EUROPEAN FEDERATION FOR COLPOSCOPY

5th Satellite Meeting and Training the Trainers

Hotel Pullman Brussels Centre Midi

15th December 2017
Training the Trainers

16th December 2017
5th EFC Satellite Meeting

EUROPEAN FEDERATION FOR COLPOSCOPY

Training the Trainers

Dr Xavier Carcopino

Chair Education Committee of EFC

European Federation for Colposcopy
and Pathology of the Lower Genital Tract

USE OF TRAINING MODELS FOR TREATMENT OF CIN

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Conflict of interest: None

LLETZ PROCEDURE

- One of the most common procedures in operative gynaecology
- France: 25000 LLETZ procedures per year
- Routine part of the surgical training program of residents
- **No established / standardized method of teaching**
- Typically, learning-by-doing approach with experts demonstrating and assisting procedures:
  - Subjective
  - Methodological and ethical issues

standardized, reliable, and efficient methods of teaching
Training models+++

TRAINING MODELS IN LAPAROSCOPIC SURGERY: Genuine benefits

Gurusamy et al. Cochrane 2014

Laparoscopic surgical box model training for surgical trainees with no prior laparoscopic experience:

- Reduction of time for task completion
- Lower error score
- Better accuracy scores
- Better performance composite scores

Laparoscopic box model training appears to **improve technical skills** compared with no training in trainees with no previous laparoscopic experience. The impacts of this decreased time on patients and healthcare funders in terms of improved outcomes or decreased costs are unknown.

Cochrane Library

Cochrane Database of Systematic Reviews

TRAINING MODELS IN LAPAROSCOPIC SURGERY: Genuine benefits

Nagendran et al. Cochrane 2014

Laparoscopic surgical box model training for surgical trainees with limited prior laparoscopic experience:

- **Shorter operating time** (MD - 6.50 minutes; 95%CI -10.85 to -2.15)
- **Higher proportion of patients discharged as day-surgery** (24/24 vs. 15/26; RR 1.71; 95%CI 1.23 to 2.37)
- **Better operating performance** (SMD 0.84; 95%CI 0.57 to 1.10).

Procedures: laparoscopic total extraperitoneal hernia repairs, laparoscopic cholecystectomy, laparoscopic tubal ligation, laparoscopic partial salpingectomy, and laparoscopic bilateral mid- segment salpingectomy

Cochrane Library

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TRAINING MODELS IN LAPAROSCOPIC SURGERY: Genuine benefits

Nagendran et al. Cochrane 2013

Virtual reality training for surgical trainees in laparoscopic surgery

when compared with no supplementary training or with box-trainer training:

- Decreases the operating time (by about 10 minutes)
- Improves the operative performance

Cochrane Library

Cochrane Database of Systematic Reviews

1ST PUBLICATION

Reeves et al. Obstet Gynecol 1999

Development of a **simple** and **inexpensive model**

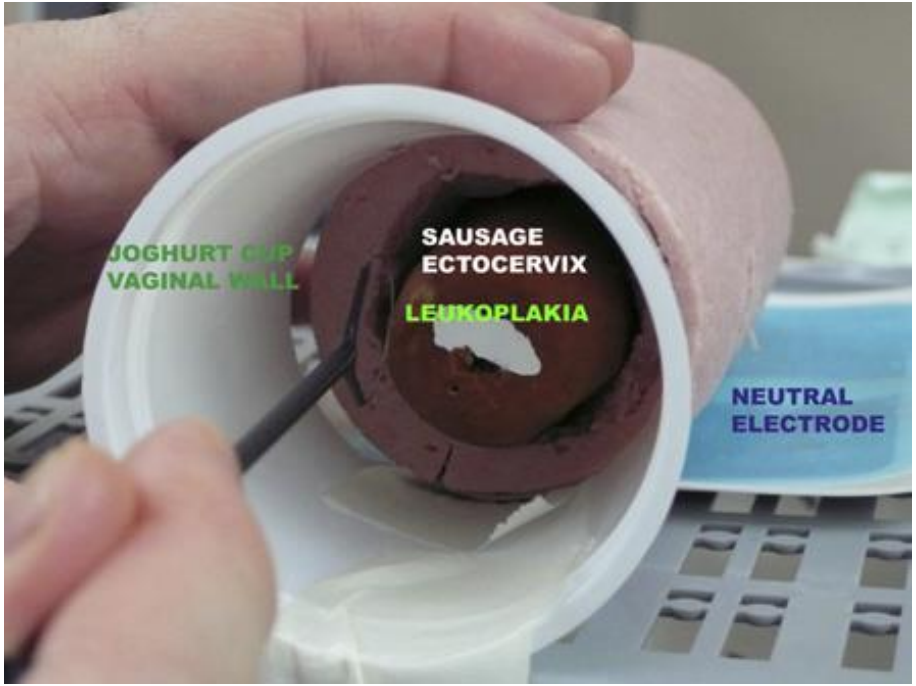
- Cardboard tube / vagina
- Vaginal speculum
- Sausage / grounding pad

Procedure performed under colposcopic direct vision

LLETZ TRAINING MODEL

Helps in improving performances

Hefler et al. Am J Obstet Gyn 2012



LLETZ TRAINING MODEL

Helps in improving performances

Hefler et al. Am J Obstet Gyn 2012

OSATS Scoring Sheet - LEEP

Participant Initials: **ID:**

	Yes	No
1. Aceto-whitening of the uterine cervix		
2. Cervix is grasped with an Allis clamp		
3. Aceto-whitening performed BEFORE clamp is placed		
4. Cervical canal is explored using a Hegar dilator, correct handling of dilator (btw. two fingers)		
5. Adequate size of loop is chosen (smallest possible)		
6. Adequate handling of the handheld shaft		
7. Loop is carefully passed simultaneously around and under the transformation zone		
8. Adequate distance is kept to vaginal walls in order to avoid thermal damage		
9. Specimen is grasped with surgical grasper and is marked with sutures on ecto- and endocervical margins		
10. Cervical canal is explored using a Hegar dilator, correct handling of dilator (btw. two fingers)		
11. Smallest available loop is chosen for the resection of an endocervical cone		
12. Loop is carefully passed simultaneously around and under the endocervical canal		
13. Specimen is grasped with surgical grasper		
14. Cervical canal is explored using a Hegar dilator, correct handling of dilator (btw. two fingers)		
15. Endocervical curettage is performed		
16. Hemostasis is obtained using a Ball electrode, systematically with adequate speed		
17. Cervical canal is explored using a Hegar dilator, correct handling of dilator (btw. two fingers)		
18. Removal of Allis clamp		
19. Inspection of specimen shows complete removal of transformation zone (2 points)		
20. Inspection of specimen shows endocervical canal completely intact (2 points)		
Name of assessor **Date**	**Total Points**	

LLETZ TRAINING MODEL
Helps in improving performances

Hefler et al. Am J Obstet Gyn 2012

51 participants' technical skills assessed before and after training completion:

- LEEP performance was significantly better after completion of the training (*P* .001).
- Before / after training mean scores (SD): 18.0 (3.5) vs. 23.4 (2.1)
- Training effects were independent of previous surgical expertise.

LLETZ TRAINING MODEL
Helps in improving performances

Hefler et al. Am J Obstet Gyn 2012

Not solely for LEEP, and complication management

Hands-on simulation-based training was conducted to emphasize

- Colposcopy
- local anesthesia
- Uterine, cervix and vulva punch biopsy

INEXPENSIVE & REUSABLE TRAINING MODEL FOR LLETZ

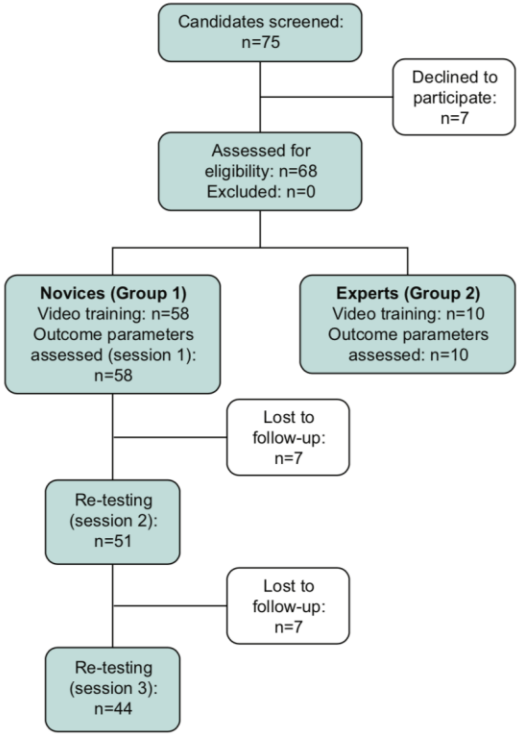
Walters et al. J Grad Med Ed 2013

No formal assessment with pre/post test scores

"We believe that this LEEP model not only improves patient safety and an intern's LEEP skills, but also allows for an assessment of skills in a nonclinical setting".

A PROSPECTIVE COHORT STUDY

Rezniczek et al. Medicine 2017



A PROSPECTIVE COHORT STUDY

Rezniczek et al. Medicine 2017

Objective structures assessment of technical skills checklist.

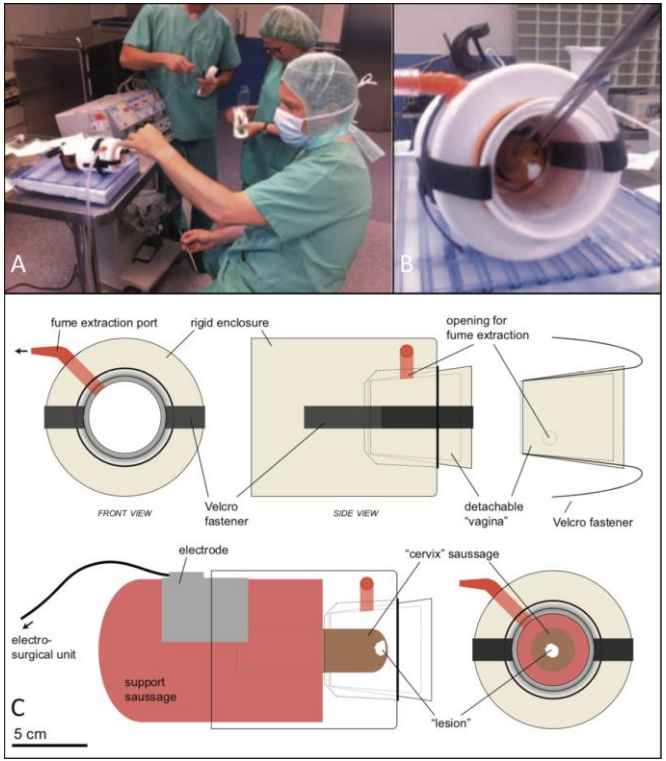
Steps:	Yes	No
1. Application of a 5% acetic acid solution to the cervix		
2. Identification of the acetowhite lesion		
3. Grasping the cervix with a forceps outside of the acetowhite lesion		
4. Identification of the cervical canal using a Hegar dilator		
5. Choice of the appropriate loop size		
6. Proper holding of the loop's handle		
7. Excision of the cone using adequate speed		
8. Appropriate distance to vaginal wall is kept (heat damage)		
9. Removal of the cone using small forceps by maintaining specimen orientation; marking of orientation		
10. Check if the complete lesion is on the specimen		
11. Identification of the cervical canal using a Hegar dilator		
12. Choice of a rectangular loop with the smallest available diameter for the excision of additional endocervical tissue ('cowboy hat' configuration)		
13. Excision of the endocervical cone using adequate speed		
14. Removal of the endocone using small forceps		
15. Check if the cervical canal is identifiable on the specimen by placing a Hegar dilator through the canal		
16. Identification of the cervical canal using a Hegar dilator		
17. Endocervical curettage		
18. Achieving hemostasis with a ball electrode by taking care not to coagulate the cervical os		
19. Removal of forceps		
20. Coagulation of the forceps wounds		
OSATS score (max. 20)		
PT: seconds		
GRS: 1 to 5*		
CON: 1 to 5*		
Additional data obtained:		
Speed of cone excision is measured in steps 7 and 13.		
Weights and depths of the cones are determined.		
Cone fragmentation rates (FR) are noted.		

CON = confidence, GRS = global rating scale, OSATS = Objective Structured Assessment of Technical Skills, PT = performance time.

* Self-assessed and rater-assessed; see Fig. 3 for scale details.

A PROSPECTIVE COHORT STUDY

Rezniczek et al. Medicine 2017



A PROSPECTIVE COHORT STUDY

Rezniczek et al. Medicine 2017

Characteristics of study probands.

	Novices	Experts	*P*
N	58	10	
Age, y	27.0 ± 4.6 (24.9; 22.4–41.4)	42.2 ± 8.3 (41.6; 33.7–60.1)	<.001
Sex, male/female	16 (28%)/42 (72%)	6 (60%)/4 (40%)	.046
Right/left handed	55 (95%)/3 (5%)	10 (100%)/0 (0%)	.48
Regular sports activity	31/58 (53%)	0/10 (0%)	.002
Curriculum type (model/regular)	4 (7%)/54 (93%)	–	

Note: Values are reported as mean ± SD (median; range), absolute numbers (percentage), or fractions (percentage); *P*-values were calculated using the Mann–Whitney *U* test.

A PROSPECTIVE COHORT STUDY

Rezniczek et al. Medicine 2017

Comparison of performance scores in training sessions 1–3 in surgical novices.

	Session 1	Session 2	Session 3	P*
N	58	51	44	
GRS				
Self-assessed	2.4±0.8 (2; 1–5)	2.2±0.6 (2; 1–3)	2.1±0.7 (2; 1–3)	.001[a]
Rater-assessed	2.3±1.3 (2; 1–4)	1.9±0.7 (2; 1–3)	1.4±0.6 (1; 1–3)	<.001[a]
CON				
Self-assessed	2.6±0.8 (3; 1–4)	2.4±0.8 (2; 1–4)	2.1±0.9 (2; 1–4)	<.001[a]
Rater-assessed	2.7±0.9 (3; 1–5)	2.2±0.9 (2; 1–4)	1.6±0.6 (2; 1–3)	<.001[a]
Ectocone				
Complete removal of the acetowhite area	47/58 (81%)	48/51 (94%)	44/44 (100%)	<.001[a] .006[c]
FR	1/58 (2%)	1/51 (2%)	2/44 (5%)	.50[a] .84[c]
Weight, mg	1053±606	968±658	1108±714	.64[b]
Height, mm	6.3±2.2	5.2±2.2	5.8±2.2	.08[b]
Cut duration, s	3.9±1.5	3.6±1.2	3.5±1.2	.12[b]
Endocone				
Cervical canal included	51/58 (88%)	47/51 (92%)	41/44 (93%)	>.99[a] .58[c]
FR	9/58 (16%)	9/51 (18%)	5/44 (11%)	.82[a] .75[c]
Weight, mg	442±295	493±342	427±253	.41[a]
Height, mm	5.1±2.4	4.9±2.2	4.9±2.1	.71[b]
Cut duration, s	3.3±1.1	3.5±1.9	3.1±1.0	.17[b]
PT, s	152±33	133±32	120±27	<.001[b]
OSATS score	18.8±1.3	19.0±1.1	19.1±1.1	.16[a]

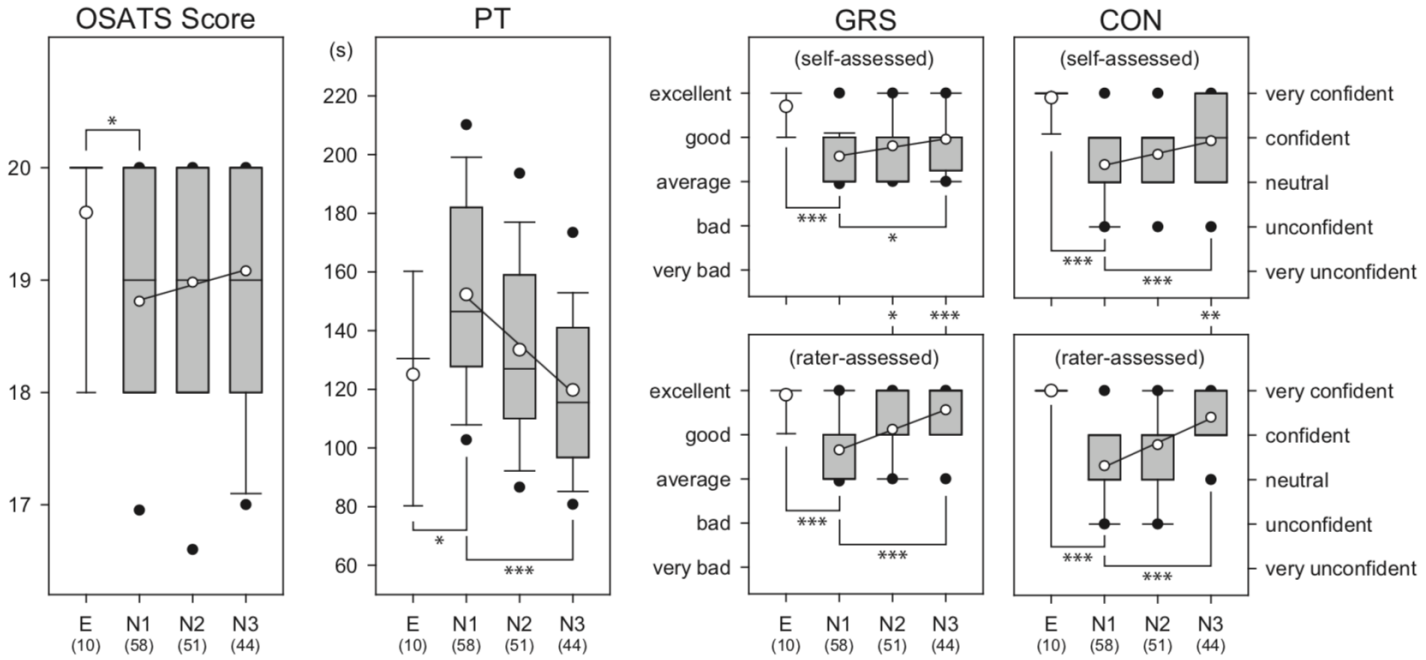
Note: Values are reported as mean±SD (median; range) or ratios (percentage).

* *P* values compared training session 1 versus 3 and were calculated using the Wilcoxon signed rank test,[a] or paired *t* test (two-tailed)[b] after testing for normality according to Shapiro–Wilk, or χ^2 test (with Yates' correction).[c]

CON = confidence, FR = fragmentation rate, GRS = global rating scale, OSATS = Objective Structured Assessment of Technical Skills, PT = performance time.

A PROSPECTIVE COHORT STUDY

Rezniczek et al. Medicine 2017



HOW TO BUILD A LLETZ MODEL

Connor et al. AJOG 2014

What you need:

- PVC fittings
  - Standard T with female thread sockets
  - Male threaded adapter
- Metal or plastic fender washer
- Particle board
- Superglue
- Sausages (low fat content)

HOW TO BUILD A LLETZ MODEL

Connor et al. AJOG 2014

https://www.youtube.com/watch?v=KZLfKTcNygo

HOW TO BUILD A LLETZ MODEL

Connor et al. AJOG 2014

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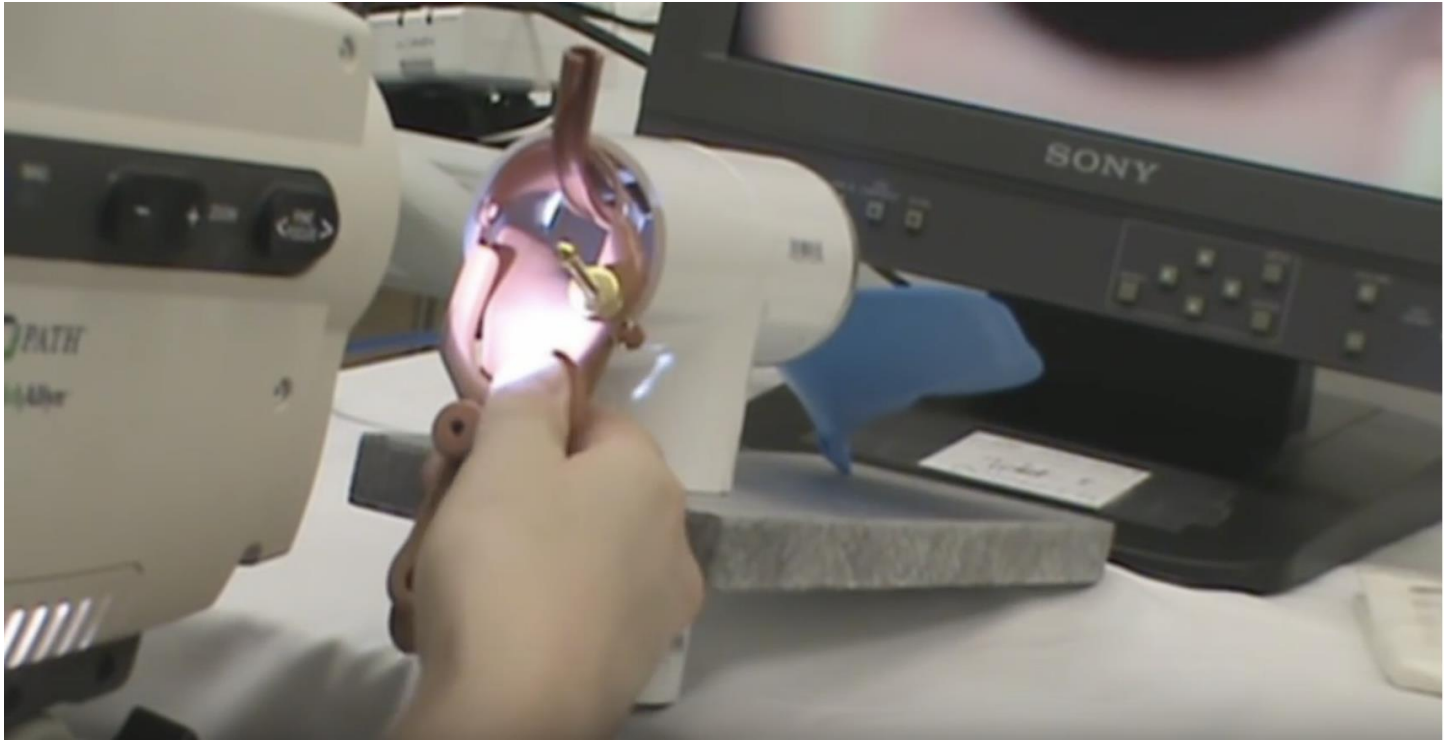
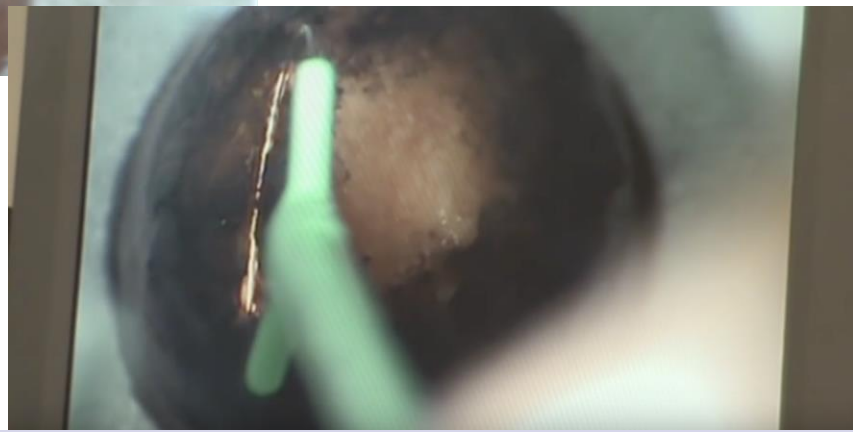


HOW TO BUILD A LLETZ MODEL

Connor et al. AJOG 2014



RECENT PUBLICATION
Same results

Evaluation of a Low-Fidelity Surgical Simulator for Large Loop Excision of the Transformation Zone (LLETZ)

Wilson, Erin B. MBBS; Beckmann, Michael M. MBBS; Hewett, David G. PhD, MBBS; Jolly, Brian C. PhD; Janssens, Sarah MBBS

Simulation in Healthcare: October 2017 - Volume 12 - Issue 5 - p 304–307

AVAILABLE MODEL

LLETZ Learn ® training simulator

DTR Medical®

AVAILABLE MODEL

LLETZ Learn ® training simulator

DTR Medical®

CONCLUSIONS

- LEEP workshops using models are feasible and effective
- Implementing hands-on LEEP training into gynaecology training programs should be recommended
- Repeated hands-on trainings of LLETZ using this surgical training model will significantly improve the surgical skills of novices
- Not solely for LLETZ practice

41è Congrès National de la SFCPCV

19 et 20 Janvier 2018

Les colposcopies difficiles

Nouveau lieu :

Le Beffroi de Montrouge

2 Place Emile Cresp
92120 - Montrouge
Salle Moebius

Mairie de Montrouge

Cours avancé de colposcopie

Jeudi 18 janvier 2018

SFCPCV

Société Française de Colposcopie et de Pathologie Cervico-Vaginale