

## PATIENT RESOURCES

### LEEP/LLETZ/LOOP

LEEP (Loop Electrosurgical Excision Procedure, sometimes called Loop)

LLETZ (Large Loop Excision of the Transformation Zone)

#### Why is a LEEP needed?

LEEP is done if a someone has abnormal growth on the cervix that can lead to cancer if not treated. These pre-cancerous changes are called severe dysplasia, cervical intraepithelial neoplasia grade 2 or 3, or CIN 2 or 3. LEEP is the current treatment of choice for those with persistent severe dysplasia of the cervix because it allows providers to make sure that the abnormal cells were removed completely, and there was no hidden cancer.

#### How is it done?

The provider will place a speculum in the vagina, just like when you get a Pap test. The provider will then look closely at your cervix using a bright light and magnification after applying a liquid (acetic acid, or vinegar, or a Betadine solution (Schillers or Lugols) to temporarily color your cervix and make the abnormal cells easier to see. Please let your clinician know if you are allergic to Betadine or iodine. They will then use a wire loop that cuts and cauterizes tissue to remove the area of the cervix that contains abnormal cells. Your provider may do your LEEP procedure in a surgery center, hospital operating room, or office procedure room.

#### What to expect during the procedure if you choose to have local anesthetic?

After you are brought to the examination room, you will be asked to undress from the waist down. The LEEP machine uses electrocautery, so a pad will be applied to your leg to complete the electric circuit needed for the current to flow from the machine to you and back to the machine. This is a safety device, and the LEEP machine will not even turn on unless the pad has been properly applied. A non-metal speculum is placed in the vagina, and local anesthesia will be injected into the cervix in order to numb the area. When the local anesthesia is injected, some women are aware of a momentary pinch or cramp, but some patients feel nothing. The local anesthesia may also contain a small amount of epinephrine to reduce bleeding (this is the same solution that the dentist uses in your mouth). Some people experience a racing heart, ringing in the ears, or a metallic taste in the mouth. If you experience any of these symptoms, it is nothing to be concerned about and will pass in a few minutes, but let your doctor know what you are experiencing.

Once your cervix is completely numb, a wire loop is used to remove the abnormal tissue. During this part of the procedure, you will hear two noises: the LEEP machine making a soft buzzing sound and a fan making a vacuum-like sound. You may feel minimal discomfort and may be aware of slight pressure or warmth. Once the LEEP is completed, the doctor may apply Monsels paste (a medication that looks like a brown paste) to the cervix to prevent bleeding.

No stitches are needed, and the cervix heals within a few weeks. The specimen is sent to a pathologist for evaluation to determine if all the abnormal tissue has been removed, and to make sure there is no cancer.

The entire procedure takes approximately 15 minutes but you may spend an hour or more at the appointment altogether.

## LEEP/LLETZ/LOOP (continued)

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### What should you expect during the procedure if you choose to have sedation or general anesthesia?

Like any outpatient procedure, you work with the nurses to prepare, meet with the anesthesiologist, and you are taken to an operating room. There are many types of anesthetic. Essentially, you become unaware of the experience, and will not experience pain. After the procedure is complete, you will awaken.

### What should I do to prepare for a LEEP?

You do not need to do anything special to prepare for a LEEP. If you are having your LEEP done in an office, your provider may recommend taking 400-600 mg of ibuprofen around 45 minutes prior to the procedure to help prevent cramping. If you are having the procedure done in the office, make sure to eat and drink normally that day so you do not feel lightheaded. If you are having your procedure done with sedation or general anesthesia, your provider may tell you not to eat or take any medicines.

LEEP can be done if you have had sex recently or if you have light bleeding, like the beginning or end of your period. If your bleeding is very heavy, you may want to call your provider's office to see if you need to reschedule. However, if your provider recommended that you have a LEEP procedure done, it is very important that you complete the procedure as scheduled to avoid any risk of cancer.

### What should you expect after the LEEP?

You should ask about your ability to drive home from the procedure and when you can resume normal daily activities—this may be affected by the type of anesthesia you received. You may feel a dull ache or cramp during the procedure. A brown paste may be applied after the treatment to prevent bleeding; this often causes a dark vaginal discharge (similar to coffee grounds). Most patients are able to return to work or school after the procedure. Following LEEP, most people have mild to moderate vaginal bleeding and discharge for one to two weeks. The bleeding should not be heavy (should not soak a pad in less than one hour).

There are few restrictions after the procedure and you may usually go about your daily routine. Most providers recommend avoiding certain activities until the spotting has stopped and your cervix has time to heal, usually four weeks. These include:

- Sexual activity (vaginal intercourse)
- Putting tampons into your vagina
- Washing or douching inside your vagina
- Limiting very vigorous exercise like running or weight lifting for two weeks after the procedure.

You should call your healthcare provider if you have:

- Fever >101
- Bright red, heavy bleeding which is more than what you have with your period
- Bad cramps or pain that does not improve with over-the-counter medications, such as ibuprofen

A pathologist will process and examine the biopsy specimens under magnifications. The pathologist will send a report to your clinician. This may take several days or even a few weeks.

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### What can the results show?

The results of the LEEP specimen usually show a pre-cancer or cervical dysplasia (also called cervical intraepithelial lesion grade 2 or 3 or CIN 2 or 3). Sometimes the results can show a normal or low-grade result (also called cervical intraepithelial lesion grade 1 or CIN 1). Usually the LEEP cures the dysplasia, but close follow-up is recommended for several years to make sure it is fully cleared and does not come back. Very rarely, the results may show cancer, which would mean more treatment right away. Please check with your provider about how and when you will receive the results.

A colposcopy, Pap smear, and/or HPV test may be recommended after six to twelve months. The time interval between subsequent tests will depend upon the results of the initial testing after treatment and your age. Follow up may vary significantly from one patient to another.

### How effective is LEEP?

LEEP cures the abnormal cells in about 9 out of 10 people. In about 10% of patients, abnormal cells will remain, or the HPV virus from surrounding areas will activate and cause dysplasia to return. When necessary, the same treatment could be repeated or an alternate treatment such as cone biopsy could be done.

The outcome is much better for people who do not smoke. If you smoke, you can greatly improve your health and reduce your risk of recurrence of dysplasia if you quit.

### Are there other treatments besides LEEP?

LEEP is an excisional therapy (surgical removal of the abnormal area); the other excisional therapy is cone biopsy. There are two ablative (destroying) therapies that destroy the abnormal area: cryosurgery (freezing), laser (high-energy light). Because these treatment options destroy rather than cut away abnormal cervical tissue, they do not give a piece of tissue for evaluation and may not be appropriate in some situations.

### Cryosurgery

Cryosurgery involves applying liquid nitrogen or carbon dioxide to the cervix. This causes the cervical tissue to freeze, which destroys the abnormal cells. Cryosurgery can be done in the office, similar to a pelvic examination, without any anesthesia. It may cause mild cramping or discomfort. Cryosurgery is not recommended in certain situations, such as when the extent and type of cervical abnormality are not clear based upon colposcopy and/or biopsy. Excisional therapy is preferred in these cases. Most patients have watery vaginal discharge for more than one week after cryosurgery.

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### What are possible complications of LEEP?

Complications are rare after LEEP, but as with any surgical procedure, complications can occur during excision. These include the following:

1. Bleeding during the procedure—Bleeding is rarely serious and can usually be managed with suturing or by applying cauterizing material (a liquid or treatment that helps the blood to clot) to the cervix.
2. Bleeding after the procedure—Although light bleeding or spotting is normal, some people have heavy bleeding several days or weeks after the procedure. This can usually be treated in the office, but occasionally a procedure in an operating room is necessary.
3. Infection—Infections occur rarely after LEEP, either on the cervix itself or elsewhere in the reproductive tract. Most infections can be treated with oral antibiotic therapy.
4. Late complications—There may be an increased risk of preterm labor and birth if someone has repeated LEEP/cone procedures, or if a very large and deep excision is performed. Evidence suggests that a typical shallow LEEP does not significantly increase the risk of preterm birth.