I. PURPOSE:
To define the standard of care for routine cervical cancer screening as required by Denver Health Medical Plan (DHMP) and Denver Health Medicaid Choice (DHMC).
DHMP/DHMC recognizes the importance of screening for cervical cancer. Screening allows cancer to be found and identified at an early stage, when successful treatment is most likely. Finding and treating cervical dysplasia early can help prevent most cervical cancers (American Cancer Society, 2014).

II. POPULATION:
Routine screening will be completed for women with a cervix, regardless of sexual history, 21-65 years of age. Members who have had a total hysterectomy, with removal of the cervix, are exempt from screening if they have had no history of high-grade cervical dysplasia.
These routine screening guidelines do not apply to the following high-risk populations of women:
- Have a history of high grade cervical dysplasia or cervical;
- In-utero exposure to diethylstilbestrol;
- Women who are immunocompromised (such as those who are human immunodeficiency virus (HIV) positive).

III. GUIDELINE:
A. Screening Tests and Interval:
1. Cytology (Pap smear): ages 21-65 per table below
2. HPV combined with cytology (co-test): every 5 years in women ages 30-65
3. Documentation of total hysterectomy or absence of cervix is necessary to be excluded from screening

<table>
<thead>
<tr>
<th>POPULATION</th>
<th>SCREENING RECOMMENDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women 21-65 years</td>
<td>Screen with cytology (Pap smear) every 3 years</td>
</tr>
<tr>
<td>Women ages 30-65 years</td>
<td>Screen via cytology every 3 years, or co-testing (cytology/HPV testing) every 5 years</td>
</tr>
<tr>
<td>Women &lt;21 years of age</td>
<td>Do not screen</td>
</tr>
<tr>
<td>Women older than 65 years, or women without a cervix (total hysterectomy)</td>
<td>Do not screen</td>
</tr>
</tbody>
</table>

B. Timing of Screening:
1. Screening earlier than 21 years, regardless of sexual history, is not recommended
2. Clinicians and patients should base the decision to end screening on whether the patient meets the criteria for adequate prior testing and appropriate follow-up

NOTE:
This guideline is designed to assist providers by providing an analytical framework for the evaluation and treatment of patients, and is not intended either to replace a clinician's judgment or to establish a protocol for all patients with a particular condition.
C. Risk Assessment:
   1. Human Papillomavirus (HPV) infection is associated with cervical cancer
   2. Other factors associated with increased risk of cervical cancer include: HIV infection; compromised immune system; in-utero exposure to diethylstilbestrol; smoking of tobacco; and previous treatment of a high-grade cervical dysplasia or cervical cancer

D. Grading of Cervical Dysplasia:

<table>
<thead>
<tr>
<th>LSIL: Low-grade squamous intraepithelial lesion, previously CIN 1, Cervical Intraepithelial Neoplasia</th>
<th>Mildly atypical changes in the lower 1/3 layer of the cervical epithelium AND or negative for p16 immunostaining</th>
<th>Low risk for progression to carcinoma; often resolves without treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSIL: High-Grade Squamous intraepithelial lesion, previously CIN 2 and CIN 3</td>
<td>Moderately or severely atypical changes in the lower 2/3 or greater layers of the cervical epithelium AND positive for p16 immunostaining</td>
<td>Higher-risk, requires additional screenings and/or treatment</td>
</tr>
</tbody>
</table>

E. Further Care:
   1. It is expected that patients with detected cervical dysplasia, cervical cancer, and other needs receive follow-up and are managed according to currently recommended standards of care.
   2. Close follow-up with colposcopy and cytology under certain circumstances is acceptable for women 21-24 years of age, to avoid invasive procedures for individuals with CIN II-III/HSIL.
   3. Please refer to the Denver Health Pap Smear Algorithm v. 1015a for additional information.

IV. ATTACHMENTS:
A. U.S. Preventive Services Task Force: Clinical Summary of Screening For Cervical Cancer Recommendation
B. General_PAP_Algorithm_v 1015a

V. REFERENCES:

NOTE:
This guideline is designed to assist providers by providing an analytical framework for the evaluation and treatment of patients, and is not intended either to replace a clinicians judgment or to establish a protocol for all patients with a particular condition.
## Clinical Summary of U.S. Preventive Services Task Force Recommendation

**Release Date: March 2012**

<table>
<thead>
<tr>
<th>Population</th>
<th>Women ages 21 to 65</th>
<th>Women ages 30 to 65</th>
<th>Women younger than age 21</th>
<th>Women older than age 65 who have had adequate prior screening and are not high risk</th>
<th>Women after hysterectomy with removal of the cervix and with no history of high-grade precancer or cervical cancer</th>
<th>Women younger than age 30</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recommendation</strong></td>
<td>Screen with cytology (Pap smear) every 3 years. Grade: A</td>
<td>Screen with cytology every 3 years or co-testing (cytology/HPV testing) every 5 years. Grade: A</td>
<td>Do not screen. Grade: D</td>
<td>Do not screen. Grade: D</td>
<td>Do not screen. Grade: D</td>
<td>Do not screen with HPV testing (alone or with cytology). Grade: D</td>
</tr>
</tbody>
</table>

**Risk Assessment**

Human papillomavirus (HPV) infection is associated with nearly all cases of cervical cancer. Other factors that put a woman at increased risk of cervical cancer include HIV infection, a compromised immune system, in utero exposure to diethylstilbestrol, and previous treatment of a high-grade precancerous lesion or cervical cancer.

**Screening Tests**

Screening women ages 21 to 65 years every 3 years with cytology provides a reasonable balance between benefits and harms.

Screening with cytology more often than every 3 years confers little additional benefit, with large increases in harms.

HPV testing combined with cytology (co-testing) every 5 years in women ages 30 to 65 years offers a comparable balance of benefits and harms, and is therefore a reasonable alternative for women in this age group who would prefer to extend the screening interval.

**Timing of Screening**

Screening earlier than age 21 years, regardless of sexual history, leads to more harms than benefits. Clinicians and patients should base the decision to end screening on whether the patient meets the criteria for adequate prior testing and appropriate follow-up, per established guidelines.

**Interventions**

Screening aims to identify high-grade precancerous cervical lesions to prevent development of cervical cancer and early-stage asymptomatic invasive cervical cancer.

High-grade lesions may be treated with ablative and excisional therapies, including cryotherapy, laser ablation, loop excision, and cold knife conization.

Early-stage cervical cancer may be treated with surgery (hysterectomy) or chemoradiation.

**Balance of Harms and Benefits**

The benefits of screening with cytology every 3 years substantially outweigh the harms.

The benefits of screening with co-testing (cytology/HPV testing) every 5 years outweigh the harms.

The harms of screening earlier than age 21 years outweigh the benefits.

The harms of screening after age 65 years do not outweigh the potential harms.

The harms of screening after hysterectomy outweigh the benefits.

The potential harms of screening with HPV testing (alone or with cytology) outweigh the potential benefits.

**Other Relevant USPSTF Recommendations**

The USPSTF has made recommendations on screening for breast cancer and ovarian cancer, as well as genetic risk assessment and BRCA mutation testing for breast and ovarian cancer susceptibility. These recommendations are available at [http://www.uspreventiveservicestaskforce.org/](http://www.uspreventiveservicestaskforce.org/).

For a summary of the evidence systematically reviewed in making this recommendation, the full recommendation statement, and supporting documents, please go to [http://www.uspreventiveservicestaskforce.org/](http://www.uspreventiveservicestaskforce.org/).

Disclaimer: Recommendations made by the USPSTF are independent of the U.S. government. They should not be construed as an official position of the Agency for Healthcare Research and Quality or the U.S. Department of Health and Human Services.
Pap Smear Algorithm
v.1015a

SPECIMEN ADEQUACY

Satisfactory

Next Pap per Adult Preventative Care
– Cervical Cancer Screening, Policy
  Stat ID: 1784122

Unsatisfactory

Repeat Pap 2-4 months

If two (2) unsatisfactory Paps

Gyn Specialty
[WCC, WSWC, ESWC]
Pap & HPV DNA testing
In patients ≥ 30 years old

(Adult Preventative Care – Cervical Cancer Screening, Policy Stat ID: 1784122)

Pap abnormal
Pap Algorithm

Pap Negative, HPV Positive
Repeat cotesting at 12 months

Pap normal
HPV Positive

Pap abnormal
Pap Algorithm

Repeat cotesting at 3 years

Pap and HPV negative

** If any part of cotesting is abnormal, colposcopy is needed; otherwise routine screening**

† Cotesting refers to both pap and HPV DNA testing.

Endometrial cells (all postmenopausal women and ≥ 40 years old with abnormal uterine bleeding)

Endometrial biopsy
Pap Smear Algorithm

EPITHELIAL CELL ABNORMALITY
Squamous Cell

ASC-US
See page 4

LSIL
See page 5

ASC - H
Gyn Specialty [WCC, WSWC, ESWC]
(all patients, regardless of HPV status)

HSIL
Gyn Specialty [WCC, WSWC, ESWC]
(all patients, regardless of HPV status)

Squamous Cell CA
Gyn Specialty [WCC]
(all patients, regardless of HPV status)

Age 21-24: See page 6
Pregnancy: See page 7
HIV +: See page 8

*For all women ages 21-24 please refer to Page 6
*For pregnant women please refer to Page 7
*For all HIV + women please refer to Page 8
**EPITHELIAL CELL ABNORMALITY**

Squamous Cell

**ASC-US**

- HPV DNA Testing (reflex)
  - HPV Positive
    - Colposcopy*
  - HPV Negative†
    - Cotesting at 3 years †
- Gyn specialty
  - [WCC, WSWC, ESWC]
  - CIN2/HSIL
  - CIN3/HSIL
    - Gyn specialty
    - Cotesting at 3 years †

**≥ ASC or HPV Positive**

- Colposcopy

**Pap and HPV Negative**

- Cotesting at 3 years

**If any part of cotesting is abnormal, colposcopy is needed; otherwise routine screening**

† Cotesting refers to both pap and HPV DNA testing.
‡ Age 25 and older
* If pregnant, defer colposcopy to 6 weeks postpartum.
**If any part of cotesting is abnormal, colposcopy is needed; otherwise routine screening**

† Cotesting refers to both pap and HPV DNA testing.
‡ Age 25 and older
* If pregnant, defer colposcopy to 6 weeks postpartum
Women Ages 21-24

ASC-US HPV positive
LSIL (regardless of HPV status)

Repeat pap at 12 months

ASC-US HPV negative

Pap in 3 years

ASC-H
HSIL
AIS/AGC

GYN Specialty
[WCC, WSWC, ESWC]

Negative pap
ASC-US (regardless of HPV)
LSIL

Repeat pap at 12 months

ASC-H
HSIL
AIS/AGC

GYN Specialty
[WCC, WSWC, ESWC]

Negative ≥ ASC

Pap in 3 years

Colposcopy#

# Defer colposcopy to 6 weeks postpartum in pregnant patients with ASCUS and LSIL paps
### EPITHELIAL CELL ABNORMALITY

#### PREGNANCY‡

- **ASC-US**
  - Age 21-24: See page 6
  - Age 25 and older: See page 4

- **LSIL**
  - Age 21-24: See page 6
  - Age 25 and older: See page 5

- **HSIL**
  - ASC-H
  - AIS
  - AGC
  - Immediate referral to Gyn Specialty
    - [WCC, WSWC, ESWC]
    - (any adult, regardless of HPV status)
  - Colposcopy at any gestational age
HIV POSITIVE WOMEN

ASCUS (regardless of HPV) LSIL

Colposcopy

NO CIN CIN 1 / LSIL CIN 2 / LSIL

Pap 6 &12 months

HSIL, ASC-H, AGC, AIS, SCC

Gyn Specialty [WCC, WSWC or ESWC]

CIN 2 / HSIL CIN 3 / HSIL

Gyn Specialty [WCC, WSWC or ESWC]

*HPV typing should not be used in screening or management of abnormal cytology/histology in HIV positive women