

FLS

FUNDAMENTALS of LAPAROSCOPIC SURGERY

**...the definitive laparoscopic skills
enhancement and assessment module.**

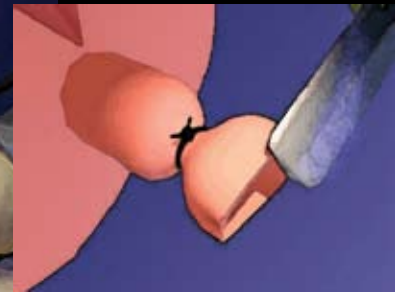
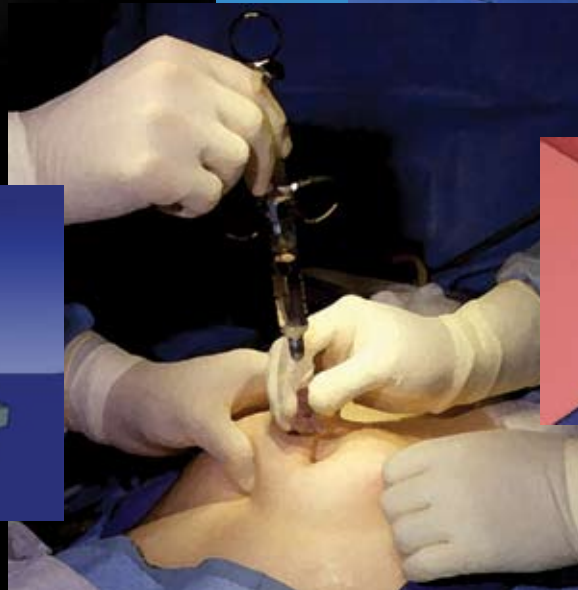
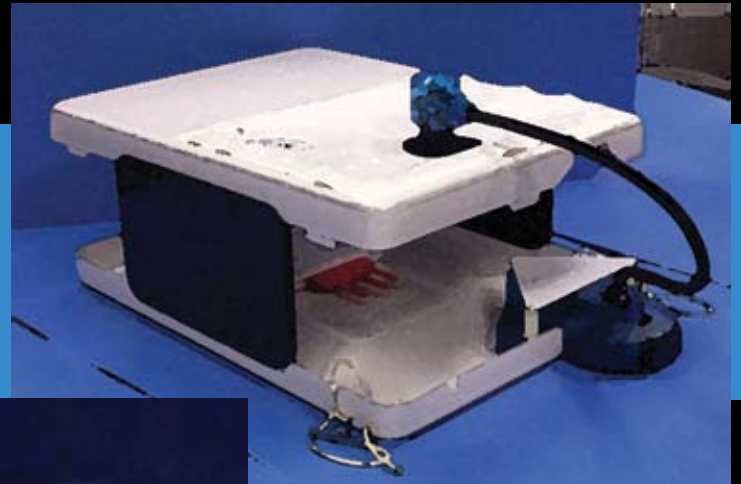
Review/Learn the basics

Practice your skills

Test your knowledge



Division of Education



FLS IS A PROGRAM FOR EVERY GENERAL SURGEON WHO PERFORMS LAPAROSCOPIC SURGERY AND EVERY RESIDENT WHO WILL PERFORM LAPAROSCOPIC PROCEDURES IN THE FUTURE.

What is FLS?

FLS is a comprehensive, CD-ROM-based education module that includes a hands-on skills training component and validated assessment tool designed to teach the physiology, fundamental knowledge, and technical skills required in basic laparoscopic surgery. FLS is CME accredited.

The CD-ROM study guides cover a wide range of topics including techniques for safe entry into the peritoneal cavity, physiological changes associated with pneumoperitoneum and appropriate use of energy sources. Following study, you will be tested on your cognitive knowledge, technical skills and clinical judgment.

The FLS Laparoscopic Trainer Box allows you to practice your technical skills, improve dexterity and psychomotor skills.

The Assessment Component is a two-part, proctored exam that consists of a multiple-choice test and hands-on skills test utilizing the FLS trainer box. These exams cover the course material and the application of this knowledge with emphasis on clinical judgment and intraoperative decision-making.

Who is Eligible for the FLS Test?

FLS candidates are senior surgical residents, fellows and surgeons who perform laparoscopic surgery.

Where is FLS Available?

Learn at your institution or at home at your own convenience.

Then you can take both the didactic and manual skills exams at:

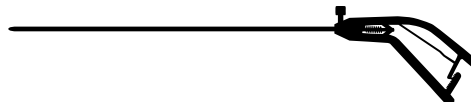
- A regional Test Center near you
- The SAGES Annual Meeting and ACS Clinical Congress
- Your own institution if you purchase an education package

Why Take the FLS Test?

Finally! An education and assessment program that definitively quantifies a candidate's cognitive knowledge and manual skills.

FLS provides feedback on performance of both cognitive and technical abilities.

FLS permits learning of minimally invasive techniques in a completely safe environment, without putting patients at risk.





**YOU ARE ALREADY A PRACTICING SURGEON...
WHY SHOULD YOU REVIEW THE BASICS AND TAKE THE FLS TEST
AT THIS STAGE IN YOUR CAREER?**

We believe FLS will set the standard for laparoscopic surgery. Surgeons are increasingly required to document their competency. FLS offers surgeons the opportunity to assess and document their own knowledge and skills before they are required to.

FLS indicates whether or not a practicing surgeon possesses the basic knowledge and skills fundamental to the performance of laparoscopic surgery.

FLS will help refresh knowledge and technical skills for laparoscopic surgeons returning to practice after an extended absence.

Many surgeons who were already in practice during the advent of the laparoscopic revolution learned basic information and skills that were still a “work in progress”. Review and test yourself now on the knowledge and skills set that enhances patient safety and reduces risks for the surgeon.



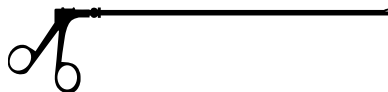
EVERY RESIDENT WHO HAS DECIDED TO BECOME A GENERAL SURGEON MUST BE PROFICIENT IN AT LEAST THE BASICS OF LAPAROSCOPY.

THE FLS LEARNING / TESTING MODULE IS ONE OF THE BEST WAYS TO DOCUMENT THAT THOSE BASICS HAVE BEEN ACQUIRED.

FLS provides objective evidence to residency programs that an individual resident has gained the basic knowledge and skills fundamental to the performance of laparoscopic surgery before the resident completes his/her program.

There are a variety of easy ways to provide FLS to all residents that are headed to general surgery:

- Residents may buy an individual program, study at home and then take the test at a Test Center.
- Your Program can purchase an education package that includes the CD-ROMs and the option for group testing either at your institution or at a regional Test Center.



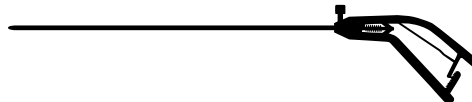
**A DEPARTMENT CHAIR IS RESPONSIBLE FOR MANY THINGS:
PATIENT CARE, EDUCATION OF FACULTY, STAFF AND RESIDENTS,
RESEARCH AND COMPLIANCE WITH ACCREDITING AGENCIES.**

Education has become increasingly more difficult to provide to one's hospital staff. FLS is a complete and comprehensive educational package covering the basics of laparoscopic surgery.

FLS testing for your full-time surgical staff and attendings can give you an advantage with contracting, provides a credentialing tool and makes patients feel more confident.

FLS is designed to make a Department Chair's life easier. FLS can be tailored to your institution. A variety of packages are available for one or for many. FLS provides you with a tool to run a more efficient department.

There are many ways to provide FLS Testing for your trainees and staff. You just have to choose how to do it.





Fundamentals of Laparoscopic Surgery

CD-ROM CONTENT

Disc One

I. Preoperative Considerations

Laparoscopic Equipment
Energy Sources
Room Set Up
Patient Selection & Preoperative Assessment

II. Intraoperative Considerations

Anesthesia & Patient Positioning
Pneumoperitoneum Establishment
Trocar Placement
Physiology of Pneumoperitoneum
Exiting the Abdomen

III. Basic Laparoscopic Procedures

Diagnostic Laparoscopy
Biopsy
Laparoscopic Suturing
Hemorrhage & Hemostasis

IV. Postoperative Care and Complications

Postoperative Care
Access Injuries
Pneumoperitoneum
Surgical Injury
Procedural Complications

Disc Two

V. Manual Skills Instruction and Practice

Training Exercises
Data Analysis

FLS LAPAROSCOPIC TRAINER BOX

General

The Laparoscopic Trainer Box is a device for surgical residents and practicing surgeons to develop the psychomotor skills and dexterity required during the performance of basic laparoscopic surgery. It is a portable unit that can be used in the user's environment of choice. The Trainer Box includes a set of accessories used to simulate specific surgical techniques that have been validated through the McGill Inanimate System for Training and Evaluation of Laparoscopic Skills (MISTELS) Program at McGill University.

Trainer Box

- CCD camera with flexible gooseneck and power supply
- Cables for both s-video for use with a TV or computer monitor and USB connection for use with a laptop
- Large clip and Velcro to position and fasten accessories
- Field of view rectangle marked for proper alignment
- 12 VDC LED lamp

Manual Skills Set

Transferring, Precision cutting, Placement and securing of ligating loop, Simple suture with intracorporeal knot, and Simple suture with extracorporeal knot.



Accessories Included with the Box

- 1 Dexterity Peg Board and 6 pegs for peg transfer
- 25 Gauze Pads with marked circle for pattern cutting
- 10 Simulated Organs for ligating loop
- 1 Suture Block for extra and intra-corporeal knot tying
- 100 Penrose Drains for extra and intra-corporeal knot tying

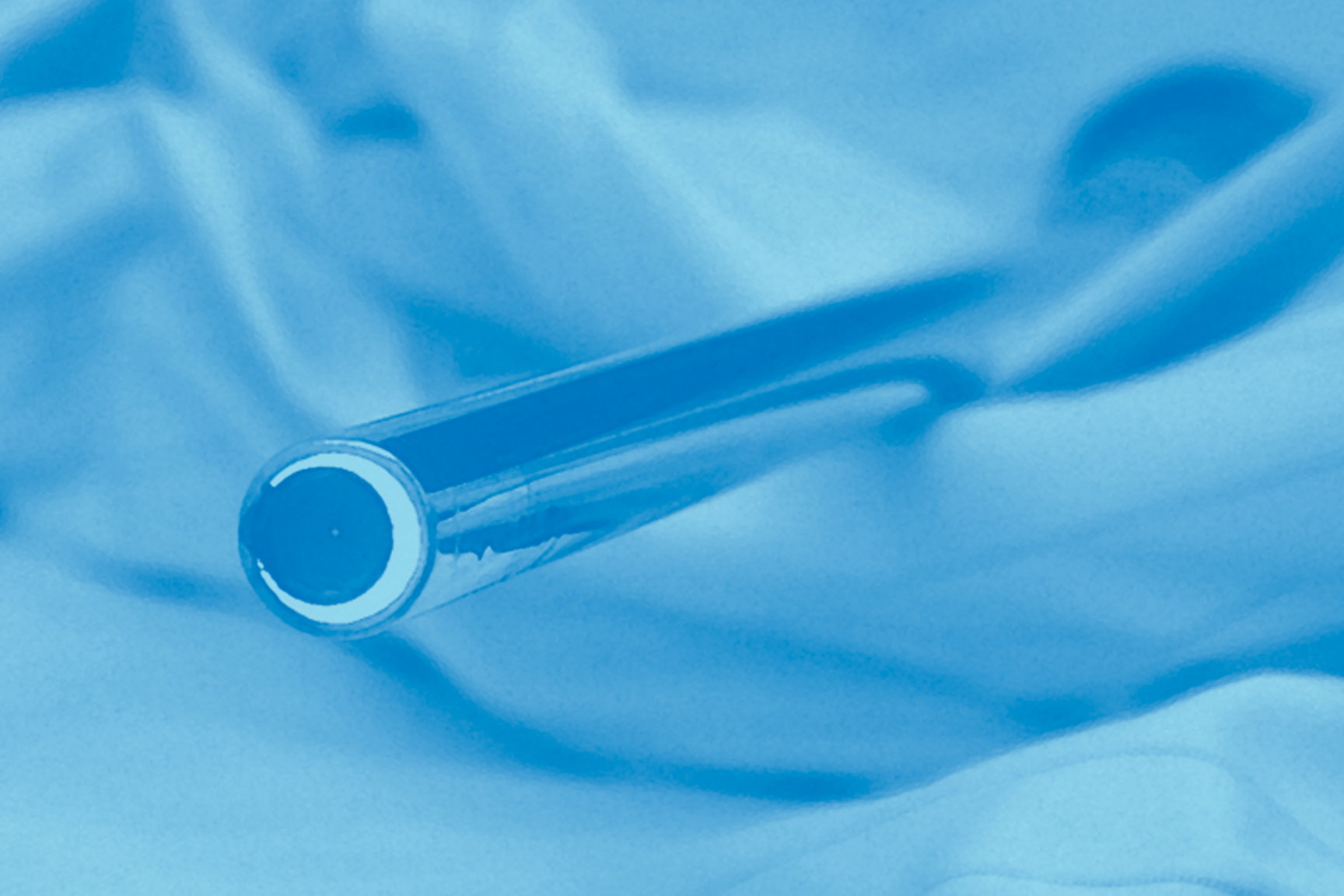
Replacement Accessory Kit Sold Separately

- 1 Dexterity Peg Board and 6 pegs for peg transfer
- 100 Gauze Pads with marked circle for pattern cutting
- 1 Rubber stamp to create circle pattern
(extra gauze & ink pad not included)
- 1 Jumbo clip
- 15 Simulated Organs for ligating loop
- 1 Suture Block for extra and intra-corporeal knot tying
- 100 Penrose Drains for extra and intra-corporeal knot tying

Carrying Case

Black, zippered nylon portfolio case with carrying handles that accommodates all the components of the trainer when collapsed.

Please see Order Form for pricing and purchasing information or visit www.flsprogram.org.



TEST CENTERS

West

- Legacy Portland Hospital, Portland, OR
- Telehealth Research Institute, John A. Burns School of Medicine, Honolulu, HI
- University of Southern California, Los Angeles, CA

Central

- Detroit Medical Center, Wayne State University, Detroit, MI
- Northwestern Feinberg School of Medicine, Center for Advanced Surgical Education, Chicago, IL
- University of Cincinnati Department of Surgery, Division of Education, Cincinnati, OH
- Washington University School of Medicine, St. Louis, MO

East

- Baystate Medical Center, Springfield, MA
- Beth Israel Deaconess Medical Center, Carl J. Shapiro Simulation and Skills Center, Boston, MA
- Tufts New England Medical Center, Boston, MA
- Uniformed Services University, National Capitol Area Medical Simulation Center, Bethesda, MD
- University of Pennsylvania, Philadelphia, PA

South

- Center of Excellence for Laparoscopic and Minimally Invasive Surgery, University of Miami Miller School of Medicine, Miami, FL
- UT Southwestern Medical Center, Southwestern Center for Minimally Invasive Surgery, Dallas, TX

Canada

- McGill University Health Center, Montreal
- Vancouver Coastal Health, Centre of Excellence for Surgical Education and Innovation, Vancouver

FLS Testing Also Available At:

- SAGES Annual Meeting
- ACS Clinical Congress

Test Eligibility

FLS candidates are senior residents, fellows and surgeons who perform laparoscopic surgery. Eligibility of junior residents will be at the discretion of their Program Director.

Please visit www.flsprogram.org for updated test centers and to make an appointment.



ABOUT FLS

FLS MISSION

To provide surgical residents and practicing surgeons with an opportunity to learn the fundamentals of laparoscopic surgery in a consistent, scientifically accepted format; and to provide a tool to test cognitive, clinical and technical skills, with the overarching goal of improving the quality of patient care.

FLS PROGRAM

FLS teaches residents and surgeons the physiology, instrumentation and technical skills involved in performing basic laparoscopic surgery. In addition, the FLS assessment component measures a candidate's cognitive knowledge, case/problem management skills and physical dexterity.



ABOUT SAGES AND ACS

About the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES)...

- Established the first endoscopic and laparoscopic standards of training and practice for surgeons. Still publishes signature guidelines 15 years later.
- Initiated the Framework for Post Residency Education and Training.
- Promulgates guidelines in standards of practice and training that reflect up-to-date scientific data and surgical knowledge.
- Operates the pre-eminent Annual Scientific Session and Postgraduate Courses in Endoscopic Surgery.
- Has been the leading voice for more than 20 years in the safe adoption of emerging minimal access technology.
- Keeps surgeons aware of innovative technology that will improve the practice of surgery.
- Has a representative on the American College of Surgeons Board of Governors.
- Is a Nominating Member of the American Board of Surgery.
- Holds a seat in the House of Delegates of the A.M.A.
- Serves as a strong voice on important committees setting reimbursement and Federal policies on health care.

About the American College of Surgeons (ACS)...

- Founded in 1913, the College is dedicated to improving the care of the surgical patient and to safeguarding standards of care in an optimal and ethical practice environment.
- The ACS has more than 64,000 Fellows including 3,700 Fellows in other countries, making it the largest organization of surgeons in the world.
- The College is a premier educational resource for surgeons and offers numerous activities for continuous professional development including:
 - Clinical Congress and Spring Meeting
 - Didactic and skills-oriented postgraduate courses
 - Surgical Education and Self-Assessment Program (SESAP)
 - CD-ROMs, Web casts, and e-learning modules and resources
 - New initiatives focusing on the core competencies, verifications of skills, and use of simulations and simulators
- The ACS also plays a key role in training future surgeons and is a sponsoring organization for the Residency Review Committees for Colon and Rectal Surgery, Neurological Surgery, Otolaryngology, Plastic Surgery, Surgery, Thoracic Surgery, and Urology.
- The scientific periodical, "Journal of the American College of Surgeons," is published monthly, and the College has more than 150 other publications on a variety of topics to enhance surgical practice and patient care.
- The College has extensive programs to improve the care of cancer patients and trauma patients including voluntary verification programs for cancer programs and trauma centers, various educational activities, extensive databases for patient care and protocols, and research activities to enhance patient care.

PURCHASE AND PACKAGE STRUCTURE

Individual Package

FLS Exam taken at Test Centers or various meetings

- 1 CD-ROM set (includes CD #1 Didactics and CD #2 Manual Skills)
- Numbered testing voucher that allows candidate to take the exam at any Test Center, SAGES Annual Meeting or ACS Clinical Congress
- Test Center information
- Cover letter explaining how it works, when and where to test, and how to receive your Certification of Completion
- Trainer Box order information

Education Package A

FLS Exam taken at Test Centers (3+ individuals)

Geared for residency programs, MIS skills labs, and medical staff offices

- 3 Master CD-ROM sets
- 3 Numbered testing vouchers allowing candidates to take the exam at any Test Center, SAGES Annual Meeting or ACS Clinical Congress (Additional testing vouchers can be ordered)
- Test Center information
- Cover letter and information bulletin explaining how it works, when and where to test, and how to receive your Certification of Completion
- Trainer Box order information

Education Package B

FLS Exam taken at Test Centers (5+ individuals)

Geared for residency programs, MIS skills labs, surgery departments and privileging committees

- 5 Master CD-ROM sets
- 5 Numbered testing vouchers allowing candidates to take the exam at any Test Center, SAGES Annual Meeting or ACS Clinical Congress (Additional testing vouchers can be ordered)
- Test Center information
- Cover letter and information bulletin explaining how it works, and when and where to test
- Trainer Box included
- Replacement Accessory Kit recommended

Education Package C

FLS Exam proctored On-Site (5+ individuals)

Geared for residency programs, MIS skills labs, surgery departments and privileging committees

- 5 Master CD-ROM sets
- 5 Numbered testing vouchers (Additional testing vouchers can be ordered)
- Cover letter and information bulletin explaining how it works, and how to arrange on-site testing and proctor
- An FLS Proctor travels to your institution to administer the FLS Exam. Maximum of 12 tests can be given per day.
- FLS program covers cost of airfare. Site is responsible for hotel and per diem.
- Trainer Box included
- Replacement Accessory Kit recommended

Please see Order Form for pricing and purchasing information or visit www.flsprogram.org.

Accreditation:

The Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) is accredited by the Accreditation Council for Continuing Medical Education (A.C.C.M.E.) to sponsor Continuing Medical Education for physicians. SAGES designates this Continuing Medical Education activity for: 5.5 AMA PRA Category 1 Credits™ for the Fundamentals of Laparoscopic Surgery Program. Each physician should claim only credit that he/she actually spends in the educational activity.

Learner Objectives:

At the conclusion of the program, the participant will be able to:

- Describe the instruments and equipment used in laparoscopic surgery
- Identify important intraoperative considerations such as anesthesia and patient positioning
- Discuss the physiology of the pneumoperitoneum
- Outline the process of access, trocar placement and abdominal examination
- Demonstrate the technique of laparoscopic suturing
- Provide an overview of biopsy techniques and hemostasis
- Summarize the process of exiting the abdomen and the requirements for postoperative care



REFERENCES

1. Dauster B, Steinberg AP, Vassiliou MC, Bergman S, Stanbridge DD, Feldman LS, Fried GM: Validity of the MISTELS Simulator for Laparoscopy Training in Urology. J Endourol. Jun; 19:541-5, 2005
2. Fraser SA, Feldman LS, Stanbridge D, Fried GM: Characterizing the learning curve for a basic laparoscopic drill. Surgical Endoscopy, 19(12):1572-8, 2005
3. Fried GM, Feldman LS, Vassiliou MC, Fraser SA, Stanbridge D, Ghitulescu G, and Andrew CG. Proving the value of simulation in laparoscopic surgery. Ann Surg 2004; 240: 518-528.
4. Peters JH, Fried GM, MD, Swanstrom LL, Soper NJ, Sillin LF, Schirmer B, Hoffman K and the SAGES FLS Committee. Development and validation of a comprehensive program of education and assessment of the basic fundamentals of laparoscopic surgery. Surgery 2004; 135: 21-27
5. Feldman LS, Sherman V, Fried GM. Using simulators to assess laparoscopic competence: ready for widespread use? Surgery 2004; 135: 28-42
6. Feldman LS, Hagarty SE, Ghitulescu G, Stanbridge D, Fried GM. Relationship between objective assessment of technical skills and subjective in-training evaluations in surgical residents. J Am Coll Surg 2004; 198:105-110
7. Fraser SA, Klassen DR, Feldman LS, Ghitulescu GA, Stanbridge D, Fried GM. Evaluating laparoscopic skills; setting the pass/fail score for the MISTELS system. Surgical Endoscopy 2003; 17(6): 964-967
8. Keyser EJ, Derossis AM, Antoniuk M, Sigman HH, Fried GM. A simplified simulator for the training and evaluation of laparoscopic skills. Surgical Endoscopy 2000; 14: 149-153
9. Fried GM, Derossis AM, Bothwell J, Sigman HH. Comparison of laparoscopic performance in vivo with performance measured in laparoscopic simulator. Surgical Endoscopy 1999; 13: 1077-1081
10. Derossis AM, Antoniuk M, Fried GM: Evaluation of laparoscopic skills: a 2-year follow-up during residency training. Canadian Journal of Surgery 1999; 42:293-296
11. Derossis AM, Fried GM, Abrahamowicz M, Sigman HH, Barkum JS, Meakins JL. Development of a model for training and evaluation of laparoscopic skills. American Journal of Surgery 1998; Vol.175: 482-487
12. Derossis AM, Bothwell J, Sigman HH, Fried GM. The effects of practice on performance in a laparoscopic simulator. Surgical Endoscopy 1998; 12: 1117-1120
13. Al-Qadhi HA, Sherman V, Feldman LS, Stanbridge D, Fried GM. Efficacy of LapSim and MISTELS in improving laparoscopic skills in novice surgeons.
14. Vassiliou MC, Ghitulescu GA, Feldman LS, Stanbridge D, Fried GM. MISTELS is a reliable tool for measuring laparoscopic skill.



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STORZ
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