



Standard Operating Procedure

Loop Electrosurgical Excision Procedure (LEEP)

I. POLICY: The Puerto Rico Clinical and Translational Research Consortium (PRCTRC) ensure the safety and well being of employees, laboratory personnel, study coordinators, and those involved in the Loop Electrosurgical Excision Procedure.

II. PURPOSE: The objective of this Standard Operating Procedure (SOP) is to outlines the method for the proper collection of cervical specimens safely.

III. Area(s) of Responsibility: This SOP applies to the Principal Investigator (PI), laboratory personnel, authorized research collaborators including students and research participants.

IV. Procedures:

Equipment and Materials required:

1. Reliable power supply
2. Electrosurgical generator and electrode handle
3. Colposcope
4. Non-conducting speculum, preferably with side retractors
5. Return electrode
6. Wire electrodes of several sizes
7. Coagulating/ball electrode
8. Smoke evacuator
9. Forceps
10. Local anesthetic: 1–2% lidocaine, with or without 1:100,000 epinephrine
11. 5-ml syringes with long 27-gauge needle
12. Bottles with normal saline and with 5% acetic acid
13. Monsel's paste
14. Large swabs
15. Needles and suture material
16. Specimen containers with 10% formalin.

LEEP procedure

1. Prepare the patient for a gynecological examination.
2. Attach a return electrode to the inner thigh.
3. Insert a non-conducting speculum with an electrically insulating coating.

4. Look at the cervix, and note any abnormalities, such as discharge from the os, inflammation, bleeding or lesions. Record the findings.
5. If there is no evidence of infection, proceed.
6. Wipe the cervix with a saline-soaked cotton swab.
7. Apply 5% acetic acid and examine with the colposcope to determine the location and extent of the lesion.
8. Inject 3–5 ml of local anesthetic (1–2% lidocaine with 1:100,000 epinephrine) to control bleeding, using a long 27-gauge needle, just beneath the cervical epithelium at the 12 o'clock, 3 o'clock, 6 o'clock and 9 o'clock positions (in patients with cardiac problems, use lidocaine without epinephrine).
9. Select the appropriate electrode to remove the entire abnormal area in a single pass:
 - a. For small low-grade lesions in nulliparous women, use an electrode 1.5 cm wide by 0.5cm deep
 - b. For larger lesions and multiparous women, use one 2.0 cm wide by 0.8 cm deep.
10. Turn the vacuum suction on and activate the generator.
11. Excise the lesion: push the electrode perpendicularly into the tissue to a depth of 4–5 mm and draw it laterally across the cervix to the other side, producing a dome-shaped circle of tissue with the canal in the center. Do not insert the electrode deeper than 5 mm at the 3 o'clock and 9 o'clock positions, because this can damage the uterine arteries.
12. Additional passes with the loop can be made to excise residual tissue.
13. Pick up all excised tissues with the forceps, and place in a labeled bottle with formalin. Place the labeled bottle inside the plastic biohazard bag, and carry the samples in a plastic transported box wearing gloves, to the PRCTRC laboratory.
14. Perform endocervical curettage and place the tissue in a separate bottle with formalin. Place the labeled bottle inside the plastic biohazard bag, and carry the samples in a plastic transported box wearing gloves, to the PRCTRC laboratory.
15. Fulgurate any bleeding tissue in the crater base using a ball electrode and coagulation current.
16. Apply Monsel's paste to the crater base to prevent further bleeding and remove the speculum.