

## In-house Training Solutions



# In-house Training Solutions from KARL STORZ

## Endoscopic Training Possibilities Directly Inside the Hospital

The permanently progressing development in minimally invasive surgical techniques requires continuous education as well as adequate training of the surgeons. In laparoscopy this affects not only surgeons but also gynecologists and urologists. The elementary laparoscopic psychomotor skills that should be learnt and practiced are:

- Camera navigation with 0° and 30° telescope
- Evaluation of depth of a 2D picture
- Hand-eye coordination
- Handling of instruments without tactile feedback
- Fine motor skills
- Bimanual coordination

Further essential skills of a surgeon are practical basic knowledge of instruments and devices in daily OR routine as well as surgical skills of a particular intervention. A particular challenge is to acquire laparoscopic suturing skills, which need to be practiced intensively.

The traditional apprentice-tutor education model requires a large number of surgical interventions and is very time-consuming.

Studies have shown that only limited learning is possible by observing interventions. Live surgery with all its burdens is not an ideal learning environment. Additionally, it is very problematic to objectively evaluate the clinical competence of various difficult operative interventions. The pressure on cost-efficiency is continuously growing and the intervening OR time also complicates matters.

In order to facilitate the establishment of a training environment where the above mentioned skills can be learned, practiced and consolidated, KARL STORZ offers various training stations. Thus the required endoscopic skills can already be practiced at an early stage by residents in order to qualify for employment at the OR table.

KARL STORZ supports in-house training and education by offering special price conditions on the range of training stations available.

The TELE PACK X LED forms the core element of such a training station. This compact and mobile all-in-one system offers diverse documentation possibilities for videos, images and even audio sequences. The 15" monitor delivers very good image quality. For a larger display, other monitors can be connected to the system via the DVI output.

The LED light source provides sufficient lighting with a color temperature similar to that of daylight as well as high energy efficiency and a very long service life with an average of 30,000 hours.

Various training models are available for different OR techniques (e.g. hysteroscopy and laparoscopy), and can be individually equipped with artificial or biological preparation. In addition each training station includes the essential original instruments which are required for each operative technique and which are also used in the operating theater. If necessary, further devices (e.g. an HF generator or suction-irrigation pump) can complement the training station.

In the following pages you will find further details on the individually equipped training stations from KARL STORZ, which can be used interdisciplinarily and continuously for the internal education purposes of your hospital.

**It is recommended to check the suitability of the product for the intended procedure prior to use.**

## The LASTT / SUTT Training Station for use with the LASTT and SUTT Training Package



The LASTT and SUTT training packages are not included in Set 1300.

### In-House Training Solutions for Everyone: Principles of the GESEA programme

Scientific evidence indicates that dry lab training for endoscopic surgical skills, prior to training in the operating room, improves patients' post-operative well-being substantially.

The ESGE, EBCOG, EAGS, ENTOG, ACOG and AAGL, six leading professional organisations in gynaecology, joined forces in a global recommendation regarding endoscopic surgical training and quality assurance. It is a major breakthrough in the discipline of gynaecological endoscopic training to align the leading societies in training and education across Europe and the US on such an important matter.

The Gynaecological Endoscopic Surgical Education and Assessment (GESEA) programme is a structured diploma programme for Gynaecological Endoscopy which takes into account this recommendation. It trains and certifies knowledge and practical skills prior to surgical competence, and it is the official diploma programme of the European Society for Gynaecological Endoscopy (ESGE). The most important aspect throughout this programme is the practise of both training and testing, leading to greater levels of competence and professionalism prior to entering the operating room.

The GESEA programme makes use of three endoscopic training models that monitor the learning process and measure the skill level of an individual. LASTT provides a validated training approach for basic laparoscopic instrument handling skills like camera navigation, hand-eye coordination and bimanual coordination. SUTT focuses on laparoscopic suturing skills by offering a series of stitching and knotting exercises to train and test the quality level of needle handling, stitching, tissue approximation and knot tying. The HYSTT training model trains hysteroscopic camera navigation and instrument handling by making use of a model that simulates the female genital anatomy. The Online Scoring Platform (OSP) is the central platform to manage all in-house GESEA training and testing activities.

**Rudi Campo MD**

Director, The European Academy of Gynaecological Surgery (EAGS)  
<https://europeanacademy.org>

## Respective Components



26348	<b>SZABO-BERCI-SACKIER Laparoscopy Trainer</b>
TP 100EN	<b>TELE PACK X LED</b> , endoscopic video unit for use with all KARL STORZ TELECAM one-chip camera heads and video endoscopes, incl. LED light source similar to Xenon technology, with integrated digital Image Processing Module, 15" LCD TFT monitor with LED backlight, USB/SD memory module, color systems PAL/NTSC, power supply 100-240 VAC, 50/60 Hz
20212030	<b>TELECAM One-Chip Camera Head</b> , color system PAL, soakable, gas-sterilizable, with integrated Parfocal Zoom Lens, f = 25-50 mm (2x), 2 freely programmable camera head buttons
26003 AA	<b>HOPKINS® Straight Forward Telescope 0°</b> , enlarged view, diameter 10 mm, length 31 cm, <b>autoclavable</b> , fiber optic light transmission incorporated, color code: green
26003 BA	<b>HOPKINS® Forward-Oblique Telescope 30°</b> , enlarged view, diameter 10 mm, length 31 cm, <b>autoclavable</b> , fiber optic light transmission incorporated, color code: red
26173 KPF	<b>KOH Macro Needle Holder</b> , with tungsten carbide insert, ergonomic pistol handle with disengageable ratchet, ratchet position left, jaws straight, size 5 mm, length 33 cm
26173 KAF	<b>KOH Macro Needle Holder</b> , with tungsten carbide insert, ergonomic straight handle with disengageable ratchet, ratchet position right, jaws straight, size 5 mm, length 33 cm
33321 MD	<b>CLICKLINE KELLY Dissecting and Grasping Forceps</b> , rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock irrigation connector for cleaning, double action jaws, size 5 mm, length 36 cm
33321 KW	<b>CLICKLINE MATKOWITZ Grasping Forceps</b> , rotating, dismantling, insulated, with connector pin for unipolar coagulation, with irrigation connection for cleaning, double action jaws, size 5 mm, length 36 cm
34321 MS	<b>CLICKLINE METZENBAUM Scissors</b> , rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock connector for cleaning, double action jaws, curved, length of blades 15 mm, size 5 mm, length 36 cm
495 NCS	<b>Fiber Optic Light Cable</b> , with straight connector, extremely heat-resistant, diameter 4.8 mm, length 250 cm

### Additional Recommendation:

LASTT Training Package (further information on page 13)

SUTT Training Package (further information on pages 13-14)

## Hysteroscopic Skills Training and Testing Model HYSTT training station for use with the HYSTT training package

Training and assessment of hysteroscopic psychomotor skills



The HYSTT training package is not included in Set 1301.

For surgeons it is important to train on the so called Hysteroscopic Psychomotor Skills (HPS). Those skills need to work in a “key-hole” situation, such as hand-eye coordination, camera navigation, and fine motor skills for remote handling of instruments without tactile feedback. Therefore, continuous training is mandatory to improve the mentioned skills.

All the above mentioned skills can be trained using the HYSTT model. The HYSTT model represents the spatial distribution and orientation of the different planes and angles of a normal uterus. This inanimate model is easy to install, flexible and allows for cost-efficient application. All the scores are stored in the OSP, a reporting and documentation module with a 1 year license and unlimited reports.

## Respective Components



TP 100EN	<b>TELE PACK X LED</b> , endoscopic video unit for use with all KARL STORZ TELECAM one-chip camera heads and video endoscopes, incl. LED light source similar to Xenon technology, with integrated digital Image Processing Module, 15" LCD TFT monitor with LED backlight, USB/SD memory module, color systems PAL/NTSC, power supply 100-240 VAC, 50/60 Hz
20212030	<b>TELECAM One-Chip Camera Head</b> , color system PAL, soakable, gas-sterilizable, with integrated Parfocal Zoom Lens, f = 25-50 mm (2x), 2 freely programmable camera head buttons
26120 BA	<b>HOPKINS® Forward-Oblique Telescope 30°</b> , diameter 2.9 mm, length 30 cm, <b>autoclavable</b> , fiber optic light transmission incorporated, color code: red
26153 BIK	<b>BETTOCCHI® Inner Sheath</b> , size 4.3 mm, with channel for semirigid 5 Fr. operating instruments, with 1 stopcock and 1 LUER-Lock adaptor, for use with Outer Sheath 26153 BO
26153 BOK	<b>BETTOCCHI® Outer Sheath</b> , size 5 mm, with 1 stopcock and 1 LUER-Lock adaptor, for use with Inner Sheath 26153 BI
2x 26159 UHW	<b>Biopsy and Grasping Forceps</b> , semirigid, double action jaws, 5 Fr., length 34 cm
495 NA	<b>Fiber Optic Light Cable</b> , with straight connector, diameter 3.5 mm, length 230 cm

### Additional Recommendation:

HYSTT Training Package (further information on page 14)

## LYRA Laparoscopic Training Station



Code: 1006

The training station displayed above is intended to simulate a laparoscopic intervention preferably under realistic conditions. The realistic conditions are achieved by the organs being made of Neoderma which are inside the trainer.

The abdominal wall is reproduced to the consistency of the human abdominal wall. Various laparoscopic surgical steps, especially laparoscopic suturing can be practiced well with this model. For example, intracorporeal knot-tying as well as the introduction of needles through the abdominal wall can be realistically simulated. Moreover, the grasping and dissection technique with different instruments can be exercised and improved.

Certain practice is also necessary for the appropriate camera navigation. The LYRA trainer provides a good possibility to practice the skills in camera navigation, for example with a 30° telescope.

With this training station a realistic training facility for the surgeon has been created which might be beneficial in improving their stereo tactile skills.

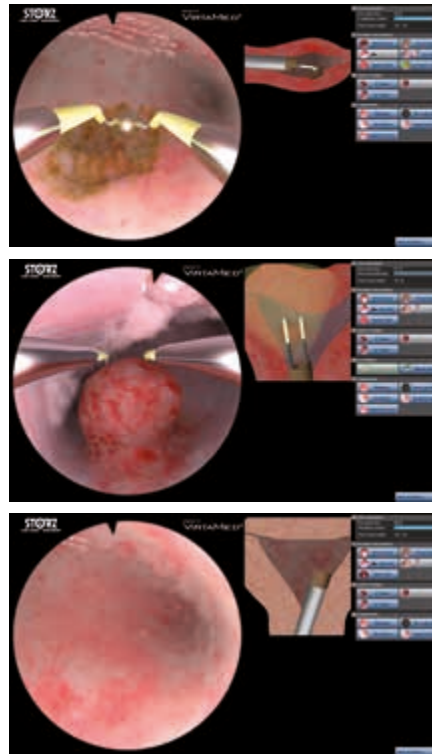


## Respective Components



26344 L2	<b>LYRA Laparoscopy Trainer</b>
TP 100EN	<b>TELE PACK X LED</b> , endoscopic video unit for use with all KARL STORZ TELECAM one-chip camera heads and video endoscopes, incl. LED light source similar to Xenon technology, with integrated digital Image Processing Module, 15" LCD TFT monitor with LED backlight, USB/SD memory module, color systems PAL/NTSC, power supply 100-240 VAC, 50/60 Hz
202120 30	<b>TELECAM One-Chip Camera Head</b> , color system PAL, soakable, gas-sterilizable, with integrated Parfocal Zoom Lens, f = 25-50 mm (2x), 2 freely programmable camera head buttons
26003 AA	<b>HOPKINS® Straight Forward Telescope 0°</b> , enlarged view, diameter 10 mm, length 31 cm, <b>autoclavable</b> , fiber optic light transmission incorporated, color code: green
26003 BA	<b>HOPKINS® Forward-Oblique Telescope 30°</b> , enlarged view, diameter 10 mm, length 31 cm, <b>autoclavable</b> , fiber optic light transmission incorporated, color code: red
26173 KPF	<b>KOH Macro Needle Holder</b> , with tungsten carbide insert, ergonomic pistol handle with disengageable ratchet, ratchet position left, jaws straight, size 5 mm, length 33 cm
26173 KAF	<b>KOH Macro Needle Holder</b> , with tungsten carbide insert, ergonomic straight handle with disengageable ratchet, ratchet position right, jaws straight, size 5 mm, length 33 cm
33321 MD	<b>CLICKLINE KELLY Dissecting and Grasping Forceps</b> , rotating, dismantling, insulated, with connector pin for unipolar coagulation, double action jaws, size 5 mm, length 36 cm
33321 KW	<b>CLICKLINE MATKOWITZ Grasping Forceps</b> , rotating, dismantling, insulated, with connector pin for unipolar coagulation, with irrigation connection for cleaning, double action jaws, size 5 mm, length 36 cm
34321 MS	<b>CLICKLINE METZENBAUM Scissors</b> , rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock connector for cleaning, double action jaws, curved, length of blades 15 mm, size 5 mm, length 36 cm
3 x 30120 TRX	<b>Trocar</b> , size 6 mm, with conical tip, thread, silicone leaflet valve
2 x 30123 TCS	<b>Trocar</b> , size 11 mm, with conical tip, thread, silicone leaflet valve
30140 DB	<b>Reduction Sleeve</b> , reusable, instrument diameter 5 mm, trocar cannula outer diameter 11 mm
495 NCS	<b>Fiber Optic Light Cable</b> , with straight connector, extremely heat-resistant diameter 4.8 mm, length 250 cm

## KARL STORZ GynTrainer – High-End Virtual Reality Simulation

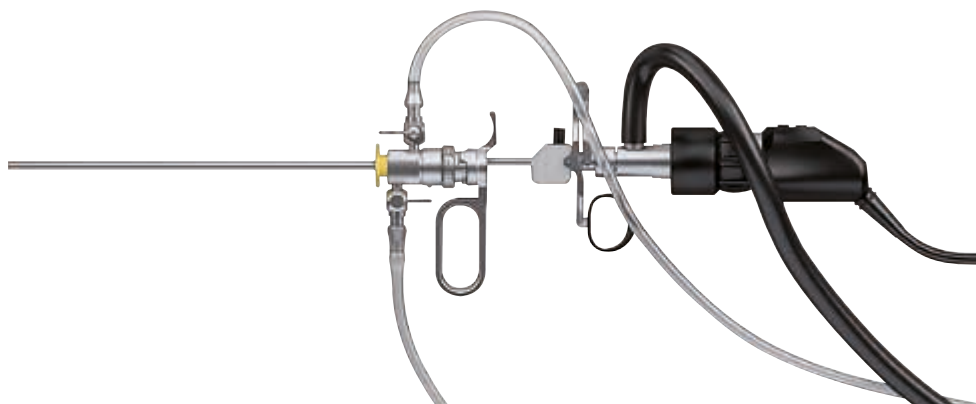


POWERED BY  
VIRTAMED<sup>®</sup>

The KARL STORZ simulator for hysteroscopy provides gynecologists with a training model for teaching and training the practical skills and know-how required for minimally invasive techniques. Guided training enables trainees to enhance their surgical skills in a virtual environment and to manage complications with no risk for live patients. The simulator offers objective, comparable and reproducible performance feedback to complete the learning process. A resectoscope equipped with sensors and specially adapted to the simulation trainer makes it possible to follow steps and movements on the monitor. The modified KARL STORZ resectoscope helps trainees become familiar with instruments in a straightforward and highly realistic manner. The anatomical pelvis model delivers realistic, tactile feedback in a highly realistic training environment using adapted original instruments. Furthermore, the simulation software provides a wide range of intraoperative scenarios.

### GYN Basic Module

- 12\* virtual patient cases for diagnostic interventions
- 8\* virtual patients for polypectomy
- 8\* virtual patients for myomectomy (type 0)
- 4\* virtual patients for endometrium ablation with the rollerball
- Customized courses with up to 8 patients designed upon request
- Feedback report with objective metrics
- Active and/or passive working element

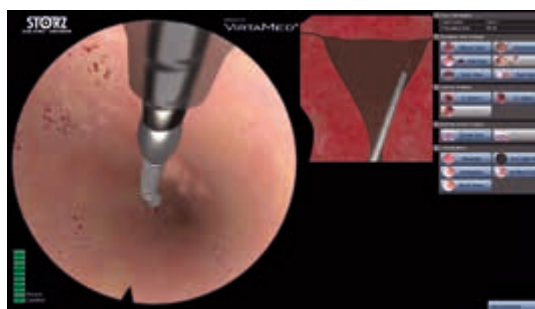


573620 **Stationary GynTrainer**, with passive working element, in a reusable transport box

573621 **Stationary GynTrainer**, with passive working element, in disposable packaging

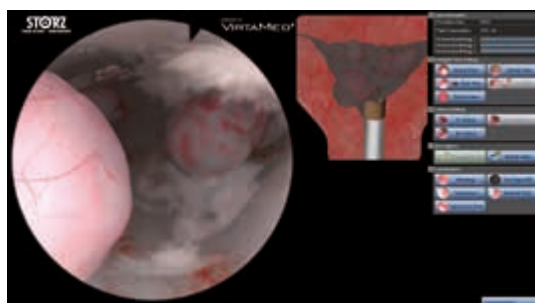
**Included with the stationary GynTrainer:**

**Anatomical Pelvis Model**, with stand and magnetic tracking (anatomical uterus insert included), **Passive Working Element** (adapted original instrument), **Tenaculum** (adapted titanium tenaculum) and **Speculum**, all for use with the stationary GynTrainer



**GYN Advanced Hysteroscopy Module**

- 8\* virtual patient cases for essential hysteroscopy skills training (access, distension, navigation, polyp removal, adhesion removal, etc.)
- SimProctor™ helps guide trainees with tips, tricks and useful hints
- Customized courses with up to 8 patients designed upon request
- Feedback report with objective metrics
- Hysteroscope
- Grasper/Punch

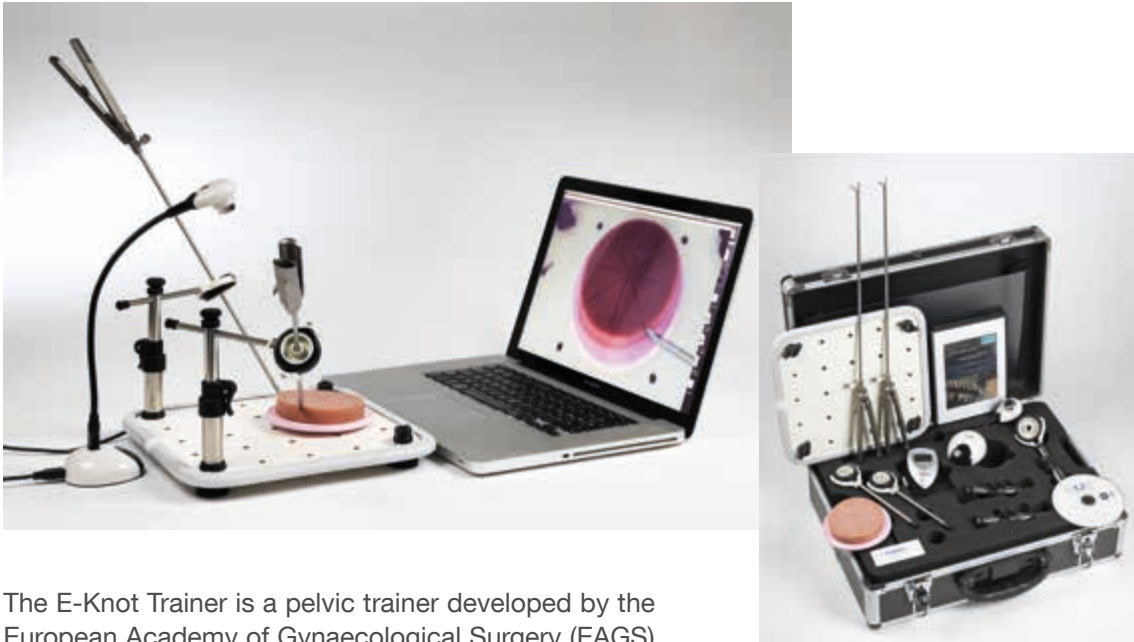


**GYN Advanced Resection Module**

- 8\* virtual patient cases with multiple polyps, multiple myoma types 0, I and II, synechiae and a septum
- Training for advanced therapeutic hysteroscopy
- Customized courses with up to 8 patients designed upon request
- Feedback report with objective metrics

\* The number of patient cases may change due to further development of the product.

## E-Knot Trainer



The E-Knot Trainer is a pelvic trainer developed by the European Academy of Gynaecological Surgery (EAGS) that can be used in a simple way at any location, offering the possibility to train suturing skills. The E-Knot Trainer is designed for individuals, no further equipment besides a laptop and sutures is required.

- 26433      **E-Knot Trainer** (with needle holders)  
including:  
**E-Knot Trainer** (including SUTT for a pelvic trainer –  
1x Neoderma suturing pad; 1x white base;  
4x E-Knot butterfly nuts; 4x E-Knot rubber feet)  
**Webcam**, for connection to PC  
2x **KARL STORZ Needle Holders**  
2x **Training DVD** (created by Prof A. Wattiez with  
a structured training programme ‘Step by Step’  
Laparoscopic Stitching and Knotting Instructions)
- 26434      **E-Knot Trainer** (without needle holders)  
including:  
**E-Knot Trainer** (including SUTT for a pelvic trainer –  
1x Neoderma suturing pad; 1x white base;  
4x E-Knot butterfly nuts; 4x E-Knot rubber feet)  
**Webcam**, for connection to PC  
2x **Training DVD** (created by Prof A. Wattiez with  
a structured training programme ‘Step by Step’  
Laparoscopic Stitching and Knotting Instructions)

### Please Note:

The E-Knot Trainer can be used with any notebook which contains a USB-Port. The displayed notebook is not part of the article number 26433 and 26434.

## The LASTT Training Package for use with the LASTT/SUTT Training Station

The Laparoscopic Skills Training and Testing (LASTT) method provides three validated laparoscopic exercises to train and test the individuals on their laparoscopic psychomotor skills. The LASTT Training Package contains the LASTT model, representing the spatial distribution and orientation of the different planes and angles of a female pelvis. The first exercise measures the ability of a person to navigate the camera and to handle the 30° telescope, 14 targets have to be identified in a precise order. The second exercise measures the hand-eye coordination by positioning 6 small rings over a nail and the last exercise measures the bimanual coordination by transporting 6 objects from one hand to the other and then into a corresponding hole. Test proficiency should guarantee the perfect laparoscopic instrument handling capabilities.



26436

### **LASTT Training Package**

including:

**Wooden LASTT Model**

**Exercise Inserts**

**Exercise Elements**

**Academy Stopwatch**

**USB Flash Drive with Instructions**

## The SUTT Training Package for use with the LASTT/SUTT Training Station

The SUTT Training Package contains a complete setup to perform training according to the Suturing and Knot Tying Training and Testing (SUTT) method. It provides a series of tests on stitching and knotting that have been defined to train and test the quality level of needle handling, stitching, tissue approximation and knot tying. The SUTT Foam Base with disposable SUTT pad is placed inside a SZABO-BERCI-SACKIER Pelvic Trainer box. SUTT1 provides one exercise in stitching and knot tying using the dominant hand. SUTT2 provides 4 exercises evaluating the precision of needle manipulation, intra-corporeal knotting and tissue approximation using both dominant and non-dominant hands.

The individual scores can be entered on the Online Scoring Platform (OSP) to generate test reports.



26437

### **SUTT Training Package**

including:

**SUTT Foam Base**

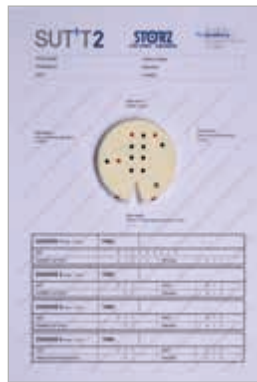
10x **SUTT1 Training Pads**, for single use

10x **SUTT2 Training Pads**, for single use

**Academy Stopwatch**

**USB Flash Drive with Instructions**

### Additional Spare Parts:



26439 **SUTT1 Training Pads**, to be pinned on SUTT foam base, package of 30

26440 **SUTT2 Training Pads**, to be pinned on SUTT foam base, package of 30

## Hysteroscopic Skills Training and Testing Model (HYSTT) For use with the HYSTT Training Package

The Hysteroscopic Skills Training and Testing (HYSTT) method has been designed to train Hysteroscopic Psychomotor Skills (HPS) needed to work in a “key-hole” setting. The HYSTT Training Package contains the HYSTT model, representing the spatial distribution and orientation of the different planes and angles of a normal uterus. The exercises simulate all possible movements one should perform during a hysteroscopic procedure. Exercise 1 evaluates the skills of an individual to handle the camera and work with a 30° telescope in an hysteroscopic environment. Various sets of modules are used in order to eliminate the memory effect for the participants. Exercise 2 evaluates the skills of simultaneous camera and instrument handling and hand-eye coordination skills as its goal is to grasp and extract 14 pins. The individual scores can be entered on the Online Scoring Platform (OSP) to generate test reports.



26438 **HYSTT Training Package**, including:  
**Female Genital Model**, with table fixation  
 3x **HYSTT Exercise 1 Model**  
 3x **HYSTT Exercise 2 Model**  
**HYSTT Replacement Pins**  
**USB Flash Drive with Instructions**

### Additional Spare Parts:

26441 **HYSTT Replacement Model Set**, exercise 1, package of 3

26442 **HYSTT Replacement Model Set**, exercise 2, package of 3

26443 **HYSTT Replacement Model Set**, containing 100 black, 100 blue, 100 red and 100 yellow pins

## Reply

**KARL STORZ SE & Co. KG**  
**Marketing Department**  
**Dr.-Karl-Storz-Straße 34**  
**78532 Tuttlingen/Germany**

or via Fax to  
**+49 (0)7461/708 75585**

Yes, I am interested in the **“In-house Training Solutions”** from KARL STORZ.

Please send me a **quotation** about

- LASTT / SUTT Training Station** (Code: 1300)
  - The LASTT Training Package** (26436) **for use with the LASTT / SUTT Training Station**
  - The SUTT Training Package** (26437) **for use with the LASTT / SUTT Training Station**
- Additional Spare Parts for the SUTT:**
  - 26439 SUTT 1 Pads**
  - 26440 SUTT 2 Pads**
- HYSTT Training Station** (Code: 1301)
  - The HYSTT Training Package** (26438) **for use with the HYSTT Training Station**
- Additional Spare Parts:**
  - 26441 HYSTT Replacement Model Set**
  - 26442 HYSTT Replacement Model Set**
  - 26443 HYSTT Replacement Pins**
- Combined LASTT / SUTT and HYSTT Training Station** (Code: 1311)
- LYRA Laparoscopic Training Station** (Code: 1006)
- KARL STORZ GynTrainer – High-End Virtual Reality Simulation**
- E-Knot Trainer**
  - 26433 with 2 Needle Holders**
  - 26434 without Needle Holders**
- I am interested in laparoscopic and hysteroscopic **training courses**.
- I request a **visit** by the local sales representative.

My address:

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Name, Title

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Phone

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Hospital, Department

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Fax

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Street

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E-Mail

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Post code, City

.....  
Signature



THE DIAMOND STANDARD

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