMANCE



**CLINICAL STUDY:** “Warm-up in a virtual reality environment improves performance in the operating room”

Published in Annals of Surgery, June 2010

**RESULTS:** Brief (15 minute), pre-surgical warm-up on LapSim® significantly improved the performance of surgeons conducting a laparoscopic cholecystectomy in the OR, leading to improved procedural outcomes, improved patient safety and better utilization of OR resources.

Picture from the Cholecystectomy procedure in LapSim®.

Watch the video at: <http://www.youtube.com/surgicalscience>

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



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