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PROCEDURE EDUCATION LITERATURE

We recommend that you read this handout carefully in order to prepare yourself or family members for the proposed procedure. In doing so, you will benefit both the outcome and safety of the procedure. *If you still have any questions or concerns, we strongly encourage you to contact our office prior to your procedure so that we may clarify any pertinent issues. "An educated patient is the best patient."*

LOOP ELECTRICAL EXCISION PROCEDURE (LEEP)

Loop electrical excision procedure of the cervix (LEEP) refers to an outpatient procedure that uses a fine wire *loop* with low-voltage *electrical* current to remove, or *excise*, a cone-shaped biopsy of cervical tissue. LEEP, also known as LLETZ (large loop excision of the transformation zone) is both a diagnostic and treatment tool used to detect and treat abnormalities of the cervix.

The cervix, just like the skin and many other surfaces, is covered with tissue that is continuously being replaced. As the cells on the top become "old" and are shed, cells from below move to the surface and replace them. The Papanicolaou smear, commonly referred to as a "Pap smear", is a test that collects the cells of the cervix that are to be shed and examines them with a microscope. When normal cells are replaced with abnormal cells, a condition known as *dysplasia* has developed. Areas of dysplasia on the cervix are considered premalignant (pre-cancerous). Dysplasia can go away on its own, remain unchanged, or become more concerning and may lead to cancer.

Risk factors for abnormal findings on Pap smear are thought to include any one or a combination of:

- Vaginal infection, with bacteria, yeast, and/or other non-sexually transmitted or sexually transmitted organisms
- Cervicitis, inflammation of the cervix caused by such factors as chemical exposure (such as soaps, douches, deodorized tampons, and spermicides), exposure to a foreign body (such as a diaphragm, cervical cap or pessary), or vaginal infection
- Viral infection, including a variety of Human Papilloma Virus (HPV) strains, and in particular high-risk (ability to cause abnormal cellular growth) HPV strains
- Compromised immune states, such as pregnancy, chronic steroid use, immunosuppression following organ transplant, and HIV/AIDS
- In utero exposure (exposure in mothers' womb) to the medication diethylstilbestrol (DES)
- History of dysplasia or certain cancers

LEEP is usually performed after sufficiently concerning cells are found on Pap smear and confirmed by colposcopy (examination of the cervix with magnification) and/or biopsy (removal of tissue from a living patient for diagnostic evaluation). LEEP may also be recommended if the result of your cervical biopsy and colposcopy do not adequately explain the result of your abnormal Pap test.

Treatment of cervical dysplasia can be divided into ablative (destructive) and excisional (cutting out) techniques. Ablative procedures (cryotherapy and laser therapy) are often used for smaller abnormalities that can be seen in their entirety. Larger more advanced abnormalities often require excisional procedures, such as LEEP or cervical conization. Excisional procedures remove a specimen for microscopic examination, whereas with ablative procedures there is no specimen. Your doctor will make recommendations for treatment based on your history, Pap smear, colposcopy, and biopsy.

Preparation

LEEP is most often performed in your doctor's office. It is best performed when you are not having your period and can usually be scheduled to accommodate your menstrual cycle. Taking an over-the-counter pain medication, such as ibuprofen, 30 minutes to one hour before your procedure will help reduce the amount of discomfort you experience.

Procedure

The procedure usually takes less than 10 minutes. You will be lying on your back with your knees bent and heels in stirrups as you would for a pelvic examination.

After placing a speculum in the vagina, a mild solution of acetic acid (vinegar) is swabbed on the cervix to wash away mucous secretions and to highlight abnormal areas on the surface. Examination with a colposcope (microscope for the vagina) will then be performed and the locations for excision determined. Next, local anesthetic is injected into the cervix, sometimes mixed with a medication to help control bleeding. When electrical current is applied to the fine wire loop it acts like a scalpel. The loop is carefully drawn across the cervix to remove a thin layer of the cervix. You may begin to feel some vaginal or pelvic cramping at this point. The tissue specimen(s) will then be sent to the laboratory for microscopic examination by a pathologist.

Occasionally there is bleeding from the cut surface of the cervix. Your doctor may use electrical cauterization or apply a liquid or paste-like solution (Monsel's) to the bleeding areas to stop bleeding. When an adequate amount of specimen has been collected and bleeding is controlled, the procedure is complete and the speculum will be removed.

Post Procedure

The cramping you may experience usually doesn't last long. You may experience bright red spotting for a few days afterward. This will become a tan-colored discharge, which may last for up to two weeks. **Do not** have intercourse until told it is okay.

Expectations of Outcome

The objective of LEEP is the diagnosis of the type and extent of cervical disease. A fortunate secondary result of the procedure is often complete removal of the area of active disease. When this is the case, continued long-term follow-up is recommended. Your Pap smear will be repeated at regular intervals to check for return of disease. In cases where a clear "disease-free" margin around the specimen is not seen, further treatment is necessary. Treatment options might include conization, hysterectomy, or for some patients, continued careful follow-up. You and your doctor will discuss your options for treatment, based on the specific results of your testing, your motivation for follow-up, and if you have a desire for continued childbearing.

Possible Complications of the Procedure

All surgical procedures, regardless of complexity or time, can be associated with unforeseen problems. They may be immediate or even quite delayed in presentation. While we have discussed these and possibly others in your consultation, we would like you to have a list so that you may ask questions if you are still concerned. Aside from anesthesia complications, it is important that every patient be made aware of all possible outcomes, which may include, but are not limited to:

- **Infection**: The cervix or vagina can become infected after LEEP. Infection may lead to the development of a foul-smelling vaginal discharge, fever, chills, or low abdominal tenderness. You should contact your doctor if you develop any of these symptoms.
- **Blood Loss/Transfusion**- The cervix is quite vascular. Usually blood loss in this procedure is minimal to moderate. You should contact your doctor if you have bleeding that is heavier than your normal period or you are passing blood clots from the vagina.

**If you have symptoms suggesting any of the above after your discharge from the hospital, you must contact us immediately or go to the nearest emergency room.*

- **Treatment Failure**: If the surgical specimen has edges that are "positive" for disease, further treatment will be recommended due to the risk of return of cervical disease. Surgical specimens with "disease-free" edges have a lower risk for return of cervical disease, but must be followed closely so that early detection can be made.
- **Cervical Stenosis**: The opening of the cervical canal, which leads to the uterine cavity, will sometimes become narrowed or blocked by scar tissue. Cervical stenosis can lead to painful menstrual periods, make future Pap testing difficult, and make achieving pregnancy more difficult.
- **Cervical Insufficiency**: Excisional procedures can leave the cervix without sufficient strength and size to resist opening from the pressure of the pregnancy, which can lead to higher chances of pregnancy loss and preterm labor. The risk of cervical insufficiency appears to be related to the amount and depth of tissue removed.
- **Injury to Vagina, Bladder, or Rectum**: Injury to these structures could occur if electrical energy came in contact with the vagina. The chance of this occurring is quite small.

Patient

Date

Physician

Date

Witness

Date

The information contained in this Medical Informed Consent Form ("Consent Form") is intended to solely inform and educate and should not be used as a substitute for medical evaluation, advice, diagnosis or treatment by a physician or other healthcare professional. Please call your doctor if you have any questions.