

Mrs. H states she heard there is a new HPV vaccine available. Which of the following would be correct information to give her?

- A. HPVv9 may only be used if the series is started from the 1<sup>st</sup> dose
- B. HPVv9 is only indicated in females 11 or 12 years of age
- C. HPVv9 prevents about 70% of cervical cancers
- D. 9vHPV is indicated for males 11 or 12 years and males through 21 years who have not been fully vaccinated

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## HPV Vaccination in Females

- Girls 11 or 12 years old should get HPV2, HPV4, or HPV9 vaccine to protect against cervical cancer
- Age ≤26 years who did not complete series should also get the HPV vaccine series
- 3-dose schedule with second dose 1 to 2 months after the first dose, and the third dose 6 months after first dose
- If the HPV vaccine schedule is interrupted, resume with next dose



Courtesy of the CDC

Petrosky E, et al. MMWR / 2015; 64(11):300-4.

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## HPV Vaccination in Males

- Boys 11 or 12 years old should get 3 doses of HPV4 or HPV9 vaccine to protect against genital warts and anal cancer
- Boys and young men 13-21 years, who did not complete three recommended doses, should also get the HPV vaccine series
- MSM and immunocompromised males should receive the vaccine through age 26 years, if they did not start or complete the vaccine series when they were younger

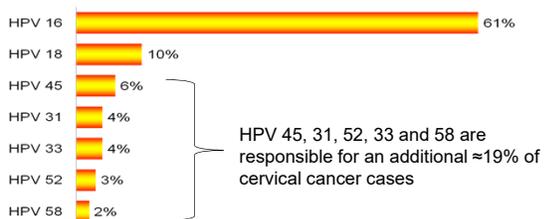


Courtesy of Wikimedia

Petrosky E, et al. MMWR / 2015; 64(11):300-4.

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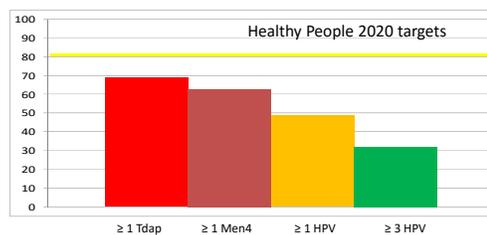
## Distribution of HPV Types Cx Ca- International



de Sanjose S, et al. Lancet Oncol. 2010 Nov;11(11):1048-56.

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## 2010 Vaccine Rates



[http://www.cdc.gov/vaccines/stats-surv/nisteen/data/tables\\_2010.htm#demographics](http://www.cdc.gov/vaccines/stats-surv/nisteen/data/tables_2010.htm#demographics)

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## Top 5 Reasons for not Getting HPV Vaccine

Parents of girls			Parents of boys		
Reason	%	(95% CI)	Reason	%	(95% CI)
Lack of knowledge	15.5	(13.0–18.5)	Not recommended	22.8	(20.6–25.0)
Not needed or necessary	14.7	(12.5–17.3)	Not needed or necessary	17.9	(15.9–20.1)
Safety concern/ Side effects	14.2	(11.8–16.8)	Lack of knowledge	15.5	(13.7–17.6)
Not recommended	13.0	(10.8–15.5)	Not sexually active	7.7	(6.4–9.2)
Not sexually active	11.3	(9.1–13.9)	Safety concern/ Side effects	6.9	(5.6–8.5)

Stokley S, et al. MMWR July 25, 2014 / 63(29):620-4.

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## Patient Counseling

- Fear about vaccine safety- sometimes increased by anti-vaccine groups
- Fear (incorrectly) that vaccines are riskier for their children than non-immunization
- No general credible evidence that vaccines cause autism, diabetes, other problems
  - No mercury in HPV vaccine
- Too many vaccines may weaken the immune system?
  - Modern vaccines have much fewer total antigens than 2 decades ago, decreasing potential relative risks

Burns IT, Zimmerman RK. Immunization barriers and solutions. J Fam Pract 2005;54:S58-S62. Kimmel SR, Wolfe RM. Communicating the benefits and risks of vaccines. J Fam Pract. 2005;54:S51-S57.

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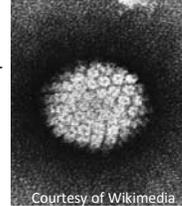
## Vaccine Concerns - Syncope

- For all vaccines given during adolescence, syncope has been reported in both boys and girls
- To avoid serious injury related to a syncopal episode, adolescents should always be sitting or lying down to receive vaccines, remain so for 15 minutes, AND be observed during this time.

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## Isn't my child is too young to get HPV?

- Two important reasons to vaccinate when recommended:
  - The immune response appears to be better in 11-12 year old age group.
  - The vaccine has to be given before risk of exposure to be most effective.
- It makes sense to provide it before any possible exposure might occur.



Courtesy of Wikimedia

Diekema DS and the American Academy of Pediatrics Committee on Bioethics. Responding to parental refusals of immunization of children. Clinical Report. Pediatrics. 2005;115:1428-1431

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## Will vaccination encourage sexual activity?

- Telling young people to wear bicycle helmets and seatbelts does not encourage one to bicycle or drive recklessly?
- In HPV vaccine studies, patients indicate they are not more comfortable engaging in high risk sexual behaviors after getting the vaccine<sup>1</sup>
- Studies show HPV vaccination does not have any significant effect on sexual behavior in adolescent girls<sup>2-6</sup>
- They see AIDS and pregnancy which might be expected to discourage sexual activity, but HPV is not "on their radar"

1. Kahn JA, et al. Int J STD AIDS. 2003;14:300-6. 2. Smith LM, et al. CMAJ. 2015 Feb 3;187(2):E74-81. 3. Hansen BT, et al. Vaccine. 2014 Sep 3;32(39):4945-53. 4. Rysavy MB, et al. J Pediatr Adolesc Gynecol. 2014 Apr;27(2):67-71. 5. Mayhew A, et al. 6. Aujo JC, et al BMC Public Health. 2014 Feb 12;14:155.

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## Barriers to Pediatric/Adolescent Vaccination

- Some patients wrongly believe that
  - They can control exposure to disease ("not MY child")
  - They can rely on herd immunity for protection
  - Have doubts about the reliability of vaccine information
  - May prefer errors of omission over errors of commission
- Misconception about belief that vaccines are unnatural and therefore prefer "natural" disease produced immunity
  - Vaccines provide protection without risk of cancer or disease progression, unlike "natural" immunity due to infection
  - It is natural to die

Fombonne E, et al. Pediatrics. 118(1):e139-50, 2006

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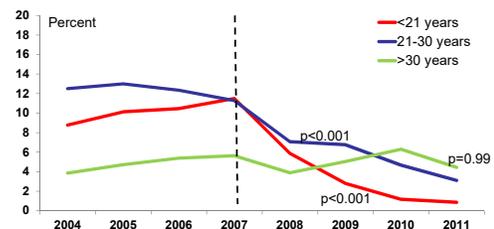
## Recommendations to Ensure Patients get Fully Vaccinated

- Strongly recommend. Studies consistently show that provider recommendation is the strongest predictor of vaccination.
- Use every opportunity to vaccinate your adolescent patients including sick visits and sports physicals.
- Use patient reminder and recall.
- Educate parents about the diseases that can be prevented. In the end, HPV vaccination is about cancer prevention. Who doesn't want that?
- Implement standing orders and involve the whole office.

<http://www.cdc.gov/vaccines/who/teens/downloads/hcp-factsheet.pdf>

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## HPV Vaccine Works - Proportion of Australian-born Women with Genital Warts by Age Group, 2004-2011

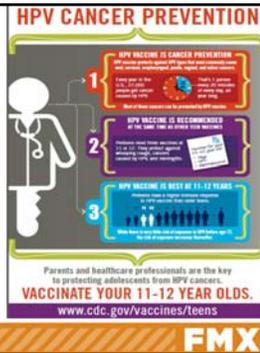


All H, Donovan B, Wet al. BMJ. 2013 Apr 18;346:f2032.

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## Resources

- Adolescent Vaccination Call to Action: [www.adolescentvaccination.org/doc/call\\_to\\_action.pdf](http://www.adolescentvaccination.org/doc/call_to_action.pdf)
- Centers for Disease Control and Prevention, Vaccine Homepage: [www.cdc.gov/vaccines](http://www.cdc.gov/vaccines)
- Vaccine information statement (VIS) in many languages: [www.cdc.gov/vaccines/pubs/vis/default.htm](http://www.cdc.gov/vaccines/pubs/vis/default.htm)



## Objectives

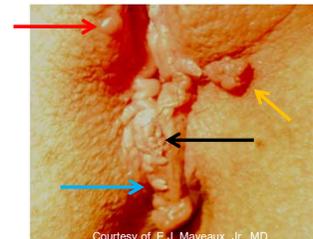
1. Provide counseling and patient education resources for female patients to maximize HPV prevention, including HPV vaccination safety and efficacy.
2. Institute systems strategies that optimize the evaluation of suspicious lesions of the vulva for cancer.
3. Order appropriate laboratory and diagnostic tests to determine a diagnosis of vulvar cancer.
4. Develop collaborative care plans for treatment, as indicated by staging, coordinating care and follow-up as necessary.

ISSVD 2004 <sup>1</sup>	LAST 2012 <sup>2</sup>	ISSVD 2015 <sup>3</sup>
Flat condyloma or HPV effect	LSIL	LSIL
VIN, usual type a. VIN, warty type b. VIN, basaloid type c. VIN, mixed type	HSIL	HSIL
VIN, differentiated type (the worse type)	None (HPV only)	DVIN (VIN differentiated)

1. Sideri M, et al. J Reprod Med 2005; 50:807. 2. Darragh TM, et al. J Low Genit Tract Dis. 2012 Jul;16(3):205-42. 3. Bornstein J, et al. J Low Genit Tract Dis. 2016 Jan;20(1):11-4.

## Diagnosis of LSIL/EGW

- Majority diagnosed by **visual inspection in bright light**  
– Magnifying glass helpful



Mayeaux EJ Jr, Danton C. Modern management of external genital warts. J Lower Genital Tract Diseases 2008; 12:185-192.

Courtesy of E.J. Mayeaux, Jr., MD



Courtesy of E.J. Mayeaux, Jr., MD



Courtesy of E.J. Mayeaux, Jr., MD

## Genital Warts Diagnosis

- Can be confirmed by biopsy
  - If diagnosis is **uncertain**
  - Lesions do not **respond** to standard tx
  - **Worsens** during therapy
  - **Atypical** lesion
  - Patient has **compromised immunity**
  - GW pigmented, indurated, fixed, bleeding, or ulcerated

Mayeaux EJ Jr., Dunton C. Modern management of external genital warts. J Lower Genital Tract Diseases. 2008; 12:185-192.

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## Genital Warts Diagnosis

- Use of **HPV DNA testing is not recommended** for genital warts
  - Does not alter clinical management
- Routine use of 3%–5% acetic acid for screening to detect mucosal changes attributed to HPV infection is not recommended

CDC. Sexually transmitted diseases treatment guidelines. MMWR; 2015; 64: 85-90.

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Which of the following are not CDC recommended treatments for genital warts?

- 5 fluorouracil
- Imiquimod cream
- Podofilox gel/solution
- Sinecatechins ointment

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## 2015 CDC STD Treatment Guidelines: Patient-Applied Therapies

Treatment	Application/Dose	Duration of Therapy
<b>Imiquimod cream</b>	Apply at bedtime 3 nights/week, wash off after 6-10 hours	Up to 16 weeks (D/C when clear)
<b>Podofilox gel/solution</b>	Apply twice a day	3 days followed by 4-day rest; repeat for up to 4 cycles
<b>Sinecatechins ointment</b>	Apply thin layer to each wart three times a day	Up to 16 weeks (D/C when clear)

CDC. Sexually transmitted diseases treatment guidelines. MMWR; 2015; 64: 85-90.

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## 2015 CDC STD Treatment Guidelines: Provider-Administered Therapies

Treatment	Application/Dose
<b>Cryotherapy</b> (liquid N <sub>2</sub> or cryoprobe)	Applications may be repeated every 1-2 weeks <ul style="list-style-type: none"> <li>• Requires a trained healthcare professional</li> </ul>
<b>Podophyllin resin</b>	<0.5 mL applied to each wart and allowed to air dry <ul style="list-style-type: none"> <li>• It is suggested that application be thoroughly washed off within 4 hours to avoid irritation</li> </ul>
<b>TCA or BCA</b>	Can be applied weekly, if needed, and allowed to air dry <ul style="list-style-type: none"> <li>• Should be applied sparingly</li> </ul>
<b>Surgical</b>	Better for isolated lesions

CDC. Sexually transmitted diseases treatment guidelines. MMWR; 2015; 64: 85-90.

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## LSIL/EGW

- **Flat condylomas** are vulvar LSIL



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## ↑ Incidence of Vulva HSIL

- Heightened **awareness** of neoplasia
- Increased tendency to perform **biopsies**
- Commonly associated with **other lower genital tract neoplasias / carcinomas**
  - Anus, vagina, cervix
- **75%** of increase in younger women

Joura EA, et al. J Reprod Med 2000; 45:613. de Bie RP, et al. Br J Cancer. 2009 7;101(1):27-31.

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## Risk Factors for Vulvar HSIL

- **HPV** (vulva, vagina, cervix)
- **Cigarette** smoking
- **Immunosuppression**
  - Pregnancy
  - HIV
  - Autoimmune disorders
  - Diabetes
  - Transplant recipient
  - Chronic hepatitis
  - Chemotherapy

Jones RW, et al. Obstet Gynecol 1997; 90:448. Deppe G, et al. J Obstet Gynaecol Res. 2014 40(5):1217-25.

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## Symptoms

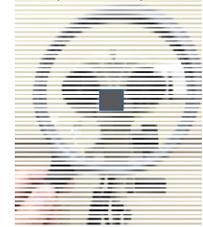
- Most - completely **asymptomatic**
- Itching or burning
- Irritation
- Dyspareunia

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## Colposcopic Techniques

- **3% to 5% acetic acid**
- Soak initially for 3-5 min.
- Use copious amounts
- Reapply often
- Avoid using in presence of breaks in epithelium or inflammation

Courtesy of Dr. E.J. Mayeaux, Jr.



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## Pitfalls of Vulvar Colposcopy

- Acetowhitening is **nonspecific**
- Marked acetowhite changes in up to 65% of normal women
- Normal variants – like **vestibular micropapillae** – often confused with HPV



Courtesy of Hope Haefner, MD

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## Gray-Brown HSIL



Courtesy of Hope Haefner, MD

## White HSIL



Courtesy Dr. E.J. Mayeaux, Jr.



**Vin Differentiated**  
Acceptable treatment is surgical excision

Usual VIN  
96%  
(solitary lesions)

Differentiated  
VIN 4%

Courtesy of Hope Haefner, MD

A 79 y.o. G2P2 complains of a vulvar sore and itching for 1 year. A biopsy is performed. Diagnosis?

- A. Lichen planus
- B. HSIL (squamous)
- C. Lichen sclerosus
- D. Paget's disease

Courtesy of Hope Haefner, ND

Which treatment should you recommend as her initial therapy?

- A. Medium potency steroids
- B. Laser therapy
- C. Wide local excision
- D. Watchful waiting

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**Paget Disease**

- Occurs most commonly on the **nipple and areola**  
– Also **vulva**
- **Apocrine** origin
- Up to **25%** are associated with neoplastic disease

Courtesy of Hope Haefner, ND

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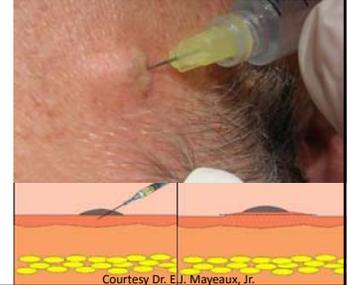
## Punch Biopsy

- Adequate for dx of **most skin tumors**
  - OK for **Melanoma** dx
  - Select early lesion or well-advanced
  - Consider underlying structures
  - Include most clinically suspicious area
- There is **no evidence** that biopsy increases the risk of disease progression

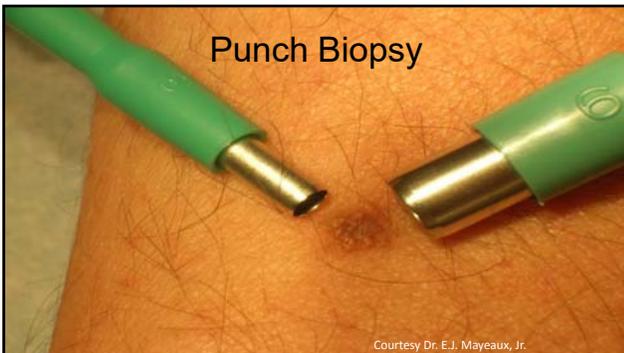
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## Local Anesthesia

- Local anesthetic for a shave or punch is an **intra-dermal injection**
- Lidocaine with epinephrine and 1:10 sodium bicarbonate



## Punch Biopsy



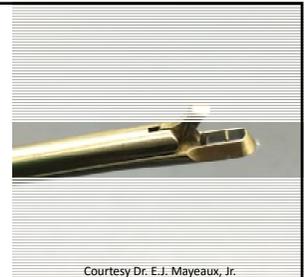
## Vulvar Punch Biopsy



## Vulvar Punch Biopsy



Cervical biopsy instruments that can also be used for vulvar biopsy



Baby Tischler

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## Management



The American College of Obstetricians and Gynecologists  
Women's Health Care Physicians

### COMMITTEE OPINION

Number 509 • November 2011

Committee on Gynecologic Practice

*This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed.*

### Management of Vulvar Intraepithelial Neoplasia

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Acceptable treatment modalities for Vulvar HSIL includes

- A. Surgical excision
- B. Laser ablation
- C. Electrosurgical excision
- D. All of the above

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## Vulvar Excisional



## Margins and Depth Vulvar HSIL

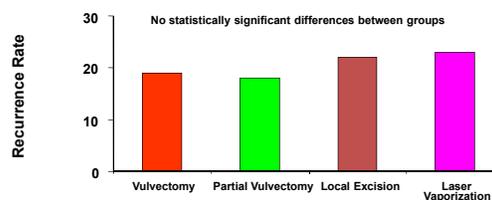
- Margins
- Depth
  - Hair bearing areas to 2.7 mm
  - Non-hair bearing = 0.1 to 1.9 mm (average = 0.5 +/- 0.2 mm)

Committee on Gynecologic Practice of American College Obstetricians and Gynecologists. ACOG Committee Opinion No. 509: Management of vulvar intraepithelial neoplasia. Obstet Gynecol. 2011 Nov;118(5):1192-4.

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## Recurs After Treatment

(mean follow-up 39 months)



Gynecologic Oncology. 2005; 97: 645-651

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## Imiquimod

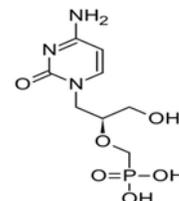
- **Systematic review** of treatment of vulvar HSIL that included the two randomized trials and eight observational studies (total n = 162)
  - Complete response rate = 51%
  - Partial response rate = 25%
  - Recurrence rate = 16%
- Side effects mostly site inflammation
  - mild to moderate erythema or erosions.

Mahto M, et al. Int J STD AIDS 2010; 21:8.

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## Cidofovir

- Nucleotide analogue of dCTP
- Inhibits viral DNA polymerase 100x greater
- Effects against HPV diseases not explained by this mechanism (since HPV does not encode viral DNA polymerase)



Courtesy of Wikimedia

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## HGSIL Progression to SCC

(from PALGA, the Nationwide Netherlands Database of Histo- and Cytopathology)

- **Progression to SCC** over 14 years, treated patients
  - 5.7% of 1826 patients with HPV-associated vulvar HSIL
  - 32.8% of 67 patients with VIN differentiated
- Median time from **vulvar HSIL dx to SCC diagnosis**
  - 41.4 mos for HPV-associated vulvar HSIL
  - 22.8 mos for VIN differentiated

van de Nieuwenhof HP, et al. Eur J Cancer. 2009 Mar;45(5):851-6.

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## Stop Smoking!



Courtesy of the CDC/ Debora Cartagena

## Paget Disease Workup

- History and PE
  - Symptoms include itching, burning (soreness)
  - Signs include velvety appearance and bleeding
- Pap testing
- Mammogram
- Cystoscopy
- Colonoscopy

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## Paget Disease Treatment

Wide local excision



Courtesy of Hope Haefner, MD

## When Biopsy = Cancer

- Referral to **oncology** most common
- Staging tests include
  - Cystourethroscopy, Proctoscopy
  - Imaging modalities (CT, MRI, or PET)
- **Lymph node metastasis** most important prognostic factor
- Suspected distant metastases confirmed with biopsy or fine-needle aspiration



Courtesy Dr. E.J. Mayeaux, Jr.

Deppe G, Mert I, Winer IS. Management of squamous cell vulvar cancer: a review. J Obstet Gynaecol Res. 2014 May;40(5):1217-25.

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## Vulvar Cancer Surgical Treatment

- **Surgery** is the standard treatment for stage IA, local regional SCC of the vulva.
  - **Microinvasive carcinomas** (<2 cm size and <1 mm stromal invasion) are treated with **wide local excision** with at least a 1 cm free margin.
  - Local recurrence and lymph node metastases rare, so lymphadenectomy not recommended as initially.
- Stages IB and II cancers are treated with **radical vulvectomy with inguinofemoral lymphadenectomy**

Deppe G, et al. J Obstet Gynaecol Res. 2014 May;40(5):1217-25.

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## ICD-10 Codes

Code	Descriptor	
D39.8	Neoplasm of uncertain behavior of other specified female genital organs	
N90.0	Mild vulvar dysplasia (VIN1/LSIL)	
N90.1	Moderate vulvar dysplasia (VIN2/HSIL)	
D07.1	Carcinoma in situ of vulva (VIN3/HSIL)	
C51.-	Malignant neoplasm of vulva	CPT 56605 - Biopsy of vulva or perineum (separate procedure); 1 lesion
C51.0	Malignant neoplasm of labium majus	CPT 56606 (biopsy of vulva or perineum; each separate additional lesion
C51.1	Malignant neoplasm of labium minus	
C51.2	Malignant neoplasm of clitoris	
C51.8	Malignant neoplasm of overlapping sites of vulva	
C51.9	Malignant neoplasm of vulva, unspecified	

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## Practice Recommendations

- HPV vaccination should be used at indicated ages to prevent future HPV related diseases (SORT A)
- Vulvar dysplasia may present with multiple morphologies and colors (SORT V)
- Biopsy is diagnostic method of choice (SORT C)

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## Questions

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## Billing & Coding

When services performed in conjunction with:

Office Visit 992xx \*

\*Time-based selection documentation criteria:

- Face-to-face time
- greater than 50% spent counseling/coordinating care

99381-99397 Periodic comprehensive preventive medicine (age-based)

99401-99404 Preventive medicine counseling and/or risk factor reduction interventions (billable in 15 minute increments)

G0101 Cervical or vaginal cancer screening; pelvic and clinical breast examination (Medicare)

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Interested in More CME on this topic?  
**[aafp.org/fmx-womens-health](http://aafp.org/fmx-womens-health)**

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