

<Appendix A> Summary of recommendations

\*Full paper with evidence tables is available at [ejgo.org](http://ejgo.org).

**1. General screening guideline**

**Recommendation 1 – When to start screening (adaptation)**

All women ≥20 years of age that have commenced sexual intercourse should undergo cervical cancer screening tests. This is not recommended for women below the age of 20 because despite the high incidence of HPV infection, there is a high rate of spontaneous regression and a very low incidence of invasive cervical cancer. However, the screening test can be performed when cervical cancer or preinvasive disease is suspected (Level of evidence: very low; Recommendation: strong).

**Recommendation 2 – When to discontinue screening (expert consensus)**

Cervical cancer screening tests can be discontinued in women ≥70 years old after 3 consecutive negative Pap tests within 10 years. However, a woman should continue undergoing screening tests continuously regardless of age if she has a history of CIN 2 or greater or she does not know her previous Pap test results (Level of evidence: very low; Recommendation: strong).

**Recommendation 3 – Screening interval (expert consensus)**

Although the screening guidelines of Western countries recommend a 3-year interval, in Korea, annual screening with cervical cytology is recommended for women aged 20 to 70 years due to the high incidence of cervical cancer, easy access to screening, and low medical costs (Level of evidence: very low; Recommendation: strong).

**Recommendation 4 – Screening modality (conventional Pap versus liquid-based cytology) (adaptation)**

Based on previous literature, liquid-based cytology is not superior to conventional cytology in terms of sensitivity and specificity; however, liquid-based cytology can reduce the number of inadequate specimens. Both liquid-based cytology and conventional cytology are usable in Korea (Level of evidence: moderate; Recommendation: strong).

**Recommendation 5 – Cervicography as an adjunct to cytology (de novo)**

The use of a combination of cervical cytology and cervicography as a screening test is not commonly recommended due to increased false positivity. However, this combination

may be beneficial in terms of improving sensitivity (Level of evidence: low; Recommendation: weak).

**Recommendation 6 – HPV DNA test (adaptation)**

Due to the high false-positivity rate of the test and the frequent spontaneous clearance of HPV, the HPV DNA test is not recommended for women <30 years of age. The screening interval can be extended to 2 years in women ≥30 years old with both a negative cytology and negative HPV (Level of evidence: high; Recommendation: strong).

**Recommendation 7 – Screening interval (expert consensus)**

Although the prevalence of invasive cervical cancer and preinvasive diseases is expected to decrease due to vaccination, a change in the screening interval should be considered after more clinical data have been accumulated (Level of evidence: very low; Recommendation: weak).

**Recommendation 8 – Hysterectomized women (adaptation/expert consensus)**

Women who have undergone hysterectomy should continue with screening tests if they have a history of CIN grade 2 or greater or if they do not know their previous cytology results (Level of evidence: very low; Recommendation: strong).

**2. ASC/AGC**

**(1) ASC-US**

**Recommendation 1 (adaptation)**

Repeat cytology can be performed for women with ASC-US (Level of evidence: high; Recommendation: strong).

**Recommendation 2 (adaptation)**

An HPV DNA test can be performed for women with ASC-US (Level of evidence: high; Recommendation: strong).

**Recommendation 3 (adaptation)**

Immediate colposcopy can be performed for women with ASC-US (Level of evidence: high; Recommendation: strong).

**Recommendation 4 (adaptation)**

When CIN grade 1 or less is confirmed after satisfactory colposcopy, either cytology at 6-month intervals or an HPV DNA test at 12 months is recommended (Level of evidence: moderate; Recommendation: strong).

**Recommendation 5 (expert consensus)**

After 2 consecutive negative cytologies 6 months apart or

a negative HPV DNA test at 12 months, women with ASC-US can return to routine screening (Level of evidence: very low; Recommendation: strong).

## (2) ASC-H

### Recommendation 1 (expert consensus)

When CIN grade 2 or greater is not confirmed by colposcopy-directed biopsy in women with ASC-H, a review of the cytological and histological specimens can be performed (Level of evidence: very low; Recommendation: weak).

### Recommendation 2 (expert consensus)

When CIN grade 2 or greater is not confirmed by colposcopy-directed biopsy in women with ASC-H, 2 consecutive cytology tests at 6-month intervals and colposcopy can be performed (Level of evidence: very low; Recommendation: strong).

### Recommendation 3 (expert consensus)

When CIN grade 2 or greater is not confirmed by colposcopy-directed biopsy in women with ASC-H, women can return to routine screening after 2 consecutive negative cytology tests at 6-month intervals and a negative colposcopy (Level of evidence: very low; Recommendation: strong).

## (3) AGC

### Recommendation 1 (adaptation)

An HPV DNA test is recommended for women with AGC (Level of evidence: very low; Recommendation: strong).

### Recommendation 2 (adaptation)

Colposcopy, endocervical curettage, and endometrial biopsy should be performed in women with AGC (Level of evidence: very low; Recommendation: strong).

## 3. LSIL/HSIL

### (1) LSIL

#### Recommendation 1 (adaptation)

Colposcopy is recommended for women with LSIL (Level of evidence: moderate; Recommendation: strong).

#### Recommendation 2 (expert consensus)

If 2 consecutive cytology tests 6 months apart are negative for intraepithelial neoplasia or if an HPV DNA test is negative at 12 months, women with LSIL can return to routine screen-

ing (Level of evidence: very low; Recommendation: strong).

### (2) HSIL

#### Recommendation 1 (adaptation)

Immediate diagnostic excisional procedures, such as the loop electrosurgical excision procedure or conization, can be performed in women with HSIL without colposcopic examination (Level of evidence: very low; Recommendation: strong).

#### Recommendation 2 (adaptation)

Diagnostic excisional procedures can be performed in women with HSIL if CIN grade 2 or 3 is not identified by colposcopy-directed biopsy (Level of evidence: very low; Recommendation: strong).

#### Recommendation 3 (expert consensus)

A review of cytological and histological specimens might be helpful in women with HSIL if CIN grade 2 or 3 is not identified by colposcopy-directed biopsy (Level of evidence: very low; Recommendation: strong).

#### Recommendation 4 (expert consensus)

When CIN grade 2 or 3 is not identified in women with HSIL by colposcopy-directed biopsy, follow-up with 2 cytology tests 6 months apart and colposcopy can be performed (Level of evidence: very low; Recommendation: strong).

#### Recommendation 5 (expert consensus)

When CIN 2 or 3 is not identified in women with HSIL by colposcopy-directed biopsy, they can return to routine screening if 2 consecutive cytology tests 6 months apart and colposcopy are negative (Level of evidence: very low; Recommendation: strong).

#### Recommendation 6 (expert consensus)

When the margin status is not known after excisional procedures, either cytology at 6 months or an HPV DNA test at 12 months can be performed (Level of evidence: very low; Recommendation: strong).

## 4. HPV DNA tests

#### Recommendation 1 (adaptation)

An HPV DNA test can be performed in women  $\geq 30$  years old along with cervical cytology in order to reduce the false negativity of cytology (Level of evidence: high; Recommendation: strong).

**Recommendation 2 (de novo)**

Use of the hybrid capture assay and HPV DNA genotyping test (HPV DNA chip, PCR test) is recommended because of their equivalent sensitivity and specificity for the detection of CIN grade 2 or greater as well as the concordance among various HPV DNA tests (Level of evidence: low; Recommendation: weak).

**Recommendation 3 (adaptation)**

Use of the HPV genotyping test is recommended in cytology-negative, HPV-positive women. If HPV 16 or 18 is detected, referral to gynecologic oncologists and colposcopic examination are recommended. In women who are positive for HPVs other than 16 or 18, an HPV DNA test and HPV genotyping test can be performed 1 year later (Level of evidence: low; Recommendation: strong).

**5. Special situations (adolescent/pregnant women)**

**Recommendation 1 (adaptation)**

An HPV DNA test should not be performed in adolescent women with ASC-US or LSIL (Level of evidence: low; Recommendation: strong).

**Recommendation 2 (adaptation)**

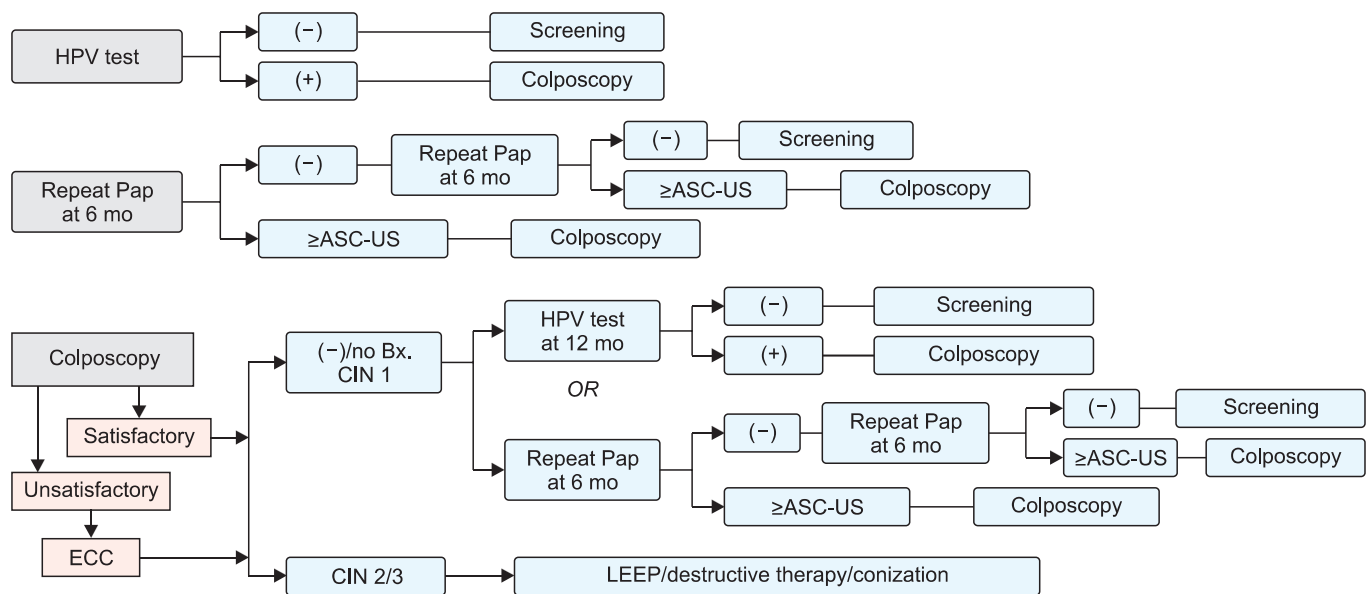
Postpartum colposcopy is safe for pregnant women with ASC-US or LSIL (Level of evidence: low; Recommendation: strong).

**Recommendation 3 (adaptation)**

Diagnostic excisional procedures can be deferred in pregnant women with histologically confirmed CIN grade 2 or greater (Level of evidence: low; Recommendation: strong).

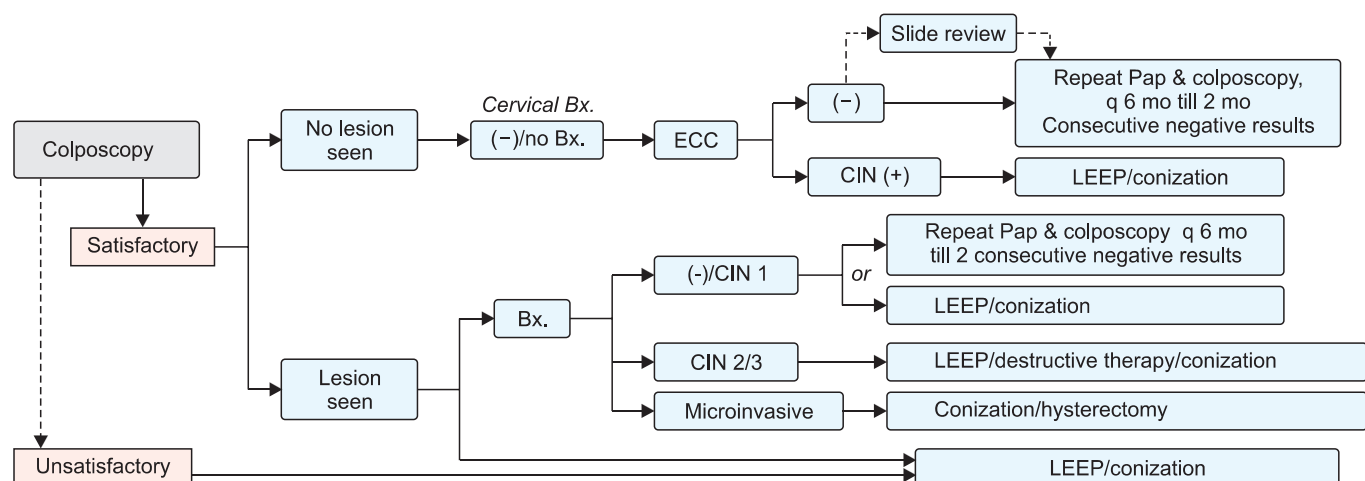
**<Appendix B> Flow charts of screening guidelines**

**1. Atypical glandular cells-undetermined significance**



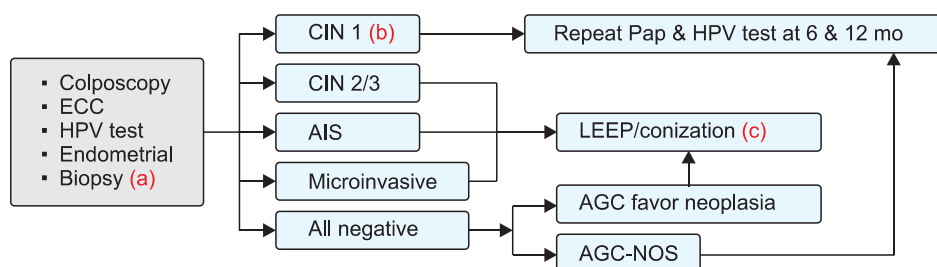
ASC-US, atypical squamous cells of undetermined significance; Bx, biopsy; CIN, cervical intraepithelial neoplasias; ECC, endocervical curettage; HPV, human papillomavirus; LEEP, loop electrosurgical excision procedure, Pap, Papanicolaou test.

### 2. Atypical squamous cells-cannot exclude a high grade squamous intraepithelial lesion



Bx, biopsy; CIN, cervical intraepithelial neoplasias; ECC, endocervical curettage; LEEP, loop electrosurgical excision procedure; Pap, Papanicolaou test.

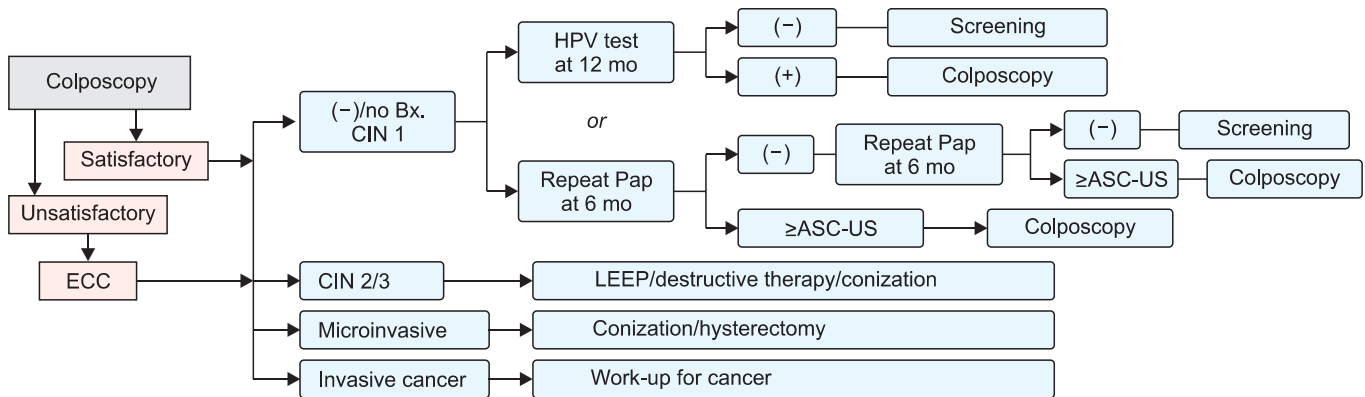
### 3. Atypical glandular cells



AIN, adenocarcinoma *in situ*; AGC, atypical glandular cells; NOS, not otherwise specified; CIN, cervical intraepithelial neoplasia; ECC, endocervical curettage; HPV, human papillomavirus; LEEP, loop electrosurgical excision procedure; Pap, Papanicolaou test.

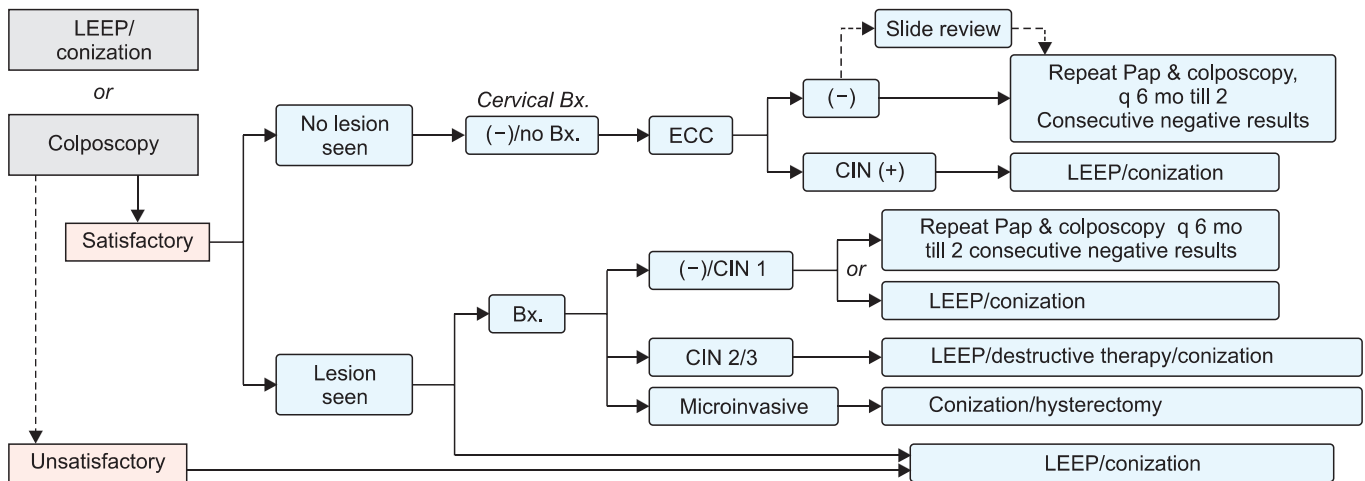
(a) Endometrial biopsy can be omitted if the patients meet the criteria described below:  
 (1) <35 years of age, (2) low risk for endometrial cancer (i.e., no obesity, polycystic ovarian syndrome, tamoxifen usage, infertility, anovulation, or family history of colorectal or endometrial cancer), (3) no abnormal uterine bleeding, and (4) no atypical endometrial cells.  
 (b) Patients with CIN grade 1 limited to the endocervix can be followed up with cytology and an HPV DNA test.  
 (c) Conization is recommended if the lesion is located in the endocervix (or additional resection is recommended if LEEP was performed initially).

4. Low-grade squamous intraepithelial lesions



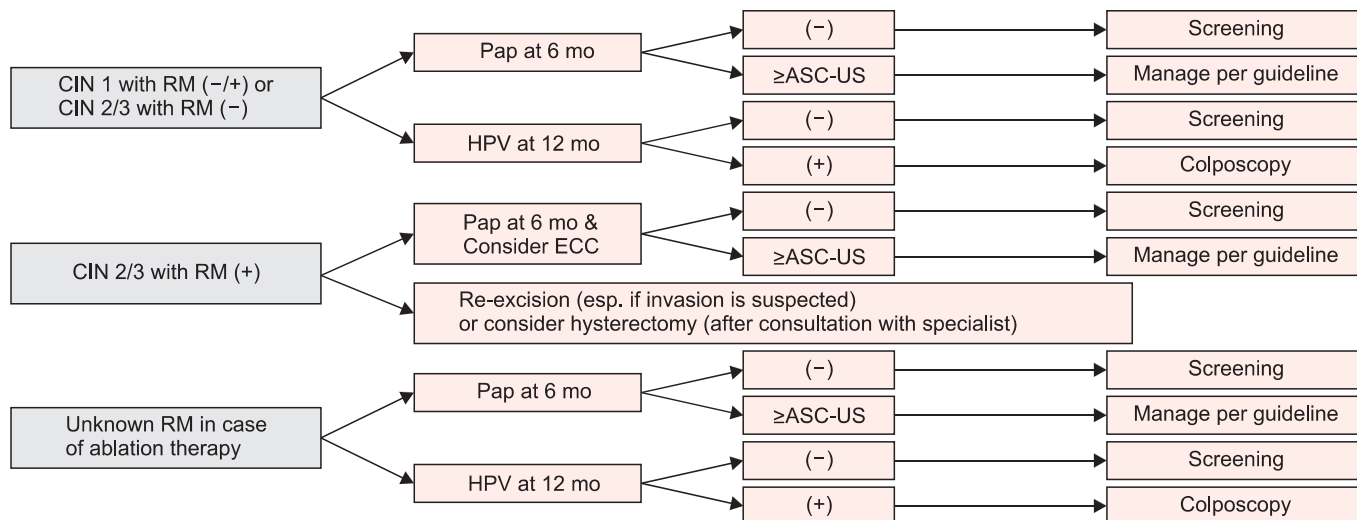
ASC-US, atypical squamous cells of undetermined significance; Bx, biopsy; CIN, cervical intraepithelial neoplasia; ECC, endocervical curettage; HPV, human papillomavirus; LEEP, loop electrosurgical excision procedure; Pap, Papanicolaou test.

5. High-grade squamous intraepithelial lesions



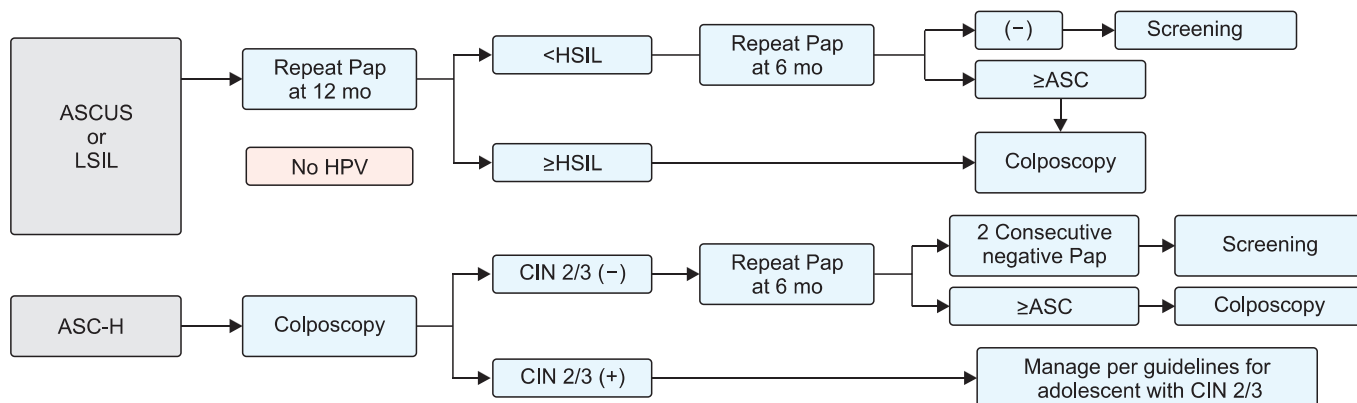
Bx, biopsy; CIN, cervical intraepithelial neoplasia; ECC, endocervical curettage; HPV, human papillomavirus; LEEP, loop electrosurgical excision procedure; Pap, Papanicolaou test.

**6. Follow-up after treatment of CIN with excisional procedures or ablation**



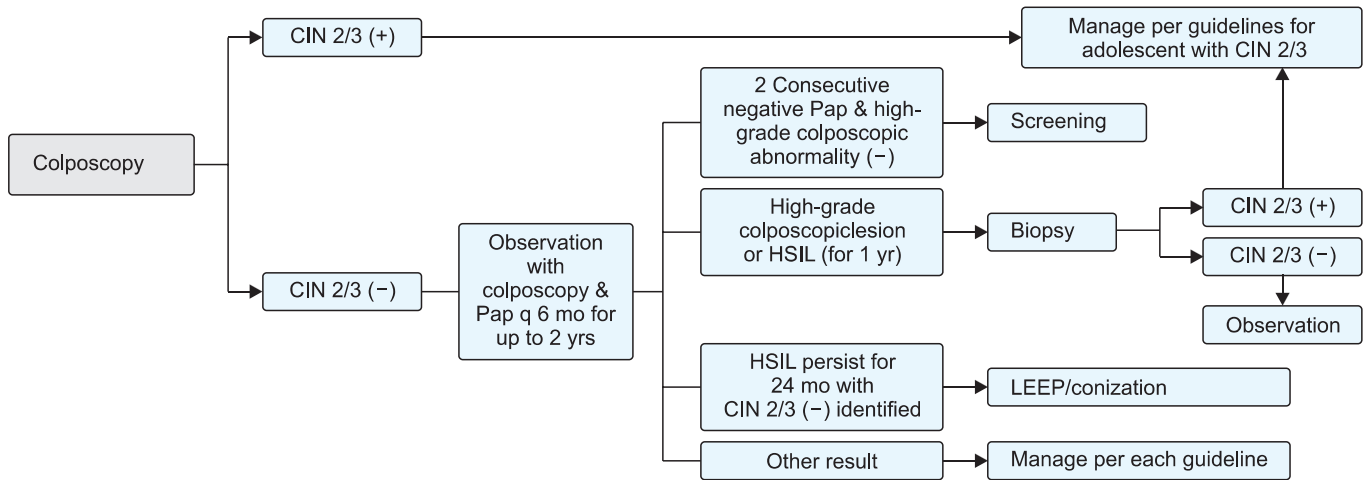
ASC-US, atypical squamous cells of undetermined significance; CIN, cervical intraepithelial neoplasia; ECC, endocervical curettage; HPV, human papillomavirus; Pap, Papanicolaou test; RM, resection margin.

**7. Adolescents with ASC-US, LSIL, or ASC-H**



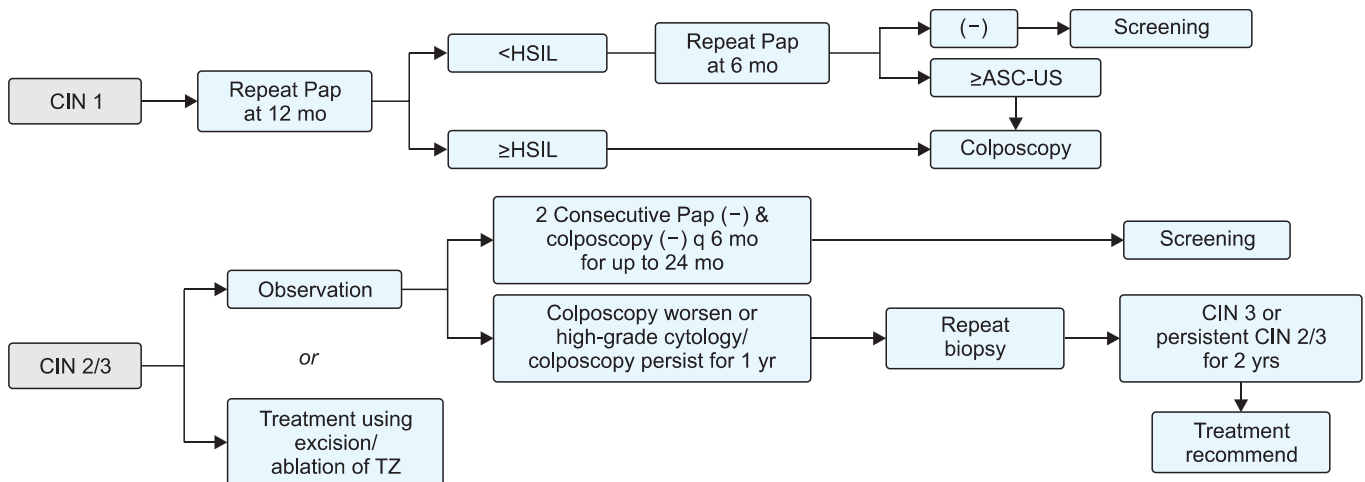
ASC-H, atypical squamous cells (cannot exclude a high-grade squamous intraepithelial lesion); ASC-US, atypical squamous cells of undetermined significance; Bx, biopsy; CIN, cervical intraepithelial neoplasia; ECC, endocervical curettage; HPV, human papillomavirus; HSIL, high-grade squamous intraepithelial lesion; LSIL, low-grade squamous intraepithelial lesion; Pap, Papanicolaou test.

8. Adolescents with HSIL



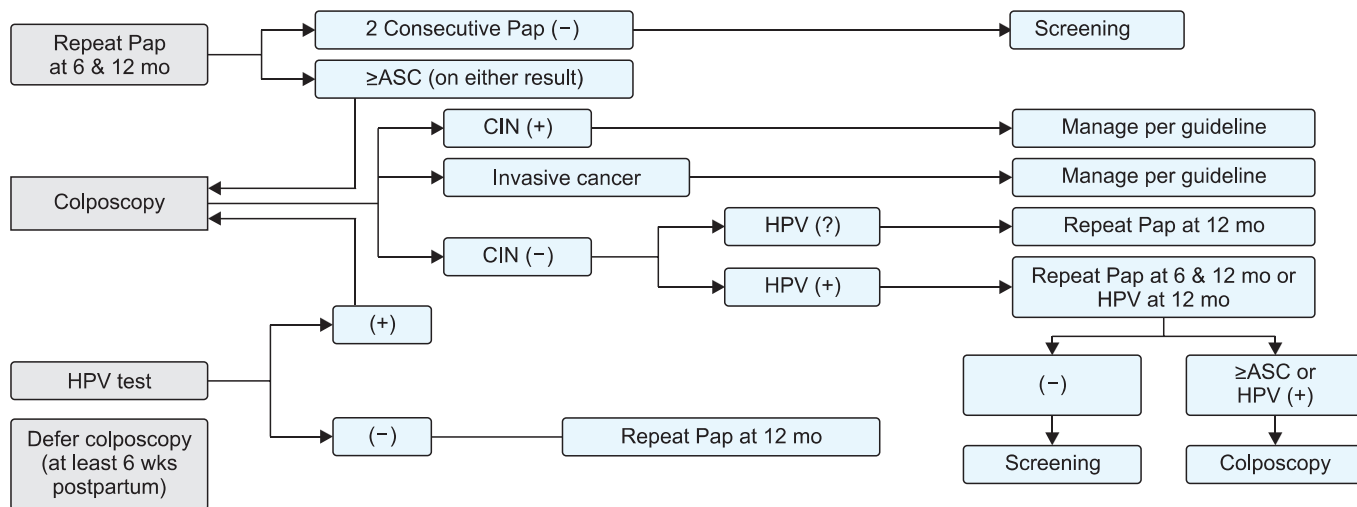
CIN, cervical intraepithelial neoplasia; HSIL, high-grade squamous intraepithelial lesion; LEEP, loop electrosurgical excision procedure; Pap, Papanicolaou test.

9. Adolescents with CIN 1-3



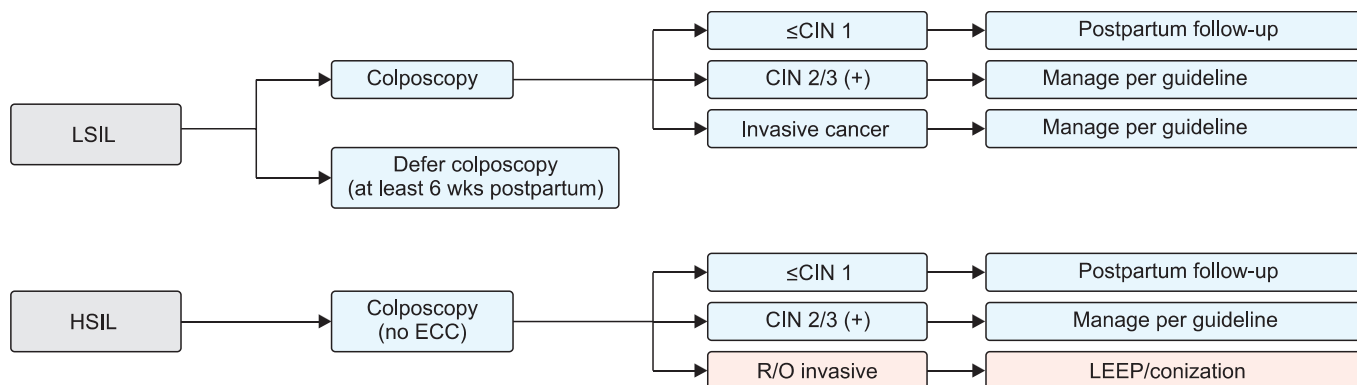
ASC-US, atypical squamous cells of undetermined significance; CIN, cervical intraepithelial neoplasia; HSIL, high-grade squamous intraepithelial lesion; Pap, Papanicolaou test; TZ, transformation zone.

**10. Pregnant women with ASC-US**



ASC-US, atypical squamous cells of undetermined significance; CIN, cervical intraepithelial neoplasia; HPV, human papillomavirus; Pap, Papanicolaou test.

**11. Pregnant women with LSIL or HSIL**



CIN, cervical intraepithelial neoplasia; ECC, endocervical curettage; HSIL, high-grade squamous intraepithelial lesion; LEEP, loop electrosurgical excision procedure; LSIL, low-grade squamous intraepithelial lesion; R/O, rule out.