GENITAL WARTS

<table>
<thead>
<tr>
<th>DEFINITION</th>
<th>Genital warts are growths on the vulva, perineum, vagina, cervix, urethra, penis, scrotum, and perianal and anal areas caused by Human Papilloma Virus (HPV); 90% are caused by low risk HPV types 6 and 11, although co-infection with types 16, 18, 31, 33 and 35 is possible. Warts can also be found on the buccal mucosa, conjunctiva, nasal passages and larynx. Intra-rectal warts are most often found in people who practice anal receptive intercourse, but can occur without such contact. The diagnosis is usually made clinically on the basis of visual inspection but occasionally biopsy may be needed. Response to therapy is variable and is lower in immunocompromised individuals. Genital warts are sexually transmissible. If caused by high risk types of HPV, EGW may increase the risk of subsequent squamous dysplasia and cancers, especially in HIV-infected people.</th>
</tr>
</thead>
</table>
| SUBJECTIVE | May include:  
1. Warts on or near the vulva, vagina, penis, scrotum, perianal area, anus and/or inner aspect of thigh.  
2. Genital pruritus.  
3. Localized pain or tenderness.  
4. Post coital burning sensation or spotting.  
5. Vaginal discharge.  
6. Sexual partner(s) with wart-like lesions.  
7. No symptoms. |
| OBJECTIVE | Must include: Visible lesions: Warts are usually flat, papular or pedunculated growths on external genitalia, vagina, cervix, urethra or perianal area and/or inner aspect of thigh.  
Must exclude: Evidence of superinfection (obtain MD consult).  
May include:  
1. Additional warts may be found in the buccal mucosa, eyelids or nose.  
2. White vaginal discharge.  
3. Many people with anal genital warts also have intra-rectal warts, so inspection of the anal canal by digital examination or anoscopy may be indicated.  
NOTE: Do not use acetic acid testing to identify lesions; it is nonspecific. |
| LABORATORY | May include:  
1. RPR to rule out secondary syphilis (condylomata lata), if appearance of lesions is questionable.  
2. Vaginal wet mount to rule out co-existing infections, if indicated.  
3. Biopsy if diagnosis of the lesion is uncertain, if the patient is immunocompromised or if lesions are atypical, pigmented, indurated, fixed, bleeding, ulcerated, large or unresponsive to standard treatment or worsen during therapy.  
NOTE: **Do not** test for HPV to aid in diagnosis. |
| ASSESSMENT | Genital warts (HPV) of male or female external genitalia, vagina, cervix, penis, scrotum or anus. |
| PLAN | 1. Individualize therapy by site of lesion, the wart size, wart number and by other factors, such as cost and patient preference. For example, topical therapies work best to treat warts on moist surfaces or in intertriginous areas. Localized destructive therapies may be needed for keratinized or widespread lesions; excisions are more effective for pedunculated lesions.  
a. External genital warts (vulvar, perineal, penile perianal lesions). Choose one of the treatments listed below. Continue treatment until complete resolution of the lesion or until recommended time limit of therapy is reached. Re-evaluate (biopsy) and change to other modalities if response incomplete by end of therapy. Intervene with further |
evaluation earlier if lesion worsens during therapy or if lesion is completely unresponsive after at least 4 weeks of treatment. Most warts should respond in 3 months.

1) Provider administered therapies:
   a) Trichloroacetic acid (TCA) 80-90% or Bichloracetic acid (BCA) can be applied to warts. Allow to dry, and form a white “frosting.” This treatment can be repeated weekly, if necessary. Because this liquid can easily spread to adjacent areas, apply only a small amount at one time and allow it to dry completely before patient moves. May want to apply a protective ring of occlusive material around base of lesion, with lidocaine gel or Vaseline. Consider applying with wooden end of small cotton swab. If acid spills or excessive acid is applied, area should be treated immediately with talc, sodium bicarbonate (i.e. baking soda), or liquid soap preparations.
   b) Cryotherapy with liquid nitrogen or a cryoprobe. May repeat applications every 1-2 weeks as long as lesions are resolving. However, hypopigmentation, hyperpigmentation and depressed or hypertropic scars can result from ablative treatments, especially if the skin is not allowed to completely heal between treatments.
   c) Podophyllin resin (10-25%) in tincture of benzoin. Do not use in pregnancy. Apply to each wart and allow to air dry before coming in contact with clothing. Wash hands thoroughly after applying. Repeat weekly, if necessary. To avoid the possibility of complications with systemic absorption:
      (1) Limit application to <0.5 mL of podophyllin or to an area of <10 cm² of warts per session.
      (2) Do not apply to areas with open lesions or wounds.
      (3) Have patient wash area off 1-4 hours after application to reduce local irritation.
   d) Surgical removal.
      (1) Electrocautery with local anesthesia for superficial excision. Hypopigmentation, hyperpigmentation and depressed or hypertropic scars can result from ablative treatments, especially if the skin is not allowed to completely heal between treatments.
      (2) Tangential excision with fine scissors, scalpel or curettage, especially for pedunculated lesions.
      (3) Lesions that are resistant to or incompletely treated with these modalities may require laser ablation, electrocautery, photodynamic therapy, or surgical excision under anesthesia after biopsy confirms no other pathology present.

2) Patient applied treatments:
   a) Imiquimod (Aldara) 5% cream: Patient to apply to lesions once daily at bedtime, three times a week (alternating days) for up to 16 weeks or until lesion resolves, whichever occurs first. Have patient wash area with soapy water 6-10 hours after application. Do not use in pregnancy.
   b) Imiquimod 3.75% cream: apply nightly for up to 8 weeks. Have patient wash area with soapy water 8 hours after application. Do not use in pregnancy.
   c) Podofilox 0.5% solution or gel: Patients to 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. Wash hands thoroughly after applying. Repeat cycle as necessary, for up to 4 cycles. The total wart area treated at any one time should not exceed 10 cm². Total volume of podofilox should be limited to 0.5 mL per day. Do not use in pregnancy.
   d) Sinecatechins 15% ointment: apply digitally 3 times a day in thin coat to cover warts for no longer than 16 weeks. Tell patient not to wash off. (Not recommended for those with HIV, immunocompromise or active genital
### PLAN (Continued)

b. Vaginal warts:
1) Cryotherapy with liquid nitrogen. Apply minimal amount directly to the wart. (Do not use cryoprobe).
2) TCA or BCA 80-90% solution. This treatment can be repeated weekly, if necessary. Because this liquid can easily spread to adjacent areas, apply only a small amount at one time and allow it to dry completely before patient moves. If acid spills or excessive acid is applied, area should be treated immediately with talc, sodium bicarbonate (i.e., baking soda), or liquid soap preparations.

c. Urethral meatus warts:
1) Cryotherapy with liquid nitrogen. Apply minimal amount directly to the wart. Repeat treatment if needed only after area completely healed. (Do not use cryoprobe).
2) Surgical removal.

d. Cervical warts - refer for Colposcopy.

e. Intra-anal warts:
1) Cryotherapy with liquid nitrogen if trained in technology. (Refer to MD if not trained.) Apply minimal amount directly to the wart. (Do not use cryoprobe).
2) Surgical removal.
3) TCA or BCA 80-90%. May repeat once a week. Because this liquid can easily spread to adjacent areas, apply only a small amount at one time and allow it to dry completely before patient moves. If acid spills or excessive acid is applied, treated area should be powdered with talc, sodium bicarbonate (i.e., baking soda), or liquid soap preparations.

2. Reinforce safer sex practices.
3. Recommend routine cervical cytology testing.
4. Encourage appropriately aged unvaccinated people to get HPV vaccine.

---

### PATIENT EDUCATION

1. Inform patient that HPV infection in the genital region is very common. It is almost always spread by sexual contact; virtually everyone who has sexual contact will get infected with at least one type of HPV.
2. HPV infection and external genital warts may resolve spontaneously in 6-9 months.
3. There are no tests that can predict which HPV infections will completely resolve, which will persist at low levels and which will progress.
4. Recommend that the patient examine partner. If partner has visible lesions, recommend she/he seek diagnosis and treatment. If no lesions are visible, no further testing is warranted.
5. Inform patient that treatments can cure the wart caused by HPV infection, but does not eradicate the virus. Reassure the patient that, most genital warts are not caused by the types of HPV that cause cancer.
6. Advise patient to avoid intercourse or to use condoms during course of treatment.
7. Advise that local skin reactions (redness, irritation, induration, ulceration and/or vesicles) frequently develop during treatment with any of these treatments. If the skin becomes painful, delay the subsequent treatments until the skin heals. If the area becomes infected or bleeds, return for reevaluation. Long term hypopigmentation is possible with imiquimod.
8. If podophyllin or imiquimod regimen is selected, instruct patient to wash off residue from treated area with warm soapy water as described above. Imiquimod may weaken latex condoms or diaphragms; use polyurethane condoms instead.
9. If using sinecatechins 15% ointment, avoid sexual contact while using ointment. Do not use for longer than 16 weeks. This ointment may weaken latex condoms, or diaphragms. Use polyurethane condoms instead.
10. Reassure the patient that HPV does not affect future fertility (male or female).
11. Encourage patient to discuss HPV infection with partner.
### PATIENT EDUCATION (Continued)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>12.</td>
<td>Encourage safer sex practices. Male condoms used correctly and consistently lower the risk of acquiring or transmitting HPV that can cause warts.</td>
</tr>
<tr>
<td>13.</td>
<td>If patient is less than 26 years old, recommend HPV vaccination for patient and possible partner.</td>
</tr>
</tbody>
</table>

### REFER to MD/ER

1. Lesion(s) > 2 cm.
2. Suspicious or questionable lesion.
3. Lesion(s) which do not respond to therapy and lesions that worsen during therapy.
4. Periurethral, intra-anal and rectal lesions.
5. Oral lesions, conjunctival lesions.
7. Rapidly growing lesions.

### REFERENCES