



Care and Treatment Plan: Genital Warts

Definition

Genitals warts refer to skin or mucosal infection caused by the genotypes of human papillomavirus (HPV). HPV is readily transmissible and one of the most common STIs worldwide. The estimated lifetime likelihood of HPV infection is upwards of 75%.

There are over 40 types of HPV known to reside in the anogenital tract, oral cavity, and oropharynx. Persistent infection with one or more of the high-risk HPV types (e.g., HPV-16, -18) may lead to precancerous or cancerous lesions of the cervix, vulva, vagina, penis, anus, oral cavity, oropharynx, and/or larynx. Infection with low-risk HPV types (e.g., HPV-6, -11) is associated with low or no cancer risk, rather can lead to anogenital warts or other benign lesions (e.g., low-grade squamous intraepithelial lesion [LSIL] of the cervix or anal canal).

Registered Nurses with **Reproductive Health – Sexually Transmitted Infections** Certified Practice designation (RN(C)) are authorized to manage, diagnose, and treat individuals with genital warts.

Cause

Viral:

- Human papillomavirus (HPV)

Predisposing Risk Factors

- Sexual contact where there is transmission through skin-to-skin with an individual who has HPV infection
- Immunosuppression (e.g., HIV infection, organ transplant and immunosuppressive drug therapy)

Typical Findings

Sexual History

- Change in the affected area from “normal” to a wart-like or bumpy appearance
- Sexual contact with at least one partner
- May report either current or past partner as having HPV infection presently or in the past, though often there is no reported/known history
- May describe bumps that are painless
- May report itching/irritation to affected area (particularly when perianal warts are present)

Physical Assessment

- Usually painless
- May cause bleeding and pruritus (perianal)
- May appear on the genitals and perineum in clusters or as single bumps as:
 - Flat
 - Cauliflower-like
 - Flesh-coloured
 - Darker in colour than surrounding skin

Note: Most anogenital HPV infections are asymptomatic and/or subclinical.

Diagnostic Tests

Full STI screening is recommended upon initial assessment for genital warts to rule-out other STI presentations such as syphilis (e.g., *condylomata lata* looks very similar to genital warts).

- Diagnosis is confirmed through clinical findings from visual inspection
- Routine diagnostic testing for genital HPV is not currently available

- Routine Pap testing as per British Columbia Cancer Agency's [Screening for Cancer of the Cervix](#) guidelines
 - Presence of genital warts is not an indication for a change in routine Pap screening recommendations

Clinical Evaluation/Clinical Judgement

- When clinical findings of HPV are evident, review all treatment options with client
- Treatment of internal warts (e.g., intravaginal, cervical, and rectal) requires referral to a physician or NP

Management and Interventions

Goals of Treatment

- Mainly aesthetic, to remove visible warts
- Reduce the spread of infection

Treatment of Choice

Review anogenital wart treatment options with the client, including benefits and risks of each. The treatment of anogenital warts is carried out by RN(C)s according to the *BCCNP Standard for Acting Within Autonomous Practice*. For use of alternate cryotherapeutic agents, follow agency-specific guidelines and policies.

The treatment options are:

- Defer treatment and monitor: many genital warts will resolve spontaneously
- Client-applied: These options can be expensive; consultation and/or referral to a physician or NP is required to obtain a prescription for:
 - Imiquimod 5% or 3.75% cream
 - Podofilox 0.5% solution
 - Sinecatechins 10% ointment
- Provider-applied:
 - **First Choice:** Cryotherapy with liquid nitrogen (preferred) or alternate cryotherapy regimens approved for the treatment of genital warts (e.g., dimethyl ether propane (Histofreezer®, see package insert for treatment details)
 - **Alternate Treatment:**
 - Podophyllin 10% tincture or 25% resin
 - Trichloroacetic acid (TCA)

First Choice: Cryotherapy with liquid nitrogen

Note: Over the counter (OTC) cryotherapeutic remedies for wart treatment are not recommended for the treatment of genital warts. Clinical diagnosis is required prior to treatment recommendation.

Method of Use

1. Apply using spray canister. Adjust lighting and use magnification as needed.
2. Stretch the area to be sprayed. Hold the spray nozzle approximately 1cm away from the skin. Distance may vary slightly dependent on amount of freezing required.
3. Spray intermittently to create and maintain a whitish frozen area involving the wart, with a halo of 1-2mm around the wart. Freezing should be maintained for 5-10 seconds post-application.
4. Allow for the skin to thaw. This occurs when the frozen whitish area returns to normal colour (may be slightly reddened).
5. Repeat steps 2 to 4 for 2-3 treatment cycles total for each wart.
6. Treatment is repeated every 7 to 14 days for 6 to 8 treatment visits. Ensure previously treated areas are completely healed prior to subsequent treatment.



7. If warts have not resolved by the 8th treatment session, consult/refer with a physician or NP to determine next steps.

Alternate Treatments

Podophyllin 10% or 25%: For use only in the absence of other treatment options given concerns about local and systemic safety, and low efficacy.

DO NOT USE podophyllin:

- For pregnant individuals
- For the treatment of any internal warts – cervical, meatal, vaginal, or anal. Podophyllin may be used around, but not in the meatus, around the introitus, but not in the vagina or on the cervix, and around, but not in the anus
- On open sores or excoriated skin
- On clients who have diabetes

Method of Use

- 1) Measure out 0.5ml podophyllin using syringe/needle.
- 2) Dab podophyllin on warts with cotton swab: limit the area of application to < 5cm². The dose per visit is should not exceed 1.0ml.
- 3) Allow the area to fully dry prior to the client dressing after treatment.
- 4) Remind the client to wash off the first application (first-time treatment) in 1 hour; and if there is no adverse reaction then wash off subsequent applications in 4-6 hours.
- 5) Podophyllin application may be repeated at seven-day (weekly) intervals for up to 6 treatment sessions.
- 6) If warts have not resolved after 6 treatment sessions, consult/refer with a physician or NP to determine next steps.

Notes:

- 1) Side effects of treatment may include mild to moderate local skin reactions which may include discomfort, tenderness, stinging or pain at the site. Blistering, erythema, and itching may also occur. Reactions are managed by decreasing the intensity of future treatments.
- 2) If there is no improvement in the warts after 3 provider-applied treatment sessions, consider adding additional treatment options (e.g., cryotherapy first, then apply podophyllin).

Trichloroacetic acid (TCA)

DO NOT USE TCA:

- For the treatment of any internal warts: cervical, meatal, vaginal, or anal
- On open sores or excoriated skin

Method of Use

- 1) Measure out small amount using syringe/needle.
- 2) Apply petroleum jelly or 2% xylocaine ointment to the surrounding area to protect healthy skin.
- 3) Use a cotton swab to dab the acid preparation on. Apply sparingly.
- 4) Allow area to dry until a “white frosting” appearance is noted. Do not need to wash off.
- 5) Can be used weekly for up to 6-8 weeks.

Notes:

- 1) TCA is a highly caustic solution that can cause blistering and ulcerations if used in excess. The viscosity is lower than water and can spread very quickly.
- 2) If painful, soap or sodium bicarbonate can be used to neutralize the area. Powder the area with talc or sodium bicarbonate or apply soap to any un-reacted acid.



Pregnant or Breast/Chest-Feeding Clients

For all pregnant or breast-/chest-feeding clients consult with or refer to a physician or NP. Podophyllin is contraindicated during pregnancy.

Partner Counselling and Referral

Counsel clients to recommend their sexual partners have an examination for genital warts.

Monitoring and Follow-up

Refer to specific treatment section in this DST for monitoring and follow-up recommendations.

Potential Complications

- Pre-cancerous or cancerous lesions from co-infection with specific HPV subtypes
- Overgrowth of external warts in immunocompromised individuals
- Perinatal transmission (rare)
- Recurrent episodes of growth after treatment

Client Education

Counsel client regarding:

- Genital warts are common and the likelihood of genital infection with HPV, over the lifespan, is upwards of 75%.
- Routine Pap testing is recommended, and clinical findings of genital warts is not an indication for a change in the frequency of Pap testing.
- Eligibility for HPV vaccination which can protect against some strains of HPV.
- External visible warts are generally not associated with cancers of the cervix, anus, or genitals, as they are considered low-risk and are usually benign.
- Warts often resolve on their own within 18-24 months even without treatment.
- While most genital HPV infections resolve, whether or not HPV infection itself completely clears after visible warts have resolved, is unknown. Diagnostic testing to determine clearance is neither recommended nor routinely available.
- Treatment is mainly aesthetic to remove visible warts; a small risk of recurrence remains.
- Genital warts are sexually transmitted through skin-to-skin contact (condoms are helpful in reducing transmission when they cover the area of skin that is affected by HPV).
- HPV is transmissible, though likely to a lesser degree, even when visible warts are not present on the skin.
- Re-infection with the same strain is possible.
- If they are HIV positive, to follow-up with their HIV health care provider for potential further follow-up and/or screening (e.g., anal Pap).
- It is possible and very common to have more than one strain of HPV.
- Most people are asymptomatic and that partners who are both infected with HPV can have different clinical manifestations (e.g., one person may be asymptomatic while the other may experience visible effects such as warts).
- Treatment side effects may include mild to moderate local skin reactions which may include discomfort, tenderness, stinging or pain at the site; blistering, erythema, itching and changes to skin pigmentation may also occur. Reactions are managed by decreasing the intensity of future treatments.
- Avoiding irritants to the area, including shaving, which can promote the warts spreading.

Consultation and/or Referral

Consult with or refer to a physician or NP for the following:

- Have reached maximum treatment duration, administered as recommended without resolution of symptoms

- Are pregnant and/or breast/chest-feeding
- Have warts that are atypical in appearance, are larger than 1-2cm, or have suspicious pigmentation.
- Have internal genital warts (anal, vaginal, or urethral)
- Have an unusual, unexpected, or severe reaction to genital wart treatment
- Are unable to tolerate cryotherapy or other provider-applied treatment and require a prescription for client-applied treatment
- Have diabetes and opting for or require topical podophyllin treatment

Documentation

- HPV is not reportable
- As per agency policy

References

More recent editions of any of the items in the References List may have been published since this DST was published. If you have a newer version, please use it.

Baumann, L.S. (2016). Update on green tea. *Dermatology News*, 47, p.26.

British Association for Sexual Health and HIV (BASHH). (2015). *UK National guidelines on the management of anogenital warts*. pp.1-24.

British Columbia College of Nursing Professionals (BCCNP). (2018). [Scope of Practice for Registered Nurses: Standards, Limits and Conditions](#).

Brunk, D. (2016). Expert shares treatment tips for molluscum contagiosum and warts. *Pediatric News*, 50, p.S12+.

Centers for Disease Control and Prevention (CDC). (2013). [Human papillomavirus \(HPV\) and oropharyngeal cancer](#).

CDC. (2015). [Anogenital warts](#). In *2015 Sexually Transmitted Diseases Treatment Guidelines*.

CDC. (2015). [HPV-associated cancers and precancers](#). In *2015 Sexually Transmitted Diseases Treatment Guidelines*.

CDC. (2015). [Human papillomavirus \(HPV\) infection](#). In *2015 Sexually Transmitted Diseases Treatment Guidelines*.

Cervical Cancer Screening Program & BC Cancer Agency. (2017). [Screening for cancer of the cervix: An office manual for health care providers](#).

Denny, L. (2016). Epidemiology and burden of disease associated with HPV infection. *Current Obstetrics and Gynecology Reports*, 5(3), pp.189-195. doi: 10.1007/s13669-016-0174-y.

Gravitt, P.E. (2011). The known unknowns of HPV natural history. *Journal of Clinical Investigation*, 121(12), pp.4593-4599. doi: 10.1172/JCI57149.

Hutter, J. & Decker, C. (2016). Human papillomavirus infection. *Disease-a-Month*, 62, pp.294-300. doi: 10.1016/j.disamonth.2016.03.014.

Park, I., Introcaso, C. & Dunne, E. (2015). Human papillomavirus and genital warts: a review of the evidence for the 2015 Centers for Disease Control and Prevention sexually transmitted diseases treatment guidelines. *Clinical Infectious Diseases*, 61(suppl 8), pp.S849-S855. doi: 10.1093/cid/civ813.

Passmore, J. & Williamson, A. (2016). Host immune responses associated with clearance or persistence of human papillomavirus infections. *Current Obstetrics and Gynecology Reports*, 5(3), pp.177-188. doi: 10.1007/s13669-016-0163-1.

Petrosky, E., Bocchini Jr., J.A., Hariri, S., Chesson, H., Curtis, C.R., Saraiya, M. & Markowitz, L.E. (2015). Use of 9-valent human papillomavirus (HPV) vaccine: Updated HPV: vaccination recommendations of the advisory committee on immunization practices. *Morbidity and Mortality Weekly Report*, 64(11), p.300.

Public Health Agency of Canada (PHAC). (2014). [Human papillomavirus \(HPV\) infections](#). In: *Canadian Guidelines on Sexually Transmitted Infections*. Ottawa, ON.

Seyferth, E., Bratic, J. & Bocchini Jr., J. (2016). Human papillomavirus epidemiology and vaccine recommendations: selected review of the recent literature. *Current Opinion in Pediatrics*, 28(3), pp.400-406. doi: 10.1097/MOP.0000000000000354.

Stanley, M. (2016). Preventing cervical cancer and genital warts - How much protection is enough for HPV vaccines? *Journal of Infection*, 72, pp.S23-S28. doi: 10.1016/j.jinf.2016.04.018.

Taylor, S., Bunge, E., Bakker, M. & Castellsague, X. (2016). The incidence, clearance and persistence of non-cervical human papillomavirus infections: a systematic review of the literature. *BMC Infectious Diseases*, 16(293), pp.1-21. doi: 10.1153/s12879-016-1633-9.

Yang, L., Zhu, D., Dang, Y. & Zhao, X. (2016). Treatment of condyloma acuminata in pregnant women with cryotherapy combined with proanthocyanidins: outcome and safety. *Experimental and Therapeutic Medicine*, 11, pp.2391-2394. doi: 10.3892/etm.2016.3207.

Yanofsky, V., Patel, R. & Goldenberg, G. (2012). Genital warts: A comprehensive review. *Journal of Clinical and Aesthetic Dermatology*, 5(6), pp.25-36.

Yong, M., Parkinson, K., Goenka, N. & O'Mahony, C. (2010). Diabetes and genital warts: an unhappy coalition. *International Journal of STD & AIDS*, 21(7), pp.457-459.