



**Stanford**  
**HEALTH CARE**

## **Cervical Cancer**

The cervix is the lower part of the uterus that opens into the vagina. The cervix is covered by a thin layer of cells called squamous epithelium (like the inside of the mouth). As the epithelium goes into the cervical canal, this tissue changes to a columnar epithelium. This junction is called the squamo-columnar junction and is the site of where most cancers of the cervix start. Cervical cancer is closely associated with early and frequent sexual contact and a viral infection called HPV (human papilloma virus). See section on HPV.

Most cancers develop from precancerous lesions called dysplasia or CIN (cervical intra-epithelial neoplasia). As dysplasia progresses, it can develop into a pre invasive cancer called carcinoma in situ (CIS). This is the earliest form of cancer and can be cured with proper treatment. Over a period of months to years, carcinoma-in-situ can become invasive cancer in many women.

The incidence of invasive cancer of the cervix has been steadily decreasing because of wide spread screening with pap smears. Abnormal smears can be evaluated for precancerous conditions and treated before cancer occurs. With the development of HPV vaccines for immunization in young women the rate is expected to drop again.

The pap smear should be done on a routine basis and may be combined with an HPV test. High-risk patients should have pap smears every year and if abnormal cells are noted, the cervix can be evaluated with a colposcope. A colposcope is a magnifying instrument that your doctor can use in the office without anesthesia. If abnormal tissue is seen, cervical biopsy and endocervical curettage is performed. This will make a diagnosis of pre-cancer or cancer changes.

For mild and moderate dysplasia (CIN I or II) the treatment can be careful follow up because many of these changes will revert to normal without treatment. Other treatments may be cryotherapy where a probe is placed on the cervix and the tissue is subjected to freezing. This destroys both normal and abnormal cells. When the tissue regrows, it is usually normal cells.

For severe dysplasia and carcinoma in situ (CIN III) more aggressive treatment is usually performed. A LEEP (Loop electro surgical excision procedure) uses a thin wire loop and an electrical energy to excise abnormal tissue. Laser treatment uses higher intensity light to remove the tissue. Conization is a surgical procedure that removes a cone shaped wedge of tissue. This usually requires anesthesia and suture placement. Occasionally, a hysterectomy may be recommended if the patient does not want any children.

Treatment of invasive cancer of the cervix depends on the type of cancer and the degree of spread. For early cancers an extensive (radical) hysterectomy and lymph node dissection or radiation therapy have good results (80-90% 5 year survival). More advanced cancers of the cervix are treated with radiation occasionally combined with chemotherapy for optimal results.