

S504.100 ZOE[®] Gynecologic Simulator

User Guide

ZOE[®] Gynecologic Simulator is an interactive educational system developed to assist a certified instructor. It is not a substitute for a comprehensive understanding of the subject matter and not intended for clinical decision making.

ZOE[®] Gynecologic Simulator 13.5.1
©2013 Gaumard Scientific Company, Inc.
All Rights Reserved
www.Gaumard.com

Contents

1. Introduction	5
2. Contents of the ZOE Gynecologic Simulator	5
3. Instructions for Use	6
Removing and Replacing the Skin	7
Changing Cervices and Uteri	8
Changing Introitus with Vagina and Rectum	8
4. Applications	9
Pelvic Examination	9
Speculum Examination	9
Bimanual Examination	9
Interval IUD Insertion	9
Interval Minilaparotomy and Operative Laparoscopy	10
5. Description of Cervices and Uteri	11
6. Palpation Kit –Module S504.1 (Optional)	12
Introduction	12
Description	12
7. Hysteroscopy kit-Module S504.2 (Optional)	12
Introduction	12
Description	12
8. 48 Hour Postpartum IUD Insertion Kit-Module S504.3 (Optional)	13
Introduction	13
Description	13
Applications	13
9. 10 Minute Postpartum IUD Insertion Kit-Module S504.5 (Optional)	14
Introduction	14
Description	14
10. Spare Parts	15

Disclaimer

The **ZOE Gynecologic Simulator (S504.100)** is to be used only as part of an approved educational program for health professionals. It should not be used for clinical decision making.

Warning

To avoid permanently staining:

- Do **not** press the skin of the simulator against soiled surfaces or newsprint.
- Do **not** wrap the simulator in newsprint or other printed material (e.g., colored plastic or Saran® wrap).
- Ball point pens, ink, or markers permanently stain the skin. Do **not** write on the skin of the simulator.
- Do **not** use povidone iodine (Betadine®) or other iodine containing solutions on the simulator.

Please read “**Section 3. Instructions for Use**” before working with ZOE Gynecologic Simulator for the first time.

Caution

The ZOE Gynecologic Simulator is constructed of materials that approximate human skin texture; therefore, when handling the simulator, use the same gentle technique that you would use when examining a patient.

- Have trainees wash their hands prior to putting on examination gloves. (Always handle the simulator with clean hands).
- To make it easier to insert gloved fingers or instruments into the vagina, apply a few drops of dilute soap solution to the fingers or to the tip of instruments. (Alternatively, only use a water-based silicone lubricant, such as K-Y Jelly®).
- When palpating the abdomen, or performing bimanual examinations, use the pads of your fingers. (Do **not** palpate using fingernails as this may tear the skin)

Cleaning

- After the session is over, clean the simulator and remove all residues if lubricant was used.
- The simulator may be cleaned with a mild detergent or with soap and water. (Do **not** clean with harsh abrasives.)
- When thoroughly dry, apply a small amount of talcum powder to return the surface to a skin-like feel and appearance.

Note: Before attempting to remove the outer skin covering the rigid plastic torso; please review the how to instructions for this procedure in **Section 3**. Do **not** apply force when removing the skin from the torso.

Storage

- Store the simulator in the plastic container and carrying bag provided.
- Store in a safe place at room temperature.
- **Do not pack any sharp objects with the Simulator.**

How to Contact Gaumard®

By Email

www.gaumard.com
sima@gaumard.com
support@gaumard.com

By Phone

Toll-free in the USA: 800.882.6655
Worldwide: 305. 971.3790
Fax: 305.667.6085

Office hours

Monday-Friday, 8:00 - 4:30 PM EST (GMT-5)

Note

Before contacting Gaumard you must:

1. Have the Simulator Serial Number (if applicable) and/or model number available.
2. Have the Simulator available if troubleshooting is needed.

1. Introduction

ZOE is a full-sized, adult female lower torso (abdomen and pelvis) that combines state-of-art materials to create a realistic look, feel and texture in addition to lifelike softness and durability. It is a versatile training tool developed to assist health professionals to teach the processes and skills required to perform most ambulatory gynecologic procedures; these include interval and immediate postpartum IUD insertion, interval laparoscopic tubal ligation, and interval and postpartum minilaparotomy. The simulator is useful for demonstrating these procedures as well as providing an excellent platform on which trainees can learn how to perform the following procedures competently in a safe environment before moving on to actual patients:

- Inspection of the vulva and vagina
- Vaginal speculum examination, including visual recognition of normal and abnormal cervixes
- Bimanual pelvic examination of normal and pregnant uteri
- Vaginal speculum examination
- Uterine sounding
- Interval IUD insertion and removal
- Interval laparoscopic occlusion of fallopian tubes (e.g., Falope rings or Hulka clips)
- Minilaparotomy (both interval and postpartum tubal occlusion)
- Manual vacuum aspiration (MVA) of uterine cavity
- Instrument placement of IUD within 48 hours postpartum (with optional 48 hrs. uterus)
- Diaphragm sizing and fitting

2. Contents of the ZOE Gynecologic Simulator

The simulator consists of an adult lower torso (abdomen and pelvis) with removable skin supported by a foam insert and metal base. The simulator package contains the following:

- Nonpregnant anteverted and retroverted uteri, both with transparent half sections

- 2 simulated round ligaments and 2 ovarian ligaments
- 2 simulated tubal fimbriae and 2 ovaries
- 10 simulated Fallopian tubes for practicing tubal occlusion
- Removable introitus with vagina and rectum and 4 locking pins.
- 2 extra locking pins
- Postpartum (20 week size) uterus with attached Fallopian tubes for practicing postpartum tubal occlusion
- Pregnant uterus (6-8 week size) with short round ligaments and ovaries.
- 1 narrow cervical locking ring for attaching the cervix and uterine body together
- 1 MVA Kit consisting of:
 - 6 to 8 week size pregnant uterus with round ligaments
 - 10 to 12 week size pregnant uterus with round ligaments
 - Patent cervixes for 6-8 week and 10-12 week uteri (3 each)
- 4 nonpatent cervixes for visual recognition of normal and abnormal cervixes
- 5 patent cervixes for visual recognition of normal cervixes
- Talcum powder
- Flash light
- Soft carrying bag
- User Guide

Note: All cervixes and uterine bodies (corpuses) are detachable (see **Section 5** for description).

Also included, is a *Pelvic Examination Learning Package* CD. The purpose of the learning package is to provide health professional instructors with additional information and performance-based learning materials to:

- Assist trainees in learning to perform pelvic examinations competently, and
- Enable instructors to measure student performance objectively.

Medium skin tone is the standard simulator color; however, light or dark skin is available at no extra cost.

3. Instructions for Use

- The **ZOE Gynecologic Simulator** is shipped assembled with normal cervix, introitus with vagina and rectum, anteverted uterus with round ligaments, ovarian ligaments, tubal fimbriae, and ovaries in place (**Figure 2b**).



Figure 1a. ZOE Simulator from Front



Figure 1b. Opposite End with View Port

The “view port” (**Figure 1b**) may be used to look into the pelvis to see the simulated uterus, tubes, ovaries and other pelvic structures. In addition, the instructor can insert her/his hand through the port to determine what the trainee is actually feeling (i.e., palpating the uterus or locating an ovary) on bimanual examination. And finally, the port can be used to change uteri without removing the skin.

As shown in **Figures 2b** and **3**, the uteri are suspended within the pelvis by rubber tubes simulating the round ligaments. The clear (translucent) upper half of the uterus (**Figure 2a and 2b**) allows for viewing placement of an IUD or insertion of a uterine sound. To make palpation of the uterus easier, the round ligaments can be shortened to bring the fundus forward as shown in **Figure 3**.

Note: All rubber tubing is interchangeable.



Figure 2a. Interchangeable tubing

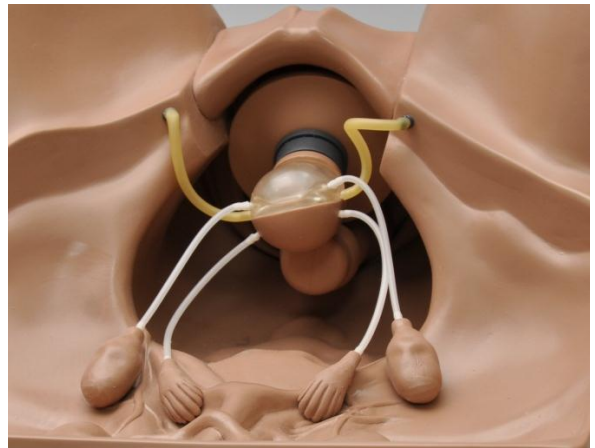


Figure 2b. Translucent anteverted uterus with round ligaments, ovarian ligaments, tubal fimbriae, and ovaries.

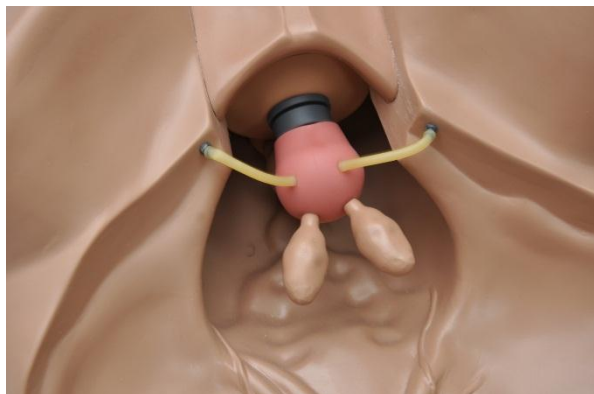


Figure 3. Pregnant uterus (6-8 week size) with short round ligaments and ovaries

Removing and Replacing the Skin

The skin and foam cover can be removed (**Figures 4**) in order to change the cervices, uteri, and/or introitus with vagina and rectum; to reattach the rubber tubing; or to clean the inside of the torso. With the skin completely off and turned over (**figure 4b**), note that the infra-umbilical and minilaparotomy incision sites are reinforced at both ends (white patches) to minimize tearing.



Figure 4a. ZOE with cover (skin) removed



Figure 4b. Skin completely off and turned over
To remove the skin:

- First, carefully detach it from the back end of the torso (end with the view port) by lifting it up.



Figure 4c. Removing skin



Figure 4d. Removing skin

- Then remove the skin from each leg before completely removing the skin.



Figure 4e. Removing skin

To replace the skin, simply reverse the procedure (i.e., begin by carefully fitting the skin over each leg and then slide it up and over the back end of the torso).

i Information

With experience all of the tasks below can be done without removing the skin, thereby minimizing the chance of tearing it.

Changing Cervices and Uteri

Figures 5a and **5b** illustrate how to change the cervix and uterus with the skin removed. A narrow locking ring (dark gray) holds the cervix firmly in place at the top of the vagina while the body of the uterus is attached to the cervix with the wide locking ring. To separate the cervix and uterus (**Figure 5a**), insert two fingers of one hand into the vagina and grasp the cervix. Gently unscrew the wide locking ring with the other hand allowing the body of the uterus to be detached and replaced with a different uterine body. To change the cervix (**Figure 5b**), first detach the uterine body and unscrew the narrow locking ring; then remove the cervix and replace it with a different one.

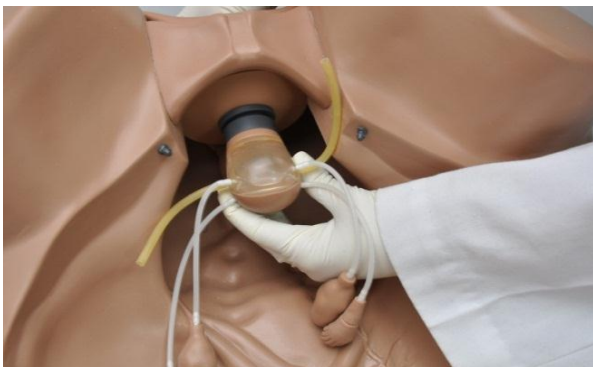


Figure 5a. Changing the Body of the Uterus



Figure 5b. Changing the Cervix

Changing Introitus with Vagina and Rectum

Figures 6a and **6b** illustrate how to change the introitus with vagina and rectum. To remove this item, detach the 4 locking pins by pulling them out (**figure 6a**). To attach a different introitus with vagina and rectum, introduce the 4 locking pins on the pelvic cavity holes, and push them using your fingers (**Figure 6b**).



Figure 6a. Removing Introitus with Vagina and Rectum



Figure 6b. Attaching Introitus with Vagina and Rectum

4. Applications

Because ZOE is a full-sized adult female lower torso that has a realistic look, feel and texture, this simulator provides an excellent platform on which instructors can demonstrate and trainees can learn how to perform many ambulatory gynecologic procedures. Several of the most common procedures, that require skill competency of the trainee before attempting to perform them with patients, are presented in this section. Working with ZOE, trainees can learn and practice these procedures in a safe environment before moving on to actual patients.

Pelvic Examination

Using the accompanying *Pelvic Examination Learning Package* CD in conjunction with learning and practicing on ZOE provides trainees with the opportunity to not only learn and practice performing a pelvic examination but also to become sensitive to the woman's feelings and concerns *before, during* and *after* performing the examination. Being able to talk to and listen to women's concerns, questions and problems is an essential component in becoming a caring and competent healthcare professional.

Speculum Examination

When performing a speculum examination with ZOE, use a medium Pederson or Graves bivalve speculum. Before inserting the speculum moisten the tips of the speculum blades with a few drops of dilute soap and water solution. Doing this makes passing the blades through the labia easier and prevents tearing the labia.



Figure 7. Inserting a Bivalve Speculum

Bimanual Examination

When performing the bimanual examination to determine the position and size of the internal genitalia (uterus, tubes and ovaries), use the pads of the fingers of the abdominal hand (**Figure 8**). (Do **not** palpate using fingernails as doing this may tear the abdominal skin of the simulator.)



Figure 8. Performing a Bimanual Examination

Interval IUD Insertion

The **ZOE Gynecologic Simulator** is an excellent skill trainer for demonstrating and teaching each step of interval IUD insertion and removal in a realistic manner – from performing the speculum and bimanual examination and applying a tenaculum to visualizing sounding the uterus and inserting the IUD. For example, instruments such as single tooth cervical tenacula can be inserted through the open speculum and repeatedly applied to those cervixes with a patent cervical os (**Figure 9**).



Figure 9. Applying a Single Tooth Tenaculum

i Information

When removing a toothed (sharp) tenaculum, be sure the teeth are free of the cervix to avoid tearing it.

Before passing a sound or other instrument, **swab the cervix** with a small amount of dilute soap and water solution. Doing this will make passing the instrument through the cervical os easier.

As shown in **Figure 10**, the IUD inserter has been passed through the speculum, then through the cervical os and into the uterine cavity. In this figure, half of ZOE's outer skin has been cut away. (In practice, the instructor would remove outer skin to permit trainees to view the procedure.)

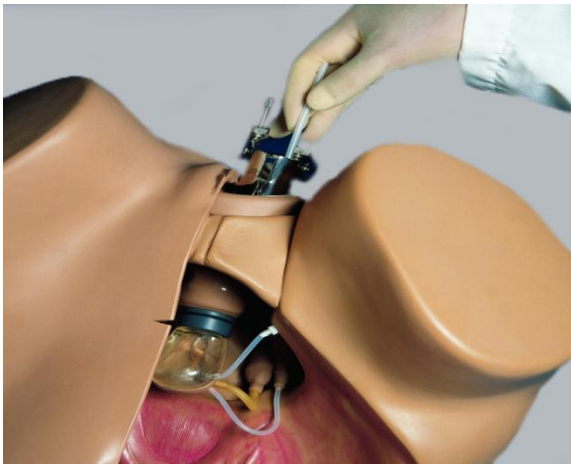


Figure 10. Demonstrating IUD Insertion with ZOE

Interval Minilaparotomy and Operative Laparoscopy

In **Figure 11**, half the outer skin has been cut away to demonstrate how a tubal hook can be passed through the minilaparotomy incision site to capture the left Fallopian tube. The tube can then be drawn up through the skin incision site, occluded and then dropped back into the abdomen.



Figure 11. Using the Tubal Hook in Minilaparotomy

Similarly, **Figure 12** shows performing operative laparoscopy, in this instance interval tubal occlusion using ZOE. As in the previous figure, half the outer skin has been cut away to demonstrate using a single puncture Laprocater®. First the Fallopian tube is identified; then it is grasped by the extended arm of the Laprocater and the tube drawn up into the distal end of the scope. This action causes a short (about 2-3 cm), U-shaped segment of the Fallopian tube to be trapped inside in the open end of the Laprocater. Next, a small silicone band (Falope Ring®) is advanced over the kinked tube; then the banded section of the tube is released. Successfully learning to perform this procedure takes practice and good hand-eye coordination.

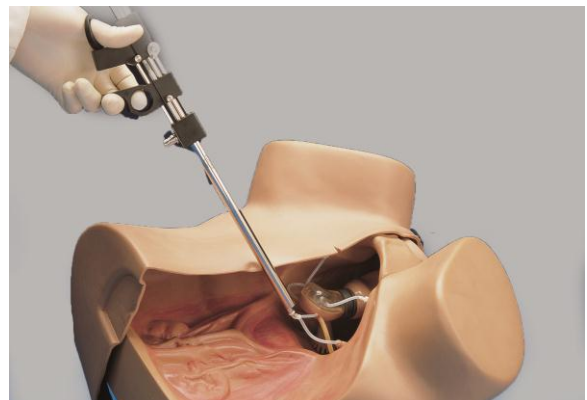


Figure 12. Operative Laparoscopy

5. Description of Cervices and Uteri

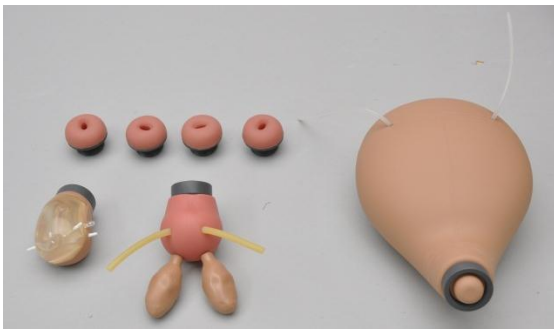
i Information

All cervices and uteri provided with the ZOE Gynecologic Simulator package can be interchanged.

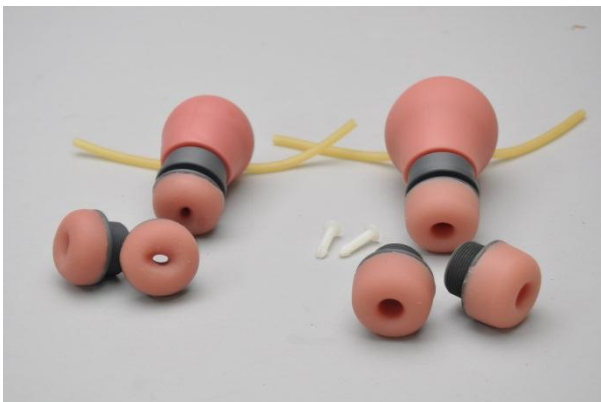
Shown below are **4 patent cervices** for visual recognition of normal cervices at the top.

Below from left to right:

- **An anteverted uterine body** (corpus) with transparent upper half
- **A pregnant uterus (6-8 week size)** with short round ligaments, and ovaries
- **A postpartum (20 week size) uterus** with attached fallopian tubes

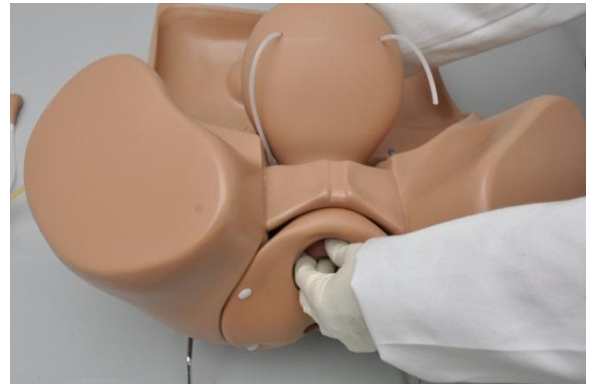


Shown below are **two uteri with round ligaments, consistent with 6-18 and 10-12 week pregnancies, and 3 cervices for each uterus**. Both can be used to practice sizing the pregnant uterus or for performing manual vacuum aspiration (MVA) for an incomplete miscarriage.



With care, single or double tooth (sharp) tenacula can be repeatedly applied and removed from these soft, resilient cervices.

The simulated **immediate (within 48 hours) postpartum uterus** (about 20 week size) with Fallopian tubes can be attached to a cervix. ZOE can then be used to practice performing tubal occlusion through the small (3-4 cm) infra-umbilical incision site.



The **four cervices** shown below are not patent (open). They can be used for identification of normal and abnormal cervical conditions. From left to right are a normal parous cervix and 3 cervices with abnormal pathologies



6. Palpation Kit –Module S504.1 (Optional)

Introduction



The palpation kit consists of **seven uteri** with normal and abnormal external pathologies.

Description

- Uterus 1: Normal uterus with moderate retroversion
- Uterus 2: Myomatous uterus
- Uterus 3: Uterus with salpingitis, right side
- Uterus 4: Uterus with salpingitis, left side
- Uterus 5: Uterus with marked anteversion-anteflexion
- Uterus 6: Uterus with deformation and salpingitis, right side
- Uterus 7: Uterus with ovarian cyst, left side

7. Hysteroscopy kit-Module S504.2 (Optional)

Introduction



The hysteroscopy kit consists of **seven uteri** with normal and abnormal internal pathologies for hysteroscopic viewing.

Description

- Uterus 1: Normal uterus with healthy internal cavity
- Uterus 2: Uterus with endometrial polyposis
- Uterus 3: Uterus with endometrial hyperplasia
- Uterus 4: Uterus with torsion of sloughing fibroid
- Uterus 5: Uterus with early carcinoma of endometrium
- Uterus 6: Uterus with advanced carcinoma of endometrium
- Uterus 7: Uterus with carcinoma of the fundus

8. 48 Hour Postpartum IUD Insertion Kit-Module S504.3 (Optional)

Introduction



Postpartum uterus (20 week size) is adapted for instrument placement of an IUD during the first 48 hours postpartum. Kit includes a removable introitus with locking pins, a duckbill cervix and uterus with simulated Fallopian tubes.

Description

To replace the standard introitus with vagina and rectum for the S504.3 introitus refer to Section 3. Instructions for Use.



The figure below illustrates how to install the 48 hour postpartum uterus with the skin removed. The duckbill cervix is already attached to the introitus with vagina and rectum.

To install the uterus, hold the cervix with one hand, and gently screw the wide locking ring with the other hand to set the body of the uterus in place.



Applications

Use of the 48 Hour Postpartum Uterus

This postpartum uterus is adapted for instrument placement of an IUD during the first 48 hours postpartum.

With this uterus in place, use a small amount of soap and water to lubricate a long curved Kelly placental forceps. Using the forceps, grasp the Copper T-380 IUD and advance the forceps into the vagina, past the cervix, and through the uterus to the fundus. At the fundus, release the IUD and remove the forceps. Cut the string as needed. The IUD may also be retrieved.

Use of S504.3 Introitus for Diaphragm Sizing and Fitting

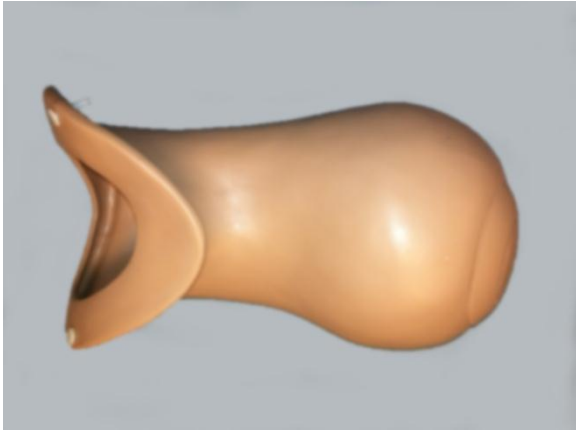
The vagina on the S504.3 Introitus has a generous distal segment suitable for fitting a 75 mm diaphragm using conventional procedures. Attach a normal anteverted or retroverted uterus and be sure to use a dilute soap solution before initiating the procedures.

Use of S504.3 Introitus to Demonstrate insertion of Female Condom

The vagina on the S504.3 introitus has a generous distal segment suitable for fitting the distal end of a female condom over the cervix. Be sure to use a dilute soap solution before initiating the procedure.

9. 10 Minute Postpartum IUD Insertion Kit-Module S504.5 (Optional)

Introduction



Postpartum uterus is adapted for instrument placement of an IUD during the first 10 minutes postpartum. Kit includes a removable introitus/uterus assembly with locking pins.

Description

To replace the standard introitus with vagina and rectum for the S504.5 introitus refer to Section 3. Instructions for Use.

With the large postpartum uterus in place, use a small amount of soap and water to lubricate a set of long latex gloves fitting at least to the elbow of the student. Grasp the Copper T-380 IUD along its medial axis, between the forefinger and the middle finger of the hand. Advance the gloved hand into the vagina, past the cervix, and through the uterus to the fundus. At the fundus, one will observe a conical device designed to trap the IUD. Gently push the IUD through the trap and release the IUD. Remove the gloved hand. Cut the string on the IUD if needed. The IUD is easily retrieved.

10. Spare Parts

ITEM	PART
Outer skin	504.100.001
Foam insert	504.100.002
Rigid base assembly	504.100.003
Removable introitus with vagina/rectum + 4 pin	504.100.004
Anteverted uterine assembly	504.100.005
Metal frame assembly	504.100.006
Carrying bag	504.100.007
Postpartum uterus (20-wk size)	504.100.008
Cervices (4 abnormal)	504.100.009
Cervices (5 normal), patent	504.100.010
Retroverted uterine assembly	504.100.011
Set of 10 fallopian tubes	504.100.012
Talcum powder	504.100.013
Early pregnancy kit	504.100.014
Set of 2 cervical locking rings	504.100.015
Set of 2 locking pins	504.100.016
Anteverted uterus for palpation	504.100.017
Ovary-set of 2	504.100.018
Fibrae-set of 2	504.100.019
Skin repair/replacement	RA-504.100