



## Cervical Cancer Timing is Everything

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Over the past five decades, cervical cancer mortality has declined by almost 75%.<sup>1</sup> Once the number one cancer killer of women, cervical cancer has now fallen to number 13 in North America.<sup>1</sup>

In North America, approximately 13,000 new cases of invasive cancer are found every year; 4,100 deaths result.<sup>1</sup> In contrast, women with pre-invasive cancer of the cervix, discovered and adequately treated, have a five-year survival rate of almost 100%.<sup>1</sup> The screening process also picks up invasive cervical cancer at an early stage and the five-year survival for stage I surpasses 90%.<sup>1</sup>

### *What causes cervical cancer?*

Most human papillomavirus (HPV) infections are transient and associated with low-grade intraepithelial squamous lesions (LSIL). In over 90% of women with invasive squamous carcinoma of the cervix, the tissue contains DNA from high-risk HPV transmitted during sexual activity. High-grade squamous intraepithelial lesions (HSIL) may progress to cervical cancer if not treated.

### ? Leslie's case: A Q&A

Leslie, 22, is undergoing her regular annual health-care visit, which includes a Pap smear. She has practised serial monogamy and has had three partners since initiating coitus at age 16.



Presently, she is taking the birth control pill. She smokes 12 cigarettes a day.

At the time of her exam, she is just finishing her menstrual flow.

### 1 How would you counsel her regarding cervical cancer?

- Advise her to stop smoking, as there may be a correlation between smoking and progression of human papillomavirus (HPV).
- Speak to her about safe sex practices and the need for barrier contraception.
- Check for sexually transmitted diseases (STDs).
- Have her return for a followup Pap smear in three to four months (when she is not menstruating).

Four months later, her Pap smear returns showing low-grade squamous intraepithelial lesions (LSIL) with koilocytotic atypia.

**For more Q&As on Leslie's case, go to page 78.**

## How does the disease progress?

Less than 5% of young women with LSIL progress to HSIL within three years.<sup>2</sup> Less than 5% of young women who develop HPV infection develop HSIL.<sup>3</sup> The time of progression for women with HSIL carcinoma to in situ or invasive cancer varies from 60 to 72 months. Of women with cervical cancer, approximately 50% have reported a negative smear, likely due to:

- failure to adequately sample the lesion; or
- background interference with blood or inflammation.

More than half the new cases of cervical cancer arise because:

- women fail to avail themselves of appropriate screening programs; and
- primary care physicians fail to screen and manage high-risk groups, such as Aboriginal women, women in detention, immigrant women from Third World countries, women of low socioeconomic status, and women at risk for HIV.

## Leslie's case: Q&As cont'd.

### 2 What's your next step?

- Check for STDs, including vulvar condyloma.
- Repeat the Pap in three to four months.

Although the progression of LSIL to high-grade squamous intraepithelial lesions (HSIL) is infrequent, a small, but significant, number of women with LSIL on Pap smear will have HSIL. Definitive treatment may not be warranted at this time, but personal intervention might be of value.

### 3 Followup Pap shows LSIL. What would you do?

Refer her to a gynecologist for colposcopy.

### 4 At colposcopy, acetowhite changes with mosaicism and abnormal vascularity are seen in one small area. Multiple biopsies are taken. The results show:

- Multiple areas of condyloma
- Multiple areas of LSIL
- One focal area of high-grade dysplasia

### 5 What are the management strategies?

It is best to treat on the basis of the worst-looking area of the cervix. Because cervical dysplasia tends to be multifocal, removing the transformation zone will often halt the progression of any dysplastic change.

For more Q&As on Leslie's case, go to page 79.

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# Leslie's case: Q&As cont'd.

## 6 What treatment modalities would you recommend?

- Local trichloroacetic acid may be appropriate for the areas of low-grade dysplasia, but would not eradicate the area of high-grade squamous dysplasia.
- Cryo-cone, which was used in the past, is uncomfortable and fails to provide a pathology sample; pre-invasion and invasion may be missed without an adequate sample.
- A loop electrosurgical excision procedure (LEEP cone) done under local paracervical block is fast, efficient, effective, and provides an excellent pathology sample to review

The LEEP cone shows high-grade dysplasia—carcinoma in situ with clear margins.

## 7 What followups are required for this young woman?

- She should be strongly advised to stop smoking.
- She should be advised to use barrier protection.
- Colposcopy of the vulva perineum should be undertaken to rule out other areas of HVP/dysplasia.
- She should be followed at the colposcopy unit, as per their protocol, for the next two years.
- She should be counselled on screening for HIV and hepatitis C.

Table 1

## ASCUS and LSIL findings in colposcopy studies

### ASCUS

- 50% are benign
- 40% are associated with LSIL
- 6% are associated with HSIL
- < 0.5% are associated with invasive carcinoma

### LSIL

- 30% are benign
- 40% are associated with low-grade dysplasia
- 30% are associated with high-grade dysplasia

ASCUS: Abnormal squamous cells of unknown significance  
LSIL: Low-grade squamous intraepithelial lesions  
HSIL: High-grade squamous intraepithelial lesions

Table 2

## The purpose of HPV screening

- To detect and remove high-grade lesions
- To prevent potential progression of high-grade lesions to invasive cervical cancer
- To detect cervical cancers at an early age

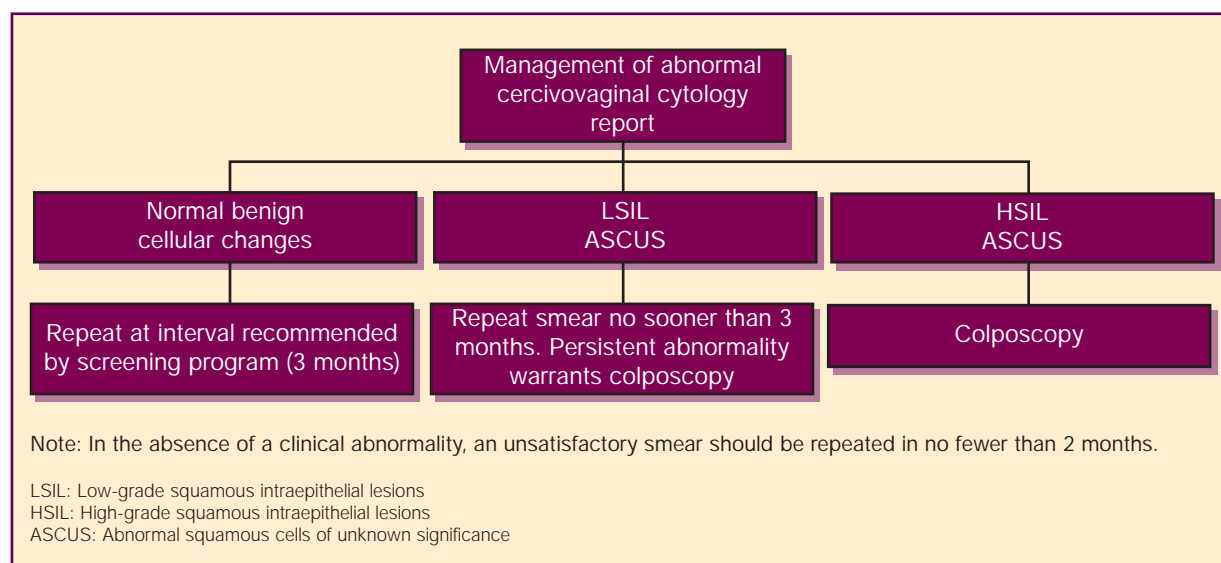


Figure 1. Algorithm for the management of an abnormal smear.

Some findings that may also lead to a missed diagnosis include:

- abnormal squamous cells of unknown origin (ASCUS); and
- low-grade squamous intraepithelial lesions (LSIL), a common finding on Pap smears (Table 1).

### *What should be the frequency of screening?*

Recommendations for frequency of screening vary from one organization to another. Some recommendations include:

- annual screening over the age of 18;
- screening beginning within three years of first coitus;
- annual screening; or
- screening after two years following three negative smears.

Table 2 lists the reasons for screening. An algorithm is also presented, showing the management of an abnormal smear (Figure 1).

Knowledge of screening frequencies and techniques, as well as management of abnormal smears, can do much to produce a cost-effective system designed to minimize the morbidity and mortality associated with invasive cervical cancer. **Dx**

#### References

1. American Cancer Society: Cancer Facts and Figures, 2002.
2. Moscicki A: High regression rates of LSIL in adolescents.
3. Pediatric Academic Society Annual Meeting, 2002. Baltimore, U.S.A.

