innovating to save lives

Jhpiego

an affiliate of Johns Hopkins University

LEEP Clinical Skills Training

Course Notebook for Trainers

Jhpiego is an international, non-profit health organization affiliated with The Johns Hopkins University. For more than 40 years, Jhpiego has empowered frontline health workers by designing and implementing effective, low-cost, hands-on solutions to strengthen the delivery of health care services for women and their families. By putting evidence-based health innovations into everyday practice, Jhpiego works to break down barriers to high-quality health care for the world's most vulnerable populations.

Published by:
Jhpiego Corporation
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INTRODUCTION

Each year, there are nearly 530,000 new cases of cervical cancer and 266,000 deaths due to cervical cancer worldwide, and approximately 85% occur in less-developed countries. Because precancerous lesions typically have a slow progression through the precancerous stage to invasive cervical cancer, they can be treated to prevent the development of cancer. Regardless of the screening method used (e.g., visual inspection with acetic acid [VIA], human papillomavirus [HPV] testing, cytology), it must be linked to treatment.

Various treatment methods exist for precancerous lesions. A common method in low-resource settings is cryotherapy, because it is effective, can be used in a single-visit approach, non-physicians can be competently trained to perform the procedure, and it requires fewer resources than other treatment methods. However, 10–15% of women with precancerous lesions will have lesions that are not eligible for cryotherapy (e.g., lesions are too large or extend into the endocervical canal). Furthermore, the rates of large lesions appear to be higher in HIV+ women.

Loop Electrosurgical Excision Procedure (LEEP) is an effective treatment method for precancerous lesions—for a much wider range of lesion size and location. The World Health Organization (WHO) expert panel (WHO 2011) states that in settings where LEEP is available and accessible, women with precancerous lesions not eligible for cryotherapy should have LEEP performed. It is clear that LEEP is an important component of a high-quality, comprehensive cervical cancer prevention (CECAP) program.

This course aims to save women's lives by training providers to deliver high-quality LEEP services as part of a comprehensive CECAP program.

LEEP COURSE OVERVIEW

Course Description

Welcome to the LEEP clinical skills training course! This course is designed to provide the learning and practice opportunities providers need to develop competency in delivering high-quality LEEP services to women.

In order to do this, the course will be very participatory and interactive, helping to create an environment that is conducive to learning. The development and assessment of skills throughout the course will focus more on performance (a combination of knowledge, skills, and attitudes), than knowledge by itself, or what has been memorized. This is because clients deserve providers who are able to provide safe and effective services, not just be knowledgeable about them. A variety of educational technologies will be used to maximize the effectiveness and efficiency of course activities, enhancing your learning experience while conserving valuable resources.

Course Goals

- To provide the participant with the knowledge, skills, and attitudes necessary to provide high-quality LEEP services.

LEARNING OBJECTIVES

By the end of the course, the participant will be able to:

- Discuss the epidemiology, pathophysiology, and natural history of HPV, precancerous cervical lesions, and cervical cancer.
- Understand the relationship between HIV infection and the development of precancerous cervical lesions and cervical cancer.
- Explain how LEEP treats precancerous cervical lesions.
- Discuss treatment options for precancerous cervical lesions, including indications and contraindications for LEEP, its limitations, as well as the advantages and disadvantages of LEEP.
- Demonstrate appropriate assessment and counseling (pre-procedure and post-procedure) of women for LEEP.
- Demonstrate appropriate infection prevention (IP) practices related to LEEP service provision.
- Describe the potential side effects and complications of LEEP and how to manage them.
- Demonstrate competence in performing LEEP.
- Demonstrate proper maintenance and storage of equipment, instruments, and supplies used for LEEP services.
- Describe the organization and management of a high-quality LEEP program, including quality assurance and quality improvement activities.

LEEP PARTICIPANT SELECTION CRITERIA

LEEP participant selection criteria should include:

- The participant is a motivated physician*, competent in a visual inspection method (visual inspection with acetic acid [VIA]), visual inspection with Lugol's iodine (VILI), or colposcopy), who will be able to provide LEEP services on a regular and continual basis.

  ***Note:** Depending on the country and local context, other non-physician providers may be selected to be LEEP providers.

- The participant must be working at a site: 1) where CECAP services are being provided or are planned to start immediately; and 2) that will provide institutional support for LEEP services (i.e., has a LEEP unit, supplies, and equipment to conduct the services, ready access to an operating theater, and linkages with pathology and referral facilities as needed).
- The participant is able and willing to commit to the full training course and follow-up.
- The participant has the support of her/his supervisors or managers to achieve the team-based action plan developed for her/his site prior to, and following, the training course. Action plans should include the following elements:

Early commitment to the action plan, ideally before the training begins.

Realistic goal-setting. Ensure that the goals are specific, measurable, achievable, and realistic.

Quality assurance/monitoring and evaluation mechanisms that include transfer of learning (post-training follow-up) and ongoing supportive supervision visits.

- Initially, priority should be given to providers with obstetric and gynecologic surgical skills (such as cone biopsy, repair of cervical lacerations, etc.).

COURSE DESIGN

Throughout the course, the trainer will use a variety of approaches to develop the participants' knowledge, skills, and attitudes, as well as to assess their performance. Key knowledge and skills development and performance assessment methods and processes are described briefly below.

Knowledge Update

During the morning of the first day, participants are introduced to the key features of the course and are briefly assessed (using the **Precourse Knowledge Assessment**, a standardized written test) to determine their individual and group knowledge about the provision of LEEP services. Based on the results of this assessment, the trainer(s) and participants identify the group's strengths and weaknesses, and decide what adjustments should be made to the course schedule/outline in terms of time allotted to topics and activities.

The knowledge component of the course includes interactive presentations, discussions, and other activities designed to help participants develop an understanding of the latest, evidence-based information about LEEP and the provision of high-quality LEEP services.

Progress in knowledge-based learning is assessed informally during the course through discussions and other activities. It is formally measured using a standardized written test, the Final Knowledge Assessment. A score of 85% or more indicates mastery of this material. For participants scoring less than 85% on their first attempt, the clinical trainer will review the results with the participant individually and provide guidance on using the learning resource package to learn the required information. Participants scoring less than 85% can take the test again at any time during the remainder of the course, or shortly following the course.

Skills Development and Assessment

Classroom and clinic sessions focus on **key aspects of LEEP service delivery** (e.g., counseling and screening of clients, performing LEEP, and managing side effects and other potential problems during follow-up).

Participants will first practice skills "in simulation" on anatomic models or counseling in role plays using a detailed, step-by-step **LEEP Counseling and Clinical Skills Checklist**, which lists the key steps in counseling and screening clients and performing LEEP. In this way, participants learn the skills needed to provide LEEP services more quickly and in a standardized manner, without placing

clients at risk. Once the trainer determines that a participant has achieved an adequate level of skill with anatomic models (i.e., in simulation), the participant will be able to practice the new skills in the clinical setting with actual clients. Progress in learning new skills is assessed (formally and informally) and documented throughout the course using the **LEEP Counseling and Clinical Skills Checklist**.

Achieving Competency

The responsibility for achieving competency is shared by the participant and the trainer. This determination is based on demonstrated mastery of, or competency in, the following areas:

Knowledge: A score of at least 85% on the Final Knowledge Assessment.

Skills: Demonstrated ability to provide LEEP counseling and clinical services in the clinical setting (as outlined by the checklist), safely, effectively, and independently.

Note: While there is not a predetermined number of cases needed to perform in order to achieve/demonstrate competency, the unique skill sets required for LEEP (and the risks associated with the procedure) require a greater number of cases than a procedure such as cryotherapy. Therefore, it is strongly recommended that a participant perform a *minimum* of 5 cases (except in special circumstances) before a trainer can determine competency.

Specific skills the participants will need to demonstrate by the end of the course (and assistants if attending the course), include:

- Ability to perform VIA and identify precancerous lesions on the cervix and those that are suspicious for cancer (LEEP providers only)
- Competence in patient counseling (pre- and post-procedure) (All)
- Competence in infection prevention practices for LEEP (All)
- Competence in assembling and setting up supplies, instruments, and equipment for LEEP (All)
- Competence in performance of LEEP (LEEP providers only), including:

  Performing simulated LEEP on models

  Performing LEEP on patients under observation and supervision by the trainer
- Correct use of the LEEP checklist (All)
- Competence discussing potential side effects and complications associated with LEEP, as well as the appropriate management (LEEP providers only)

Attitudes: Through this domain, the participants adopt the professional demeanor and behaviors that enable them to apply their newly acquired LEEP knowledge and skills in the overall context of high-quality services. This includes:

- Demonstrate respect for clients, family, and friends in verbal and non-verbal ways.

Post-Training Follow-Up

After the LEEP training course, the trainer's job continues. Within 2–6 weeks following the course, the trainer(s), or other designated LEEP-trained supervisors, should visit the participants and their immediate supervisors at their respective worksites, to ensure that the knowledge, skills, and attitudes acquired during the training have been transferred to the site, resulting in improved CECAP services for women. Ideally, the first visit should occur within 2 weeks, and no later than 6 weeks, after training activities have been completed. Additional supportive supervision visits should be scheduled based on individual and team needs of the participants. Trainers should develop a schedule of visits before the participants return to their worksites.

Note: As mentioned above, because a participant requires a greater number of LEEP cases to develop competency in the procedure as compared to cryotherapy, it is essential that the participant be able to practice as many cases as possible during the course. At times, there may not be enough cases during the course itself (for a number of reasons) to achieve that objective. Therefore, plans should be in place to get more cases for the participant(s) by continuing the training either at the training site or the participant's home health facility following the course. This should be part of the training planning and will be covered in more detail in **Section 3: Tips for Trainers.**

This post-course assessment is important for several reasons. First, it not only gives the newly trained providers direct feedback on their performance (so that they can work on further strengthening their LEEP skills), but also provides the opportunity for them to discuss any start-up problems or constraints to implementing LEEP in service delivery (e.g., due to lack of instruments, supplies, or support staff). Second, and equally important, it provides the training center, via the clinical trainer, key information on the adequacy of the training and its appropriateness to local conditions. With this type of feedback, programs can be improved in a targeted manner to better meet the needs of providers and communities. Without this type of feedback, training easily can become routine, stagnant, and irrelevant to service delivery needs.

Training often fails to produce long-term results when attention is not given to transfer of learning to the workplace. Application of newly acquired skills to the job is not the responsibility only of the participants, but also of the trainer, the training/service delivery organization, and provincial or district health offices and facility heads. All should make every effort to ensure that each participant has the opportunity, resources, and motivation to apply the learning on the job.

COURSE SYLLABUS

This 7-day clinical training course is designed to prepare the participant to become competent in LEEP and achieve the goals and objectives of the course, and allow opportunity for a sufficient number of LEEP cases per participant.

- Illustrated lectures and group discussion
- Individual and group exercises
- Role plays

- Simulated practice with anatomic (pelvic) models
- Guided clinical activities (focusing on counseling, screening, and performance of LEEP, as well as care and maintenance of LEEP instruments and equipment)

LEARNING MATERIALS

- Reference Manual
- Guide for Participants
- Anatomic models for practicing LEEP
- PowerPoint presentations and job aids

METHODS OF ASSESSMENT

- Precourse and Final Knowledge Assessment
- Clinical Skills Checklists for LEEP services

Course:

- Course Evaluation (to be completed by each participant)

Course Duration:

- 7 days, 14 sessions
- In addition, sessions at clinical sites or outreach clinics immediately following the course, as feasible, to increase the caseload and practical experience for the LEEP participant

SUGGESTED COURSE COMPOSITION

Ideally, LEEP training is provided for "teams" from each selected LEEP site. The LEEP team should consist of at least two individuals: the LEEP provider and the LEEP assistant. Their specific roles and responsibilities should be clearly defined at each site, and will require some overlap and teamwork to ensure a well-functioning LEEP clinic:

- LEEP provider: This member of the team should be a physician who will direct and be responsible overall for the LEEP program at the site, including performance of LEEP.
- Assistant: This member of the team should be an individual who will manage clinic flow and assist with referrals, maintenance of the register/logbook, maintenance and storage of instruments and supplies, and infection prevention activities.

Recommended size of the course (number of participants) is discussed further in **Section Two: Guide for Trainers.** Briefly, the limiting factor in course size is the projected number of LEEP cases that can be practiced by each participant during the course. This number is influenced by many factors:

- Number of LEEP cases that can be recruited

- Number of LEEP trainers/supervisors
- Number of LEEP stations that can be used (influenced by number and availability of adequate rooms, tables, and LEEP equipment, instruments, and supplies)
- Length of the course

The following is an outline of a typical 7-day course schedule.

Loop Electrosurgical Excision Procedure (LEEP) Model Course Schedule (7 days, 14 sessions)

Day 1	DAY 2	DAY 3
AM (240 minutes) **Opening (30 minutes)** • Welcome • Introductions • Group norms and expectations **Overview of Course (30 minutes)** • Goals and objectives • Course schedule and materials **Precourse Knowledge Assessment (PKA) (20 minutes)** **Review PKA (10 minutes)** **Tea Break (30 minutes)** **Illustrated Lecture: Review HPV/Cervical Dysplasia, Cancer, and Screening (20 minutes)** **Illustrated Lecture: Overview of LEEP (40 minutes)** **Illustrated Lecture/Demo: Essential IP for LEEP (20 minutes)** **LEEP Demonstration (40 minutes)** • Include review of LEEP checklist	**AM (270 minutes)** **Agenda and Recap (10 minutes)** **Review Checklists, Reference Materials (20 minutes)** **Demonstration/Practice on Model (170 minutes total)** • 2 groups: 1 – LEEP; 2 – Counseling, IP **Tea Break (30 minutes – work in)** **Demonstration/Practice on Models (cont.)** • 2 groups: 1 – LEEP; 2 – Counseling, IP **M&E Overview:** Documentation and Reporting **(40 minutes)** • Forms, logbook • Referrals	**AM (270 minutes)** **Agenda and Recap (10 minutes)** **Clinical Practice (variable)** Observe/assist/provide services in the clinic under supervision • Counseling • LEEP • Documentation
LUNCH (60 minutes)	**LUNCH (60 minutes)**	**LUNCH (60 minutes)**
PM (180 minutes) **Warm-Up (5 minutes)** **Illustrated Lecture: Routine Follow-Up and Overview Management of Complications (30 minutes)** **Review Counseling Skills (45 minutes)** • Client/Patient rights • Key messages for LEEP **Tea Break (15 minutes)** **Demonstration/Practice on Models (75 minutes)** • 2 groups: 1 – LEEP; 2 – Counseling, IP **Review of Day's Activities/Plans for Tomorrow (10 minutes)**	**PM (180 minutes)** **Warm-Up (5 minutes)** **Review (20 minutes)** • Eligibility criteria • Follow-up • Management of complications • Processing of instruments **Demonstration/Practice on Models (110 minutes total)** • 2 groups: 1 – LEEP; 2 – Counseling, IP **Tea Break (15 minutes – work into above)** **Visit Clinic Site (20 minutes)** **Review of Day's Activities/Plans for Tomorrow (10 minutes)**	**PM (variable0** **Warm-Up (5 minutes)** **Review of Clinical Practice (30 minutes)** • Discuss clinic observations and documentation **Basic Maintenance and Care of LEEP Equipment and Supplies (45 minutes)** **Tea Break (15 minutes)** **Practice on Models as Needed** **Review of Day's Activities/Plans for Tomorrow (10 minutes)**
Reading Assignment: Review LEEP Reference Manual and Checklist	**Reading Assignment:** Review LEEP Reference Manual and Checklist	**Reading Assignment:** Review LEEP Reference Manual and Checklist

Day 4	Day 5	Day 6	Day 7
AM (270 minutes) **Agenda and Recap (10 minutes)** **Clinical Practice (variable)** Observe/assist/provide services in the clinic under supervision: • Counseling • LEEP • Documentation	**AM (270 minutes)** **Agenda and Recap (10 minutes)** **Clinical Practice (variable)** Observe/assist/provide services in the clinic under supervision: • Counseling • LEEP • Documentation	**AM (270 minutes)** **Agenda and Recap (10 minutes)** **Clinical Practice (variable)** Observe/assist/provide services in the clinic under supervision: • Counseling • LEEP • Documentation	**AM (270 minutes)** **Agenda and Recap (10 minutes)** **Clinical Practice (variable)** Observe/assist/provide services in the clinic under supervision: • Counseling • LEEP • Documentation
LUNCH (60 minutes)	**LUNCH (60 minutes)**	**LUNCH (60 minutes)**	**LUNCH (60 minutes)**
PM (variable) **Warm-Up (5 minutes)** **Review of Clinical Practice: (30 minutes)** • Discuss clinic observations and documentation **Review: (45 minutes)** • Managing complications • Serious adverse events • Processing of instruments **Tea Break (15 minutes)** **Practice on Models as Needed (75 minutes)** **Review of Day's Activities/Plans for Tomorrow (10 minutes)**	**PM (variable)** **Warm-Up (5 minutes)** **Review of Clinical Practice: (30 minutes)** • Discuss clinic observations and documentation **Monitoring of Supplies/Forecasting (45 minutes)** **Tea Break (15 minutes)** **Practice on Models as Needed (75 minutes)** **Review of Day's Activities/Plans for Tomorrow (10 minutes)**	**PM (variable)** **Warm-Up (5 minutes)** **Review of Clinical Practice: (30 minutes)** • Discuss clinic observations and documentation **Final Knowledge Assessment and Review (45 minutes)** **Tea Break (15 minutes)** **Discussion:** Starting and Running a LEEP program **(60 minutes)** • Essential components • Referral pathways **Next Steps/Action Plans (15 minutes)** **Review of Day's Activities/Plans for Tomorrow (10 minutes)**	**PM (140 minutes)** **Warm-Up (5 minutes)** **Review of Clinical Practice: (30 minutes)** • Discuss clinic observations and documentation **Discussion: (60 minutes)** • Review Action Plans • Other remaining issues **Tea Break (15 minutes)** **Course Evaluation (10 minutes)** **Closing Ceremony (20 minutes)**
Reading Assignment: Review LEEP Reference Manual and Checklist	**Reading Assignment:** Review LEEP Reference Manual and Checklist	**Action Plans**	

TRAINING APPROACH USED

In the context of clinical skills training, the mastery learning approach assumes that all participants can master—or "achieve competency" in—the knowledge and skills required to provide a specific health service, provided that sufficient time is allotted and appropriate training methods are used. The goal of mastery learning is for 100% of those being trained to be competent in providing services by the end of the course. **Skill competency** means that the provider knows the steps and their sequence and can perform the required skill or activity safely, effectively, and independently at a "beginning level," which is the goal of the course.

Providers will become proficient in a skill only after they have regularly used it in the workplace. **Skill proficiency** means that the provider knows the steps and their sequence, and efficiently performs the required skill or activity.

Key points about the mastery learning approach, as used in this course, include:

- From the outset, **participants know (as individuals and a group) what they are expected to learn** and where to find the information they need. They have ample opportunity for discussion with the clinical trainer about course content and their performance. This makes the training less stressful.
- Because people vary in their abilities to absorb new material, and learn best in different ways (e.g., through written, spoken, or visual means), a **variety of learning methods** are used. This helps to ensure that all participants have the opportunity to succeed.
- **Self-directed learning** enables participants to become active participants in their progress toward course goals. To facilitate this participant role, the clinical trainer serves as a facilitator or "coach," rather than as more traditional instructor. Participants are also supported in identifying their own weaknesses and creating individualized plans for success.
- **Continual assessment** increases participants' opportunities for learning. Through a variety of techniques, the trainer keeps participants informed of their progress in learning new information and skills, so that participants will know where they need to focus their efforts to achieve competency.

What if assessment could be just as much about LEARNING as it is about being EVALUATED?

Well, in this course, it is....

- "Formative" assessment is used continually, often informally, to help you learn. For example, during a discussion, the trainer will ask questions to assess participants' understanding of the information being presented; he/she will recognize and reinforce correct answers, but will also help a participant who answers incorrectly to arrive at the correct answer—by exploring the rationale behind his/her answer, asking additional questions, etc. All learning activities are an opportunity for formative assessment. The trainer may use evidence of what participants have not yet mastered to make changes in the course to better meet participant needs.

- The trainer uses "**summative**" assessment, which is more formal, to determine whether you are ready to move on to the next level of responsibility (e.g., to move from practicing skills in simulation to practicing them with real clients). These assessments occur at specific points during the course to evaluate participants' progress toward achieving course objectives and, ultimately, qualification.

With the mastery learning approach as a foundation, this course has been developed and will be conducted according to adult learning principles—learning should be participatory, relevant, and practical—and:

- Uses **behavior modeling**;
- Is **competency-based**; and
- Incorporates **humanistic training techniques.**

BEHAVIOR MODELING

People learn most rapidly and effectively by watching someone model (perform or demonstrate) a skill/activity or an attitude that they are trying to master. For modeling to be successful, the trainer must clearly demonstrate the service delivery-related skill/activity so that participants have a clear picture of the performance that is expected of them. Learning to perform a skill takes place in three stages, as shown in the box below.

Skill Acquisition	Knows the steps and their sequence (if applicable) to perform the required skill or activity but **needs assistance**
Skill Competency	Knows the steps and their sequence (if applicable) and **can perform** the required skill or activity at a "beginning level" (the goal of the course)
Skill Proficiency	Knows the steps and their sequence (if applicable) and **efficiently performs** the required skill or activity (achieved only through continued practice at workplace)

In addition, the trainer is continually modeling attitudes through his/her interactions with other trainers, participants, and clients. Attitudes are demonstrated and explored in certain learning activities, such as discussions and role plays.

COMPETENCY-BASED TRAINING

Competency-based training (CBT) is distinctly different from the traditional educational process; it is **learning by doing**. How the participant performs is emphasized rather than just what information the participant has acquired. This course focuses on the specific knowledge, skills, and attitudes needed to carry out LEEP service delivery-related tasks.

An essential component of CBT is coaching. Coaching incorporates **questioning, providing positive feedback, and active listening** to help participants develop specific competencies, while encouraging a positive learning climate. In the role of coach, the trainer first explains the skill or activity and then demonstrates it using an anatomic model or other training aid, such as a video or a

checklist. Once the procedure has been demonstrated and discussed, the trainer/coach observes and interacts with the participant to provide guidance as she/he practices the skill or activity. The trainer continues monitoring participant progress—providing suggestions and feedback, as needed, to help the participant overcome problems, build confidence, and work toward greater independence.

HUMANISTIC TRAINING TECHNIQUES

The use of humane (humanistic) techniques also contributes to better clinical training. A major component of humanistic training is the use of anatomic models, which closely simulate the human body, and other learning aids such as videos. The effective use of models or other simulations facilitates learning, shortens training time, and minimizes risks to clients. For example, by using anatomic models initially, participants more readily reach a level of performance that enables them to work safely with clients in the clinical setting, which is where they can achieve competency.

Before a participant attempts a clinical procedure with a client, two learning activities should occur:

- The clinical trainer should demonstrate the required skills and client interactions several times using an anatomic model or a simulation and appropriate audiovisual aids (e.g., video, computer graphics).
- While being supervised, the participant should practice the required skills and client interactions using the model and actual instruments in a simulated setting that is as similar as possible to the real clinical scenario.

Only when the participants have correctly and consistently demonstrated skills or interactions with models or in simulation should they have their first contacts with clients.

Summary points on the training approach used in this course:

- **First,** it is based on adult learning principles, which means that it is interactive, relevant, and practical. Moreover, it requires that the trainer facilitate the learning experience rather than serve in the more traditional role of an instructor or lecturer; this allows participants to become active participants.
- **Second,** it involves use of behavior modeling and formal demonstration to facilitate learning a standardized way of performing a skill or activity.
- **Third,** it is competency-based. This means that it focuses on the participant's performance of a procedure or activity, not just on what or how much the person has learned.
- **Fourth,** where possible, it relies heavily on the use of anatomic models and other training aids (i.e., it is humanistic) to enable participants to practice repeatedly the standardized way of performing the skill or activity **before** working with clients.

Through applying the above principles, by the time the trainer evaluates the participant's performance using the checklist, every participant should be able to perform every skill or activity competently. And this is the ultimate goal of mastery learning!

COMPONENTS OF THE LEEP TRAINING PACKAGE

In designing the training materials for this course, particular attention has been paid to making them user-friendly, as well as to permit the course participants and clinical trainer to easily adapt the training to the participants' (group and individual) learning needs. This course is built around use of the following components (further described below):

- Need-to-know information contained in a **reference manual:** The manual provides all of the content needed for the course about the provision of high-quality LEEP services. It serves as the "text" for participants and the "reference source" for the trainer. In addition, because the manual contains only information that is consistent with the course goals and objectives, it becomes an integral part of all classroom exercises. It is also a valuable resource for the participants when they return their workplace.
- A **guide for participants:** This is the "road map" that guides the participant through each phase of the course. It contains an overview of the course and training methods, the course schedule, as well as all supplemental printed materials (precourse knowledge assessment, LEEP clinical skills checklist, and course evaluation) needed during the course.
- A **guide for trainers:** This document contains the same material as the guide for participants, as well as special material for the trainer. It includes the course schedule, precourse knowledge assessment answer key, final knowledge assessment answer key, exercise answer keys, and guidance for conducting the course/course activities.
- **Teaching aids and audiovisual materials**, such as a video, PowerPoint presentations, anatomic models, and other training aids. These are used in conjunction with course activities to enhance and increase the efficacy and efficiency of the learning experience.
- **Competency-based skills development and performance assessment tools:** These materials help to ensure that learning and assessment of learning are standardized, which is a cornerstone of quality training and, ultimately, service provision.

PRECOURSE KNOWLEDGE ASSESSMENT

USING THE INDIVIDUAL AND GROUP ASSESSMENT MATRIX

The main objective of the **Precourse Knowledge Assessment** (which is taken/scored anonymously) is to assist both the **trainer** and the **participant** as they begin their work together by assessing what the participants, individually and as a group, already know about the course topics. This allows the trainer to identify topics that may need to be emphasized or de-emphasized during the course.

Questions are presented in an easy-to-score, true-false format. And a special form, the **Individual and Group Assessment Matrix** (following), is provided to record the scores of all course participants. Using this form, the trainer can quickly chart the number of correct answers for each of the questions and share them with the participants. By examining the data in the matrix, group members can easily determine their collective strengths and weaknesses and jointly plan with the trainer how best to use the course time to achieve the desired learning objectives.

For the trainer, the assessment results will identify particular topics that may need additional emphasis during the learning sessions. Conversely, for those categories where most of the participants answer the questions correctly, the trainer may elect to use some of the allotted time for other purposes.

For the participants, the questions alert them to content that will be presented in the course, whereas their results enable them to focus on their individual learning needs. The corresponding topic areas from the Reference Manual are noted beside the answer column. To make the best use of limited course time, participants are encouraged to address their individual learning needs by studying accordingly.

Precourse Knowledge Assessment—Answer Sheet

Name: _____ Date: _____

Instructions: In the space provided, write the letter **T** if the statement is **true,** or the letter **F** if the statement is **false.**

1. Cervical cancer is caused by HPV infection.	
2. Most HPV infections are transient, do not persist, and do not lead to cervical disease.	
3. HIV-infected women are at a greater risk of developing precancerous lesions of the cervix, but recurrence rates following treatment are the same as in their HIV-negative counterparts.	
4. HPV vaccination is an example of primary prevention.	
5. Pap smear (cytology-based screening) is more accurate at detecting precancerous lesions than VIA.	
6. One eligibility criterion for cryotherapy is that the lesion must not be large, i.e., it must cover less than 75% of the cervix.	
7. LEEP can be used to treat cervical cancer.	
8. An advantage of LEEP over cryotherapy is that LEEP can be used for large lesions or lesions that extend into the endocervical canal.	
9. In HIV-infected women who are VIA-positive, LEEP is used more often than in HIV-negative women because a larger percentage of HIV-infected women have large lesions.	
10. Women should be counseled about the high risk of bleeding following LEEP, because bleeding requiring intervention (packing or suture) following LEEP generally occurs in 10% or more of cases.	
11. Whereas cryotherapy can be performed on a woman with cervicitis (and prescribed antibiotics), LEEP should not be performed on a woman who has cervicitis, regardless if antibiotics are given.	
12. For local anesthesia, 1% or 2% lidocaine with 1:200,000 epinephrine (or adrenaline) should be used in all cases.	
13. With the loop and ball electrodes, loops use pure cutting setting; balls use coagulation setting.	
14. The LEEP excision should begin 5 mm beyond the outer border of the lesion, exit 5 mm beyond the outer border on opposite side, and include the entire transformation zone.	
15. Normally, the depth of LEEP should go to at least 10 mm.	
16. Important infection prevention steps with LEEP include high-level disinfection (HLD) of the loops and ball electrodes.	
17. Following LEEP, the woman should be instructed about self-care at home and to return to the health center after 1 week if she has a grayish-black or brown discharge with spotting.	
18. Following LEEP, all women should receive prophylactic antibiotics to prevent infection.	
19. Fistula formation, if it occurs, usually occurs in the first 1–2 weeks following LEEP.	
20. On average, the percentage of women who are VIA-positive and require LEEP is approximately 15%, but depends on the population being screened.	

Individual and Group Assessment Matrix

Course_____ **Dates:**_____ **Clinical Trainer(s)** _____

Question Number	Correct Answers (Participants)										Topic Area
	1	2	3	4	5	6	7	8	9	10	
1.											**Causes and Natural History Cervical Cancer; Relationship Between HIV/AIDS And Cervical Cancer** (Manual, Chapter 1; selections as specified)
2.											
3.											
4.											**Cervical Cancer Prevention: Primary and Secondary** (Manual, Chapters 2, 3; selections as specified)
5.											
6.											
7.											
8.											
9.											
10.											**LEEP: Why Performed; What to Expect; Complications; Counseling and Client Assessment)** (Manual, Chapters 3, 4; selections as specified)
11.											
12.											
13.											**Performance of LEEP** (Manual, Chapter 5; selections as specified)
14.											
15.											
16.											**Infection Prevention; Routine Follow-Up; Management of Complications** (Manual, Chapters 6, 7; selections as specified)
17.											
18.											
19.											
20.											**LEEP Clinical Services** (Manual Chapter 8; selections as specified)

EXERCISE ONE: CLIENT ASSESSMENT FOR LEEP

OBJECTIVES

The purpose of this activity is to:

- Clarify and reinforce identification of those few conditions that pose increased risks with LEEP.

TIME ALLOTTED

- As time permits in the clinical setting

RESOURCES/MATERIALS NEEDED

- Flip chart paper and markers, or printed copies of blank chart, for small group activity
- Completed chart as answer key (for the trainer)

NOTE: Instructions to be provided by trainer.

EXERCISE ONE: ANSWER SHEET

Instructions: Below is a chart listing various conditions/situations that may have an impact on whether you should perform LEEP on a particular woman. For each condition/characteristic, place a check mark in the appropriate column, and provide a reason for your choice.

Woman's Condition	Perform LEEP	Do Not Perform LEEP	Reason
HIV-positive			
3 weeks postpartum			
Poorly controlled chronic hypertension; or history of cardiovascular disease			
Has severe cervicitis			
Wants to get pregnant within the next year			
History of gonorrhea as a teenager			
Lesion eligible for cryotherapy			
Heavy current vaginal bleeding			
Lesion is suspicious for cancer			
Currently pregnant			
Small amount of vaginal spotting (end of menses)			
Bleeding disorder with history of easy/prolonged bleeding			

EXERCISE TWO: INFECTION PREVENTION STEPS

OBJECTIVES

The purpose of this activity is to:

- Reinforce infection prevention (IP) principles.
- Identify the steps in LEEP that are for the purpose of infection prevention.
- Clarify how infection prevention is carried out.

TIME ALLOTTED

- As time permits in the clinical setting

RESOURCES/MATERIALS NEEDED

- LEEP Clinical Skill Checklists

NOTE: Instructions to be provided by trainer.

EXERCISE THREE: FREQUENTLY ASKED QUESTIONS (FAQS) ABOUT LEEP

OBJECTIVES

The purpose of this activity is to:

- Reinforce principles for the provision of LEEP services.
- Clarify concepts of LEEP service provision.

TIME ALLOTTED

- As time permits in the clinical setting

RESOURCES/MATERIALS NEEDED

- Reference Manual

NOTE: Instructions to be provided by trainer.

ROLE PLAY EXERCISES: COUNSELING OF POTENTIAL LEEP CLIENTS

Here are some sample scenarios for use in counseling and assessment role plays. Participants should use their course materials as well as any informational/educational brochures or counseling job aids during practice. Trainers may design additional role plays based on their past experience providing family planning counseling. Instructions will be provided by the trainer.

1. Alicia is a 30-year-old woman who presents to the LEEP clinic because she was told she needs LEEP.
    a. How will you determine the reason for LEEP? How will you assess Alicia's understanding of why she was referred?
    b. How will you explain the purpose of LEEP, and what are the available management options?
2. Alicia has been referred due to a large VIA-positive lesion found on exam at a clinic 1 month ago. Following the above discussion, Alicia has a good understanding of those areas, but she does not have a clear understanding of what the actual procedure entails and she is concerned about what will happen during the procedure, and its risks. For the sake of this scenario, we will assume that you assessed her by taking a targeted medical and reproductive health history, checked her blood pressure and pulse, and there are no risk factors for complications.
    a. How would you address Alicia's concerns?
    b. What should you tell Alicia to expect during the procedure, immediately after, and about risks of complications?
3. You have completed LEEP on Alicia, the procedure went well, and she is now dressed and waiting.
    a. What should you tell Alicia to expect? What will you tell her regarding self-care at home?
    b. What will you tell her about warning signs, and what she should do if they occur?
    c. What will you tell her regarding normal follow-up?

CLINICAL SKILLS CHECKLIST

The Checklist for LEEP Counseling and Clinical Skills contains the steps or tasks performed by the clinician when providing LEEP services. These tasks correspond to the information presented in the LEEP Reference Manual.

Job aids and other tools from the Reference Manual (which provides detailed "content") can be used in conjunction with the LEEP counseling and clinical skills checklist, supporting both learning and the transfer of new skills to the workplace.

USING THE SKILLS CHECKLIST FOR LEARNING

The **checklist** is designed to be used for both learning and assessment. During skill acquisition, participants use the checklist to:

- **Understand the steps of LEEP.** The trainer introduces the skill by describing the steps and how they are accomplished. The reference manual describes the steps in greater detail, providing illustrations, more detailed explanations, and tips.
- **Follow along as the trainer conducts a demonstration of LEEP on an anatomic model.** The participants will use the clinical skills checklist as a guide to the sequence and correct performance of the individual steps of the LEEP.
- **Guide their own clinical practice on the anatomic model.** The participants will practice the clinical skills on the anatomic models with the assistance and support of colleagues and trainers. In this context, the checklist provides a mechanism for colleagues and trainers to discuss and provide explicit, constructive feedback on performance.
- **Check whether they are ready for formal assessment by the trainers.** Ultimately, participants will need to be assessed by the trainers to determine their level of achievement in the skill being practiced. Because LEEP will be assessed by the trainer using the identical clinical skill checklist, participants can rate their own readiness for assessment by self-evaluating their performance based on the checklist.
- **Guide practice with actual clients in the clinical setting.** Once the LEEP skill is "mastered" in the skills lab, participants will be ready to practice LEEP under supervision with actual clients in the clinical setting. The checklist is used again in this context as a guide to strengthen performance.

The same LEEP **checklist** used for learning/practice is used by the trainer for assessment of LEEP, in terms of both readiness for—and competency in—working with actual clients. The final phase of learning in the context of this course, known as skill competency, is determined by the trainer using the checklist as an objective measure of the achievement of all the steps of the procedure with actual clients.

The checklist, therefore, is used for assessment by the trainers and participants in the following ways:

- **As a template for feedback.** Space is provided on the checklist for trainers and colleagues (other participants) to score the performance of a given step in a procedure. Under the column marked CASES, observers should rate whether a participant correctly performed the step in the following way:

Place a " ✓" in case box if task/activity is performed **satisfactorily**, an "**X**" if it is **not** performed **satisfactorily**, or **leave blank** if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Not Observed: Step, task, or skill not performed by participant (or not observed) during evaluation by trainer

Along with those who are observing and coaching, the participant should describe correct practice and specifically note the ways in which steps can be done correctly. The specificity of the checklist is an example of the level of detail that should be provided through description/feedback.

- **For determination of "readiness."** When the trainer and the participant both believe that the participant is ready to practice with clients, the checklist is used. Since the checklist is a focused listing of all the necessary steps of the procedure, it is expected that the participant will perform all of the steps correctly.
- **For qualification of competency.** At the bottom of the checklist is a box for the trainer to sign, certifying that the participant performed the skill competently. The trainer signs and dates the checklist as the statement of competency in both the skills lab and the clinical setting.

TRAINER QUALIFICATION

	With Models	With Clients
Skill performed competently:	☐ Yes ☐ No	☐ Yes ☐ No

Signed: _____ Date: _____

CLINICAL SKILLS CHECKLISTS

LEEP COUNSELING AND CLINICAL SKILLS CHECKLIST

(To be used by the **Participant** for practice and by the **Trainer** to assess competency)

Participants: Study this tool together with the appropriate chapter in the Reference Manual to learn about and practice the correct steps needed to provide this clinical skill. Ask your colleagues to use this tool to follow along as you practice with anatomic models and gain experience with clients. Your colleagues should offer specific feedback using this tool to guide their observations.

Trainers: Use this tool when the participant is ready for assessment of competency in this clinical skill. Place a **"✓"** in case box if task/activity is performed **satisfactorily**, an **"X"** if it is **not** performed **satisfactorily**, or **leave blank** if not observed. Write your initials and the date along with the evaluation in the box **Skill/Activity Performed Satisfactorily**.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

CHECKLIST FOR LEEP COUNSELING AND CLINICAL SKILLS						
STEP/TASK	**CASES**					
PRE-LEEP COUNSELING						
1. Establish purpose of visit.						
2. Take a targeted reproductive and medical history. Assess for risk factors to treatment, and ensure no contraindications exist for treatment.						
3. Take and record blood pressure and pulse.						
4. Based on Steps 2 and 3 above, decide if it is safe to proceed with LEEP and if any change in type of local anesthetic is needed.						
5. Explain why the treatment is recommended and describe LEEP, including what to expect following treatment.						
6. Ask the woman for her consent for treatment.						
SKILL/ACTIVITY PERFORMED SATISFACTORILY						
GETTING READY						
1. Check that LEEP equipment, instruments, supplies, light source, and power source are available and ready to use.						
2. If not already done, sanitize hands with alcohol-based sanitizer, or wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.						
3. Check that the woman recently (within 30 minutes) has emptied her bladder, ask her to undress only from the waist down (give her a gown or sheet if she does not have something comparable), help her onto examining table, and drape her. Help her position her legs and feet appropriately.						
4. Check blood pressure and pulse, if not already done. Determine if it is safe to proceed and/or type of local anesthetic to be used.						
SKILL/ACTIVITY PERFORMED SATISFACTORILY						

CHECKLIST FOR LEEP COUNSELING AND CLINICAL SKILLS					
STEP/TASK	**CASES**				
LEEP					
1. Perform bimanual examination, followed by VIA (VILI or colposcopy can also be used) with a regular speculum to confirm the presence of a large lesion. If a large lesion is present, determine eligibility for LEEP and the size loops that will be required. Remove the speculum, and remove and discard gloves appropriately.					
2. Attach dispersive (grounding) pad to the woman's thigh.					
3. Put on a new pair of sterile surgical gloves on hands and arrange instruments and supplies on HLD/sterile tray, kidney dish, or towel on the trolley, if not already done.					
4. Connect suction tubing to LEEP speculum.					
5. Gently insert speculum and fix blades in the open position, as wide as possible without creating discomfort. If necessary, use coated vaginal wall retractors, wooden spatulas, or a condom for better exposure and to protect the vaginal walls.					
6. Repeat VIA, VILI, or colposcopy. Determine size loop(s) needed, anticipated number of passes, and ensure that loops and ball electrodes are ready on the table.					
7. Establish local anesthesia (total 3–4 mL) with appropriate local anesthetic. Place sharps on sterile field to discard in sharps container at the end of the procedure.					
8. Insert appropriate-sized loop in electrosurgery pen and set on blended cutting at appropriate power. Briefly depress button on pen or depress foot pedal to ensure that LEEP unit, including smoke evacuator, is working properly.					
9. Orient loop correctly and perpendicular to the tissue, just above starting point. Activate electrode and introduce the loop into the tissue providing directional guidance, maintaining correct orientation throughout the procedure. Excise 5 mm outside outer boundary of lesion and to a depth of at least 5 mm, ensuring entire excision of the precancerous lesion(s) and the transformation. Maintain activation of loop until loop exits the cervix tissue.					
10. Remove specimen(s) with long tissue forceps and place in appropriately marked specimen containers with formalin.					
11. Apply pressure to cervix if necessary to control bleeding. Perform additional passes if necessary to excise the entire precancerous lesion(s) and transformation zone. Excise posterior lesions before excising anterior lesions. Once excisions are completed, remove loop electrode and place on the sterile surgical field for processing after the procedure, or in a small basin for contaminated loop and ball electrode instruments. Place long tissue forceps in basin/container for contaminated instruments.					
12. Change LEEP unit setting to coagulation and insert 5 mm ball electrode into electrosurgery pen.					
13. Coagulate bleeding areas first. If no active bleeding, start with the edges of the crater, coagulate using the ball electrode with proper technique (keeping area dry and arcing the current).					
14. If adequate hemostasis is achieved, coat the base of the excisional crater with Monsel's solution or paste.					
15. Remove ball electrode and place it on the sterile surgical field for processing after the procedure, or in a small basin for contaminated loop and ball electrode instruments. Hand the electrosurgery pen to the assistant.					

CHECKLIST FOR LEEP COUNSELING AND CLINICAL SKILLS					
STEP/TASK	**CASES**				
16. Gently remove speculum. Wipe blood and/or Monsel's from blades (discard in leakproof container or plastic bag), disconnect suction tubing from speculum and hand tubing to assistant, and place speculum in basin/container for contaminated instruments.					
17. Discard sharps in sharps container.					
SKILL/ACTIVITY PERFORMED SATISFACTORILY					
POST-LEEP TASKS					
1. Remove gloves, dispose of properly, and put on new pair of non-sterile examination gloves.					
2. Ensure that the woman is doing well before helping her sit up, get down from table, and get dressed.					
3. Wipe suction tubing, electrosurgery pen, and light source with alcohol or 0.5% chlorine solution. Wipe the examination table or Macintosh cloth, and other contaminated surfaces, with alcohol or 0.5% chlorine solution.					
4. Remove gloves and dispose of them in leakproof container or plastic bag.					
5. Turn off power to LEEP unit.					
6. Sanitize hands with alcohol-based sanitizer, or wash hands thoroughly with soap and water and dry with clean, dry cloth or air dry.					
7. Advise the woman regarding post-treatment self-care, warning signs, and follow-up. Review post-LEEP instructions with woman (including giving written instructions). Record treatment and follow-up in her client card.					
8. Process and sterilize loop and ball electrodes. Process and either HLD or sterilize LEEP speculum and other instruments.					
9. Ensure LEEP set-up is ready for next procedure or stored properly until the next clinic.					
SKILL/ACTIVITY PERFORMED SATISFACTORILY					

PARTICIPANT IS:

____ QUALIFIED _____ NOT QUALIFIED TO PERFORM LEEP

BASED ON THE FOLLOWING CRITERIA:

Score on Final Questionnaire Knowledge Assessment _____ %

LEEP Counseling and Clinical Skills Evaluation: ____ Satisfactory ____ Unsatisfactory

Trainer's Signature _____ Date _____

CLINICAL SKILLS TRACKING SHEET

USING THE LEEP CLINICAL SKILLS TRACKING SHEET

As participants, you must achieve multiple competencies during the LEEP training course. These include both knowledge and skill competencies. This sheet will assist you in tracking the development of those competencies.

Items 1 to 4: Fill out the top portion of the sheet with your personal information.

Item 5: Note your score on the Precourse Knowledge Assessment here.

Item 6: When you have successfully completed the Final Knowledge Assessment, note your score here.

Item 7: You and your trainer can use this form to track the development of competencies during the LEEP course.

First set of columns: When you have had the opportunity to practice LEEP on anatomic models, you will be assessed by a clinical trainer using a Clinical Skills Checklist. When your trainer determines that you are ready to work with actual clients, ask him/her to tick the appropriate box, sign the form, and date it.

Second set of columns: Depending on the size and composition of the course, you may work with several different trainers. When you have the chance to manage a particular case under the supervision of a trainer, share this form with him/her to show that you have successfully completed skills practice with models. Once your trainer determines that you have achieved competency with clients, ask him/her to tick the appropriate box, sign the form and date it.

The LEEP Clinical Skills Tracking Sheet

1. Name _____

2. Designation _____

3. Facility _____

4. Dates of Training _____

5. Score on Precourse Knowledge Assessment _____

6. Score on Final Knowledge Assessment _____

7. Clinical Skills Assessment _____

	Experience on Anatomic Models			Experience with Clients		
	Ready*	Signed	Date	Competent	Signed	Date
Counseling	☐			☐		
LEEP	☐			☐		

*In the skills being practiced, the participant has reached a level of achievement that indicates his/her "readiness" to practice with actual clients.

LEEP COURSE EVALUATION

(To be completed by Participants)

Date: _____

Please indicate on a 1–5 scale your opinion of the following:

5-Strongly Agree 4-Agree 3-No Opinion 2-Disagree 1-Strongly Disagree

	Rating
1. The Precourse Knowledge Assessment helped me study more effectively.	
2. I understand the eligibility criteria for LEEP.	
3. I have a good understanding of the benefits and risks of LEEP in treating precancerous lesions of the cervix.	
4. The classroom demonstrations and practice helped prepare me for the clinical sessions.	
5. I feel confident in performing LEEP.	
6. I understand and feel confident in performing the infection prevention practices for LEEP.	
7. I understand the basic care and maintenance of LEEP equipment and supplies.	
8. The classroom facility was adequate for learning.	
9. The trainers were knowledgeable and skilled.	
10. The trainers were fair and friendly.	

1. Do you think the course was too short, too long, or about right?

2. Do you think the training course was worthwhile? If no, please explain.

3. What course materials did you find most helpful? Least helpful?

4. Recommendations to improve the course or additional comments: