



**CERVICAL  
SCREENING**  
Clinical Practice  
Guidelines for Family  
Physicians



Clinical Practice  
Guideline for  
General Practitioners:  
**Cervical Screening**



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## Acknowledgements

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The guideline is intended for healthcare professionals—including family physicians, nurses, and others involved in the organization and delivery of health services—to provide practical and evidence-based information about early diagnosis and management of cervical cancer.

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## Preface

### PURPOSE OF THE RESEARCH

The aim of a cervical screening program is to reduce the incidence of, and morbidity and mortality from, invasive cervical cancer. However, screening also has the potential to cause both physical and psychological harm to the invited women. It is essential that this harm is minimized so that the benefits of screening outweigh the costs. A balance must be struck between maximizing effectiveness and minimizing harm. This guideline summarizes the current evidence on early detection of cervical cancer by cervical screening and primary care management of this condition.

Specific goals of the guideline are:

- To reduce the mortality and morbidity of cervical cancer
- To improve detection of the disease at an early, pre-cancer stage of development
- To extend life expectancy
- To promote appropriate referral to secondary care for diagnosis and treatment

### **Information Collection and Analysis**

This guideline is largely based on the 2000 ICSI Cervical Cancer Screening guideline and on NHS Cancer Screening Programs, but has been extended and adapted to Georgian local circumstances through:

- | Searches of electronic databases

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- | Textbooks

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- | English-language publications

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- | Systematic review and analysis of evidence

### **Clinical Focus of the Guideline**

Methods for early detection of cervical cancer through screening and appropriate follow-up.

### **Target Patient Groups**

Women aged 20 through 64 or with the onset of sexual activity.

### **Expected Users**

Physicians, nurses, and allied healthcare practitioners working at the primary care level.

### **Expected Results**

- | Increase the percentage of women who are up-to-date for cervical cancer screening.

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- | Improve the effectiveness of patient education by taking advantage of regular opportunities to

inform women of the need for cervical Pap smear screening.

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- | Reduce deaths from cervical cancer.

### **Criteria for Monitoring the Effectiveness of Guideline Implementation**

- | The percentage of women who are covered by the cervical screening program (who have had a Pap smear during the given period).

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- | The number of cases where the disease was detected in an early, pre-cancer stage of development.

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- | Appropriate referrals to secondary care for diagnosis and treatment.

### **Strategies for Implementing Guidelines**

#### *Educational Strategies*

Professional groups incorporate the guideline recommendations into education and training courses in the following ways:

1. Outreach visits
  - a. training of doctors and nurses
  - b. education of health professionals and head doctors

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2. Distributing informational materials

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3. Patient education

The evaluation of the training process will be done by pre- and post-testing of trainees.

### Financial Interventions

#### *Recommendations for Providers*

Payment modes

- | Regional state programs

- | Charge patients for service

- | Income from professional practice

- | Grants

### Guideline Development Workgroup

Georgian Primary Care Team, January – June 2001

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## 1. Summary of Findings

### 1.1 PRE-SCREENING EDUCATIONAL AND COUNSELING ACTIVITIES

Multiple studies indicate that over 50% of cervical cancers occur in women who have never been screened and over 60% occur in women who have not had a Pap smear in the previous five years. Therefore, the incorporation of a screening recruitment into routine primary care shows the most promise in increasing Pap smear coverage of at-risk women. Because primary care providers in other countries have been shown to be able to persuade up to 96% of women in their practices to undergo testing, they are in an optimal position to have a significant impact in eliminating avoidable deaths from cervical cancer (T.E. Kottke *et al.*, “Cancer screening behaviors and attitudes of women in Southeastern Minnesota,”) (Class C, see page 3).

#### 1.1.a Is a Pap Smear Required?

The prevalence of invasive carcinoma of the cervix does not justify including women under the age 20 in the routine screening program, provided that there is good uptake in women aged 20–25. While CIN does exist in teenagers, invasive cancer is extremely rare. There is no rational basis

Cervical screening is carried out every five years in the population aged 20 through 64, or with the onset of sexual activity.

for routinely screening teenagers, regardless of whether they are “promiscuous” or not. A smear is not needed for at least 2–3 years after becoming sexually active (A.W. Roberts *et al.*, 1985).

Although a substantial number of cases of cervical cancer occur in women age 65 and over, an effective screening program should detect pre-cancerous lesions in those under 65, and thus reduce the incidence of invasive disease in older women. Women age 65 and over should be encouraged to have a smear if they have not previously been screened; but there is, of course, the added complication that the smear is more difficult to take for the smear taker and the woman for physiological reasons.

### 1.1.b How Often Should Smears Be Taken?

The timeline for the progression of pre-invasive and invasive cervical disease is fairly well defined. Whereas the mean patient age for cervical dysplasia is about 34 years, the mean ages for carcinoma *in situ* and invasive cancer are 42 and 50 respectively. The relatively slow progression from cervical dysplasia to cervical cancer explains the success of screening intervals greater than one year. Indeed, the International Agency for Research of Cancer evaluated cervical cancer screening programs in Europe and Canada involving 1.8 million women. The expected reductions in the incidence of cervical cancer at screening intervals of one, two, and three years were 93–5%, 92–5%, and 90–9%, respectively. Furthermore, in the United States, David

Eddy has concluded that the probability of dying from cervical cancer is not substantially different for women who are screened annually as opposed to those screened every two, three, or four years.

The strength of the recommendation for or against preventive intervention is graded as follows:

**Class A:** There is good evidence to support the recommendation that the condition be specifically considered in a periodic health examination.

**Class B:** There is fair evidence to support the recommendation that the condition be specifically considered in a periodic health examination.

**Class C:** There is insufficient evidence to recommend for or against the inclusion of the condition in a periodic health examination, but recommendations may be made on other grounds.

**Class D:** There is fair evidence to support the recommendation that the condition be excluded from consideration in a periodic health examination.

**Class E:** There is good evidence to support the recommendation that the condition be excluded from consideration in a periodic health examination.

These classifications are cited throughout this document.

## 1.2 ACTIVITIES TO BE INCLUDED IN A PRIMARY CARE SETTING

- | Setting up and running a systematic screening program

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- | Pre-screening educational and counseling activities

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- | Improving coverage of the target population

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- | Following up with women who did not respond to invitation for appointment

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- | Taking cervical smears

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- | Communicating with the laboratory

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- | The handling of normal and abnormal smear results

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- | Reducing patient anxiety and dissatisfaction

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- | Evaluating the screening program

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- | Social marketing through radio and television programming (educational programs)

### 1.2.a Training Primary Care Nurses in Cervical Screening

As part of integrating cervical screening into the primary care setting, specialized training should be developed for nurses. The training program consists of:

- | Half-day study sessions

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- | Supervised practice and assessment in the work situation

By the end of the training curricula, the nurse should be able to:

- | Discuss the importance of prevention of invasive cervical carcinoma

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- | Describe the anatomy of the female genital tract

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- | Recognize the normal appearance of the vagina and cervix

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- | State action to be taken if vagina and cervix appear abnormal

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- | Demonstrate correct procedures for taking a Pap smear

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- | Describe the recall system

## 2. Introduction to Cervical Cancer and Cervical Screening

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This guideline summarizes both the current evidence for early detection of cervical cancer by cervical screening and the primary care management of this condition.

Cervical screening is a method of preventing cancer by detecting and treating pre-cancerous changes in a woman's cervix. The first stage in cervical screening is conducted through a smear test. Pap smears can spot abnormal cells, which, if left untreated, might turn into invasive cervical cancer. It is not a test for cancer.

Cervical cytology is a screening test and is not an appropriate diagnostic test. Therefore, other methods must be used to diagnose patients who present with symptoms and signs of cervical disease.

For the screening program to be considered effective there must be:

- A high rate of smears across all age groups and social classes
-

- I A service that women find acceptable
- I Adequate quality of smear-taking and good training of smear-takers
- I Quality control for interpreting smears
- I Efficient and good treatment facilities
- I Systematic evaluation and monitoring

Cervical screening is carried out every five years in the population aged 20 through 64, or with the onset of sexual activity.

## 2.1 PATHOLOGY

At present, the exact cause of cervical cancer is not known; therefore, primary prevention is not feasible. Cervical cancer screening or secondary prevention can, however, prevent invasive cancer by identifying cervical intraepithelial neoplasia (CIN), the pre-invasive stage of cervical cancer. Early detection of CIN provides an opportunity to prevent or delay progression to invasive cancer by performing clinical interventions such as colposcopy, conization, cryocautery, laser vaporization, loop electrosurgical excision, and, when necessary, hysterectomy.

There is evidence that early detection through routine Pap testing and treatment of precursor CIN can lower mortality from cervical cancer. Correlational studies in the United States, Canada, and several European countries comparing cervical

cancer data over time have shown dramatic reductions in the incidence of invasive disease, and a 20–60% reduction in cervical cancer mortality rates following the implementation of cervical screening programs. Case-control studies have shown a strong negative association between screening and invasive disease, also suggesting that screening is protective. These observational studies do not constitute direct evidence that screening was responsible for the findings, and randomized controlled trials to provide such evidence have not been performed because cervical screening started before the era of randomized controlled trials. Nonetheless, the large body of supportive evidence accumulated to date has prompted the adoption of routine cervical cancer screening in many countries and makes performance of a controlled trial of Pap smears unlikely for ethical reasons. Nearly complete coverage of the target population by organized cervical screening programs in Iceland, Finland, Sweden, and Denmark were soon followed by sharp falls in both incidence and mortality.

Observational data suggest that the effectiveness of cervical cancer screening increases when Pap testing is performed more frequently. Aggressive dysplastic and premalignant lesions are less likely to escape detection.

## Natural History

The natural history of invasive cervical cancer and carcinoma *in situ* remains uncertain, a factor

which obviously has a profound influence on a screening policy.

Approximately 70% of cervical malignancies are squamous cell carcinomas and the remainder are mainly adenocarcinomas. The biologic cause of cervical carcinoma is unknown. The results of numerous studies have demonstrated an association between infective agents and cervical cancer. Among these agents, the most important is human papillomavirus, which is detected in 90–95% of all squamous cell cancers of the cervix. Other sexually transmitted agents implicated to a lesser degree include herpes simplex virus type 2 and spermatozoon DNA.

For the vast majority (estimated at well over 90%) of cervical cancers, the first step is exposure to one of the oncogenic HPVs. The time from infection to the development of invasive cancer is thought to be many years—typically between five and thirty-five. Longitudinal studies on young women show that the majority of HPV infections are transient and that the virus is indeed sexually transmitted. Persistence of infection has been shown to be associated with the development of cervical lesions. It is generally believed that one of the key steps in the development of cancer is integration of the viral DNA in the host genome.

Cervical neoplasia appears to constitute a disease ranging from CIN grades 1 to 3, to micro-invasive, and finally to fully invasive cancer. More recent ev-

idence shows that CIN 1 is not frequently associated with HPV infection and may not therefore be part of the continuum. However, histology is not currently able to distinguish CIN 1 associated with oncogenic HPV infection from CIN 1 without HPV DNA. The histological report of HPV infection is based on morphological features and is not particularly closely correlated with the presence of oncogenic HPV DNA.

Follow-up studies of women with CIN have found that about 60% of CIN 1 regresses, compared to about 33% of CIN 3; 11% and 22% of CIN 1 and 2, respectively, progressed to CIN 3. These data do not fit well with the assumptions made by some modellers that the annual rate of regression from CIN 1 is 4% and that regression from CIN 2 and 3 is negligible. The same modellers assumed annual progression rates of 25% from CIN 2 to 3 and 3–4% from CIN 3 to cancer. Other groups claim that regression is more common in younger women and that three-quarters of CIN in women under 35 years of age will regress. They estimate the mean duration of CIN to be 12 years and that the time from HPV infection to CIN is between 1–10 years. Although the details of progression and regression are largely speculative, it is clear that, at most, about a third of high-grade CIN will progress to cancer over about 15 years and that the majority of CIN 1 will regress.

CIN 3 is very rare in women under the age of 20. The rates rise rapidly, peaking at about age 30, and

fall again rather more slowly, being at about half their peak by age 40, and just 10–20% of their maximum by age 50. It is not completely clear to what extent published CIN 3 rates reflect prevalence of an untreated condition and to what extent they mirror incidence.

The initiation of sexual intercourse at an early age, exposure to multiple sexual partners, and smoking have been associated with a significantly higher incidence of cervical carcinoma.

**2.2 INCIDENCE OF CERVICAL CANCER**

Worldwide, after breast cancer, cervical cancer is the most common cancer affecting women. Of the estimated 371,000 new cases in 1990, around 77% were in developing countries.

The burden of disease in disability-adjusted life years (DALYs) estimated for 1999 was in total 3,354,000. In the European region alone the life-year burden was 361,000; in Africa, 686,000; in America, 459,000; in the Eastern Mediterranean region, 175,000; in South-East Asia, 989,000; in Western Pacific region, 683,000 (The World Health Report, 2000).

In Georgia, cervical cancer is one of the most widespread forms of cancer. Data for 1999 is found in Table 1.

CERVICAL CANCER DATA FOR 1999				
Stage at first diagnosis made				
Stages of invasive carcinoma	Total	I-II	III	IV
Total	232	77	82	73
# of registered patients	1,224			
# of deceased patients	197			

Distribution of 232 Total Patients by Age (Diagnosis established in 1999)							
Age	25–29	30–34	35–39	40–44	45–49	50–54	55–59
Total	5	3	20	31	36	33	23
Age	60–64	65–69	70–74	75–79	80–84	85+	
Total	27	25	15	9	2	2	

**Table 1. Ministry of Health figures for cervical cancer in Georgia for 1999.**

**2.3 MORTALITY**

In 1999, total deaths from cervical cancer were 237,000. The number of deaths in the European region was 27,000; in Eastern Mediterranean, 16,000; in the Americas, 30,000; in Africa, 56,000; in South-east Asia, 61,000; and in the Western Pacific region, 47,000 (The World Health Report, 2000).

Since 1991, mortality has fallen at an increasing rate, which is believed to reflect the improvements made to the cervical screening program. Deaths from cervical cancer are now falling by 7% a year.

The death rate increases with age: around 95% of deaths occur in women over 35 years.

Deaths from cervical cancer have fallen by more than 40%: from 7.0 deaths per 100,000 in 1979, to 4.1 per 100,000 in 1995.

## 2.4 CLASSIFICATION

The 1995 International Federation of Gynecology and Obstetrics (FIGO) staging system for carcinoma of the cervix is as follows:

**Stage I:** The carcinoma is strictly confined to cervix (extension to the corpus should be disregarded).

**Stage IA:** Invasive cancer identified only microscopically. All gross lesions, even with superficial invasion, are stage IB cancers. Invasion is limited to measured stromal invasion with maximal depth of 5.0 mm and maximal width 7.0 mm.

**Stage IA1:** Measured invasion of stroma no deeper than 3.0 mm and no wider than 7.0 mm.

**Stage IA2:** Measured invasion of stroma deeper than 3.0 mm but no deeper than 5.0 mm and no wider than 7.0 mm.

**Stage IB:** Clinical lesions confined to the cervix or preclinical lesions larger than stage IA.

**Stage IB1:** Clinical lesions no larger than 4.0 mm.

**Stage IB2:** Clinical lesions larger than 4.0 mm.

**Stage II:** The carcinoma extends beyond the cervix but has not extended to the pelvic wall. The carcinoma involves the vagina but not as far as the lower third.

**Stage IIA:** No obvious parametrial involvement.

**Stage IIB:** Obvious parametrial involvement.

**Stage III:** The carcinoma has extended to the pelvic wall. Rectal examination reveals no cancer-free space between the tumor and pelvic wall. The tumor involves the lowest third of the vagina. All cases with hydronephrosis or nonfunctioning kidney are included unless kidney disease is known to be due to other causes.

**Stage IIIA:** No extension to the pelvic wall.

**Stage IIIB:** Extension to the pelvic wall and/or hydronephrosis or nonfunctioning kidney.

**Stage IV:** The carcinoma has extended beyond the true pelvis or has clinically involved the mucosa of the bladder or rectum. Bullous edema does not assign a case to stage IV.

**Stage IVA:** Spread of carcinoma to adjacent organs.

**Stage IVB:** Spread to distant organs.

## 2.5 RISK FACTORS

Factors related to risk directly or indirectly include:

- Sexual behavior (such as the number of sexual partners or intercourse within 1 year of menarche) and sexually transmitted disease (HPV)

- I Age at first pregnancy and total number of pregnancies
- I Method of contraception
- I Occupation and low socioeconomic class
- I Smoking
- I HIV status (if positive, the relative risk is very high)
- I Prior abnormal Pap smear or cervical dysplasia in less than five years (relative risk is very high)
- I Moderate dysplasia on Pap smear
- I No prior screening

Risk factors	Low risk	High risk	Relative risk		
			<2	2-4	>4
Sexual partners	Few	Many			X
Age at first intercourse	Old	Young		X	
Occupation	Non-manual	Manual	X		
Smoking	No	Yes		X	
STD	Never	Ever			X
Oral Contraceptives (OC) use (controversial)	<5 years	5 years+	X		
Cervical smear	Ever	Never		X	
Age	Young	Old		X	

Women who have many risk factors have a greater need to be screened, but do not need to be screened more frequently as long as their prior Pap smears

have been normal. These risk factors cannot be used to predict with reliability which women will develop CIN. Thus, there is little value in selecting these women for more frequent screening. Below is a table of risk factors as summarized from research literature by Mandelblatt. Aside from HIV, the two highest risk factors are a history of dysplasia and no prior screening.

Risk factor	Relative risk (RR)
Moderate dysplasia on Pap smear less than five years	Very High
No prior screening	10
HPV (depending on subtyping)	2.5-30
Six or more lifetime sexual partners	5
Low socio-economic class	5
Race (black vs. white)	2.5
Smoking	2
Oral contraceptive use (controversial)	1.2-1.5
Barrier contraception	0.6

## 3. The Cervical Screening Process

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### 3.1 IS CERVICAL SCREENING EFFECTIVE?

While cervical screening cannot be 100% effective, cervical screening programs have been shown to reduce the incidence of cervical cancer in a population of women. For example:

- A single screen at the age of 40 reduced the cumulative incidence of cervical cancer by 20%. (A.B. Mille, Cervical cancer screening programs, Geneva, WHO, 1992.)

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- Five-year screenings (ages 20–64) reduces the cumulative incidence of cervical cancer by 83.6%.

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- Three-year screenings (ages 20–64) reduces the cumulative incidence of cervical cancer by 91.2%.

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- Annual screening (ages 20–64) reduces the cumulative incidence of cervical cancer by 93.3%. (M. Hakama *et al.*, “Screening for cancer of the uterine cervix,” Lyon, IARC, 1986.)

### 3.1.a Evidence of Effectiveness

A recent meta-analysis reports that the ranges for sensitivity and specificity of a single Pap screening for detecting cervical intraepithelial neoplasia (CIN) grades 1 and 2 are from 14% to 99% and from 24% to 96%, respectively. The wide range of reported sensitivity can be attributed to differences in screening technique (e.g., insufficient sampling of cells, inadequate slide preparation, laboratory inaccuracy, and reporting and differences in the manner in which the investigators define sensitivity). False-negative tests may allow a lesion to progress to more advanced disease before it is detected, whereas false-positive tests can lead to anxiety and unnecessary tests.

### 3.1.b Problems with Screening

- ▮ Women most at risk do not present for screening, thus increasing the gap between the healthy and the unhealthy—the inverse care law is important.

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- ▮ Services for investigating women testing positive are inadequate.

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- ▮ Women who test false positive suffer stress while awaiting investigation and remain anxious about their health despite reassurance.

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- ▮ Women who test true positive, though treated, may begin to see themselves as of lower worth than hitherto.

- ▮ Resources may be unavailable for taking care of women who test positive.

### 3.1.c The Psychological Effects of Cervical Screening

There is a widespread belief among the public and professionals that cervical cancer is in some ways a sexually transmitted disease. A report of ‘infection’ may come as a considerable shock to many people, and depression, guilt, and marital and sexual problems can result.

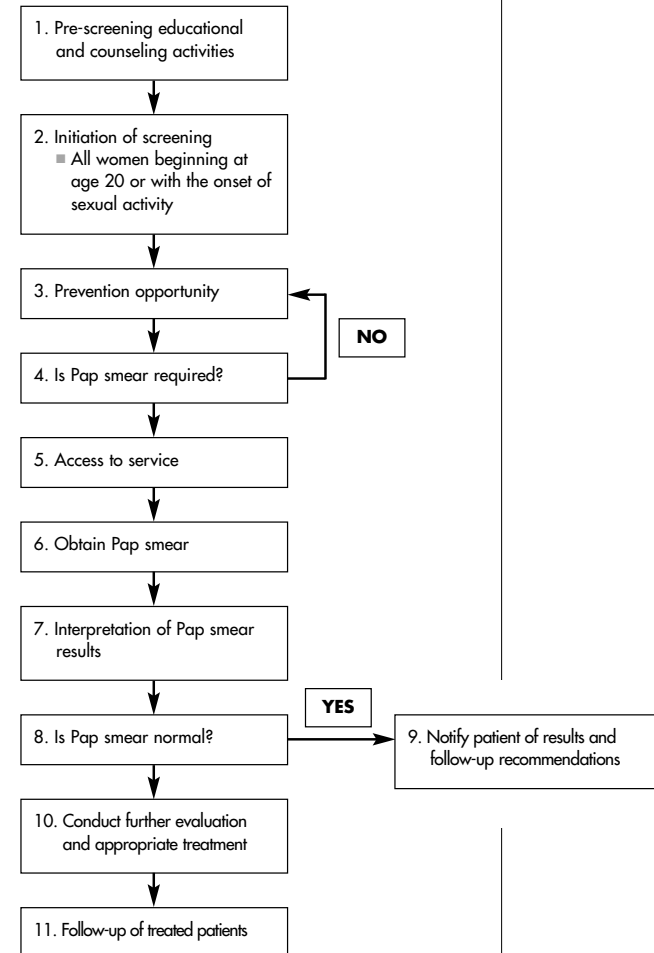
If the woman is told that she has CIN there is obviously concern about the possibility of cancer. There is considerable confusion about the difference between intraepithelial neoplasia and invasive neoplasia. In addition the connotation of infection and sexually transmitted disease can further aggravate the adverse psychological impact of diagnosis.

These problems are severe enough if the woman actually has CIN, but if referral for colposcopy is made and the woman does not turn out to have CIN, the adverse psychological sequelae will have been incurred without benefit to the woman. A certain proportion of false positive results are inevitable, as in any screening test, and the challenge is therefore to minimize the number of false positives and the proportion of women referred for colposcopy.

The psychological impact of a CIN diagnosis or the referral for colposcopy can be minimized by:

- The provision of clear written information at all stages of the screening process
- The availability of a phone number and both a sympathetic professional with which to discuss the problem
- The provision of counseling by the person carrying out colposcopy
- The reduction in delays in reporting and in waiting for a colposcopy, if needed

### 3.1.d Algorithm of Screening\*



\*Source: ICSI 2001

Education and outreach efforts play a crucial role in helping to increase the number of age-appropriate women who present themselves for regular cervical Pap smear screening, thereby reducing the incidence of cervical cancer mortality.

### 3.2 ALGORITHM ANNOTATIONS

#### 3.2.a. Pre-screening Educational and Counseling Activities

Education and outreach efforts play a crucial role in helping to increase the number of age-appropriate women who present themselves for regular cervical Pap smear screening, thereby reducing the incidence of cervical cancer mortality.

#### 3.2.b Reasons for Non-uptake of Cervical Cytology Tests

Barriers to screening can be grouped under certain headings, as follows:

##### *Invitation Not Received*

- ▮ Inaccurate records of names and addresses.

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- ▮ Population mobility: woman has moved out of the area or is on extended visit abroad.

##### *Misconceptions About the Purpose of the Test or the Relevance of Screening*

- ▮ Inaccurate beliefs about what a smear test is for. Some women do not believe the test is appropriate for them (*e.g.*, they may believe that if they have had only one sexual partner it is not necessary, or that women only have the test after they have had babies, or that if they stop having sexual intercourse the test is not necessary).

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- ▮ Not understanding the benefits of early detection of cell changes and the treatability of conditions. Prevention is not a familiar concept.

##### *Personal Fears*

- ▮ Fear that a smear test is a cancer test and they do not wish to know or find out that they may have cancer (denial).

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- ▮ Embarrassment about being physically exposed.

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- ▮ Fear of pain from the test, especially if a woman has had a previous bad experience or has heard that the test is painful.

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- ▮ Fear of being judged sexually promiscuous.

##### *Practical Issues*

- ▮ Family obligations or work obligations that make it difficult to get around to making or attending an appointment.

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- ▮ Lack of transportation to get to the health center.

#### 3.2.c Interventions to Improve Uptake of Cervical Screening

- ▮ **Home visits by health workers to offer education about smear testing.** There is evidence that home visits are successful irrespective of the health education materials used.

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- ▮ **An invitation letter from a GP encouraging uptake** (Bell 1997: uptake rose from 35.2% achieved in the previous screening round to 50.7% after this intervention). The style, presentation, tone, and contents of the letter are all-important. The purpose and applicability of

the test to the individual woman should be clearly stated and an explanatory leaflet enclosed. A personal invitation from the woman's own general practitioner achieved a higher attendance of women than letters sent from a local health authority (Kant *et al.*, 1997). The inclusion of a fixed appointment time results in better uptake, rather than asking a woman to make her own appointment (Byles *et al.*, 1994).

- | **Telephone counseling.** This is similar to the personal call from a health visitor.
- | **Opportunistic screening.** There is some evidence that opportunistic screening can be effective, but such an approach must avoid appearing compulsory. Nurses in the clinic may be better at this type of intervention than doctors, and educational posters in the clinic and reading materials also help.
- | **Chart reminders for physicians.** Flag the notes of patients who do not have a cytology test, and make a reminder message appear on the computer screen for the doctor or nurse to see.
- | **Attractive posters.** These should be distributed to polyclinics, colposcopy clinics, and public libraries.

It is important to consider interventions in terms of increased uptake and also in relation to informed uptake. However, even if educational materials do

not directly increase uptake, they are likely to be important in increasing informed uptake.

### 3.2.d Recommendations

- | Make it clear that woman can be seen by a female doctor or nurse.
- | Stress hygiene, privacy, and respect for all women.
- | Focus on unprotected heterosexual intercourse as the risk and remove the associations with promiscuity.
- | Re-orient priorities away from screening alone towards primary prevention.
- | Stress confidentiality, especially with younger age groups.
- | Ensure that information reaches healthy and childless women. If women do not need to see a doctor or nurse for some reason, they are unlikely to get information about cervical cytology screening. Education should be targeted not just at clinics and practices, but also at other settings.
- | Remember that prevention of cervical cancer is a new subject to many women. Do not use medical jargon or other unfamiliar terms as this could be a barrier to women.

- | Make more use of images, pictures, videos, diagrams, etc., and show the instruments beforehand. Use visual aids in prior health education, and get the examining doctor or nurse to use diagrams at the time of the test.

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- | Older women, especially those over 60 who have never had a test, may be particularly unlikely to present for a test. However, several studies have shown that older women are generally receptive to new information, and they may find the idea of a cervical smear test acceptable if placed in the wider context of other information provided to healthy women.

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- | Approach younger age groups via appropriate venues such as colleges. Do not rely on them coming in to health centers.

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- | Talk about screening tests in antenatal classes, and get health visitors to talk about them at their postnatal visits.

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- | Provide a domiciliary service for severely disabled women.

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- | Remember that issues of sexual abuse and rape may apply to some women who are reluctant to have a test.

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- | Beware of issues concerning the cultural value of virginity. Some young women who claim they have not had intercourse with a man (and

have actually not done so) may fear that having a smear implies sexual activity. Again, confidentiality is very important.

### 3.3 INITIATION OF SCREENING

Cervical Pap smears should be initiated for all women from 20 years of age, or before the age 20 with the onset of sexual activity. There is insufficient evidence to recommend for or against routine cervicography or colposcopy screening for cervical cancer in asymptomatic women, and neither is there evidence to support routine screening for HPV infection (Class C, see page 3). Recommendations against such screening can be made on other grounds, including poor specificity and costs.

### 3.4 PREVENTION OPPORTUNITIES

Health education messages for the general public should be included in an information leaflet about cervical screening, explaining that:

- | A smear test aims to prevent cancer and is not a test for cancer.

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- | 100% accuracy is not possible.

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- | Women should always report any abnormal bleeding to their GP.

Cervical screening is secondary prevention. At present, the exact cause of cervical cancer is not known but it seems that it is sexually transmitted, with HPV heavily implicated (see section 2.1).

From the risk factors already mentioned, information can and should be given to women (and men) to allow decisions to be made that may help in primary prevention. Thus, available information on primary prevention would suggest the following precautions:

- | Fewer partners (for both men and women)

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- | Barrier methods of contraception and avoidance of long-term use of OCs

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- | Avoidance of intercourse with partners with genital or rectal warts, and hence avoidance of the spread of papilloma virus

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- | Advice to heavy smokers to stop or reduce smoking

### 3.5 IS A PAP SMEAR REQUIRED?

All women, beginning at age 20 or with the onset of sexual activity, should have Pap smear screening unless they are:

- | Women who have had a total hysterectomy for **benign disease** if there is:
  - adequate pathological documentation that the cervix has been completely removed
  - no previous evidence of cervical malignancy or premalignancy

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- | Women with a cervix and older than 65, provided the prior two consecutive Pap smears at ap-

propriate intervals were adequate for evaluation and reported as within normal limits (Class A, see page 3)

Patients with a history of dysplasia should have a Pap smear 6 months after treatment and then annual smears during 5 years of normal findings. After 5 years, they need not be repeated more frequently than the standard recommendation.

After age 65, there is no clear consensus on the need for Pap smears in women who have had previous adequate screening. Women older than 65 and who have never been screened:

- | Should have two consecutive Pap smears, six months apart.

If results are normal, screening may be discontinued (Class C, see page 3). Pap smears may be performed with the mutual consent of the patient and provider.

### 3.5.a General Overview

Most cervical squamous pre-malignancies and malignancies develop in the transformation zone and extend to the ectocervix. The purpose of specimen collection is to obtain a specimen of cells from both areas. The transformation zone is an area of cells characterized by columnar cells proximally, squamous metaplastic cells centrally, and mature squamous cells distally. This zone is usually located 8 to 13 mm proximal to the ectocervix, but may extend as far as 20 to 30 mm into the cer-

**Practice Point:**  
Women with signs of symptoms of cervical pathology should have appropriate investigation. A negative Pap smear in this circumstance may not be reliable.

vical canal. The area of transformation is higher within the cervix in older women and those who are pregnant. The ideal sample has both ectocervical and transformation zone cells in adequate numbers to detect abnormalities. Factors resulting in variability in this ideal sample are the sample taker’s skill, individual variations in the transformation zone, and hormonal influences. It is generally accepted that one of the most important measures of adequacy of a Pap smear is the presence of endocervical or metaplastic squamous cells. The technique with the least variability between sample takers and the highest consistency in providing an adequate sample involves the use of both a pointed cervical spatula and an endocervical brush or equivalent. This technique improves the adequate smear rate to 94–98%. Use of the double collection technique also corrects for individual hormonal variability in the transformation zone.

**3.5.b How Often Should Smears Be Taken?**

It is recommended that a smear should be taken “at least every 3 years.” (Class B, see page 3). There are considerable local variations. In some countries there is a 5-year screening interval. In others, the interval is 3 years, and in still others a mixture of both. The US preventive task force recommends that after three consecutive normal Pap smears, women may have their screening performed less frequently at the discretion of the patient and clinician. It need not be performed for women who have had a hysterectomy for benign disease.

Although the international standard for a negative result is three annual normal Pap smears in a period not to exceed five years, a wider time frame is acceptable as long as there are no intervening abnormal Pap smear results.

Some women require more vigilant surveillance, because of increased risk or current or past cervical disease, they include:

- ▮ Women who have had a recent abnormal Pap smear result

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- ▮ Women with treated cervical malignancy or premalignancy

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- ▮ Women at increased risk because of immunosuppression

Because the natural history of the disease is not well understood, the optimum interval remains a subject of debate and an important research issue. The table below shows that the advantage of 1- versus 3-year screening intervals is very small

Screening schedule	Reduction rate (%)	# of tests
every 10 years, 25–64	61	4
every 10 years, 35–64	55	3
every 10 years, 45–64	43	2
every 5 years, 20–64	84	9
every 5 years, 30–64	81	7
every 3 years, 20–64	91	15
every year, 20–64	93	45

(2%), compared with a 7% difference between the 3- and 5-year screening interval.

### 3.5.c Limitations

A false negative result occurs when the Pap smear fails to detect an abnormality present on the cervix. Cervical cancer screening is not a completely sensitive test and has an inherent, unavoidable false negative rate which averages 20% and may be higher for a single patient visit. This implies that one in five abnormalities of the cervix are missed. False negatives occur because either the abnormal cells are not present on the smears due to limitations of cervical sampling and smear preparation, or because abnormal cells in the smears were not identified by the laboratory. Repeat screening at regular intervals is therefore necessary to provide adequate lifetime protection from cervical cancer.

### 3.5.d Access to Service

The location for the smear procedure must be accessible and the environment very comfortable and pleasant. It should be done at various times to make it possible for women to be screened and not miss work; the experience must be as pleasant as possible so that the women will themselves tell others about the opportunity.

### 3.6 OBTAIN PAP SMEAR

Obtaining a Pap smear using the most optimal procedure and technique will greatly enhance obtaining a satisfactory specimen and decrease the amount of discomfort to the patient (Austoker

and McPherson, 1992) (Class C, see page 3). Before obtaining a Pap smear, a clinical history must be taken. Women must be asked:

1. If she has any **abnormal bleeding**, including:
  - Heavy periods
  - Post coital bleeding (PCB)
  - Inter-menstrual bleeding (IMB)
  - Post-menopausal bleeding (PMB)

or if she has any unusual vaginal discharge, a smear *may* be taken, however, it is **important that decisions about the subsequent management of the woman do not wait for, and are not made on the basis of, the cytology result obtained.**

2. When she last had a Pap test.
3. For details of any previous abnormal smears (including when, where, result, treatment, and follow up).
4. For the date of the first day of her last menstrual period.
5. If she is taking oral contraception, hormones, or has a Intrauterine Contraceptive Device (IUCD) in place.

Check the woman's relevant clinical history by referring to her records, including copies of previous request forms.

### 3.6.a Equipment for Taking Pap Smear

- | Examination room with a powerful light, if possible
- | Speculum (different sizes)
- | Wooden or plastic Ayre spatula, cytobrushes
- | Latex gloves
- | Slide and pencil to write on slide (name, dob, date)
- | Fixative and transport box
- | Form

### 3.6.b Taking the Pap Smear

- | Women should not have sex, use vaginal creams, or douche for 24 hours before the exam (however, this should not preclude a patient from receiving a Pap smear).
- | Pap smears should be taken mid-cycle: >7 days from the end of last menstruation, <12 days from next expected bleed.
- | Take smears >12 weeks after childbirth.
- | Take smears after completing treatment for vaginal infection.
- | For repeat smears, wait at least 3 months, unless

lab says otherwise.

- | If the patient has never had sex then they may not need a smear.
- | If there appears to be an infection or vaginal discharge take a swab and treat accordingly. Wait until the next mid cycle to try again.
- | In postmenopausal patients, the vault may be dry. If the resulting smear is not satisfactory, one may get a result by using estrogen cream for a week and repeating the smear.

### 3.6.c The Request Form

Complete the form fully and legibly in ballpoint pen. Include:

- | Name and address of general practitioner
- | Woman's current full name and any previous names
- | Woman's address with zip code
- | Woman's date of birth
- | Woman's clinical history (see above)

### 3.6.d The Pap Smear Procedure

- | Ensure privacy
- | Place the patient in the dorsal or left lateral position

- Cytological specimens should be obtained with a non-lubricated speculum before the bimanual pelvic examination.
- 
- I Insert the speculum at the correct angle. Rotate the speculum through 90 degrees halfway up the vagina, while being aware of the patient's reaction. Do not open the speculum until it is fully inserted.
    - The cervix and the area of the vagina adjacent to the cervix must be fully visible when the smear is obtained. If it is difficult to see the cervix, place a folded towel (or ask the patient to place her hands) under her buttocks in order to tilt the pelvis.
- 
- Look at the cervix noting its clinical appearance. A woman with any suspicious lesion on the cervix should be referred to a gynecologist for a follow-up exam. The presence of eversion and/or Nabothian cysts does not constitute an abnormality in this context. If a lesion is grossly visible, a Pap smear alone does not constitute adequate evaluation; biopsy with or without colposcopy should be strongly considered. **A biopsy should be performed for all lesions that are: (a) elevated; (b) keratotic; or (c) ulcerated or covered with bloody necrotic exudate.**
- 
- If the patient has cervicitis and/or discharge, a high vaginal swab should be taken and any infection treated before a smear is taken.

- I Insert the Aylesbury spatula into the cervix and rotate through 360 degrees twice, ensuring the collection of cells from the squamo-columnar junction. For traditional Pap smears, the endocervix and ectocervix should be sampled separately (spatula first, cytobrush last). The standard method for sampling the endocervix is with an endocervical brush, which enhances cell recovery. Insert the brush into the endocervical canal and rotate one-half to two full turns.
- 
- I Remove the speculum gently.
- 
- I Transfer the cells onto a slide within 30 seconds. Both sides of the spatula should be drawn along the slide. If using a cytobrush, gently roll and twist the brush along the slide and mark the slide with a "C." The material on the slide must be spread thinly so that microscopic interpretation is possible.
- 
- I The slide is fixed immediately to prevent drying either by immersing it in a jar of 95% ethyl alcohol and fixing for 15 minutes, spraying with aerosol or pump fixative while holding the spray can at least 25–30 cm from the slide, or flooding with liquid fixative. Slides fixed in 95% ethyl alcohol can be transported to the laboratory in the alcohol bath or allowed to air dry following fixation. Smears fixed with aerosol or flooding must be air dried before sending to the laboratory.

### 3.7 AFTER TAKING A SMEAR

- I Withdraw the speculum gently with blades apart until the cervix is no longer within the blades. Allow the speculum to close and continue to withdraw it until it is removed.

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- I Ensure privacy for dressing.

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- I Advise patient to ask for results according to practice policy.

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- I Record in the woman's notes and on the request form:
  - Confirmation that the cervix was visualized and that the transformation zone was appropriately sampled
  - The appearance of the cervix
  - All clinical details
  - The position of the squamo-columnar junction
  - The type of sampler(s) used

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- I Add any relevant information to the clinical data box on the request form.

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- I Advise the woman of how and when she will receive her test result.

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- I Advise the woman to tell her GP if she ever has **irregular or unusual bleeding** or **offensive vaginal discharge**, even if the smear test is negative.

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- I Record the smear in a **logbook or computer system**, so that it can be ensured that the result

has been received. The following information should be recorded:

- Woman's full name and date of birth
- Smear date
- Date result received (to be entered on receipt of result)
- Subsequent action taken (to be entered on receipt of result)

#### 3.7.a Interpretation of Pap Smear Results

In order to achieve consistent cervical Pap smear reporting, it is highly recommended that all providers and their affiliated laboratories adopt the Bethesda system of nomenclature for Pap smear interpretation as their system of reporting results.

For a slide to be adequate for cytological screening, it must contain appropriate cervical cells, spread at a suitable thickness and not obscured by other material. Taking an adequate smear depends upon the smear taker visualizing the cervix while the smear is being taken. **Irrespective of the cytology report, a slide can only be adequate if the cervix was visualized and adequately sampled.**

The reason for declaring a smear to be inadequate is always recorded and reported to the sender of the smear. An inadequate smear must be repeated as soon as possible, but at least six weeks after the initial smear was taken, and three consecutive inadequate smears must result in a referral for colposcopy.

### 3.7.b Inadequate Pap Smears

Descriptions of Pap Smear Results and Protocols for Treatment*		
RESULT	EXPLANATION	ACTION
Inadequate	Insufficient cellular material. Inadequate fixation. Smear consisting mainly of blood or inflammatory cell exudate. Little or no material to suggest that the transformation zone has been sampled.	Repeat smear
Negative	Normal. Includes simple inflammatory changes including a mild polymorph exudate.	Routine recall
Borderline changes	Cellular appearance that cannot be described as normal. Smears in which there is doubt as to whether the nuclear changes are inflammatory or dyscariosis.	Repeat smear at 6 months. Consider for colposcopy if changes persist.
Mild dyscariosis with or without HPV change	Cellular appearances consistent with origin from CIN 1 (mild dysplasia).	Repeat smear at 6 months. Consider for colposcopy if changes persist.
Moderate dyscariosis with or without HPV changes	Cellular appearances consistent with origin from CIN 2 (moderate dysplasia).	Refer for colposcopy
Severe dyscariosis with or without HPV changes	Cellular appearances consistent with origin from CIN 3 (severe dysplasia/carcinoma in situ).	Refer for colposcopy
Severe dyscariosis/ invasive carcinoma	Cellular appearances consistent with origin from CIN 3, but with additional features which suggest the possibility of invasive cancer.	Refer for colposcopy
Glandular neoplasia for suspicion	Cellular appearance suggesting pre-cancer or cancer in the cervical canal or the endometrium.	Refer for colposcopy

SUMMARY OF REPORTED REASONS FOR INADEQUACY, CAUSES, AND SOLUTIONS		
Reason	Possible Cause	Possible Solution
1. Degree of cellularity judged to be insufficient, taking into account the age and hormonal status of the woman.	a) Cervix not visualized.	Visualize cervix clearly before taking smear.
	b) Cervix swabbed.	Do not swab cervix before taking smear.
	c) Cervix not scraped firmly enough.	Scrape firmly.
	d) Insufficient material transferred from spatula to slide.	Spread material from both sides of the spatula.
	e) Cells washed off slide during fixation.	Place slide flat on paper towel. Immediately add fixative. Keep slide flat. Allow to dry without draining.
	f) Atrophic cervix in post-menopausal women.	Consider a single course of vaginal estrogen preparation before repeating smear.
2. Entirely composed of separated superficial cells, suggesting a vaginal rather than cervical origin.	Cervix not visualized.	Visualize cervix clearly before taking smear. Use appropriate speculum. Try left lateral position or place pillow under buttocks.
3. Poorly fixed or air dried to such a degree that assessment is impossible.	Fixation delayed or insufficient.	Improve fixation technique (see above).
4. More than half the cellular material is obscured by blood, debris, polymorph exudate, bacteria, or spermatozoa.	a) Discharge or infection present.	Investigate for infection and repeat smear after treatment.
	b) Menstrual smear.	Take smear when woman is not menstruating.
	c) Cervical ectopy with contact.	Use the rounded end of spatula around the periphery of the ectopy where the squamo-columnar junction lies. bleeding.
	d) Cervical cancer or gynecological causes of bleeding.	Gynecological referral.

\* Modified from the "Classification of Squamous Cells on the Pap Test"

SUMMARY OF REPORTED REASONS FOR INADEQUACY, CAUSES, AND SOLUTIONS (cont.)		
Reason	Possible Cause	Possible Solution
5. So thickly spread that individual cells and cell groups cannot be assessed.	a) Copious material on spatula. b) Material not spread evenly.	Spread material on two slides.  Spread evenly and thinly (longitudinal strokes rather than a circular motion).
6. There are no endocervical cells.	Endocervical cells not sampled.	Use an endocervical brush and a spatula. Take spatula smear first, as brush smears often result in bleeding.
7. Entirely composed of endocervical cells.	a) Endocervical brush only used. b) Transformation zone not reached when large ectropion present.	Never only use an endocervical brush.  Use the rounded end of spatula around the periphery of the ectopy where the squamo-columnar junction lies.
8. Cervix reported by smear taker as not being completely visualized.	a) Patient not relaxed. b) Acutely anteverted or retroverted uterus. c) Lax vaginal walls.	Explain the procedure and put the woman at ease.  Try left lateral position or place pillow under woman's buttocks. Use a large speculum.  Use a large speculum.

### 3.7.c Is a Pap Smear Normal?

Women whose Pap smear results are normal should receive a mailed communication stating that their Pap smear was normal and stressing the importance of continued regular, periodic, cervical screening.

Women whose Pap smear results were not normal should receive written communication indicating their results and the need of for follow-up via a repeat Pap smear or scheduled diagnostic procedure. Relevant educational materials could accompany this communication.

### 3.7.d Notify Patient of Results and Follow-up Recommendations

Before women have a cervical smear, or at least sometime during the consultation, it is good practice to tell them:

- | How and when the results will be obtained, for example, “the result will be sent in 4 weeks time and if you do not hear please contact the practice”

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- | That results are not categorical or unequivocal

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- | What percentage of smears are negative or abnormal and what that means
  - What the options are if the result is abnormal

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- | That approximately 8% of smears are inadequate or unsatisfactory
  - What an inadequate or unsatisfactory smear means

Have a process in place to communicate results to a patients following Pap smear screening, including a letter/postcard reporting

- | the need for repeat Pap smear

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- | a normal Pap smear

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- | the Pap smear findings and necessity to

Many women do not know what will be involved when they are referred for colposcopy and therefore the procedure needs explanation.

repeat the Pap smear in six months

- the Pap smear findings and necessity for further diagnostic follow-up

Women who need a referral to colposcopy or who have invasive disease should be offered an early appointment or opportunity to speak with a family physician to discuss the implications of the results.

Many women do not know what will be involved when they are referred for colposcopy and therefore the procedure needs explanation. Also explain possible treatments such as cone biopsy, laser treatment, or hysterectomy, before a woman is referred. Depending on age, many will want to know how the treatment will affect their sex lives and their chances of future pregnancies.

Women are less likely to be worried if they have been prepared at the time the smear is taken. However, there is considerable evidence to suggest no matter how they are told, women with abnormal results on smear testing do feel very anxious because of fears of cancer and the need for investigative procedures such as colposcopy. In one study, 27% felt shocked, stunned, or devastated, while 65% were worried or alarmed (Posner and Vessey, 1988). Inclusion of an information leaflet with the postal notification of the results decreased the levels of anxiety significantly (Wilkinson *et al.*, 1990) (Class A, see page 3).

### **3.7.e Conduct Further Evaluation and Appropriate Treatment**

Women requiring further evaluation and treatment as a result of their cervical Pap smear fall outside the purview of this guideline.

Brochures, booklets, teaching displays, and videos are helpful educational tools for those women who need to undergo any follow-up or diagnostic procedures such as colposcopy, loop electrosurgical excision procedure (LEEP), and the like.

### **3.8 TREATMENT OF THE LOW-GRADE ABNORMALITY**

There is currently inadequate information about the natural history of the lower grades of abnormality. The majority may not progress, but some would lead eventually to invasive disease if not treated at any stage. A balance must be reached between potential over-diagnosis and over-treatment, and the need to ensure that progression to invasive cancer does not occur. It is therefore not possible to define a single best treatment policy with any degree of certainty. It is currently believed that CIN grades 2 and 3 should be treated once diagnosed. CIN Grade 1 may be treated or kept under close surveillance.

#### **3.8.a Observational Management of CIN 1**

If a woman elects not to be treated, she should continue to have cervical smears at six-month intervals until the abnormality either regresses or

progresses. The clinician may suggest a further colposcopy for some women.

Once two smears have been negative at six-month intervals, the woman should have further cervical smears at annual intervals. After two negative annual smears, the woman can be advised to have cervical smears at two-year intervals.

### 3.8.b Active Management of CIN 1

The case for active treatment is based on the following:

- | There is no method of identifying which of the low-grade intraepithelial lesions will progress or persist.
- | Some women may not be willing to be monitored over a prolonged period by cytology, and if necessary repeated colposcopy and biopsy.
- | Regression to normal often takes many years.
- | Many women are highly anxious about their abnormal smear despite reassurance that the changes are minor.
- | Some women may elect to have therapy in the belief that the lesion, however minor, will be eradicated.
- | A number of women fail to attend for follow-up.

The option of treatment by ablative therapy should always be fully discussed with the woman who has histologically confirmed CIN 1. Indications for active treatment of CIN 1 may include women with:

- | a lesion persisting for 12 months or more
- | both a cytology and colposcopically directed biopsy that suggests the presence of CIN
- | anxiety who requests treatment
- | immuno-suppression as a result of serious disease such as HIV infection or treatment with high dose steroids or cytotoxic drugs, which leaves her at greater risk of developing squamous-cell carcinoma of the lower genital tract
- | already coexisting indications for other gynecological procedures under general anaesthesia, for instance, sterilization, curettage, treatment of overt condylomata
- | an extensive abnormal area; any biopsy would be only a small sample
- | a strong preference for definitive treatment rather than continuing surveillance
- | limited access to adequate gynecological follow-up (*i.e.*, resides in a remote area or travels extensively).

After two further annual negative cervical smears have been reported, the woman can revert to having cervical screening carried out at two-year intervals.

Some methods of treatment require two visits, while others deal with diagnosis and treatment in one visit, which has obvious advantages for the woman. CIN can be effectively destroyed by electrodiathermy, cryosurgery, laser evaporation, or cold coagulation. Alternatively, the transformation zone may be excised using a large cutting electro-surgical loop (laser loop excision). These procedures are usually associated with uterine pain. Local anaesthetic is of limited value and general anaesthesia is rarely required. These locally destructive methods have the advantage of preserving cervical function and have thus become acceptable in treating minor degrees of CIN.

### **3.8.c Observational Management of HPV Alone**

If HPV is confirmed at colposcopy with no evidence of CIN, repeat cervical smears should be performed at six-month intervals, until two consecutive six-month smears are reported as negative. After two further annual negative cervical smears have been reported, the woman can revert to having cervical screening carried out at two-year intervals.

### **3.8.d Active Management of HPV Alone**

It must be stressed that the human papilloma virus cannot be eradicated by current methods of treatment. Some reported HPV smears have diffuse areas of change or simply no demonstrable colposcopic lesion. There is no effective therapy for HPV.

Some women will have discrete lesions at or near the transformation zone which may have colposcopic features suggesting dysplasia. The biopsy may only show HPV atypia. In this small group of women, options for active management should be considered as for CIN 1.

### **3.9 FOLLOW-UP OF TREATED PATIENTS**

Cytological follow-up is necessary to identify any residual disease, to identify new CIN or invasive disease, and to reassure both the patient and the clinician. Recurrences can be defined as the redevelopment of abnormalities detected by cytology and colposcopy after a period of 12 months.

The first visit should take place 2–6 months after treatment and should include:

- ▮ Cytological follow-up using a cytobrush and spatula (an endocervical brush may be needed if the cervix has healed with a very small aperture)
- ▮ Colposcopy

A further evaluation involving cytology should be performed 12 months after treatment. There is a difference of opinion as to whether a colposcopy is required at 12 months, if the first evaluation is normal. However, colposcopy at this time may further enhance the detection of residual disease.

If these first two examinations are normal, subsequent colposcopies are seldom required. If there is

cytological or colposcopic evidence of abnormality, the woman needs to be followed up by the treating gynecologist until the abnormality disappears. Many minor abnormalities will regress with the passage of time, without need for further treatment.

- More frequent surveillance need not be continued beyond 5 years of normal findings after conservative treatment for CIN 3.

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- Women undergoing hysterectomy with a past or current history of CIN 3 do not need further smears if the vault cytology is normal 6 and 12 months after surgery; but if there is suspicion that the pre-malignant condition is not completely removed, continue with 3-yearly screening (Duncan, 1991). Some guidelines recommend that women treated for a high grade lesion (CIN 2 and 3) should be followed up by cervical smears at six-month intervals for 12 months and annual smears thereafter. (Guidelines for the management of women with screen-detected abnormalities).

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- In patients with conservatively treated CIN3, increased surveillance need not be continued beyond five years. A first cytological review should be undertaken at six months; further colposcopic assessment is not needed.

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- Post-hysterectomy, the risks of residual or new disease are very low provided that the woman was colposcopically assessed prior to surgery to

exclude occult disease at the top of the vagina. Women who have had a hysterectomy for benign disease need not be kept under routine surveillance.

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