**LAP-X VR** is an innovative virtual reality simulator for cost-effective motor skills training in a safe environment for different surgical specialties.

**LAP-X** provides a validated package of various curricula of increasing difficulty to reach proficiency in laparoscopic skills: basic, novice, intermediate, advanced, and procedural modules like appendectomy, cholecystectomy, nephrectomy, etc.

## Benefits

- Portable, compact, and easy to set up
- Ideal for developing and improving laparoscopic skills
- Administration tool to monitor the training progress of trainees
- Real surgical instruments are used, narrowing the gap between training and actual surgery
- Virtual reality training
- Unlimited user registration
- Instant feedback with measurement: duration, path lengths, mistakes
- Online remote assessment by instructors
- Database to register different users
- Trainees' performance can be recorded for later assessment
- 34 VR exercises divided into five curricula

## General

- Power supply from the computer's USB port
- Connection: USB 2.0 and 3.0

## System specification

- Two controllers of 1.6 kg each
- Controller Dimensions: 22x15x32cm (WxDxH) each
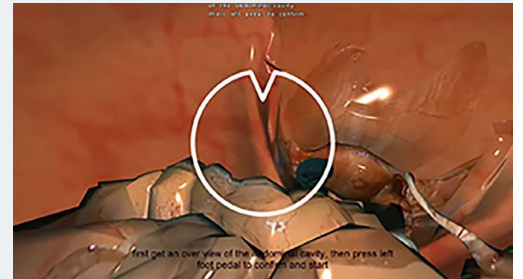- HD camera, led light, foot pedals

## Computer Requirements

- Processor Intel i7, 3.4GHz
- Memory >8 GB
- Video Card Nvidia® GeForce® GTX
- 650 or better

### Hands-on training

Handle real laparoscopic instruments to improve manual dexterity and laparoscopic depth perception.
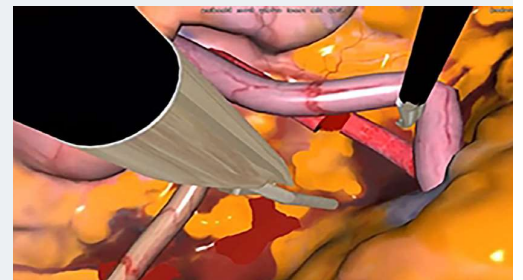
### Anatomy Navigation

Created to test trainees' knowledge of the anatomical structures of the pelvic cavity, simultaneously training control of the laparoscopic instruments.

### Handy and user-friendly

Suitable for laparoscopic surgical training for medical students, surgical residents, and surgeons at all levels of experience

### Nephrectomy complication

Intended to manage the bleeding by applying vascular clips on the renal vessels and removing the blood using suction.

### Basic skills

This module is designed for practicing primary controlling skills with laparoscopic instruments in a non-anatomical environment.

### Laparoscopic cholecystectomy

Intended to train a laparoscopic gallbladder removal. This exercise allows removing the connective tissue, besides clipping and cutting the cystic duct and cystic artery.