Background

Incidence
Cervical cancer is the second most common cancer in women worldwide. It is estimated that 50% of women that are diagnosed with cervical cancer, have never had cervical cytology testing. In the United States 11,150 new cases of cervical cancer are identified annually and 3,670 die from the disease.

Natural History of Cervical Neoplasia
The HPV genome encodes for a protein that interacts with growth-regulating host cell proteins and continued expression of these oncogenes is necessary to maintain malignant transformation. In review of the literature, it states that environmental factors, such as carcinogens from smoking and impaired immunity may allow persistence of the virus.

Not all HPV causes cancer. Of the 40 known types, 15 have been established as the highest risk. HPV types 16 and 18 are most frequently isolated from high grade lesions which account for 70-80% of cases, but HPV 45 and 31 causes about 10% of cervical cancer.

Pap Smears in Ages 21-29
HPV infections are commonly acquired after intercourse but, in most, they are cleared by the immune system within 1-2 years without producing changes, therefore pap smears should not begin until 21 years of age. In contrast to the high rate of infection with HPV in sexually active adolescents, invasive cervical cancer is very rare in women younger than 21, accounting for only 0.1% of all cervical cancer. Because of the very low incidence of cancer in younger women and the potential for adverse effects associated with follow-up of young women with abnormal cytology, both ACOG and the ASCCP guidelines recommend a conservative approach to women younger than 21 with abnormal results.

The USPSTF recommends screening women ages 21-29 every 3 years (Grade A Recommendation). Studies over multiple decades have shown in an organized program of cervical cancer screening, annual screening compared to screening every 2-3 years offers little advantage and that the absolute risk in a well screened population is very low.

Pap Smears in Ages 30 and older
Once a woman turns 30 and has had three negative consecutive cervical cytology test results, she may then get screened every 3 years. In March 2012 the USPSTF recommended that women ages 30 to 65 years who want to lengthen screening intervals, screening with a combination of cytology and HPV testing can be done every 5 years. It has been demonstrated that the rate of dysplasia decreases as the number of sequential negative Pap test results increase.
At What Age is it appropriate to stop doing Pap Smears?
Women 65 years and older represent 14.3% of the U.S. population but have 19.5% of new cases.\(^1\) In the U.S. new onset of cervical cancer peaks in the fifth decade of life then declines. Peak incidence in the Hispanic population is in their early 70’s, Asian population late 70’s, and in the African American population, cervical cancer continues to increase throughout their lives. Since cervical cancer develops slowly and risk factors decrease with age, it is appropriate to stop screening at 65 or 70 years of age in patients who have had three consecutive negative cytology test.\(^1\) It is important to remember that risk factors need to be assessed at every annual visit. The USPSTF recommends against screening women older than 65 if they have had adequate screening with normal pap smears, (Grade D recommendation).\(^3\)

Women treated in the past for CIN 2, 3 or cancer remain at risk for persistent or recurrent disease, therefore ACOG recommends annual screening for at least 20 years.\(^1\)

In women who have had a total hysterectomy for benign reasons and no history of high grade CIN, no longer need cervical cancer screening (USPSTF Grade D recommendation).\(^3\)

**HPV Screening**
HPV should not be used in females younger than 21 years, and if inadvertently done, a positive test should not influence management. Co-testing with HPV and pap is not recommended for women younger than 30 years because of the high prevalence of high-risk HPV infection in this age group. Co-testing using both cytology and HPV DNA is appropriate for women older than 30 years and negative tests on both cytology and HPV DNA should be rescreened every 3 years.\(^1\)

**Summary**
Current recommendations are that cervical cancer screening should begin at the age of 21 years regardless of sexual intercourse.\(^1\)

Any low risk woman aged 30 years or older who receives negative tests on both cytology and HPV DNA should be rescreened no sooner than 3 years.\(^5\)

Since cervical cancer develops slowly and risk factors decrease with age it is appropriate to stop screening at 65 or 70 years of age who have had three consecutive negative cytology test results.\(^3\)

**References**