DEVELOPMENT OF AN EDUCATIONAL WEB SITE FOR WOMEN DIAGNOSED WITH HUMAN PAPILLOMA VIRUS

Scholarly Project for the Degree of M. S. N.

MICHIGAN STATE UNIVERSITY

LAURA SOVA

1998

DEVELOPMENT OF AN EDUCATIONAL WEB SITE FOR WOMEN DIAGNOSED WITH HUMAN PAPILLOMA VIRUS

By

Laura Sova

A SCHOLARLY PROJECT

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF SCIENCE IN NURSING

College of Nursing

1998

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Laura Sova, RN, MS

Michigan State University

ABSTRACT

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Human papilloma virus (HPV) is the most commonly diagnosed sexually transmitted disease in the United States. The link between HPV and cervical cancer is well established but compliance with treatment can prevent progression to this often fatal condition. Patient education is vital to treatment compliance and to decreasing the spread of this highly contagious virus. It is difficult for providers to completely educate patients about HPV during their appointments due to lack of time, complexity and amount of information to be conveyed, and variance in patients' readiness to absorb information. Not surprisingly, HPV-patients often feel their educational needs are not met by their health care providers. Furthermore providers' opinions and practice patterns differ greatly and are often not in keeping with Centers for Disease Control's guidelines (Felman, 1990). Therefore a resource explaining the etiology of HPV as well as treatment options, management strategies, and behavioral implications would benefit patients, their partners, and the overall cause of public health. Providers would also benefit since such a resource would increase compliance and decrease the number of patient call-backs. The purpose of this project is to develop a web site to provide such information in the hopes of increasing treatment compliance, decreasing anxiety and spread of the virus, and empowering women to take control of their sexual and reproductive health. The project is conceptualized in terms of Roy's adaptation model.

ACKNOWLEDGMENTS

The author wishes to gratefully acknowledge the gracious assistance and patient guidance of her committee members George Allen, Kathy Dontje, and Diana Roushe; as well as the technical expertise of Kaye Arnett.

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Introduction

The past three decades have witnessed an alarming increase in the incidence of human papilloma virus (HPV) infections (Hatch, 1991). Between 1976 and 1991 the incidence of HPV lesions increased 10-fold, making it the most commonly diagnosed sexually transmitted disease in the United States (Hatch, 1991). The link between HPV and cervical cancer is well established (Reeves, Rawls, & Brinton, 1989) and strenuous behavioral adaptations are necessary to impede progression towards this condition. Because of their expertise in education and counseling, Advanced Practice Nurses (APNs) are in an excellent position to guide clients through the diagnosis, treatment, and follow-up essential to managing the condition.

The high prevalence of HPV infection and associated neoplasia among the college-aged population has generated concern among health care providers (Lauver & Rubin, 1990) since women who contract the virus at a young age have more years to progress to cervical cancer and to spread the virus. Studies have shown that women diagnosed with HPV need tremendous support (Enterline & Leonardo, 1989) and that often they feel their educational needs are not met by their health care providers (Lehr & Lee, 1990). One study found that more than a third of newly diagnosed patients did not ask questions at the time of diagnosis, but many of these expressed worry within several days or at their follow-up appointment (Lauver & Rubin, 1990). Although education of HPV patients and their partners is critical to treatment compliance, there is reason to believe that conveying all pertinent information to patients during a clinical appointment is unrealistic, regardless

of the provider's intentions or abilities, because of time constraints and variations in patients' abilities to absorb information. Furthermore providers' opinions and practice patterns differ greatly and are often not in keeping with the guidelines of the Centers for Disease Control (Felman, 1990) . In the face of such variance it is of great concern that one recent survey found 25 percent of providers did not espouse discussing all treatment options with the patient (Linnehan, Andrews, & Groce, 1996).

Purpose

The goal of this paper is to describe the development of a web site for women diagnosed with HPV. The content of the web site is shown in Appendix A. This online educational resource explains the etiology of HPV as well as treatment options, management strategies, and behavioral modifications necessary to impede the progression of this virus. It is postulated that this resource will benefit patients, their partners, providers, and the overall cause of public health.

Conceptual Framework

The web site described in this paper is conceptualized in terms of Roy's adaptation model. It fits into Roy's (1991) model in terms of the nursing process. Roy (1984) describes nursing as a process which takes place between the nurse and his or her client, in which the nurse assists the client in "select[ing] and carrying out ...an approach to change or stabilize adaptation by managing stimuli" (p. 43). She describes adaptation as a continuous process through which the individual responds to his or her changing environment and thus is able to survive in it. Within the process of adaptation, coping refers to the use of behavior in response to stimuli. Roy views coping as the result of two

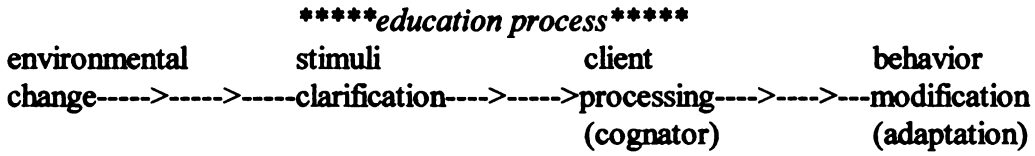

Figure 1. Roy's adaptation model.

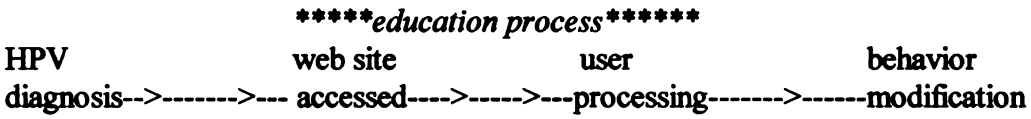

Figure 2. Roy's adaptation model applied to the web site.

mechanisms: one is the regulator which responds automatically through neural, chemical, and endocrine channels; the other is the cognator, which responds through four cognitive-emotive channels: perception and information processing, learning, judgment, and emotion.

Receipt of an HPV diagnosis is viewed as an environmental change to which the client must adapt. Adaptation may be affected through the coping mechanism. Education, via the web site, is a process which is achieved through the cognator and is facilitative of the adaptation process. Roy and Roberts' (1981) model of the cognator system is shown in Figure 1 and an application of the model to the web site is in Figure 2. The goal of the web site is to clarify the stimuli impacting upon the client, thus positively affecting her perceptual information processing, learning, judgement, and emotive functions. Through these functions the client may be influenced to change the stimulus preceding the target behavior, for example drinking alcohol at parties, and eventually the behavior itself, for example having unprotected sex. If this process is successful the individual will be better able to respond to her changing environment, thus adaptation will be facilitated.

To make use of Roy's model we must accept her scientific and philosophical assumptions. Her eight scientific assumptions are based on systems and adaptation-level theories (Roy, 1980). Roy's assumptions include her belief that the person is a bio-psycho-social being and that this being is in constant interaction with a changing environment. In order to cope with this dynamic environment the person uses both innate and acquired mechanisms, which are biologically, psychologically, and socially based. Roy also assumes that health and illness are an unavoidable part of life; and that to

respond effectively to the dynamic environment the person must continuously adjust. The extent to which a person adapts to a given stimulus is a function of the stimulus as well as his or her level of adjustment at the time the stimulus is presented. The person's preexisting level of adjustment determines a range of stimuli to which he or she will respond effectively. Roy's final scientific assumption is that the person has four modes of adaptation: physiologic, self-concept, role function, and interdependence.

Roy (1988) also embraces eight philosophical assumptions. The first four are based on humanism, which acknowledges the person and his or her subjective experiences as "central to knowing and valuing" (p. 29). These assumptions include Roy's belief that the individual shares in creative power, behaves purposefully, has intrinsic holism, and attempts to establish and maintain integrity and relationships. Roy's second four philosophical assumptions are based on her belief that there is a "common purposefulness of human existence" (p. 30). Roy coined the term "veritivity", from the Latin word veritas meaning truth, to express this belief. Her assumptions based on veritivity include conceptualizing the person in the context of the purposefulness of human existence, in other words seeing the individual as a thread in the tapestry of all human life. Similarly Roy attributes to humanity a unity of purpose, the pursuit of activity and creativity for the common good, and an appreciation of the value and meaningfulness of life.

With these assumptions in mind, the web site development project is conceptualized in terms of Roy's adaptation model.

Literature Review

Significance of the Problem

The past 3 decades have witnessed an alarming increase in the incidence of HPV. Between 1976 and 1991 the incidence of HPV lesions increased 10-fold, making it the most commonly diagnosed sexually transmitted disease in the United States (Hatch, 1991). It is estimated that 40 million Americans have HPV, and each year 1 million more are infected (HPV News, 1991). The problem is most severe in vulnerable populations: in a study of 593 low income women in north-central Florida Gifford & Stone (1993) found an overall incidence of 62.7% of HPV infection. A member of herpes family, this virus causes genital warts or condyloma acuminata and can lead to cervical intraepithelial neoplasia (CIN) (Carson, 1997; Hatch, 1991). In 1997, approximately 14,500 American women developed cervical carcinoma, and 4,800 died of this disease (Cancer Facts and Figures, 1997). However, compliance with treatment can prevent progression to the usually fatal invasive carcinoma of the cervix (Gifford & Stone, 1993).

While cervical cytology screening programs have lowered the incidence of invasive cervical cancer, particularly in North America and Western Europe (Carson, 1997), diagnosis is often difficult because HPV can manifest in different ways. External genital warts are usually easily diagnosed by visual examination but concurrent subclinical HPV infection is often present in other areas of the genitalia, including the cervix (Downey, Bavin, Deery, Crow, Griffiths, Emery, & Walker, 1994; Rymark, Forslund, Hansson, & Lindholm, 1993). In fact, clinically evident cases represent only a small portion of the infected population. Rates of asymptomatic HPV have been reported to be 10% in West

Germany, 13% in Greenland and Denmark, 11.5% in the UK, and in the US reports have varied from 8% in a university clinic to 25% in an STD clinic (deVilliers, Wagner, Schneider, Wesch, Miklaw, Wahrendorf, Papendick, & zur Hausen, 1987; Kjaer, Engholm, Teisen, Haugaard, Lynge, Christensen, Miller, Jensen, Poll, & Vestergaard, 1990).

Although the median age when CIN is first diagnosed is between 25 and 35 years (Clay, 1990), the high prevalence of HPV infection and associated neoplasia among the college-aged population has generated increased concern among health care providers (Bauer, Ting, Greer, Chambers, Tashiro, Chimera, Reingold, & Manos, 1991; Schaffer & Phiput, 1992). Squamous cancers of the uterine cervix appear to evolove from mild to severe CIN and then to invasive disease over a variably prolonged period (Reeves et al., 1989). Women who begin this progression at a young age have more years to develop high-grade CIN and to spread HPV, which is extremely contagious. Fortunately, because the cervix is readily sampled cytologically, cervical cancer is amenable to secondary prevention by screening and early treatment (Reeves et al., 1989). Unfortunately, HPV is often refractory to treatment and requires a protracted course of therapy and strenuous behavioral modification; consequentially patient motivation and compliance are essential to successful treatment (Enterline & Leonardo, 1989). This paper describes a web site designed to provide information and support for women diagnosed with HPV, in the hope that such a resource will increase patients' confidence and compliance.

The Link to Cancer

The link between HPV and cervical cancer is well established. In a thorough review of the literature, Reeves et al. (1989) concluded that an etiological role for HPV in cervical cancer is supported by four findings from pathology studies. First, infection with genital HPV induces dysplastic lesions that are colposcopically and histologically similar to preinvasive cervical neoplasia. Second, most invasive cervical cancers contain HPV DNA, preinvasive cervical lesions contain HPV DNA, proteins, and complete virions, and infection rates increase with the grade of the lesion. Third, cell lines derived from cervical cancers contain integrated HPV DNA. And fourth, HPV DNA sequences appear to be stable in both established transformed cell lines and fresh biopsy material (Reeves et al., 1989). In the same year Reeves' group published an epidemiologic study showing odds ratios of 2.1 to 9.1 associating HPV strains 16 and 18 with cervical cancer and odds ratios of 2.2 and 3.9 associating HPV strains 6 and 11 with cervical cancer(Reeves, Brinton, Garcia, Brenes, Herrero, Gaitan, Tenorio, de Britton, & Rawls, 1989). Two years later Cossman et al. cited both Reeve's articles in an article in the Journal of the National Cancer Institute, "The laboratory evidence supporting a role for HPV in cervical neoplasia is as convincing as the epidemiologic data, and plausible mechanisms of HPV involvement in carcinogenesis have been supported with experimental evidence" (Cossman & Schlegel, 1991).

As microbiological technology has become more sophisticated, the link between HPV and CIN has become stronger. In 1994 Becker et al. conducted a case-control study of 201 hispanic and caucasion women with high-grade CIN and 337 controls. Although

these women had multiple risk factors, including STD history, sexual behavior, reproductive histories, hygienic practices, contraceptive use, cigarette smoking, and diet, the authors found the strongest risk factor associated with high-grade cervical dysplasia was HPV infection (Becker, Wheeler, McGough, Parmenter, Jordan, Stidley, McPherson, & Dorin, 1994). After controlling for effects of age, sexarche, total number of partners, education, smoking, STD history, and ethnicity, the authors found that infection with HPV (as detected by a highly-specific polymerase chain reaction assay) increased a subject's probability of developing high-grade CIN by 24 times, a statistic the authors termed "overwhelming". Similar results have been found internationally: case-control studies from populations world wide have also shown moderate to strong risks associating cervical HPV infection with cervical dysplasia or cervical cancer (Brinton, 1992).

HPV's relationship with CIN is complicated by the virus' multifaceted nature. More than 60 HPV types have been identified (Carson, 1997) and not all strains are associated with pathology (Reeves et al., 1989). Types 6,11,16,18, 31, 33 and 35 are most consistently associated with genital infection and disease (Reeves et al., 1989). Types 6 and 11 are most often associated with genital warts and have a lower oncogenic potential than types 16, 18, 31, and 33 which are associated with severe dysplasia and cervical cancer (Genital Human Papilloma Virus Infections, 1994). HPV 16 has been shown to have the strongest negative effect on Langerhans cells, resulting in localized decrease in cellular immunity, thus providing a mechanism for the relationship between this strain and CIN (Barton, Hollingworth, Maddox, Edwards, Cuzick, McCance, Jenkins, & Singer, 1989).

It is well established that the presence of multiple HPV types carries a higher risk than infection with a single HPV type (Becker et al., 1994; Reeves et al., 1989). One study found women with multiple strains of HPV were five times more likely to develop high-grade CIN than those infected with a single strain (Becker et al., 1994). This information should be conveyed to HPV patients so that they will realize that practicing safer sex protects them from further infection, in addition to protecting their partners.

Stress of Diagnosis and Treatment

Women diagnosed with HPV face a multitude of stressors. Abnormal pap results often stimulate fear and anxiety about cancer in women(Lauver & Rubin, 1990; Posner & Vessey, 1988; Quilliam, 1989). When the cause of atypia is determined to be HPV, psychosocial as well as sexual trauma occurs. Interpersonal relationships may become strained, resulting in feelings of shame and/or denial of the problem, and partners often blame the patient for the HPV infection (Lehr & Lee, 1990). Colposcopy, the medical examination used to diagnose CIN or precancerous changes of the cervix, is another stressful experience (Barsevick & Lauver, 1990; Barsevick & Johnson, 1990). Reelik, DeHaes, & Schuuman (1984) surveyed 418 women in Rotterdam, Netherlands, before and after they received abnormal pap test results. They found that these women felt gloomier, more ill, and more tense after learning of their abnormal results.

Barsevick & Johnson (1990) surveyed 30 women about to have their first colposcopy. Using the well established State-Trait Anxiety Inventory they discovered these women had anxiety levels higher than women the night before surgery and similar to those of women following an abnormal result on an alpha-fetal protein screening for fetal

abnormality. The three most frequently cited concerns expressed immediately prior to colposcopy were that it would be painful, that it would be uncomfortable, and uncertainty over what would happen during the procedure. The authors concluded that providing women with appropriate information about the procedure and levels of pain and discomfort to expect may decrease their anxiety. They also point out that in some areas waiting lists for colposcopy appointments are several months long, leaving uninformed women with a great deal of time to anticipate the experience.

Similarly, Barsevick & Johnson (1990) interviewed 50 Canadian women to assess their emotional concerns upon receipt of a diagnosis of CIN. In response to open ended questions these women reported:

-fear of

-cancer (100%)

-loss of reproductive/sexual function (68%)

-loss of control of their body (68%)

-medical procedures such as colposcopy, biopsy and surgery (65%)

-sleep disturbances (52%)

-irritability (44%)

-crying episodes (30%)

-angry outbursts (26%)

-difficulties with relationships (22%)

-weight changes (18%)

-intention to refuse treatment (10%)

In addition to affecting interpersonal relationships and role performance, the emotional distress associated with HPV diagnosis may inhibit women's efforts to seek follow-up care. High stress levels may also inhibit women from seeking information at the time of diagnosis. In a study of 118 women newly diagnosed with CIN and or HPV, Lauver & Rubin (1990) found that more than one-third did not ask questions at the time of diagnosis, but many of these women expressed worry within several days or at their follow-up appointment. The authors conjectured that these women needed time to process the information about their abnormal results before asking questions. This supposition was supported by their finding that the type of information subjects sought changed over time after the diagnosis. At initial contact, the participants' questions predominantly concerned follow-up procedures; however at follow-up testing the participants' question primarily focused on concerns about the seriousness of their diagnoses. Also the participants' degree of worry was less at initial contact than at follow-up. The authors speculated that the process of coping with abnormal pap results may have different phases. Concerns about causation may be predominate in initial phases of coping and then subside as concerns about possible diagnoses and sequella surface in a later phase. The authors go on to suggest that decreasing extreme negative emotions may improve patients' problem-solving efforts. The HPV web site will allow women to seek particular types of information when they are ready to do so and link them to local support groups which can help them cope with emotional distress.

Value of Education

Education of HPV-patients and their partners is essential to treatment compliance. Information-seeking behavior is related to feelings of confidence (Barsevick & Johnson, 1990; Johnson, Chrisman, & Stitt, 1985). Research on stressful health-care situations has shown that preparatory information can improve women's emotional coping and problem-solving (Leventhal & Johnson, 1983). Information about the impending procedure and behavioral techniques for dealing with it can reduce negative emotions (Johnson, 1984; Johnson & Leventhal, 1974) and promote the client's coping and understanding of the situation (Johnson & Lauver, 1989). Lauver & Rubin (1990) suggest that women diagnosed with HPV need information regarding the cause, severity, and implications of their diagnosis and treatment, as well as negative emotions they may experience. Self care methods, treatment options, and behavioral correlates of remission should also be addressed. It is important that patients understand the relationship between HPV infection and cancer, as well as how the virus is transmitted (Enterline & Leonardo, 1989). Anecdotal evidence suggests that patients are more likely to return for cervical biopsies than for subsequent treatment procedures. It is imperative that patients understand that the biopsy is a diagnostic procedure and will not impede progression of cervical disease. Liberal use of written descriptions of procedures and what to expect afterwards reduces phone-backs and unnecessary visits (Gifford & Stone, 1993).

Although education is clearly important there is reason to believe that getting all the pertinent information across to the patient during an appointment is unrealistic, regardless of the provider's intentions or abilities. Barsevick & Lauver (1990) studied

questions asked by 36 women undergoing colposcopy. They reported that women asked about timing of events, objects in the environment and the nature of the procedure. Only 32% spontaneously asked about the cause of their CIN. The authors concluded that women first need procedural information about unfamiliar treatment procedures before they can formulate question about the sensory components of the treatment or about the implication of treatment for self-care. They suggest that nurses offer general information about treatment options and procedures but avoid detailed information regarding sensory and self-care aspects of potential treatments. The web site will assist providers by allowing patients to obtain information about sensory aspects of treatment and implications for self-care at a time when they are ready to integrate this information. Access to such information may decrease patient anxiety, reduce pressure on providers to convey large amounts of information at a time when patients are distressed, and minimize the need for call- backs to providers (Barsevick & Johnson, 1990).

Online information has been shown to be an effective tool for distance education (Hansen & Gladfelter, 1996). Furthermore, health information available online allows users to make the kinds of personal choices which are essential to self-managed care (Robertson, 1997). Additionally, the HPV web site allows patients and their partners to access pertinent information together. This is an important advantage because unless the partner understands the necessary precautions it may be difficult for the patient to comply with treatment (Enterline & Leonardo, 1989). For example there are periods of time after treatment when the patient must not have intercourse, regardless of the contraceptive method used. Furthermore, the body image of the infected partner is often distorted, and

she may feel embarrassment, shame, and/or betrayal. These feelings may decrease her ability to convey the relevant information to her partner. The web site allows partners to learn about transmission of HPV, its latent nature, and its consequences, thus decreasing fear, blame, and the probability of his unintentionally spreading the virus.

Importance of Behavioral Modification

Women with HPV should be informed that their immune status is the most important factor in decreasing their cancer risk (Carson, 1997). Therefore a variety of lifestyle factors which affect the immune response were considered for inclusion in the web site. These include smoking, diet, sleep, number of sexual partners, types of contraception, and pregnancy. The data considered are reviewed below.

Sexual Behavior

Modification of sexual behavior is crucial for women diagnosed with HPV. Having multiple partners has been positively correlated with increased risk of cervical dysplasia (Gottardi, Gritti, Marzi, & Sideri, 1984): the incidence of CIN in women with a total of three to five partners is increased eightfold over women with one sex partner. Those women with more than six sex partners have a 14.2-fold increased risk of CIN. In addition to answering patients' questions about the etiology of their disease this information is pertinent to their future behavior. Having multiple partners or a partner who has, or has had, multiple partners increases her chance of contracting additional strains of HPV, which will then increase her odds of developing high-grade CIN by as much as five-times (Becker et al., 1994). The number of previous partners a male contact

has had affects a woman's risk of developing CIN (Jones, 1988). In studies comparing sexual histories of husbands of cervical cancer patients with those of control husbands, the former reported significantly more sexual partners than the latter (Buckley, Harris, Doll, Vessey, & Williams, 1981; Zunzunegui, King, Coria, & Charlet, 1986), and the former were more likely than the latter have had sexually transmitted diseases, early sexual experiences, extramarital sexual relations, and visits to prostitutes(Zunzunegui et al., 1986). The patient and her partner(s) must also be informed that they may pass the infection to anyone else they have intercourse with, even if a condom is used. HPV is highly contagious: it is estimated that up to 85 percent of exposed sexual partners have or will become infected with HPV (Enterline & Leonardo, 1989).

Smoking

HPV patients need to change any behaviors which expose them to active or passive cigarette smoke. Numerous studies have shown that smoking is directly related to the risk of both preinvasive and invasive cervical abnormalities (Franceschi, Doll, Gallwey, La Vecchia, Peto, & Spriggs, 1983; Greenberg, Vessey, McPherson, & Yeates, 1985). As an independent risk factor, current smoking has been shown to increase a woman's chance of having high-grade CIN by 1.8 times (Becker et al., 1994). Nicotine and cotine (its break down product) have been found in the cervix of smokers. Nicotine is also found in the cervix of women who are exposed to passive smoke (Jones, Schiffman, Kurman, Jacob, & Benowitz, 1991). While the mechanism of smoking's effect on the cervix has not been fully determined, it is speculated that smoking affects dysplasia by reducing plasma levels of vitamin C, an anticarcinogen (Basu, Palan, Vermund, Goldberg, Burk, &

Romney, 1991). Additionally, cigarette smoking has been found to reduce the number of protective Langerhans cells, producing a localized immunodeficiency and thus also possibly contributing to the increased risk of cervical neoplasia in smokers (Barton et al., 1989). Support for causality is strengthened by findings that cervical cancer risk is increased for long-term smokers, high-frequency smokers, and users of nonfilter cigarettes (Greenberg et al., 1985).

Diet

Women with HPV also need to eat a diet high in fruits and vegetables if they want to retard progression of the disease. Poor nutrition is associated with cervical dysplasia (Sexually Transmitted Diseases Treatment Guideline, 1993), a relationship some researchers speculate is due to decreased immune response secondary to vitamin deficiencies. Several case-control studies have indicated a high risk of dysplasia for women with low dietary intake of either vitamin A or vitamin C (La Vecchia, Freanceschi, Decari, Gentile, Fasoli, Pampallona, & Tognoni, 1984; Bernstein & Harris, 1984). Low serum levels of vitamin A, beta-carotene, vitamin C, and folic acid have also been correlated with dysplasia (Butterworth, Hatch, Gore, Mueller, & Krumdieck, 1982; Schneider & Shah, 1989). In a study of 75 women with abnormal pap smears, Basu et al. (1991) found plasma levels of ascorbic acid and beta-Carotene to be significantly lower than levels previously observed in normal controls. Beta-Carotene and vitamin C are naturally occurring anticarcinogens which actively stabilize free radicals and are postulated to modulate the immune system (Basu et al., 1991).

Pregnancy

Women with HPV must consider the impact of pregnancy on their condition. During pregnancy the immune system is suppressed, and as a result genital warts may grow rapidly and develop secondary infections (Vermund, Kelley, Klein, Feingold, Schreiber, Munk, & Burk, 1991; Enterline & Leonardo, 1989). Left untreated, warts may block the vaginal canal and cause profuse bleeding (Carson, 1997). Therefore during pregnancy warts should be closely monitored and treated, as necessary (Genital Human Papilloma Virus Infections, 1994). Most providers use conservative treatment approaches until after delivery.

Additionally, HPV-positive women must consider the effect of HPV on their neonate. Infection of the infant's larynx with HPV can be life threatening, although vaginal delivery carries only a 0.04% risk of this complication (Genital Human Papilloma Virus Infections, 1994; Sexually Transmitted Diseases Treatment Guideline, 1993). Less serious but still of concern is the possiblity of HPV infection in the conjunctivae and anogenital skin of neonates delivered vaginally to HPV positive mothers (Vallejos, Del Mistro, Kleinhaus, Braunstein, Halwer, & Koss, 1987; McDonnell, McDonnell, Kessis, Green, & Shah, 1987). Experts believe the risk of neonatal infection is not high enough to warrant routine cesarean section unless the warts are large enough to block the baby's passage through the birth canal.

Oral Contraceptives

Birth control is another potential issue for HPV patients. Although conflicting results have been reported, it appears that oral contraceptive (OC) use is an independent

risk factor for cervical dysplasia and those who have used OCs for 10 years or more are at highest risk (Vessey, Lawless, McPherson, & Yeates, 1983; WHO Collaborative Study, 1985). OCs cause increased cervical ectopy, thus increasing the surface area susceptible to infection. Other postulated mechanism include OC-induced folate deficiencies and reduction of metabolism of mutagens (McGregor & Hammill, 1993).

Hygiene

HPV-positive women must be especially conscientious about genital hygiene. In a study of 74 patients with HPV-related lesions, Bergeron et al. (1990) found that HPV DNA was present in the underwear of 17%. Furthermore, among those with HPV DNA in their underwear 61 % experienced recurrent lesions versus 29% of those whose underwear contained no HPV DNA. The authors admit that the clinical relevance of these findings is not completely clear, although they conclude that HPV patients should be cautioned not to share undergarments with friends and advised to change their own underwear daily (Bergeron, Ferenczy, & Richart, 1990).

Lack of Consensus Regarding Treatment

Currently, there is no scientific consensus on the optimal management of HPV infection, and clinical decisions remain highly subjective(Linnehan et al., 1996). The Centers for Disease Control and Prevention (Sexually Transmitted Disease Treatment Guidelines, 1993), the American College Health Association (Integrated Strategies for HPV, STD and Cancer on Campus, 1995), and the American College of Obstetricians and Gynecologists (Genital Human Papilloma Infections, 1989) have each put forth guidelines for HPV management. However these guidelines differ in their content and

have been challenged in the literature (Felman, 1990). This uncertainty can result in ambiguity among providers and confusion for patients.

In a survey of 73 nurse practitioners and 70 physicians in 37 states, Linnehan et al. (1996) found divergent attitudes and practices, coupled with generally low agreement with CDC national practice guidelines. [For example, the majority of providers reported using acetic acid as a diagnostic tool as well as examining and treating partners, CDC guidelines recommend against both of these approaches.] Providers also reported recommending more frequent pap smears for women with genital warts than suggested by the CDC. Additionally, half of the participants reported treating the cervix of women with cervical HPV infection in the absence of evidence of CIN, a policy which is also in conflict with CDC guidelines. Given the diversity in approaches among providers, it is vital that patients be informed of all the treatment options and feel capable of making informed choices. However one-quarter of the providers surveyed by Linnehan et al. (1996) disagreed with the statement "patients should be offered all possible treatment options and allowed to choose". It is therefore important that patients have access to relevant information from independent, unbiased sources.

Empowerment

Promoting Safer Sex

Women seeking information about HPV should be targeted for empowerment in order to improve their self-care skills and diminish the possibility of their spreading the disease through unprotected sex. Empowerment has been defined as a process by which a person gains mastery over his or her own life (Connelly, Keele, Kleinbeck, Schneider, &

Cobb, 1993). By practicing safer sex HPV-patients will minimize the spread of HPV to others and decrease their own chance of becoming infected with multiple strains of HPV. Safer sex consists of monogamy and/or use of condoms. From the woman's stand point condom use is the safest route because it relieves her from having to taking her partner's word regarding his health status and behavior. Self-esteem has been identified as a factor in condom use among single women, who often fear losing a partner more than infection with a sexually transmitted disease (Able, Hilton, & Miller, 1996). Therefore self-esteem provides an appropriate focus for intervention, and empowerment is a vehicle for improving self-esteem (Rodwell, 1996).

Interpersonal Relationships

Women receiving an HPV diagnosis often feel embarrassed, ashamed, betrayed, and angry (Lehr & Lee, 1990). Many feel a loss of power, a sense of distrust, alienation, hopelessness, and self-blame (Carson, 1997). These women can be empowered by information which allows them to feel control over their bodies and to understand their disease process. Another method of empowerment is teaching coping strategies such as role playing, negotiating, relaxation therapy, and positive self-talk. These strategies could be used when preparing for situations such as discussing her diagnosis with her partner, explaining her desire to use a condom, or insisting upon abstaining from intercourse for a prescribed period of time after treatment. An empowered woman is more likely to conceptualize her body as her own, to accept responsibility for keeping it healthy, and in so doing decrease the spread of HPV by using condoms or being monogamous (Carson, 1997).

Self Care

Another component of empowerment is self care. HPV-positive women should be informed of measures they can take to ease the discomfort of lesions. The affected area should be kept clean and dry for example through the use of sitz baths, and a hair-dryer put on a cool setting, followed by a dusting of talcum powder. Wearing loose-fitting clothing may also decrease friction and irritation (Enterline & Leonardo, 1989).

Web Site Development

Target Group

The web site is primarily targeted at women with HPV. The author will provide the web site address to the seven Planned Parenthood Affiliates of Michigan (PPAM). The letter sent to theses affiliates is shown in Appendix B. PPAM serves a total of 26 health centers across the state. The affiliates will be asked to give the address to their women's health care providers to pass along to clients at the time of diagnosis. Since the site will also be listed on web wide searches performed by anyone seeking information on HPV, it will also be of use to people concerned that they may have been exposed to HPV, those who have genital warts but not seen a provider for diagnosis, and individuals interested in sexually transmitted diseases in general.

Content Outline

Content for the web site was chosen to reflect the wide range of concerns expressed by HPV patients the author has worked with. Prevalence is important, because patients often seem more at ease upon learning that many other people from all walks of life are infected. The systemic and latent nature of the virus as well as its link to cancer

are essential information because of their implications for the patient's future behavior. CIN staging as well as diagnostic and treatment procedures are included so patients will know what to expect during an office or clinic visit and be encouraged to ask questions of their health care provider. Stress responses, coping strategies, and tips on talking with the partner are provided to ease the period of adjustment a patient goes through after being diagnosed.

Many self-care topics were considered for presentation in the web site, including sexual behavior, smoking, diet, hygiene, OC use, and pregnancy. Sexual behavior and smoking were included because many studies suggest these factors are strongly related to the progression of HPV, and because they are factors which may be modified in patients with sufficient motivation and support. Data concerning the relationship of diet and hygiene to HPV are less clear cut, but these factors were included because they were considered highly modifiable when compared to smoking and sexual behavior, and because the potential for negative outcomes related to suggested changes in these areas is minuscule. In fact, the behavioral modifications suggested in the areas of sexual behavior, smoking, and diet have great potential for improving users' general well being regardless of their HPV status. Self-care topics considered but not presented in the web site include use of OCs, which was excluded due to conflicting data and concern that presenting the information might lead to negative outcomes such as unwanted pregnancies or undue anxiety. Information on pregnancy was not presented because the incidence of serious HPV-related complications for mothers and neonates is low and, again, it was felt that

including the information might provoke unwarranted concern. The final content outline for the web site is outlined below.

I. Information about the virus

A. prevalence

B. link to cervical cancer

C. systemic and latent nature

II. Explanation of CIN staging

III. Diagnostic procedures

IV. Treatment procedures

V. Stress of diagnosis and treatment

A. prevalence of stress responses

B. coping strategies

C. talking with your partner

VI. Self-care: behavioral modification is crucial to slowing progression of HPV

A. sexual behavior

B. smoking

C. diet

D. pregnancy

E. oral contraceptives

F. hygiene

Evaluation

An informal pilot study will be conducted using a convenience sample of 10 college students, as well as one nurse and one nurse midwife from a women's clinic. These subjects will be asked to spend 10 minutes reading the web site and complete a brief questionnaire (shown in Appendix C). Questions asked will include "Would this document be useful to you as a patient/provider?" and "Did you find the document to be user friendly?" Subjects will be forced to choose a yes or no answer to these questions but will also be given a space in which to explain their answer and make suggestions.

Implications

Because of their expertise in education and counseling, APNs are in an excellent position to lessen the toll of HPV on patients, their families, and the community as a whole. APNs should teach patients who do not have HPV about its prevalence and how they can minimize their risk of contracting the virus. Likewise APNs can educate patients with HPV about methods of impeding progression of the virus and minimizing their risk of spreading it. In their counselor role APNs can help patients cope with the impact of HPV on his or her self-esteem and relationships. This section will review implications of the web site for APNs and other health care professionals in practice, education, and research.

Practice

The web site will benefit APNs in practice by decreasing the need to educate patients about a tremendous amount of material during a short time. Using this resource APNs can educate patients who want more information than can be conveyed during an

office or clinic visit. Since Barsevick & Lauver (1990) found that sensory and self care-information may not be well received at the time of diagnosis, the APN should consider referring patients to the web site or hard copies of the appropriate sections for detailed information on these topics. Allowing patients to seek such information in a confidential setting and at their leisure may reduce resistance to the provider's recommendations and the number of call-backs to the office, as well as increase the number of patients who keep their appointments. Furthermore if patients present more prepared for procedures and educated enough to ask pertinent questions, the provider's job will be easier. Providers should stress the importance of keeping appointments and be certain that clients understand the difference between diagnostic and treatment procedures. Because follow-up is crucial and the college-aged and vulnerable populations most prone to contract HPV tend to be transient, clinicians should consider devoting a staff position to tracking and contacting patients who miss their appointments.

Education

Education of patients, students, and the community is a critical component of the APN's role. At present APNs have few resources available for teaching HPV-patients, and as a result precious teachable moments may be lost. Lehr & Lee (1990) found that patients with HPV often feel their educational needs are not being met. The amount of information provided during a health care visit varies based on the provider, the number and quality of brochures the office or clinic has to offer, and the amount of time available for the appointment. Furthermore, research has demonstrated that patients are ready to

absorb different amounts of information at different times based on their individual rates of adjustment to the diagnosis (Lauver & Rubin, 1990). By referring patients and students to the web site the APN will provide them with a potentially powerful learning tool which is easily within their reach. Internet access is already available through most public libraries and the federal government is in the process of linking all primary and secondary schools in the country to the Internet. Therefore, virtually any person receiving a diagnosis of HPV, fearing they may have been exposed to it, or discovering a suspicious lesion can access the web site anonymously without fear of admonition from a parent or significant other.

The web site also provides a thorough review of clinically relevant information which should be included in the curriculums of APN, medical, and social work students. It is important that such professionals be able to convey relevant information to HPV patients, their partners, and sexually active individuals in general. By making health care professionals more aware of HPV, the web site will help to bring this prevalent condition to the forefront of people's minds.

Research

If women's health providers agree to distribute the web site address to women diagnosed with HPV, those patients who access the site should have increased knowledge about their disease, diagnostic and treatment procedures, as well as risk-reduction and self-care behaviors. APN researchers may choose to investigate this hypothesis. The question could be addressed by asking providers to make a note in the charts of patients who are given the web site address and to ask these patients to complete a questionnaire

at their next visit. The questionnaire could assess whether the patient accessed the web site, her knowledge of HPV, her understanding of diagnostic and treatment procedures, her risk-reduction and self-care behaviors, and her sociodemographic data. The responses of those who did not access the site could then be compared to those who did access it. By stratifying the data based on sociodemographic variables during statistical analyses the effect of factors such as income and education could be controlled. Such research could yield valuable information as to the efficacy of online health information and they types of individuals most likely to benefit from it.

Data collected from the informal pilot survey detailed in the Evaluation section of this paper might prove useful to future APN students who consider designing web sites to meet part of their degree requirements. Survey respondents will be asked to comment as to the usefulness of the data provided and the format in which it is presented. By reviewing this data future web site designers could avoid repeating aspects of this site that users find irrelevant or difficult to use. Furthermore, if respondents indicate a lack of interest in seeking health care information online, future students may choose to develop a brochure or other educational tool. The author could similarly use this information to increase the relevance or user-friendliness of the HPV web site described in this paper.

Summary

This paper describes an alarming recent increase in the incidence of HPV, potential sequelae of the virus, and the educational and emotional needs of women diagnosed with it. The paper goes on to describe the development of an online educational resource for

HPV-patients and their partners. Methods of evaluating the web site are discussed and its implications for APNs in practice, research, and education are reviewed.

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LIST OF REFERENCES

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Appendix A: Content of Web Site

Just the FAQs about HPV

These are frequently asked questions about HPV:


What is HPV?


How is HPV spread?


Will HPV affect my health?


What can I do to stay well?


List of Links in this Document

Mail the Author

HUMAN PAPILLOMA VIRUS (HPV) - A disease caused by the human papilloma virus characterized by a soft wart-like growth on the genitalia (e.g. penis, vulva). In adults this infection is most commonly transmitted sexually. Genital warts are very common and are increasing in incidence. Safe sex practices, such as using condoms can help decrease the risk of infection. Treatment includes several topical agents to eradicate the lesions, cryosurgery, laser therapy, electrocauterization, or surgical removal. See alternate name condyloma acuminata.

How is HPV spread?

HPV is highly contagious and is spread primarily by sexual contact. Much less often, transmission may occur through soiled clothing or shared sex objects. HPV requires moisture and cannot survive outside the body for long. Therefore, dry objects such as toilet seats, do not tend to spread the virus. During sexual intercourse, HPV enters the body through microscopic tears in the skin of the internal or external genitalia. Once the protective outer layer of skin has been penetrated, the virus moves into the underlying cells where it multiplies.

After the virus becomes established it can either remain dormant or multiply to cause genital warts. When warts are present HPV is at its most contagious stage, but it is also contagious during its dormant phase. Therefore, preventing the spread of HPV is extremely difficult. Condoms do not necessarily protect either partner against infection because HPV can live on the testicles and the vulva. The female condom may be more effective at preventing the spread of HPV than the male condom because it covers a larger area of the external genitalia.

How can HPV affect my health?

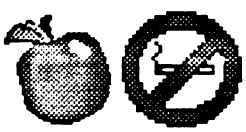
Currently there is no cure for HPV, once you are infected with the virus you will have it for life and may pass it to your sexual partners. Often people infected with the HPV viruses have no symptoms and don't know they are infected. Other people develop genital warts which are apparent in men but may be inside the vagina in women. Some types of HPV cause pre-cancerous changes in the cervix (the mouth of the uterus). These changes can result in cervical cancer if they are not detected and treated. Cervical changes can be detected by having a pap test, in which tissue scrapings from the cervix are collected and examined under a microscope. If precancerous changes are detected, you will probably be asked to come back for another pap test in several months. Often the changes resolve on their own or do not progress beyond the earliest stages of precancer. However, in some cases HPV-induced changes can progress to cervical cancer in less than a year if untreated. This is why it is especially important for women with HPV to have regular pap tests.

HPV can also cause warts on the external genitalia of both women and men. For people under a lot of stress or who have weakened immune systems, the warts can be very difficult to treat. Most warts appear on the genitals as fleshy, firm bumps similar to warts found on other parts of the body. In some cases they cause itching. Genital warts vary in size more than warts found elsewhere on the body. Some are too small as to be seen with the naked eye while others grow large enough to prevent intercourse or, in rare cases. prevent pregnant women from delivering vaginally. HPV viruses can also cause chronic pain and itching around genital openings, even in the absence of warts. This pain can be aggravated by intercourse or sexual fondling. Temporary symptom relief may be obtained from sitz baths and topical treatments. However such approaches will not prevent the progression of precancerous changes or shrink warts.

What can I do to stay Well?

Although a person can be infected with HPV without any outward signs, treatment is begun only if lesions or bumps errupt. In men HPV lesions are readily apparent but this is not so in women. Therefore all sexually active women should be screened for HPV annually by having a pap test. If abnormal cells are observed on your pap test, the single most important thing you can do to protect your health is to have follow-up care. Your healthcare provider may recommend you undergo an exploratory procedure called colposcopy. If colposcopy reveals lesions that require intervention you will have several treatment options to choose from including cryocautery and LEEP. You may wish to review the Center for Disease Control's guidelines for treatment.

In addition to medical treatments you should consider a variety of behavioral modifications. These include using condoms to minimize the spread of HPV; practicing self-care to control HPV symptoms; contacting HPV support groups, and seeking additional information online. You may also choose to eat a healthy diet and to avoid smoking or having unprotected sex with a smoker since HPV has been linked to cervical cancer. However, before modifying your behavior you should consider the pros and cons of each choice and be aware of strategies for behavioral change.



Summary of Links in this Document:

Talk to your Partner about using Condoms

Treatment Options

1998 Guidelines for Treatment of Sexually Transmitted Disease

Date: 01/23/98

Source: 47(RR-1);1-118

SUGGESTED CITATION: Centers for Disease Control and Prevention. 1998 Guidelines for Treatment of Sexually Transmitted Diseases. MMWR 1998;47(No. RR-1): {inclusive page numbers}.

The material in this report was prepared for publication by: National Center for HIV, STD and TB Prevention, Division of Sexually Transmitted Diseases Prevention

HUMAN PAPILLOMAVIRUS INFECTION

Genital Warts

More than 20 types of HPV can infect the genital tract. Most HPV infections are asymptomatic, subclinical, or unrecognized. Visible genital warts usually are caused by HPV types 6 or 11. Other HPV types in the anogenital region (i.e., types 16, 18, 31, 33, and 35) have been strongly associated with cervical dysplasia. Diagnosis of genital warts can be confirmed by biopsy, although biopsy is rarely needed (e.g., if the diagnosis is uncertain; the lesions do not respond to standard therapy; the disease worsens during therapy; the patient is immunocompromised; or warts are pigmented, indurated, fixed, and ulcerated). No data support the use of type-specific HPV nucleic acid tests in the routine diagnosis or management of visible genital warts.

HPV types 6 and 11 also can cause warts on the uterine cervix and in the vagina, urethra, and anus; these warts are sometimes symptomatic. Intra-anal warts are seen predominately in patients who have had receptive anal intercourse; these warts are distinct from perianal warts, which can occur in men and women who do not have a history of anal sex. Other than the genital area, these HPV types have been associated with conjunctival, nasal, oral, and laryngeal warts. HPV types 6 and 11 are associated rarely with invasive squamous cell carcinoma of the external genitalia. Depending on the size and anatomic locations, genital warts can be painful, friable, and/or pruritic.

HPV types 16, 18, 31, 33, and 35 are found occasionally in visible genital warts and have been associated with external genital (i.e., vulvar, penile, and anal) squamous intraepithelial neoplasia (i.e., squamous cell carcinoma in situ, bowen-oid papulosis, Erythroplasia of Queyrat, or Bowen's disease of the genitalia). These HPV types have been associated with vaginal, anal, and cervical intraepithelial dysplasia and squamous cell carcinoma. Patients who have visible genital warts can be infected simultaneously with multiple HPV types.

Treatment

The primary goal of treating visible genital warts is the removal of symptomatic warts. Treatment can induce wart-free periods in most patients. Genital warts often are asymptomatic. No evidence

indicates that currently available treatments eradicate or affect the natural history of HPV infection. The removal of warts may or may not decrease infectivity. If left untreated, visible genital warts may resolve on their own, remain unchanged, or increase in size or number. No evidence indicates that treatment of visible warts affects the development of cervical cancer.

Regimens

Treatment of genital warts should be guided by the preference of the patient, the available resources, and the experience of the health-care provider. None of the available treatments is superior to other treatments, and no single treatment is ideal for all patients or all warts.

The available treatments for visible genital warts are patient-applied therapies (i.e., podofilox and imiquimod) and provider-administered therapies (i.e., cryotherapy, podophyllin resin, trichloroacetic acid {TCA}, bichloroacetic acid {BCA}, interferon, and surgery). Most patients have from one to 10 genital warts, with a total wart area of 0.5-1.0 cm2, that are responsive to most treatment modalities. Factors that might influence selection of treatment include wart size, wart number, ana-tomic site of wart, wart morphology, patient preference, cost of treatment, convenience, adverse effects, and provider experience. Having a treatment plan or protocol is important, because many patients will require a course of therapy rather than a single treatment. In general, warts located on moist surfaces and/or in intertriginous areas respond better to topical treatment (e.g., TCA, podophyllin, podofilox, and imiquimod) than do warts on drier surfaces.

The treatment modality should be changed if a patient has not improved substantially after three provider-administered treatments or if warts have not completely cleared after six treatments. The risk-benefit ratio of treatment should be evaluated throughout the course of therapy to avoid overtreatment. Providers should be knowledgeable about, and have available to them, at least one patient-applied and one provider-administered treatment.

Complications rarely occur if treatments for warts are employed properly. Patients should be warned that scarring in the form of persistent hypopigmentation or hyperpigmentation is common with ablative modalities. Depressed or hypertrophic scars are rare but can occur, especially if the patient has had insufficient time to heal between treatments. Treatment can result rarely in disabling chronic pain syndromes (e.g., vulvodynia or hyperesthesia of the treatment site).

External Genital Warts, Recommended Treatments

Patient-Applied:

Podofilox 0.5% solution or gel. Patients may apply podofilox solution with a cotton swab, or podofilox gel with a finger, to visible genital warts twice a day for 3 days, followed by 4 days of no therapy. This cycle may be repeated as necessary for a total of four cycles. The total wart area treated should not exceed 10 cm2, and a total volume of podofilox should not exceed 0.5 mL per day. If possible, the health-care provider should apply the initial treatment to demonstrate the proper application technique and identify which warts should be treated. The safety of podofilox during pregnancy has not been established.

OR

Imiquimod 5% cream. Patients should apply imiquimod cream with a finger at bedtime, three times a week for as long as 16 weeks. The treatment area should be washed with mild soap and water 6-10 hours after the application. Many patients may be clear of warts by 8-10 weeks or sooner. The safety of imiquimod during pregnancy has not been established.

Provider-Administered:

Cryotherapy with liquid nitrogen or cryoprobe. Repeat applications every 1 to 2 weeks.

OR

Podophyllin resin 10%-25% in compound tincture of benzoin. A small amount should be applied to each wart and allowed to air dry. To avoid the possibility of complications associated with systemic absorption and toxicity, some experts recommend that application be limited to less than or equal to 0.5 mL of podophyllin or less than or equal to 10 cm2 of warts per session. Some experts suggest that the preparation should be thoroughly washed off 1-4 hours after application to reduce local irritation. Repeat weekly if necessary. The safety of podophyllin during pregnancy has not been established.

OR

TCA or BCA 80%-90%. Apply a small amount only to warts and allow to dry, at which time a white "frosting" develops; powder with talc or sodium bicarbonate (i.e., baking soda) to remove unreacted acid if an excess amount is applied. Repeat weekly if necessary.

OR

Surgical removal either by tangential scissor excision, tangential shave excision, curettage, or electrosurgery.

External Genital Warts, Alternative Treatments

Intralesional interferon,

OR

Laser surgery.

For patient-applied treatments, patients must be able to identify and reach warts to be treated. Podofilox 0.5% solution or gel is relatively inexpensive, easy to use, safe, and self-applied by patients. Podofilox is an antimitotic drug that results in destruction of warts. Most patients experience mild/moderate pain or local irritation after treatment. Imiquimod is a topically active immune enhancer that stimulates production of interferon and other cytokines. Before wart resolution, local inflammatory reactions are common; these reactions usually are mild to moderate.

Cryotherapy, which requires the use of basic equipment, destroys warts by thermal-induced cytolysis. Its major drawback is that proper use requires substantial training, without which warts are frequently overtreated or undertreated, resulting in poor efficacy or increased likelihood of complications. Pain after application of the liquid nitrogen, followed by necrosis and sometimes blistering, are not unusual. Although local anesthesia (topical or injected) is not used routinely, its use facilitates treatment if there are many warts or if the area of warts is large.

Podophyllin resin contains a number of compounds, including the podophyllin lignans that are antimitotic. The resin is most frequently compounded at 10%-25% in tincture of benzoin. However, podophyllin resin preparations differ in the concentration of active components and contaminants. The shelf life and stability of podophyllin preparations are unknown. It is important to apply a thin layer of podophyllin resin to the warts and allow it to air dry before the treated area comes into contact with clothing. Overapplication or failure to air dry can result in local irritation caused by spread of the compound to adjacent areas.

Both TCA and BCA are caustic agents that destroy warts by chemical coagulation of the proteins. Although these preparations are widely used, they have not been investigated thoroughly. TCA solutions have a low viscosity comparable to water and can spread rapidly if applied excessively, thus damaging adjacent normal tissue. Both TCA and BCA should be applied sparingly and allowed to dry before the patient sits or stands. If pain is intense, the acid can be neutralized with soap or sodium bicarbonate (i.e., baking soda).

Surgical removal of warts has an advantage over other treatment modalities in that it renders the patient wart-free, usually with a single visit. However, substantial clinical training, additional equipment, and a longer office visit are required. Once local anesthesia is achieved, the visible genital warts can be physically destroyed by electrosurgery, in which case no additional hemostasis is required. Alternatively, the warts can be removed either by tangential excision with a pair of fine scissors or a scalpel or by curettage. Because most warts are exophytic, this can be accomplished with a resulting wound that only extends into the upper dermis. Hemostasis can be achieved with an electrosurgical unit or a chemical styptic (e.g., an aluminum chloride solution). Suturing is neither required nor indicated in most cases when surgical removal is done properly. Surgery is most beneficial for patients who have a large number or area of genital warts. Carbon dioxide laser and surgery may be useful in the management of extensive warts or intraurethral warts, particularly for those patients who have not responded to other treatments.

Interferons, either natural or recombinant, used for the treatment of genital warts have been administered systemically (i.e., subcutaneously at a distant site or IM) and intralesionally (i.e., injected into the warts). Systemic interferon is not effective. The efficacy and recurrence rates of intralesional interferon are comparable to other treatment modalities. Interferon is believed to be effective because of antiviral and/or immunostimulating effects. However, interferon therapy is not recommended for routine use because of inconvenient routes of administration, frequent office visits, and the association between its use and a high frequency of systemic adverse effects.

Because of the shortcomings of available treatments, some clinics employ combination therapy (i.e., the simultaneous use of two or more modalities on the same wart at the same time). Most experts believe that combining modalities does not increase efficacy but may increase complications.

Cervical Warts

For women who have exophytic cervical warts, high-grade squamous intraepithelial lesions (SIL) must be excluded before treatment is begun. Management of exophytic cervical warts should include consultation with an expert.

Vaginal Warts

Cryotherapy with liquid nitrogen. The use of a cryoprobe in the vagina is not recommended because of the risk for vaginal perforation and fistula formation.

OR

TCA or BCA 80%-90% applied only to warts. Apply a small amount only to warts and allow to dry, at which time a white "frosting" develops; powder with talc or sodium bicarbonate (i.e., baking soda) to remove unreacted acid if an excess amount is applied. Repeat weekly if necessary.

OR

Podophyllin 10%-25% in compound tincture of benzoin applied to a treated area that must be dry before the speculum is removed. Treat with less than or equal to 2 cm2 per session. Repeat application at weekly intervals. Because of concern about potential systemic absorption, some experts caution against vaginal application of podophyllin. The safety of podophyllin during pregnancy has not been established.

Urethral Meatus Warts

Cryotherapy with liquid nitrogen,

OR

Podophyllin 10%-25% in compound tincture of benzoin. The treatment area must be dry before contact with normal mucosa. Podophyllin must be applied weekly if necessary. The safety of podophyllin during pregnancy has not been established.

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Anal Warts

Cryotherapy with liquid nitrogen.

OR

TCA or BCA 80%-90% applied to warts. Apply a small amount only to warts and allow to dry, at

which time a white "frosting" develops; powder with talc or sodium bicarbonate (i.e., baking soda) to remove unreacted acid if an excess amount is applied. Repeat weekly if necessary.

OR

Surgical removal.

Note: Management of warts on rectal mucosa should be referred to an expert.

Oral Warts

Cryotherapy with liquid nitrogen,

OR

Surgical removal.

Follow-Up

After visible genital warts have cleared, a follow-up evaluation is not mandatory. Patients should be cautioned to watch for recurrences, which occur most frequently during the first 3 months. Because the sensitivity and specificity of self-diagnosis of genital warts is unknown, patients concerned about recurrences should be offered a follow-up evaluation 3 months after treatment. Earlier follow-up visits also may be useful a) to document a wart-free state, b) to monitor for or treat complications of therapy, and c) to provide the opportunity for patient education and counseling. Women should be counseled regarding the need for regular cytologic screening as recommended for women without genital warts. The presence of genital warts is not an indication for cervical colposcopy.

Management of Sex Partners

Examination of sex partners is not necessary for the management of genital warts because the role of reinfection is probably minimal and, in the absence of curative therapy, treatment to reduce transmission is not realistic. However, because self- or partner-examination has not been evaluated as a diagnostic method for genital warts, sex partners of patients who have genital warts may benefit from examination to assess the presence of genital warts and other STDs. Sex partners also might benefit from counseling about the implications of having a partner who has genital warts. Because treatment of genital warts probably does not eliminate the HPV infection, patients and sex partners should be cautioned that the patient might remain infectious even though the warts are gone. The use of condoms may reduce, but does not eliminate, the risk for transmission to uninfected partners. Female sex partners of patients who have genital warts should be reminded that cytologic screening for cervical cancer is recommended for all sexually active women.

Special Considerations

Pregnancy

Imiquimod, podophyllin, and podofilox should not be used during pregnancy. Because genital warts can proliferate and become friable during pregnancy, many experts advocate their removal during pregnancy. HPV types 6 and 11 can cause laryngeal papillomatosis in infants and children. The route of transmission (i.e., transplacental, perinatal, or postnatal) is not completely understood. The preventive value of cesarean section is unknown; thus, cesarean delivery should not be performed solely to prevent transmission of HPV infection to the newborn. In rare instances, cesarean delivery may be indicated for women with genital warts if the pelvic outlet is obstructed or if vaginal delivery would result in excessive bleeding.

Immunosuppressed Patients

Persons who are immunosuppressed because of HIV or other reasons may not respond as well as immunocompetent persons to therapy for genital warts, and they may have more frequent recurrences after treatment. Squamous cell carcinomas arising in or resembling genital warts might occur more frequently among immunosuppressed persons, requiring more frequent biopsy for confirmation of diagnosis.

Squamous Cell Carcinoma in situ

Patients in whom squamous cell carcinoma in situ of the genitalia is diagnosed should be referred to an expert for treatment. Ablative modalities usually are effective, but careful follow-up is important. The risk for these lesions leading to invasive squamous cell carcinoma of the external genitalia in immunocompetent patients is unknown but is probably low. Female partners of patients who have squamous cell carcinoma in situ are at high risk for cervical abnormalities.

Subclinical Genital HPV Infection (Without Exophytic Warts)

Subclinical genital HPV infection occurs more frequently than visible genital warts among both men and women. Infection often is indirectly diagnosed on the cervix by Pap smear, colposcopy, or biopsy and on the penis, vulva, and other genital skin by the appearance of white areas after application of acetic acid. However, the routine use of acetic acid soaks and examination with light and magnification, as a screening test, to detect "subclinical" or "acetowhite" genital warts is not recommended. Acetowhitening is not a specific test for HPV infection. Thus, in populations at low risk for this infection, many false-positives may be detected when this test is used for screening. The specificity and sensitivity of this procedure has not been defined. In special situations, experienced clinicians find this test useful for identification of flat genital warts.

A definitive diagnosis of HPV infection depends on detection of viral nucleic acid (DNA or RNA) or capsid protein. Pap smear diagnosis of HPV does not always correlate with detection of HPV DNA in cervical cells. Cell changes attributed to HPV in the cervix are similar to those of mild dysplasia and often regress spontaneously without treatment. Tests that detect several types of HPV DNA or RNA in cells scraped from the cervix are available, but the clinical utility of these tests for managing patients is unclear. Management decisions should not be made on the basis of HPV tests. Screening for subclinical genital HPV infection using DNA or RNA tests or acetic acid is not recommended.

Treatment

In the absence of coexistent dysplasia, treatment is not recommended for subclinical genital HPV

infection diagnosed by Pap smear, colposcopy, biopsy, acetic acid soaking of genital skin or mucous membranes, or the detection of HPV (DNA or RNA). The diagnosis of subclinical genital HPV infection is often questionable, and no therapy has been identified to eradicate infection. HPV has been demonstrated in adjacent tissue after laser treatment of HPV-associated dysplasia and after attempts to eliminate subclinical HPV by extensive laser vaporization of the anogenital area. In the presence of coexistent dysplasia, management should be based on the grade of dysplasia.

Management of Sex Partners

Examination of sex partners is unnecessary. Most sex partners of infected patients probably are already infected subclinically with HPV. No practical screening tests for subclinical infection are available. The use of condoms may reduce transmission to sex partners who are likely to be uninfected (e.g., new partners); however, the period of communicability is unknown. Whether patients who have subclinical HPV infection are as contagious as patients who have exophytic warts is unknown.

Medical Information
- Educational Material
- Journal Articles
- News
- Clinical Trials
- Drug Information
- Outside Sources
- Glossary
- MedLine

Community
- Support Group

Related Topics
- Cancer Support Group
- Stress
- STD

Fee Services
- NurseWatch®
- HealthTracker
- Book Store
- Online Store

Our Partners
- CompuServe
- Doctor on Call
- Intelligent Network Concepts
- MediZine
- PharmInfoNet

Associations
- Hospice Foundation of America
- National Family Caregivers Association

Help Services
- Search
- Technical Help

What is Cancer of the Cervix?

Cancer of the cervix, a common kind of cancer in women, is a disease in which cancer (malignant) cells are found in the tissues of the cervix. The cervix is the opening of the uterus (womb). The uterus is the hollow, pear-shaped organ where a baby develops. The cervix connects the uterus to the vagina (birth canal).

Cancer of the cervix usually grows slowly over a period of time. Before cancer cells are found on the cervix, the tissues of the cervix go through changes in which cells that are not normal begin to appear (known as dysplasia). A Pap smear will usually find these cells. Later, cancer cells start to grow and spread more deeply into the cervix and to surrounding areas.

Since there are usually no symptoms associated with cancer of the cervix, you must be sure your doctor does a series of tests to look for it. The first of these is a Pap smear, which is done by using a piece of cotton, a brush, or a small wooden stick to gently scrape the outside of the cervix in order to pick up cells. You may feel some pressure, but you usually do not feel pain.

If cells that are not normal are found, your doctor will need to cut a sample of tissue (this procedure is called a biopsy) from the cervix and look at it under a microscope to see if there are any cancer cells. A biopsy that needs only a small amount of tissue may be done in your doctor's office. If your doctor needs to remove a larger, cone-shaped biopsy specimen (conization), you may need to go to the hospital.

Your prognosis (chance of recovery) and choice of treatment depend on the stage of your cancer (whether it is just in the cervix or has spread to other places) and your general health.

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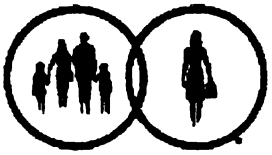

Patient Information

Having a Colposcopy

What is colposcopy?
A colposcopy is a way your doctor can examine your genitals, vagina and cervix closely. A colposcope is an instrument that shines a light on the cervix and magnifies the view for your doctor. At the beginning of the exam, your doctor will apply vinegar, using cotton balls, to the cervix and vagina. The vinegar helps your doctor identify areas that may need further evaluation.

During the colposcopic exam, a biopsy may also be performed. Your doctor removes a small piece of tissue from your cervix to be looked at by a doctor called a pathologist. This procedure can take about 15 to 20 minutes.

Why is a colposcopy performed?
A colposcopy is usually performed to help your doctor find the reason for an abnormal Pap smear, although this is not the only reason.

Is the procedure painful?
You may feel mild cramps and pinching when the biopsy tissue is removed. If you take two ibuprofen tablets about one-half hour before your doctor's appointment, you will feel less discomfort. If you are pregnant or if you are allergic to aspirin or ibuprofen, you could take two acetaminophen (Tylenol) tablets instead of the ibuprofen.

Is colposcopy risky?
Bleeding and infection are possible after colposcopy. Bleeding is usually controlled with the application of a topical medicine.

Does this procedure affect having children?
No. The biopsy amount taken from your cervix is very small and removing it will not affect your future pregnancies. However, it is important to let your doctor know if you are pregnant now or even if you might be pregnant. This information will change the way the procedure is done.

Why is colposcopy important?
Colposcopy is important because it can detect cancer of the cervix at an early stage. It's also important to talk with your doctor after the test to be sure that any problems are taken care of right away. Tell your doctor if you change your address or phone number after you have the test.

Will there be bleeding after a colposcopy?
You may have a dark vaginal discharge after the colposcopy. If your doctor took a biopsy sample during the colposcopy, a thick yellow paste was put on that area, to stop the bleeding. When this paste mixes with blood, it makes a thick, black fluid (discharge). It's normal to have this discharge for a couple of days after the procedure. It's also normal to have a little spotting for at least two days after a colposcopy.

When should I call my doctor?
Call your doctor right away if you have any of the following problems:

- Heavy vaginal bleeding (using more than one sanitary pad per hour).
- Lower abdominal pain.
- Fever, chills or a bad-smelling vaginal odor.

Can I use tampons after the procedure?
No. Don't use tampons and don't put anything in your vagina for at least one week or until your doctor tells you it's safe. Don't have sexual intercourse for at least one week.

Make an appointment with your doctor after the colposcopy to discuss the results and the treatment that is planned. Usually it takes one to two weeks for the doctor's office to get a report from the pathologist who looks at the biopsy tissue. Talk with your doctor if you have more questions.

This information provides a general overview on colposcopy and may not apply to everyone. Talk to your family doctor to find out if this information applies to you and to get more information on the subject.

This handout is provided to you by your family physician and the American Academy of Family Physicians. [6/96]

More from this issue of *American Family Physician*
American Family Physician home page

This Web page was last modified on January 10, 1997.
American Academy of Family Physicians

Cryocautery (Freezing Treatment) of the Cervix

Patient Information

Cryocautery is an excellent method of treating cervical disease. In most cases women who need cryocautery have had one or more abnormal pap smears which led to colposcopy and biopsy (looking at the cervix with a microscope and sampling a tiny bit of it). By studying the cervix and the biopsy results the doctor has concluded that cryocautery is the best choice of treatment. There are several other types of treatment. They are all good treatments for certain situations. Cryocautery may be the best treatment when the disease is mild, when it occurs in only a small area of the cervix, and when all of the diseased area can easily be seen with the colposcope.

Advantages

Cryocautery has some advantages over other forms of treatment.

1. It is very easy and safe for the patient. It does not hurt (although cramping may occur), and no anesthetic is required. It can be done in a short time and will not interfere with other activities such as work or school, later in the day. There is no chance of heavy bleeding afterwards. Serious injuries or complications are almost unheard of.
2. It is very easy for the doctor as well. It is quick, easy and safe for the doctor to learn and to perform. It can be done easily in the doctor's office or clinic with simple and relatively inexpensive equipment.
3. It is the least expensive form of treatment, although it is just as successful as the more expensive treatments, in properly selected patients.

The Procedure

1. No special preparation is necessary for cryocautery except that it should not be performed during the heavier days of the menstrual period. Some cramping is often felt, so that taking ibuprofen (Advil, Motrin) beforehand is a good idea. The woman may be accompanied during the procedure by her partner or a close friend.
2. The woman must lie down on a table with her feet in stirrups, and the doctor places a speculum to see the cervix. This is just like the pap smear procedure or colposcopy.
3. The proper cryo probe is selected and attached to the machine. The machine consists of a gas tank containing nitrous oxide (a non-dangerous gas) and a "green gun" which holds and activates the probe. The gas reduces the temperature of the probe to 95 degrees below zero (Farenheit).
4. The doctor applies the probe to the cervix and then begins the freeze. The cervix and probe promptly freeze together, and an ice ball begins to form. The freeze lasts for three minutes.
5. During the freeze most women feel a sensation of cold and possibly some cramping. It is not usually painful.
6. After a three minute freeze the probe is defrosted and removed and the cervix is allowed to thaw for several minutes. The speculum may be removed or left in place (as the woman wishes)during the thaw time.
7. The freeze is then repeated in exactly the same fashion as before. When the second freeze is finished, the probe and speculum are removed, and the patient may get up, get dressed, and leave.

She may then go about all her normal activities including work, school and recreation.

Afterwards

Women will experience a heavy discharge for several weeks after cryocautery. For the first ten days they should wear a pad; after that a tampon is okay in the daytime as long as it is changed frequently. Intercourse is inadvisable for ten days. After that intercourse is permitted, but use of a condom is advised until the discharge has gone away.

After the discharge has stopped women may resume all normal sexual activities that they wish. They may use any form of birth control they wish, and they should have no trouble getting pregnant and having a baby normally. Pap smears are the most important tests for follow up to be sure the disease has been fully treated.

Pap smears should start three months after treatment, then be done every six months until the patient is two years from treatment. Then pap smears should be yearly for the rest of her life. Colposcopy may also be performed after cryocautery, but it is sometimes difficult due to very complete healing of the cervix. This is one of the disadvantages of cryocautery.

How Do We Evaluate Web Resources?

There are a number of criteria which can help determine if information is "good" information. These are the basics:

- Authority
- Objectivity
- Accuracy
- Coverage
- Relevance
- Time Aspects
- Usability
- Sources

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For the purpose of determining whether health information on the WWW can be trusted, some of these criteria are more important than others. Some are easier to get information about than others as well.

Authority

Probably the most important single criterion is authority. If you don't know who is writing the information, you can't really trust it.

Who wrote the information?

- Is the author a physician, nurse practitioner, or other health professional?
  - What are their credentials, affiliations, and professional experience?
  - What are their qualifications for writing on the topic?
    - Are they acknowledged experts in the field you're reading about?
      - Someone can be a respected expert in, for example, pediatrics. That doesn't qualify them as an expert in women's health. Health and medical knowledge is so specialized now, it's impossible to be an all-around expert.
- Can you be relatively certain the author is who s/he claims to be? There should be a way to contact the author for questions or comments.
  - E-mail address
  - "Snail-mail" address or telephone number

Where is the Web page located?

- Look at the URL (uniform resource locator - address).
  - Is the page part of the Website of an organization whose name you

can trust?
- university (.edu)
- government (.gov)
- institutional (.org)
- commercial (.com)

- Does the address show that it's a personal home page?
  - A personal home page is one published by an individual who or may not be affiliated with a larger institution.
  - Personal home pages can be put up by anyone - they need to be carefully scrutinized before the information can be accepted as trustworthy.
  - It's not always easy to tell if you're reading a personal home page or not. Some are very professional looking.
  - The URL address of the page may have a variety of endings (e.g., **.com**, **.edu**, etc.), but a tilde (~) is frequently somewhere in the URL.

If you feel you can trust the sponsoring organization, you can probably trust the Web documents within their site. However, *regardless of the source*, you need to evaluate any information critically before you put it into practice. Discuss information retrieved from any source with your health care provider - he or she will be glad to help you with interpretation of what you've found. Your nurse practitioner or physician has the experience and know-how to steer you in the right direction. Remember - ***your health, and your family's health, are at stake here!***

Objectivity

Objectivity, or perhaps more important, the lack of objectivity, is fairly easy to detect if you know what you're looking for. Objectivity means all sides of issues are portrayed in a fair light. There is no propaganda or misinformation. The information is free from obvious errors or misleading omissions. However, this may not be easy to detect, if you don't know the subject matter well already.

To see if information is presented objectively, look for the following:

- Purpose of the page
  - Is it to sell a product of some kind?
    - Usually, if there is an area for ordering a product on the page, the page probably contains bias!
  - Is it to persuade you of the correctness of a certain opinion on a controversial issue?
    - Are all sides of the issue presented fairly?
  - Is it to present current information, as a public service?
- Again, look at whose site it is.
  - What kind of organization is responsible for the information?
    - If the organization has a commercial, ideological, political or other vested interest in the topic, bias may be present.
      - One of the major hindrances to objectivity is conflict of interest.

- What type of language is used? What tone does the page have?
  - Emotional or persuasive language may show a lack of objectivity.
- What about advertising? Is there any on the Web page?
  - If it is present, it should be clearly separated from informational text, so you know when one ends and the other begins. (By the way, I've written a book on this topic . . . click here to order.)

Accuracy

Accuracy is important in judging information sources. Accuracy means the information presented is correct and exact. The accuracy of a source is more difficult to evaluate than authority and objectivity - if you don't already have a good understanding of the topic, it's hard to tell if the information presented is accurate. However, there *are* ways to get an idea if information is accurate or not. Look for the following:

- explanation of the methods used to obtain the information
- listing of reference sources used
- evidence that content was reviewed by other authorities for accuracy
- information on how studies were conducted and analyzed
- lack of obvious errors or omissions
- lack of spelling, grammatical, and typographical errors
  - if care was not taken to detect these problems, content errors may have been missed also

Accuracy can also be assessed by comparing the information with other sources. Does it go along with, or contradict, information you've seen in other sources (information provided by your health care provider, newspaper and magazine articles, etc.)?

- **Is the information "too good to be true?" Then it probably *isn't* true!**

Coverage

Coverage means the completeness of the information presented. It is also difficult to determine without a thorough understanding of the topic. The coverage of the topic is greatly influenced by the audience for whom the information was written. For example, information intended for use by health care professionals would probably have greater coverage than information intended for use by health care consumers.

Coverage includes:

- The depth and breadth of the information (comprehensiveness)
  - Breadth - coverage of all aspects of the subject
  - Depth - level of detail presented

Ways to assess coverage:

- Look for obvious gaps or omissions in the coverage of the topic. Does the information presented leave you with unanswered questions?
- Compare the information presented with print resources on the same topic. Is the information presented equivalent in breadth and depth?

Relevance

Relevance is defined as "relation to the matter at hand: practical and especially social applicability: pertinence." This criterion is particularly important in the evaluation of health-related information. Is the information suited to your needs? Is it pertinent?

It can be related to:

- The purpose of the Web page
- The purpose you have in looking for the information
- The utility or usability of the information
  - Why are you looking for the information?
  - Is the content related to your needs?
- Is the information current and the coverage broad enough to meet your needs?

Again, run any information you've found by your health care provider to see if it's applicable to your situation. It's difficult to be objective about the issues when confronted with illness in yourself or a loved one. Your physician or NP can help you sort things out.

Time Aspects

The time aspects of a document are particularly important in fields which change rapidly, for example, science and medicine. It's important to get up-to-date health information. Even a few months can be crucial in a field in which drugs and treatments are evolving so rapidly. Time aspects of the document are shown below:

- When was the document:
  - Created?
  - Placed on the Web?
  - Copyrighted?
  - Last revised or updated?
    - Look in the footer (the bottom of the document) for dates. This is the most common place for them.
- What edition of the work is presented?
- When was the information in the document gathered?

Usability

How easy to use is the Web site you're evaluating? Is it "user-friendly?"

- Navigating around the site should be easy.
  - clear site map or table of contents
  - menus
- The site should be logically arranged, with the use of good graphic design.
- Multimedia should be used appropriately. It should add to, rather than distract from, the content.
- Information should be concise, to reduce lengthy scrolling through the document.
- Hyperlinks should be intact and operable.
- Consideration must be taken of the varying levels of technology which may be used to access the site.
  - The site should be accessible to most users; text-only, non-frames views should be available.
  - When possible, enhancements should be added to aid those with access problems (e.g., text versions of image and sound files for individuals with visual or hearing problems).

Sources

Here are some sites to explore which support the information provided above. Many were used to develop this Web page. They are listed in APA format. Author and year of publication are listed first, followed by title of the source, and URL of the source. The date I first accessed the site is in brackets. Check out:

Alexander, J., & Tate, M. (1997). Checklist for an informational Web page [Online]. Available: http://www.science.widener.edu/~withers/inform.htm [1998, February 21].

- Checklist of questions to ask to evaluate the quality of informational Web pages.

Alexander, J., & Tate, M. (1996). Evaluating Web pages: Links to examples of various concepts [Online]. Available: http://www.science.widener.edu/~withers/examples.htm [1998, April 28].

- Links to sites/pages which illustrate the types of Web pages and evaluation concepts.

Alexander, J., & Tate, M. (1996). The Web as a research tool: Evaluation techniques [Online]. Available: http://www.science.widener.edu/~withers/evalout.htm [1998, February 4].

Outline of need for evaluation and evaluation techniques.

Auer, N. (1998). Bibliography on evaluating Internet resources [Online]. Available: http://refserver.lib.vt.edu/libinst/critTHINK.HTM. [1998, February 3].

Comprehensive bibliography, including print resources.

Beck, S. (1997). The good, the bad, and the ugly: Or why it's a good idea to evaluate Web sources [Online]. Available: http://lib.nmsu.edu/staff/susabeck/eval.html [1998, February 3].

Evaluation criteria, with links to examples to evaluate.

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You decide! [Online]. Available: http://www.library.ucla.edu/libraries/college/instruct/hoax/evlinfo.htm [1998, May 29].

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Grassian, E. (1997).Thinking critically about World Wide Web resources [Online]. Available: http://www.library.ucla.edu/libraries/college/instruct/critical.htm [1998, February 3].

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Harris, R. (1997). Evaluating Internet research sources [Online]. Available: http://www.sccu.edu/faculty/R_Harris/evalu8it.htm [1998, February 20].

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Hinchliffe, L. J. (1997). Evaluation of information [Online]. Available: http://alexia.lis.uiuc.edu/~janicke/Eval.html [1998, February 4].

Brief overview of evaluation of information as relates to Internet resources.

Holy Names College. (1996). Evaluating World Wide Web resources [Online]. Available: http://www.hnc.edu/academiclife/library/evalweb.html [1998, May 24].

Jacobson, T., & Cohen, L. (1997). Evaluating Internet resources [Online]. Available: http://www.albany.edu/library/internet/evaluate.html [1998, February 3].

Brief checklist of criteria to look for in evaluation of Internet resources.

Kirk, E. E. (1997). Evaluating information found on the Internet [Online]. Available: http://milton.mse.jhu.edu:8001/research/education/net.html [1998, February 3].

Overview of information evaluation, with links to other helpful documents.

Kirk, E. E. (1997). Practical steps in evaluating Internet resources [Online]. Available: http://milton.mse.jhu.edu:8001/research/education/practical.html [1998, February 24].

Steps to take to find information regarding authorship, publishing body, and currency of the Internet document using your browser.

Laverty, C. (1998). Evaluating World Wide Web information [Online]. Available: http://stauffer.queensu.ca/inforef/tutorials/qcat/evalint.htm [1998, March 6].

Brief overview of Web information evaluation, with URL interpretation.

Ormondroyd, J., Engle, M., & Cosgrave, T. (1996). How to critically analyze information sources [Online]. Available: http://www.library.cornell.edu/okuref/research/skill26.htm [1998, February 3].

Overview of traditional criteria for information evaluation, including initial appraisal and content analysis.

Patterson, S. (1997). Evaluating and citing Internet resources [Online]. Available: http://www.udmercy.edu/htmls/Academics/library/webpage [1998, February 3].

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Patterson, S., & Schroeder, R. (1997). Evaluating and citing Internet resources:
An annotated Webography [Online]. Available: http://www.udmercy.edu/htmls/Academics/library/webog [1998, February 4].

Webography/bibliography including search engines, URLs, citation of sources, evaluation of Webpages.

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Richmond, B. (1996). Ten C's for evaluating Internet resources [Online]. Available: http://www.uwec.edu/Admin/Library/10cs.html [1998, February 24].

Questions to ask re: qualities of Internet resources.

Scholz, A. (1996). Evaluating World Wide Web information [Online]. Available: http://thorplus.lib.purdue.edu/research/classes/gs175/3gs175/evaluation.html [1998, February 4].

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Web document.

Smith, A. (1997). Criteria for evaluation of Internet information resources [Online]. Available: http://www.vuw.ac.nz/~agsmith/evaln/index.htm [1998, February 4].

"Toolbox" of criteria for evaluation of Internet information resources.

Smith, A. (1997). Evaluation of information sources [Online]. Available: http://www.vuw.ac.nz/~agsmith/evaln/evaln.htm [1998, February 4].

Smith, A. G. (1997). Testing the surf: Criteria for evaluating Internet information resources. *The Public-Access Computer Systems Review* [Online], 8(3). Available: http://info.lib.uh.edu/pr/v8/n3/smit8n3.html. [1998, February 4].

Comprehensive document detailing information evaluation, Web review sites; complete with references and Webography.

Stepno, B., & Henshaw, B. (1995). Quality of information...and disinformation online [Online]. Available: http://blake.oit.unc.edu/~rbstepno/disinfo.html [1998, February 4]. Moved to: http://www.unc.edu/~rbstepno/disinfo.htm [1998, May 4].

Information and exercises in the evaluation of information quality.

Terrass, R. (1997). Evaluating Internet resources [Online]. Available: http://web.wn.net/~usr/ricter/web/valid.html [1998, February 4].

A Webography designed for radiology science professionals.

Tillman, H. (1997). Evaluating quality on the Net [Online]. Available: http://www.tiac.net/users/hope/findqual.html [1998, February 3].

Information on Internet review tools, as well as information evaluation.

Wilkinson, G. (1997). Evaluating the quality of Internet information sources [Online]. Available: http://itech1.coe.uga.edu/Faculty/GWilkinson/webeval.html [1998, February 4].

Describes the project at University of Georgia -- to develop criteria and procedures to help users evaluate Internet information quality.

Wilkinson, G. L., Bennett, L. T., & Oliver, K. M. (1997). Consolidated listing of evaluation criteria and quality indicators [Online]. Available: http://itech1.coe.uga.edu/Faculty/GWilkinson/criteria.html [1998, February 21].

- Very exhaustive listing of criteria (based on the University of Georgia project described above).

Wittman, S. M. (1998). Evaluating Web sites [Online]. Available: http://acs.oakton.edu/~wittman/find/eval.htm [1998, April 28].

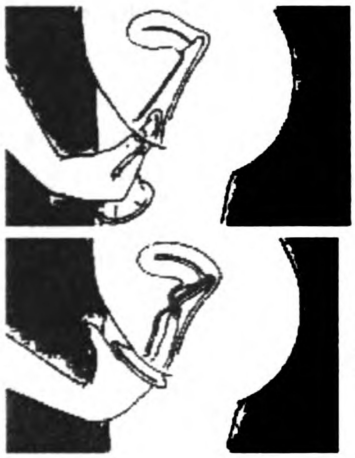
Wu, H. (1997). Evaluating & citing information found on the Net [Online]. Available: http://www.jsr.cc.va.us/lrc/evaele.htm [1998, February 4].

- Brief Webography.

Return to top of home page

Female Condom

Also known as the vaginal pouch, the female condom is a disposable sheath designed to protect a woman from pregnancy and STDs by lining the vagina. The man's penis must be guided into the sheath. After intercourse, the man may stay in the woman; unlike with traditional condoms, there is no need for immediate withdrawal.



You can tell that it is in place when the inner ring is up just past the pubic bone. You can feel your pubic bone by curving your finger towards your front when it is a couple of inches inside your vagina.

Then put your finger inside the sheath until you can feel the bottom of the inner ring. Now push the ring up into the vagina.

Advantages:

- This method allows a woman to protect herself from STDs as well as pregnancy.
- Because the vaginal pouch does not require the male to be fully erect, it can be inserted well before penetration is desired.
- There is no need for withdrawal immediately following male orgasm.

Disadvantages:

- This product is quite new and the information on effective use is very limited.
- Some women complain that the sheath moves or is uncomfortable.

Back to ENJOYING SAFE SEX or to SEX or to Peer Health Main Page.

Follow-up Care

A pap smear is a screening tool, it tells your health care provider whether you have abnormal cells on your cervix. If abnormal cells are found, they may or may not require treatment. To determine whether or not treatment is needed a diagnostic procedure called a colposcopy is done. It is important to remember that a colposcopy is not treatment, it merely determines whether or not treatment is necessary. Therefore it is vital that you keep all follow-up appointments with your health care provider. A variety of treatment approaches may be used at these appointments, and you will need to continue having regular pap smears after treatment to screen for new or recurrent disease. If you move be sure your health care provider has your new address and phone number; and if you don't hear from your provider's office, call them. Keep in mind--no one will suffer but you and your loved ones if your disease progresses because you don't get the care you need. So remember the sequence of care:

Regular Pap Smears>>	Colposcopy>>	Follow-up Care>>	Regular Pap Smears
(screening)	(diagnosis)	(treatment)	(screening for recurrent disease)

Diet, Nutrition & Cancer Prevention: The Good News U.S. Department of Health and Human Services Public Health Service National Institutes of Health (posted by Hopkins Technology)

The news about cancer gets better all the time. This pamphlet is about the best news: that you can take steps to help protect yourself and your family from cancer. Many studies of the habits of people all over the world suggest that you may reduce your risk of getting cancer by making healthy choices about the foods you eat, the beverages you drink, and whatever you smoke.

About one-third of all cancer deaths may be related to what we eat. Making positive choices in your diet every day promotes good nutrition and good health and may reduce your risk of some types of cancer.

This pamphlet can help you make these choices. (These choices are for healthy people. If you require a special diet, consult a physician or registered dietitian before beginning any modified diet plan. Remember good nutrition alone cannot protect against all diseases or injuries. Be wary of fad diets and supplements that are promoted to prevent or cure cancer). Its recommendations are consistent with seven simple guidelines that have been developed to help people eat a healthy diet:

Nutrition and Your Health: Dietary Guidelines for Americans, U.S. Department of Agriculture and U.S. Department of Health and Human Services, Home and Garden Bulletin No. 232. Second edition, 1985. The explanatory text following each of the guideline statements has been written by NCI.

1. Eat A Variety of Foods. No one food provides all the nutrients that a person needs. It is important to eat a wide variety of foods each day such as: fruits and vegetables; whole cereals; lean meats, poultry without skin, and fish; dry peas and beans; and low-fat dairy products.

2. Maintain Desirable Weight. Obesity is a risk factor for many diseases, including heart disease, high blood pressure, diabetes, and some cancers.

3. Avoid Too Much Fat, Saturated Fat, and Cholesterol. A diet low in total fat may reduce the risk for cancers of the breast, prostate, colon, and rectum. Such a diet will probably be low in saturated fat and cholesterol and may also reduce risk of heart disease.

4. Eat Foods With Adequate Starch and Fiber. Most Americans eat a diet low in starch and fiber. Health experts recommend that we increase the amount of starch and fiber in our diets by eating more fruits, vegetables, potatoes, whole grain breads and cereals, and dry peas and beans. A high-fiber diet may reduce the risk of colon and rectal cancer.

5. Avoid Too Much Sugar. A diet high in sugar promotes tooth decay. Sugary foods are also often high in fat and calories and low in vitamins and minerals.

6. Avoid Too Much Sodium. Too much sodium in the diet may contribute to high blood pressure, especially for people with a family history of high blood pressure. Untreated high blood pressure can lead to heart attacks, strokes, and kidney disease.

7. If You Drink Alcoholic Beverages, Do So In Moderation. Drinking too much can lead to many health problems. Heavy drinking is associated with cancers of the mouth, throat, esophagus and liver. Cancer risk is especially high for heavy drinkers who smoke. Alcoholic drinks are also high in calories and low in vitamins and minerals.

FOODS TO CHOOSE

Given these guidelines, let's look at the kinds of food and food components that are related to your cancer risk and see how you can make choices to reduce that risk.

DIETARY FIBER Dietary fiber is material from plant cells that humans cannot digest or can only partially digest. It helps move food through the intestines and out of the body, promoting a healthy digestive tract. A diet high in fiber and low in fat may reduce the risk of cancers of the colon and rectum.

Americans now eat about 11 grams of fiber daily. The National Cancer Institute (NCI) recommends that Americans double the amount of fiber they eat to between 20 and 30 grams daily. For those who wish to consume more fiber, NCI recommends that individuals not exceed 35 grams daily, because of possible adverse effects. Fiber-rich foods, not fiber supplements, are the sources of fiber to choose unless your doctor advises you to do otherwise.

To put the fiber you need into your diet, choose more often foods -breads, rolls, pastas, and cereals, for example - made with whole grains and whole-grain flours of all kinds: wheat, corn, rye, oats, and their brans. Choose less often products made with refined flours - white breads, rolls, pastries, and cakes. Choose from among all the fruits and vegetables, both fresh and frozen. Eat foods like apples, peaches, pears, and potatoes with their skins. Choose cooked dry peas and beans; they are a good source of fiber. Foods that are high in fiber are also usually low in fat.

FAT Some evidence indicates that diets high in fat may increase the risk of cancers of the colon, breast, prostate, and the lining of the uterus. Diets low in fat may reduce these risks while they help to control weight and also reduce risk of heart attack and stroke.

In the typical American's diet, about 40 percent of calories come from fat. Some experts believe that amount should be reduced to 30 percent. For example, an average diet for a woman usually contains about 1,600 calories per day. If a woman chooses to reduce fat consumption to 30 percent of calories from fat, 480 calories would come from fat. An average diet for a man contains 2,400 calories per day. If a man chooses to reduce fat consumption to 30 percent of calories from fat, 720 calories would come from fat.

To reduce the fat in your diet, choose more often the lean cuts of beef, lamb, and pork and less often the high-fat cuts. Trim away all the fat you can see before you cook the meat and again before you eat it. If you eat luncheon and variety meats, choose those that are labeled "reduced fat content."

Meats provide necessary protein, vitamins, and minerals, especially iron and zinc. These nutrients are important components of a balanced diet to promote good health.

Choose more often poultry, such as chicken and turkey, and remove the skin and visible fat before cooking.

Choose more often fresh fish and shellfish, plain frozen seafoods without sauce, and canned fish packed in water rather than canned fish packed in oil or fried seafoods. Choose more often dry peas and beans and less often nuts and seeds. As snacks, choose more often fresh or frozen fruits and vegetables and air-popped popcorn and less often pastries and deep fried foods.

Choose low-fat dairy products more often and those made with whole milk or cream less often. Dairy

products are good sources of protein, vitamins and minerals, especially calcium, another mineral important to good health.

Choose reduced-calorie or low-fat salad dressings and margarines. Use cooking methods that add little or no fats to foods. Cook meats on racks that drain away fats, and drain fat from the pan before making gravy. Season vegetables with herbs, spices, and lemon juice rather than with fats and salt.

VITAMINS AND CRUCIFEROUS VEGETABLES Diets rich in foods containing vitamin A, vitamin C, and a precursor of vitamin A called betacarotene, may reduce the risk of certain cancers. Diets low in vitamin A actually may increase risk for some cancers.

Many vegetables and fruits contain vitamins A and C and betacarotene. Choose especially from the vitamin-rich dark green leafy vegetables and other green vegetables; the red, yellow, and orange vegetables and fruits; the citrus fruits; and juices made from any of these.

Vegetables from the cabbage family (cruciferous vegetables) also may reduce cancer risk. They are good sources of fiber and some vitamins and minerals as well. The cruciferous vegetables are bok choy, broccoli, Brussels sprouts, cabbage, cauliflower, collards, kale, kohlrabi, mustard greens, rutabagas, and turnips and their greens.

Eat a variety of vitamin-rich foods, rather than relying on vitamin and mineral supplements, to help protect yourself from cancer.

[INSERT "HIGH-FIBER FOODS" TABLES FROM PGS 8-11]

CHANGING HABITS

You don't have to give up the foods you like to help protect yourself from cancer. Instead, choose "more often" the foods that may reduce your risks of cancer; choose "less often" the foods that might increase your risks of cancer.

Do not make all the changes overnight. Add fruits and vegetables to your diet gradually over a period of several weeks. Each time you shop, choose one more low-fat dairy product in place of a product made with whole milk. Replace a product made with refined flours or processed grains, such as white bread, with one made with 100 percent whole-grain flours and whole grains, such as whole wheat or rye bread.

Read product labels to help choose foods high in fiber and vitamins A and C, and low in fat. Many food manufacturers list calories, protein, fat, carbohydrates, vitamins, minerals, and fiber on package labels.

Plan your day's menu. Use information from product labels and other sources to find the total grams of fat you plan to eat; multiply by 9 (the number of calories in a gram of fat); then divide by the number of calories you will consume. The answer will equal the percentage of calories from fat. If it is more than 30 percent, you may wish to choose more high-fiber, low-fat foods.

Choose cooking methods that add no fats to your foods; bake, steam, poach, roast, or use a microwave oven.

If you broil, grill, or barbecue, protect foods from contact with smoke, flame, and extremely high temperatures. They can produce possible cancer-causing substances. Move racks or grills away from heat

sources, cook more slowly, and wrap food in foil or put it in a pan before grilling or barbecuing.

CANCER PREVENTION TIPS

At the beginning of this pamphlet, you read that good nutrition promotes good health. But good nutrition is only part of the story. It also is important to exercise each day, maintain desirable weight, get regular physical checkups, and remember these cancer prevention tips:

.Choose foods high in dietary fiber daily (fruits, vegetables, and whole-grain breads and cereals).

.Choose foods low in dietary fat.

.If you drink alcoholic beverages, do so only in moderation.

.Avoid unnecessary X-rays.

.Health and safety rules of your workplace should be known and followed.

.Avoid too much sunlight; wear protective clothing; use effective sunscreens.

.Take estrogens only as long as necessary.

.Above all, DON'T SMOKE. Tobacco smoke causes about one-third of all cancer deaths - more than all the other reliably known cancer-causing agents added together. Heart disease and emphysema caused by smoking kill even more people than does cancer.

FOR MORE INFORMATION For more detailed information on food choices, call the Cancer information Service at 1-800-4-CANCER*, toll-free, and ask for the booklet "Diet, Nutrition & Cancer Prevention: A Guide to Food Choices."

*In Alaska call 1-800-638-6070; in Hawaii, on Oahu call 808-524-1234 (Neighbor Islands call collect).

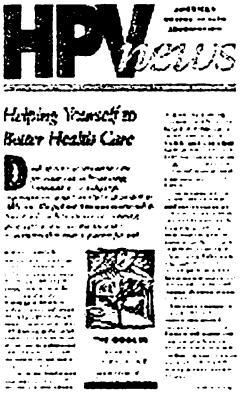
Spanish-speaking staff members are available to callers from California, Florida, Georgia, Illinois, norther New Jersey, New York, and Texas (daytime hours only).

National Cancer Institute NIH Publication No. 87-2878 December 1986 reprinted September 1987 ??

HPV SUPPORT GROUPS

Current as of 6/25/98

For information on obtaining written publications on HPV, call (800) 783-9877, open 24 hours a day. For a listing of HPV Publications available, go to our Educational Materials section.



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Washington
West Virginia
HRC

The Loop Electrosurgical Excision Procedure (LEEP)

Patient Information

The purpose of LEEP is to remove an abnormal part of the skin of your cervix before it can turn into cancer. LEEP removes the abnormal tissue in a way that allows tissue to be examined in the laboratory. Very little of the normal tissue is removed. About 95% of patients are cured of their problem following this treatment.

Advantages of LEEP

- LEEP can be done in your doctor's office.
- The procedure is quick.
- There is very little bleeding afterwards.
- The procedure removes more abnormal tissue than freezing (cryosurgery.)

Possible Complications of LEEP

- You may have some mild pain (mild cramping) for several hours after LEEP.
- You may have some heavy bleeding, either right after the procedure or one to three weeks later. In this case, more surgery may have to be done to stop the bleeding. However, this complication is rare. Most bleeding can be managed in the doctor's office.
- A brownish-black vaginal discharge for the first week is normal. A thin discharge may last up to 6 weeks.
- You may develop an infection of the cervix or uterus. Infection is rare, however, and can be treated with antibiotics.

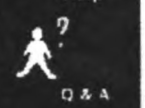
When you come in for LEEP, you will be asked to sign a consent form. LEEP cannot be performed during your period or if you have an infection of the cervix or uterus. You will lie on the exam table the same way as for a Pap smear. After a brief examination with a colposcope a local anesthetic will be used to numb your cervix. The abnormal tissue will be removed with a thin wire loop that cuts and cauterizes the tissue. The entire procedure takes about 10-20 minutes to complete.

Even though LEEP has many advantages over other methods of treating precancerous lesions, it does not assure an absolute cure the first time you have the procedure. It is important that you come to your doctor's office for your follow-up visits and Pap smears. Please feel free to talk to your doctor if you have questions or want more information about LEEP.

Help!
I've got genital warts.

- What I Need to Know
- Consumer Survey
- Treatment Options
- HPV Support Groups
- HPV Web Resources

ALDARA
Home



HPV Web Resources

JAMA STD Information Center
http://www.ama-assn.org/special/std/support/educate/stdhpv.htm

Mayo Clinic article on Genital Warts
http://www.mayohealth.org/mayo/9705/htm/genital.htm

Arnot Ogden Medical Center article on HPV and Genital Wa
http://external.aomc.org/ComDiseases/hpv2.html

MedicineNet article on HPV and Genital Warts
http://www.medicinenet.com/mni.asp?ag=Y&li=mni&ArticleKey=

NIAID Fact Sheet on STD Statistics
http://www.niaid.nih.gov/factsheets/stdstats.htm

NIAID Fact Sheet on HPV
http://www.niaid.nih.gov/factsheets/stdhpv.htm

NIAID Publications
http://www.niaid.nih.gov/publications/publications.htm

Medical Sciences Bulletin on Imiquimod
http://pharminfo.com/cgi-bin/print_hit_bold.pl/pubs/msb/aldara242

American Social Health Association
http://www.ashastd.org

Prepared for health care professionals and consumers in the United States to accord with U.S. FDA regulations.

The Pap Test

The Papanicolaou test (or Pap smear) is a laboratory test that is used to determine whether the tissue on the cervix (the opening to the uterus) and in the cervical canal is healthy. It is a very effective way to diagnose cancer of the cervix, and to find precancerous conditions that can be treated to prevent cancer from developing.

Precancerous conditions and cancer of the cervix can almost always be treated successfully if found and treated early. In fact, most of the 7000 American women who die every year from cervical cancer die because the disease was detected too late.

How is a Pap test done?

The clinician inserts a speculum into the vagina, and uses a wooden or plastic spatula, a cotton swab, or a special small brush to gently scrape some cells from the tissue on the surface of the cervix and inside the cervical canal. This procedure is quick and painless, although some women say they feel a pinching, scratching, or slight cramping sensation.

The cells are smeared on a glass slide and preserved with a chemical; the slide is sent to a special laboratory, where doctors or technicians carefully examine the smear under a microscope. If no abnormal cells are found, the Pap test report will be "normal" or "negative."

Is there anything I should do before a Pap test?

To ensure the most accurate results on a Pap test, follow these three rules:

Do not have sexual intercourse in the 24 hours before

your appointment.

Do not douche or use any lubricants or medication in the vagina in the 24 hours before your appointment.

Ideally, try to schedule your appointment for 1 week before you expect your menstrual period.

What if my Pap test results are abnormal?

In about 5 of every 100 cases, the results of the examination are classified as "abnormal" or "positive," meaning that the laboratory specialist found cells that were not of normal shape or size. In most of these instances, inflammation or infection is the cause. Infection of the cervix with human papillomavirus (HPV) frequently causes abnormal Pap test results.

Although an abnormal result on a Pap test does not necessarily mean that something is seriously wrong, it is important to find the cause of the positive result. To do this, your clinician may want to do another Pap test, or may want to perform another examination called colposcopy. This is performed with a colposcope, an instrument with a magnifying lens and light at the end through which your clinician can closely examine the inside of your vagina and your cervix.

In some cases, colposcopy shows the clinician that a biopsy, which is removal of a sample of suspicious-looking tissue for microscopic examination, is needed.

How often should a Pap test be done?

The Pap test is usually done as part of a routine pelvic examination. Internal examinations and Pap testing should begin when a women becomes sexually active or by age 18, whether or not she has ever had sex. Unless you have a gynecologic condition that your clinician wants to monitor more frequently, you should have a Pap test done every year. Your clinician will tell you how often you should have it done.

How to properly use a condom

USE ONLY LATEX CONDOMS.

Don't store condoms for a long time in a wallet or near extremes of heat or cold.
Check the expiry date on the package.
Open the package carefully so you don't tear or damage the condom.
Put the condom on before any sexual touching.
You can use a water-soluble lubricant such as K-Y, ForPlay, or contraceptive gel.
Oil-based lubricants such as Vaseline or baby oil should not be used, as they can damage the latex of the condom.
Use a new latex condom every time you have intercourse.

Used correctly, condoms provide considerable protection against pregnancy, sexually tr ansmitted diseases and HIV (the virus linked to AIDS).

PUTTING ON A CONDOM:

Hold the tip of the condom between 2 fingers to squeeze out the air.
This leaves some room for the semen when the man ejaculates.
Put the condom on the end of the hard penis.
Keeping hold of the tip of the condom, unroll it onto the hard penis all the way down to the pubic hair.

AFTER EJACULATING

Pull the penis out while it's hard and hold on to the condom.

CONDOMS WITH LUBRICANTS

Some lubricants contain chemicals (spermicides) to increase protection.
If they irritate the genitals, don't use them.
Remember - spermicide alone is not sufficient for birth control or disease prevention.

Below is a list of pros and cons to help you consider behavioral changes recommended for people diagnosed with HPV. You will probably think of other advantages and disadvantages specific to your own lifestyle.

Recommendation: Don't smoke or have unprotected sex with a smoker 

Pros: Women with HPV can decrease their likelihood of developing cervical cancer if they don't smoke, not smoking also decreases your risk of developing other types of cancer, heart disease, and upper respiratory infections. Women with HPV also should not have unprotected sex with a smoker because nicotine collects in the semen and contacts your cervix during unprotected sex. Of course by not buying cigarettes you also save money.

Cons: Its tough to quit smoking or to ask your partner to use a condom or to quit smoking. It is also possible you may choose to expose yourself to cigarette smoke for the rest of your life and never develop cervical cancer.

Next Page>>>>

Recommendation: Don't have unprotected sex 

Pros: HPV is highly contagious so using a male or female condom is advisable to decrease

the likelihood of passing it on to your partner. Furthermore there are many strains of HPV and if you pick up another strain in addition to the one(s) you already have you will increase your chances of developing cervical cancer.

Cons: To be prepared you will have to purchase condoms and remember to carry them with you. You will also need to learn about proper use of condoms and you may also have to talk to your partner about using condoms.

Next Page>>>>

Recommendation: Eat a healthy diet 

Pros: Eating a diet high in certain types of foods has been found to decrease your risk of developing cancer and studies suggest this is especially true for women with HPV who want to decrease their risk of developing cervical cancer. Furthermore the same type of diet will decrease your risk of heart disease and obesity and probably increase your energy levels.

Cons: You may find it inconvenient to shop for and prepare healthy foods, and if you buy fresh fruits and vegetables you will have to plan ahead so you'll get through them before they spoil. It may also take a while to develop a taste for healthy foods, especially if you are used to eating a lot of processed and artificially sweetened foods. Add healthy foods to your regular diet gradually to give your system time to adjust.

Next Page>>>>

Recommendation: Seek emotional support 

Pros: Being diagnosed with any disease is stressful and with a sexually transmitted disease like HPV people often feel especially burdened. Emotional support from an HPV support group, a counselor, the STD hotline, a friend or family member may decrease your sense of anger and isolation. You may also receive some good advice.

Cons: If you talk to someone you know about your diagnosis there is a chance they will repeat the information or respond in an inappropriate non-helpful manner. However these risks are greatly diminished if you seek support through the STD hotline or an HPV support group.

Next Page>>>>

Recommendation: Seek additional information 

Pros: By seeking more information about HPV online or at the library you equip yourself to make informed choices about your treatment and your future behavior. Other good sources of information include pamphlets and patient-education handouts available from your health care provider. Additionally, many hospitals now have patient-education sections in their medical libraries which are open to the public and contain excellent, easy to use references.

Cons: You may feel overwhelmed or upset by the information you find. Also, if you seek information on line you must check the source of the page you are reading and decide whether it is credible. Universities and medical or public health associations are usually a good bet for valid advice.

Next Page>>>>

Recommendation: Practice self-care to decrease HPV symptoms

Pros: By using self-care strategies and over-the-counter products you may gain temporary relief from the itching and pain caused by HPV lesions.

Cons: Not everyone experiences relief from self-care strategies or over-the-counter products, and at best its a temporary fix.

The choices are yours to make, just remember to be informed and be good to yourself!

QUIT SMOKING TIPS

There are more than 37 million ex-smokers in the U.S. Each one had to make the same decision you're thinking about now. Smoking cigarettes is an expensive and destructive habit - it's time to stop. You've probably heard of all the reasons why you should quit, so we won't dwell on them here. However, you should reflect on the benefits of quitting. When you quit smoking, the body starts to repair itself almost immediately, unless damage has been done that cannot be reversed. Familiar symptoms like shortness of breath, sinus troubles, persistent cough start to disappear.

PREPARING TO QUIT

1. Ask yourself 3 key questions:
   How much do I smoke?
   Why do I smoke?
   What will be my most difficult hurdle in quitting?

2. If you're feeling ambivalent about quitting, ask yourself which you want most - to smoke or to stop. (Remember, you don't have to get rid of the desire to smoke before stopping.)

3. Choose a method of quitting. Cold turkey is the most successful, but a gradual approach is fine.

4. Set a final quit date.

WAYS TO CUT DOWN YOUR SMOKING DAY BY DAY

**Note: Do not allow this gradual approach to become a way of procrastinating, rather than quitting.*

1. Decide to cut down by a certain number of cigarettes per day, and increase your reduction by that number each succeeding day.ORPostpone the first cigarette of the day by an hour, and extend that time daily.

2. Make it hard to get and smoke a cigarette. Wrap up the package and put elastic bands around it. Smoke with your left hand if you usually smoke with your right.

3. Change to a brand you don't like. Buy only one pack at a time.

4. If you always have a smoke with your coffee, switch to tea, juice or soda.

5. Do something for your body. Get back into shape. Exercise is great for relaxation.

6. Call up your friends and tell them you're going to quit. (Choose to tell the friends who will offer only positive reinforcement.)

7. If you quit for one day, you can quit for another. Try it.

8. Save all the money you would have spent on cigarettes and buy yourself something. You deserve it.

9. If you break down and have a cigarette, don't give up. Some people take several tries before they make it. Just don't have a second cigarette.

ON THE DAY YOU QUIT

1. Throw away all cigarettes and matches. Hide lighters and ashtrays.

2. Visit the dentist and have your teeth cleaned to get rid of the tobacco stains. Notice how nice they look, and resolve to keep them that way.

3. Make a list of things you'd like to buy yourself or someone else. Estimate the cost in terms of packs of cigarettes, and put the money aside to buy these presents.

4. Keep very busy on the big day. Go to the movies, exercise, take long walks, go bike riding.

5. Buy yourself a treat or do something special to celebrate.

NEW EVIDENCE OF SMOKING LINK TO CERVICAL CANCER

Findings from an Imperial Cancer Research Fund-led study indicate that smokers whose smear tests are mildly abnormal may be able to reverse the changes in the their cervix by quitting smoking.

The study followed 82 volunteers with an abnormal looking area on their cervix, who agreed to try and give up smoking for six months.

After six months more than 80 per cent of those who had quit or cut the amount they smoked by at lest three-quarters showed a reduction in the size of the abonormal looking area, compared with less than 20 per cent of those who continued to smoke. The study also found that the more the women reduced their smoking the greater was the reduction in the size of the lesion on their cervix.

Although previous research demonstrated an connection between cervical cancer and smoking it was unclear until now whether this was definately due to smoking or to something else to do with lifestyle. Previous studies have also suggested that smoking may weaken the immune

response in the cervix.

The report's principal author, Dr. Anne Szarewski of Imperial Cancer's Mathematics, Statistics and Epidemiology Department, said, "Smoking cessation may be allowing the immune system to recover, leading to a reduction in the size of a mild cervical lesions. Although stopping smoking certainly doesn't guarantee a reduction - and there may well be other factors which are more important in some women - our study adds to the evidence supporting a direct link between smoking and cervical disease."

If you would like advice on how to stop smoking, "Quit" is a UK charity that helps people to stop smoking. Their national **Quitline** offers advice and counselling on Freephone 0800 002200.

If an HPV support group is not available in your area, consider calling the STD Hotline at 1-800-227-8922. The line is staffed Monday through Friday from 8 am to 11 pm eastern standard time.

During-the-Behavior Methods

Behavioral analysis: observe and record antecedents and consequences to understand behavior.

If we can understand what causes a particular behavior, we are more likely to be able to change that behavior. One way to better understand some specific behavior is to carefully observe its antecedents and consequences, i.e. what occurs just before and right after the behavior. By using a knowledge of learning (see chapter 4) we should be able to analyze the situation and explain the behavior.

Purposes

- To understand what in the environment is causing a behavior or emotion or interpersonal interaction. (If nothing external, look inside for thoughts, memories, feelings or physiological factors.)

- To use this knowledge to figure out how to change the behavior or to determine why a self-help effort isn't working.

Steps

STEP ONE: **Remember the circumstances preceding the behavior or emotion or interaction.**

Think back and remember as much as possible about what happens right before the "target" behavior:

- time and physical setting, any environmental cues that set you off--
- your actions, thoughts (self-talk), and feelings--
- any defeatist ideas, e.g. "I'll never get better," "I can't change," "I'm just that way"--
- others' behavior and feelings (including believing they think you are stupid, etc.)--
- nature of interaction with others--
- are there any signs of possible consequences (+ or -) that influence your behavior?
- your physical condition (tired, hyper, drunk, etc.)--

- your use of or lack of skills--
- + or - expectations or values--
- is this situation similar to a situation or person you have had experience with before?

List the stimuli that seem to occur right before the behavior in question. In this method, you can concentrate on the antecedents of desired or unwanted behaviors, feelings, or interpersonal interactions.

STEP TWO: **Think about the possible + or - consequences following your behavior or emotion or interaction.**

It will also be helpful to consider the payoffs for both the unwanted and the desired behavior, perhaps comparing the two. If you are dealing with a bad habit, you may feel "I don't get anything positive out of the habit." Don't believe it, get started carefully observing the results of your habit. The positive pay offs outweigh the negative consequences. Each habit has its own unique set of positive and negative consequences. It is important to consider many possible consequences to uncover them all:

1. desired pay offs--consider both extrinsic rewards (material, interpersonal, or symbolic of success) and intrinsic satisfaction (enjoyable feelings, relief, and self-esteem), both in the immediate and long range future. Often performing a well-learned habit just makes us feel better but we don't understand how or why; it is still a consequence.

2. negative reinforcement--relief or escape from stress, self-criticism, interpersonal pressure, or any other unpleasant experience. Ask: were there any cues in the situations that enabled you to anticipate and avoid something unpleasant without actually feeling bad at all? (Example: one might avoid an argument by avoiding a topic. In this case, escaping the threat of a fight reinforces avoiding the topic, but there has been no resolution of the conflict between the two of you.)

3. unwanted consequence--punishment, criticism, deprivation of something you wanted, increased self-criticism or interpersonal conflicts, unpleasant thoughts about terrible possible outcomes, having to correct the mistake you made, or any unpleasant outcome.

Consequences may be positive and negative, expected and unexpected, immediate and long-term, extrinsic and intrinsic, material and symbolic (a failing grade), emotional and interpersonal and even unconscious. To understand ourselves, we have to be honest about all the possible consequences.

It is very important to ask yourself: Is it possible that a part of me really unconsciously wanted the consequence I got? Also, ask yourself: How does the outcome make me feel about myself? Do I have an unconscious need to put down or hurt someone else? to rebel or resist pressure? to put down myself? to fail? to feel bad or guilty? to live out a "life script?" Chapters 4, 9, and 15 might be helpful. Also, writing out one's explanations might clarify the situation and help with the decision of exactly what to observe in the next step.

STEP THREE: **Observe and record the antecedents and consequences of the behavior, emotion, or interaction.**

Every time the "target" behavior occurs observe carefully and record the exact conditions that preceded it and followed it. Consider the factors mentioned in steps one and two which you think could possibly be relevant, or any other possible cause.

Record your observations on 3 X 5 cards. Do this for several days, or at least until 8 or 10 occurrences of the target behavior have been observed. Several observations are necessary to determine if the behavior is only occasionally reinforced.

STEP FOUR: **Complete a "behavioral analysis" using both your recall and your recorded observations of antecedents and consequences.**

For each target behavior, list the stimuli that seem to elicit the behavior and the payoffs that result from and reinforce the behavior. This should "explain" the behavior, i.e. what causes the behavior and why this one behavior is dominant over all the competing behaviors.

Chapter 4 describes operant, classical, and social learning. These theories will help you understand how antecedents-behavior-consequences relationships are formed and maintained. Chapter 4 also explains why some behaviors are hard to understand; this may help too. Some of the questions above also involve many other factors that might influence our behavior besides learning procedures, such as values, unconscious needs and motives, games, unresolved emotional situations, etc. These other factors are discussed in chapters 4, 9, 14, and 15.

This process called "behavioral analysis" is the essence of all efforts to understand human behavior. The various theories--psychoanalysis, social learning, humanistic, behavioral, Gestalt, etc.--simply emphasize different factors among the antecedents or the consequences. By repeatedly attempting to understand human behavior in this way, you are becoming an "insightful" psychologist. Be sure to discuss your "theories" with others; you need to consider many points of view.

STEP FIVE: **Use the self-awareness from the behavioral analysis to exercise better self-control.**

The knowledge from this method leads directly into using Methods 1 and 3, involving antecedent stimulus control, and Methods 16, 17, and 18, involving control of the consequences, in order to develop plans for creating a new response, a new way of handling a problem.

Anyone who has learned a new habit--exercising, picking up dirty clothes, overcoming shyness--realizes that the new behavior is hard to start. At first, the old behavior is so much easier, it's still automatic. However, after 3 to 4 weeks of daily practice, the "hard" new habits become automatic and easy too. There is no known alternative to simply pushing yourself to carry out the new better habits until they become "natural."

As we learned in chapter 5, almost any change is stressful, even though it is an improvement. Furthermore, the ramifications of seemingly small changes may be far reaching. Examples: deciding in the sixth grade to go out for several sports may influence your career, your choice of friends and spouse, your life-long interests, etc. Likewise, if you

decided to become a serious student... In some cases, however, the "cost" of the new habit, in terms of effort and ramifications, may seem too high.

Time involved

An hour or so will be involved in the arm chair philosophizing about the role of the antecedents and consequences. The actual observation and recording will take 10 to 30 minutes a day for a couple of weeks. The behavioral analysis will be another hour if you keep your explanations strictly behavioral. (If you branch out into other theories, e.g. "what games am I playing?" or "did my relationship with my father influence this behavior?", it will take much longer--and may be more exciting.) Total=about 10 hours. Of course, one could be more casual and sloppy about it. In some instances, you may have no choice since a change may not be possible without the better understanding of a careful analysis.

Common problems with the method

As mentioned before, some people naturally abhor keeping systematic records, especially about themselves. A lesser problem is going through the process and finding that you didn't record the relevant information or that you don't yet know enough about the theories to make sense out of the data you have observed.

Effectiveness, advantages, and dangers

A careful observer almost always learns facts about his/her own behavior that he/she hadn't realized. In that sense it is effective. It is unknown how often it leads to effective self-change, however. No dangers although it is possible you may not like all the things you find out about yourself.

Additional readings

Nelson, R. (1976). Assessment and therapeutic functions of self-monitoring. In M. Hersen, R. Eisler, & P. Miller (Eds.), *Progress in behavior modification*, Vol. 5. New York: Academic Press.

Also see Watson and Tharp (1972), Thorensen and Mahoney (1974), and Birkedahl (1990).

Disrupt the unwanted behavior; thought stopping; self-distraction

A habit flows along smoothly. Once interrupted, however, it is easier to stop or alter its course. Likewise, an unwanted response, like an outburst of anger, can be reconsidered if there is a pause in the process before any action occurs; thus, the wisdom of the old adage, "Count to 10 before getting mad." Furthermore, it is easier to avoid temptations if there is a delay of gratification and attention is directed away from the temptation. Walk away and get your mind involved in something else.

Unwanted worries or fantasies can sometimes be delayed or ordered to stop, which is a form of disruption. However, in other cases, attempts to suppress an obsession makes it worse (see method #12 and chapter 5).

In order to develop a new behavior, we may have to weaken the old habit, especially it is a strong habit. In order to study, we have to break our habit of watching TV all the time. In order to eat more healthy food, we have to break our habit of eating lots of red meat. Sometimes the old habit can be broken instantly, "cold turkey," but often some technique is needed.

Purposes

- To disrupt habits that are so automatic that they are done unconsciously. The disruption draws your attention to the habit and gives you a chance to stop it. The disruption also enables you to develop a more desirable habit to replace the unwanted behavior.

- To provide a pause to think and reconsider in the middle of an otherwise impulsive, ill-considered response.

- To stop unwanted thoughts, especially depressive ideas, anger-generating fantasies, and worries.

- To increase your confidence in self-control.

Steps

STEP ONE: **Plan in advance how to disrupt the unwanted behavior.**

Mostly this consists of making "rules" which you then have to enforce. For example, it is common to recommend this rule to dieters: pause between every bite, putting down your fork and savoring the food. This breaks the automatic habit of rapidly shoveling in the food. It is also recommended that 2 or 3 five-minute "rest periods" be incorporated into every meal; this gives you practice at stopping eating and a chance to reconsider if you really want to eat more during that meal.

Smokers are given rules that disrupt the habit, such as put the pack in a different pocket, use a different lighter, use a disliked brand, smoke with the other hand, and so on. Invent your own disruptions.

In the case of impulsive behavior (anger, sarcastic remarks, seductive actions, etc.), learn to recognize the early signs and plan for a pause: "Count to 10," "Stop the insults and think of a compliment," or "Stick to business." Important rules for restraint are: wait 10 minutes, think about the consequences, use distraction (think about something else).

In the case of unnecessary or bothersome thoughts, try "thought stopping." This is simply yelling (loudly but silently to yourself), "Stop! Get out of here!" And, believe it or not, the thought often goes away. It will come back, so yell again. Eventually, by telling yourself that you don't have to put up with useless or hurtful thoughts, you can frequently control "your mind" (see method #12 when this makes things worse or doesn't work).

One of the most common methods for dealing with temptations or unwanted thoughts is

self-distraction. The ordinary person tries to think of something else, say the chair he/she is sitting in, but before long the unwanted thought or feeling is on his/her mind again. So, since thinking about the chair didn't work, he/she tries to think about something else, maybe the knot in his/her stomach this time. The process goes on and on like this. It does keep the unwanted thought out of your mind fairly well, but afterwards the method may produce even more of the unwanted thoughts or emotions. This is because every time you see or think of the chair, or become aware of some sensation from your stomach, etc., you think of the unwanted thought or feeling again. Thus, it is better to *use only one distracting thought, preferably something pleasant*, such as your favorite hobby, vacation spot or even a very enjoyable, absorbing part of your work.

Robbins (1991) cites a case of a chocoholic who got a lot of attention because of his love of candy. Robbins told the chocoholic to only eat chocolate for several days. After about four days, he was sick of chocolate, making it easier to give up his 4-bars-a-day habit (see method # 12).

STEP TWO: **Practice the disruptive process mentally before having the real experience.**

Try to accurately anticipate situations where an old unwanted habit will occur, an strong emotional impulse will erupt, or an unwanted obsession will continue and continue. Practice until the idea of when and how to interrupt the process is well ingrained (see method #2).

In the case of an obsession, say a worry, you need to select and prepare *in advance* alternative topics to think about. Otherwise, a worrier will just shift from one worry or depressing thought to another one. Select only one positive topic to think about (as a distracter from unwanted topics), perhaps an enjoyable hobby, some pleasant aspect of your work, or maybe you could think about praying and God. You need to practice using this topic by imagining the onset of the unwanted thoughts and immediately turning your attention to the more enjoyable topic. (Don't forget to also use environmental factors to control your thoughts. If depressed, be around fun, happy people, get active in interesting tasks, make plans for the future, search for beauty and good, exercise, clean up and look good, etc.)

Consider a variety of additional ways of responding to or solving the needs or concerns underlying the unwanted behaviors or thoughts: avoidance and change of the environment (method #1), assertiveness and self-esteem (chapters 13 & 14), forgiveness (chapter 7), a desired or substitute response (methods #2 & #11), paradoxical intention (method #12) or scheduling the worry, and decision-making (chapter 13) instead of continuing the worry or bad habit.

STEP THREE: **Try out the method several times, starting with the next opportunity; observe the results.**

Don't expect instant results. Keep improving your method. Continue until a better way of handling the situation is well established.

Time involved

Total time=1 or 2 hours. In many ways these methods will give you more time, i.e.

reduce time wasted on unwanted acts (eating), worrying, getting into arguments, etc.

Common problems with the method

Most common is forgetting to disrupt or stop the ongoing response. Frequently, one's self-concept interferes with behavioral control. Example: if one sees him/herself as "hot headed," "flirtatious," "weak willed," or "too old to learn," this counteracts the effectiveness of any self-control method directed towards eliminating these reactions. (See cognitive methods and self-concept in chapter 14.)

As Wegner (1989) points out, effective suppression temporarily of thoughts may cause problems, because the troublesome thoughts may return even stronger; suppression, he says, doesn't solve problems. To solve a problem you often have to get it out, deal with it, talk to someone about it, make plans to change, etc.

Effectiveness, advantages, dangers

No carefully controlled research is available. However, practitioners frequently recommend this type of method. It is easy to learn and you can see immediately if it works. There is no danger, unless strong emotions are involved, such as intense anger and suicidal depression. The method should reduce the risk of destructive action but everyone must exercise maximum caution when potentially violent emotions are involved. In such cases, seek professional help and support from family and friends immediately.

Additional readings

Lazarus, A. (1971). New techniques for behavior change. *Rational living,* 6, 1-13.

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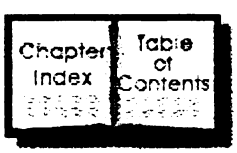

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Symptom Relief 

Self-care strategies can be used to minimize HPV symptoms. These include over the counter ointments such as zinc oxide cream and 2% Xylocaine jelly. Sitz baths or sitting in a tub of warm water may also provide temporary relief of itching. Over the counter analgesics such as aspirin, Tylenol, or ibuprofen can help to reduce genital pain. Wearing loose clothing and keeping the effected area clean, cool, and dry may also increase your comfort level.

Sexually Transmitted Diseases

[English][Espanol]

Before you have sex, talk to your partner about using condoms.

Talking to your partner about using condoms may not be easy for you. Think about what you want to say ahead of time. You may even want to practice with a friend.

You can talk about it in many ways. Find a way that works for you. Here are some ideas:

- "I'd really like to have sex with you as long as we use condoms. Using condoms protects both of us."
- "You know, it makes sex even better for me knowing that both of us are protected. Let's use condoms."
- "Did you see that TV show about AIDS last night? It seems like everyone needs to use condoms these days."

Keep condoms on hand so you have one when you need it. Store condoms in a cool, dry place.

Protect yourself and your partner.
Use a new condom everytime you have sex

Treatment Options

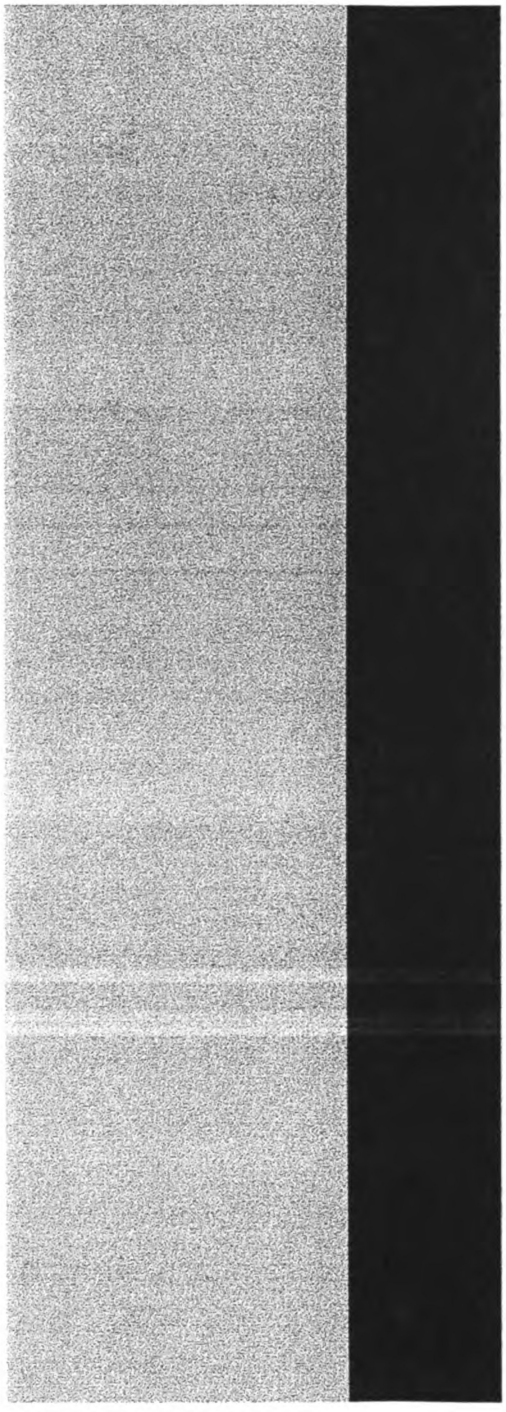
There are many different opinions about how to treat genital warts. The guidelines of the U.S. Centers for Disease Control and Prevention (CDC) include the following treatment information:

- The goal of treatment should be to remove visible genital warts and get rid of annoying symptoms.
- Podofilox solution or gel is a patient-applied treatment for external genital warts. It is relatively cheap, easy to use, and safe.
- Imiquimod cream is a patient-applied treatment for external genital warts and perianal warts. It is safe, effective, easy to use, and offers an alternative to tissue-destructive therapies.

Additional Imiquimod Information:
Summary of Aldara Patient Information
Aldara™ Fact Sheet

- Cryotherapy (freezing off the wart with liquid nitrogen) is relatively inexpensive, but must be performed by a trained health care provider.
- Podophyllin is a chemical compound that must be applied by a health care provider.
- Trichloracetic acid (TCA) is another chemical applied to the surface of the wart by a physician.
- Laser therapy (using an intense light to destroy the warts) or surgery (cutting off the warts) has the advantage of getting rid of warts in a single office visit. However, treatment can be expensive and the health care provider must be well-trained in these methods.
- The antiviral drug interferon is sometimes used, but less expensive therapies work just as well with less discomfort.

Factors that might influence selection of treatment include size, location, and number of warts, changes in the warts, patient preference, cost of treatment,



convenience, adverse effects, and provider experience.

Whatever the treatment, here are some important points to remember:

- Ask your doctor for an explanation of the treatment, including its costs and likely benefits.
- Avoid treatments which cause bad side effects or scarring.
- Be sure you understand the follow-up instructions, such as what to do about discomfort and when to come back to the office or clinic.
- Be patient--treatment often takes several visits and a variety of approaches.
- If you are pregnant or think you might be, tell your doctor so he or she can choose a treatment that won't be harmful to you or to your baby.
- Don't use drug store treatments for warts. These are not meant for sensitive genital skin.
- Some experts suggest avoiding sexual contact with the infected area during treatment. This is partly to protect the treated area of skin from friction and help it heal.

This information has been generously provided by the American Social Health Association (ASHA). Visit the ASHA website for more information about genital warts and other sexually transmitted diseases.

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Appendix B: Letter to Planned Parenthood Affiliates

Laura Sova, RN, MS
2902 Brook Drive
Kalamazoo, MI 49004

September 19, 1998

Planned Parenthood Affiliates of Michigan

Dear Sir or Madam:

Please find enclosed the address of a web site about human papilloma virus. I created the web site in partial fulfillment of the requirements for my M.S.N. at Michigan State University. A committee of three faculty members has reviewed the site's content to confirm that it is accurate and appropriate for client education. I am sending you this information in hopes that you will share it with the women's health care providers at your regional clinics as a patient-education tool. There is a "write the author" button on the web site, and I would appreciate any feedback your providers or patients would like to send. Thank you for your consideration.

Laura Sova, RN, MS

Just the **FAQs** about HPV

These are frequently asked questions about HPV:

What is HPV?

How is HPV spread?

Will HPV affect my health?

What can I do to stay well?

Mail the Author

Appendix C: Questionnaire for Pilot Study

If you are a woman and not a graduate student, you qualify for my study!

To make $5 in 15 minutes follow these simple instructions:

1) Using any convenient web browser (like Netscape, etc.) surf to this address:

http://www.msu.edu/user/sovalaur/hpv

2) Spend 10 minutes perusing the site.

3) Answer the two questions below.

4) Mail this piece of paper back to me in the attached envelope, include your name and address on the tear-off sheet. I will send you $5 as soon as I receive this sheet in the mail.

Questions to Answer:

1) Imagine you have been diagnosed with human papilloma virus (HPV). Would this web site be helpful to you? Circle YES or NO

Explain your answer:

_____

_____

_____

_____

2) Was the site user-friendly? Circle YES or NO

Explain your answer:

_____

_____

_____

_____

Thanks a lot! I'll send your $5 as soon as I receive this. Laura Sova (Nurse Practitioner Student)
2902 Brook Drive Kalamazoo, MI 49004