NGN NCLEX 2026 • REPRODUCTIVE HEALTH • INFECTIOUS DISEASE

Human *Papillomavirus*

The most common sexually transmitted infection in the United States — a DNA virus with 200+ types, vaccine-preventable, and the leading cause of cervical cancer worldwide.

DNA Virus | STI | Oncogenic | Vaccine-Preventable | NCJMM 2026

SOURCE NOTE: This topic was not included in the uploaded personal notes. Content has been compiled from standard NGN NCLEX 2026 references: *Saunders Comprehensive Review for the NCLEX-RN*, ATI Content Mastery Series (Maternal Newborn & Adult Medical-Surgical), *Lippincott NCLEX-RN Review*, current CDC/ACIP HPV vaccine recommendations (2026), and ACS/USPSTF cervical cancer screening guidelines.

SECTION ONE

1 Definition & Overview

- **Human Papillomavirus (HPV)** is a non-enveloped, double-stranded DNA virus with over **200 identified types**; approximately 40 infect the anogenital tract.
- Most common sexually transmitted infection (STI) in the U.S. — nearly all sexually active people will acquire it at some point.
- About **90% of infections clear spontaneously within 2 years** due to immune response; persistent infection with high-risk types causes cancer.
- Linked to **cervical, vulvar, vaginal, anal, penile, and oropharyngeal cancers**, plus benign anogenital warts (condyloma acuminata).

LOW-RISK TYPES

6 & 11

Cause ~90% of genital warts (condyloma acuminata). Rarely cause cancer.

HIGH-RISK TYPES

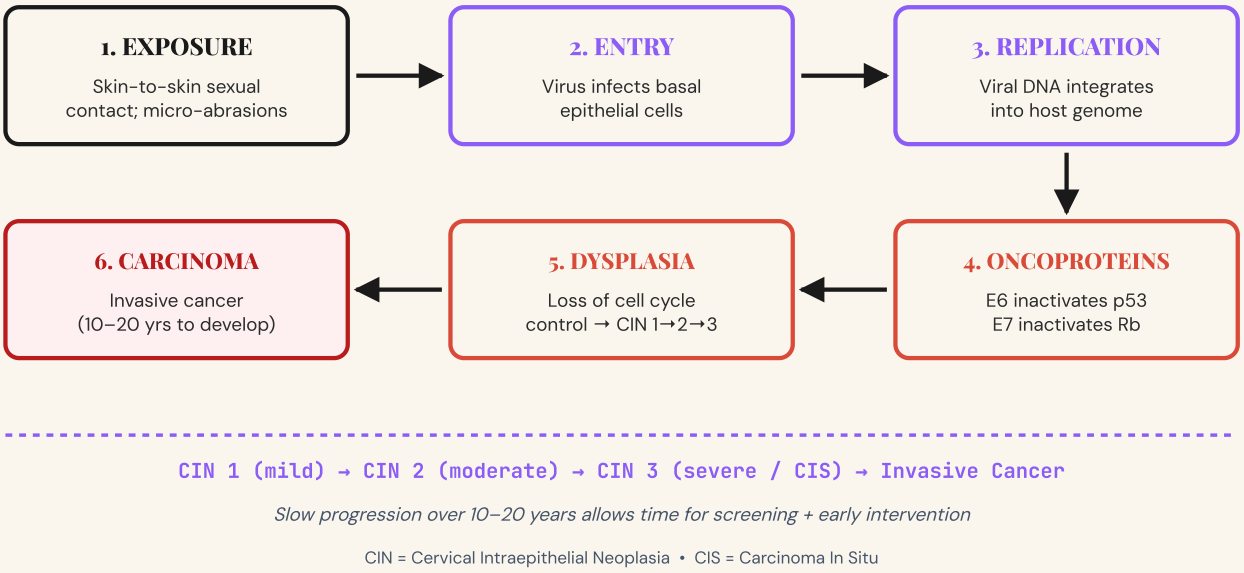
16 & 18

Cause ~70% of cervical cancers and most HPV-related cancers. Type 16 is the most oncogenic.

SECTION TWO

2 Pathophysiology

HPV infects basal epithelial cells through tiny breaks in skin/mucosa during sexual contact. High-risk types produce **E6 and E7 oncoproteins** that inactivate the host's tumor suppressor genes, driving uncontrolled cell division.



Key teaching point: Most HPV infections are transient. It is *persistent* infection with high-risk types — combined with cofactors (smoking, immunosuppression, oral contraceptives) — that drives malignant transformation.

SECTION THREE

3 Signs & Symptoms

Early / Asymptomatic

- **Most infections are silent** — ~90% have no symptoms
- Abnormal Pap smear may be the only finding
- Subclinical lesions detected by acetowhite test on colposcopy
- Possible mild itching or irritation at infection site

Genital Warts (Low-Risk Types)

- **Cauliflower-like** (verrucous) flesh-colored growths
- Can be flat, raised, single, or in clusters
- Locations: vulva, vagina, cervix, penis, scrotum, perianal, anal canal
- Usually painless; may itch, bleed, or cause discomfort with intercourse
- Incubation: weeks to months after exposure

Cervical / Late Findings

- Postcoital bleeding (bleeding after intercourse)
- Intermenstrual or postmenopausal bleeding
- Foul-smelling, watery, or blood-tinged vaginal discharge
- Pelvic pain or low back pain (advanced disease)
- Pain with intercourse (dyspareunia)

Other Site Manifestations

- **Oropharyngeal:** sore throat, hoarseness, painless neck mass, dysphagia
- **Anal:** bleeding, pain, mass, change in bowel habits
- **Penile:** visible warts, ulceration in advanced cancer
- Recurrent respiratory papillomatosis in infants of infected mothers

RED FLAG FINDINGS

- **Postcoital bleeding** in any woman → evaluate cervix immediately
- **Postmenopausal bleeding** → always abnormal until proven otherwise
- **Foul-smelling, watery vaginal discharge** with bleeding → late cervical cancer until ruled out
- **Hard, fixed, painless cervical lymphadenopathy** → HPV-related oropharyngeal cancer

SECTION FOUR

4 Priority Nursing Interventions

Assessment

- **Obtain sexual history** in private, non-judgmental setting
- Assess for visible lesions in anogenital and oral regions
- Review immunization history — specifically HPV vaccine series
- Determine last Pap smear / HPV co-test and results
- Screen for risk factors: multiple partners, smoking, immunosuppression, HIV

Intervention & Care

- **Administer HPV vaccine** (Gardasil 9) per ACIP schedule
- Have patient remain **seated/lying 15 min post-vaccine** (syncope risk)
- Assist with Pap smear, colposcopy, biopsy — provide chaperone
- Apply topical wart treatments as ordered (gloves required)
- Provide emotional support — STI diagnosis carries stigma

Safety & Prevention

- Educate on barrier methods (condoms) — reduces but does not eliminate risk
- Reinforce **vaccination of all eligible patients** regardless of sex
- Maintain confidentiality; partner notification per state law
- Avoid contact with wart lesions during care — wear gloves
- Pregnant nurses can safely care for HPV patients (HPV is *not* bloodborne risk)

Evaluation & Follow-Up

- Verify patient understands need for ongoing Pap screening even after vaccination
- Confirm completion of vaccine series (2 or 3 doses)
- Schedule follow-up colposcopy/Pap based on results
- Reassess emotional coping; refer to counseling if needed
- Document teaching, response, and barriers to follow-up

SECTION FIVE

5 Pharmacology

Gardasil 9 (9vHPV)

RECOMBINANT 9-VALENT HPV VACCINE

Mechanism	Stimulates antibody production against HPV types **6, 11, 16, 18, 31, 33, 45, 52, 58** — prevents infection (does NOT treat existing infection).
Routine Age	11–12 years (can start at age 9); catch-up through age 26.
Schedule	**2 doses** if first dose given before 15 yrs (0, 6–12 mo); **3 doses** if first dose at 15+ yrs or immunocompromised (0, 1–2, 6 mo).
Route	IM — deltoid or anterolateral thigh.
Side Effects	Injection site pain/redness, low-grade fever, headache, fatigue, **SYNCOPE** (especially adolescents).
Contraindications	Severe allergy to yeast or prior dose; defer if moderate/severe illness or **pregnancy** (restart series after delivery).
Nursing	Observe seated/lying for **15 minutes** post-injection. Document dose number and lot number. Counsel: vaccine does not protect against all HPV types — continue Pap screening.

Imiquimod (Aldara, Zyclara)

TOPICAL IMMUNE RESPONSE MODIFIER

Mechanism	Activates Toll-like receptor 7 → induces interferon-α and cytokine release → immune clearance of wart cells.
Use	External genital and perianal warts (patient-applied at home).
Side Effects	Local erythema, erosion, burning, flaking; rare flu-like symptoms.
Nursing	Apply at bedtime, wash off after 6–10 hr. **Avoid sexual contact while applied** — weakens condoms/diaphragms.

Podofilox (Condylox)

TOPICAL ANTIMITOTIC

Mechanism	Arrests cell division in wart tissue → necrosis of lesion.
Side Effects	Local burning, pain, inflammation, ulceration.
Nursing	Apply BID × 3 days, then 4 days off — repeat up to 4 cycles. **Contraindicated in pregnancy** (teratogenic).

Trichloroacetic Acid (TCA 80–90%)

PROVIDER-APPLIED CHEMICAL CAUTERANT

Mechanism	Coagulates and destroys wart tissue proteins on contact.
Use	Provider-applied weekly; safe in pregnancy.
Nursing	Apply only to lesion (protect surrounding skin with petrolatum). Neutralize spills with sodium bicarbonate or soap.

Procedural treatments: Cryotherapy (liquid nitrogen), laser ablation, electrocautery, surgical excision, and **LEEP** (loop electrosurgical excision procedure) or cone biopsy for cervical dysplasia.

SECTION SIX

6 Cervical Cancer Screening Guidelines

Vaccination does **not** replace screening. All women with a cervix follow age-based screening regardless of HPV vaccination status.

AGE GROUP	RECOMMENDED SCREENING	FREQUENCY
< 21 years	No screening	Not recommended (regardless of sexual activity)
21 – 29 years	Pap smear (cytology) alone	Every **3 years**
30 – 65 years	HPV test alone (preferred) *OR* Pap + HPV co-test *OR* Pap alone	**5 yrs** (HPV/co-test) or **3 yrs** (Pap alone)
> 65 years	Discontinue if adequate prior negative screening	Stop screening
Post-hysterectomy	None if cervix removed for benign reasons	Stop screening

Pap prep teaching: No intercourse, douching, tampons, vaginal medications, or spermicides for **48 hours** before exam. Avoid scheduling during menses.

SECTION SEVEN

7 NCLEX Test Traps

✕ WRONG THINKING	✓ CORRECT THINKING
"The HPV vaccine is only for girls."	Gardasil 9 is recommended for **all adolescents — both males and females** — starting at age 9, ideally 11–12.
"I got the HPV vaccine, so I don't need Pap smears."	Vaccine covers 9 HPV types — not all oncogenic types. **Continue routine Pap/HPV screening** per age-based guidelines.
"Condoms fully prevent HPV transmission."	Condoms **reduce** risk but do not eliminate it — HPV spreads via skin-to-skin contact on areas not covered by the condom.
"HPV vaccine can treat existing genital warts."	The vaccine is **preventive only** — it has no therapeutic effect on existing infection or lesions.
"Give the HPV vaccine to a 16-year-old who reports she might be pregnant."	**Defer vaccination during pregnancy** — confirm pregnancy status first; complete series after delivery. Lactation is NOT a contraindication.
"After HPV vaccination the patient can leave immediately."	Have patient remain **seated or supine for 15 minutes** — syncope is a documented post-vaccination risk, especially in adolescents.
"HPV always causes symptoms."	**~90% of HPV infections are asymptomatic** and clear within 2 years — most people don't know they're infected.

SECTION EIGHT

8 Patient & Family Education

Prevention & Vaccination

- Get the HPV vaccine at 11–12 (can start at 9); catch-up through age 26
- Shared decision-making for vaccination ages 27–45
- Complete the full series (2 or 3 doses depending on age at start)
- Use condoms consistently — reduces but doesn't eliminate risk
- Limit number of sexual partners; delay onset of sexual activity
- Don't smoke — smoking is a major cofactor for cervical cancer

Screening & Follow-Up

- Begin Pap screening at age 21 regardless of sexual activity
- Continue Pap/HPV screening even if vaccinated
- No intercourse, tampons, douching, or vaginal meds × 48 hr before Pap
- Report abnormal bleeding (postcoital, postmenopausal) promptly
- Follow-up colposcopy/biopsy if Pap abnormal

Living With HPV

- HPV is **very common** — does not reflect on character
- Most infections clear without treatment within 2 years
- A diagnosis does not always lead to cancer
- Notify sexual partners so they can be evaluated
- Avoid sexual contact when active genital warts are present
- Mental health support: STI stigma is real; counseling helps

Topical Treatment Teaching

- Wash hands before and after applying any topical medication
- Apply imiquimod at bedtime; wash off after 6–10 hours
- Avoid sexual contact while medication is on the skin
- Topical wart treatments **weaken latex condoms/diaphragms**
- Expect local redness/burning — report severe ulceration
- Do NOT use podofilox or imiquimod during pregnancy

SECTION NINE

9 Memory Boosters & Mnemonics

"Low & High" — HPV Types

6 & 11 = warts that **l**oom (Low risk → growths) — 6 + 11 = warts that **h**ang

16 & 18 = cancers that **i**nvade (High risk → 16 & 18, "cancers don't wait")

"VAX-9" — HPV Vaccine Administration

V — Verify age & pregnancy status

A — Administer IM in deltoid

X — eXamine for syncope (15-minute observation)

Covers 9 HPV types: 6, 11, 16, 18, 31, 33, 45, 52, 58

"PAP-21" Screening Rule

Start Pap at age **21**, no matter when sex started.

Ages **21–29** → Pap every **3** years.

Ages **30–65** → Pap + HPV every **5** years (or HPV alone).

Stop at **65** with normal prior screens.

"WARTS" — Genital Wart Care

Wash hands before & after application

Avoid sexual contact while treating

Reduced condom strength with topicals

Teratogenic — avoid podofilox/imiquimod in pregnancy

Screen partners; report worsening symptoms

Cofactor Memory — "SHIPS Sink Cells"

Smoking • **H**IV / immunosuppression • **I**nfections (co-STIs) • **P**arity (high) • **S**teroids / long-term OCPs

These cofactors increase progression of HPV → cervical cancer.

SECTION TEN

10 NCJMM Clinical Judgment Scenario

Case Scenario

A 24-year-old female presents to the women's health clinic for a routine annual exam. She reports being sexually active with 3 lifetime partners, smokes ½ pack per day, and uses condoms "most of the time." She has never received the HPV vaccine. She reports occasional spotting after intercourse for the past 2 months. Pap smear from today returns: **HSIL (high-grade squamous intraepithelial lesion); HPV-16 positive.**

STEP 1

Recognize Cues

Relevant cues: persistent postcoital bleeding × 2 months, never vaccinated, smokes (cofactor), multiple partners, inconsistent condom use, HPV-16 (most oncogenic type), **HSIL on Pap** (CIN 2 or CIN 3 equivalent).

STEP 2

Analyze Cues

HSIL with HPV-16 indicates significant cervical dysplasia with high risk of progression to invasive cervical cancer if untreated. Postcoital bleeding raises concern for cervical lesion. Smoking accelerates progression. Patient needs urgent colposcopy with directed biopsy.

STEP 3

Prioritize Hypotheses

Priority hypothesis: High-grade cervical dysplasia (CIN 2/3) requiring immediate diagnostic colposcopy and likely excisional treatment (LEEP or cone biopsy).
Secondary: Risk for progression to invasive cervical cancer if treatment delayed; need for smoking cessation; emotional response to STI diagnosis.

STEP 4

Generate Solutions

1. Schedule colposcopy with biopsy within 2–4 weeks.
2. Provide non-judgmental education on HPV (very common, often silent).
3. Initiate smoking cessation counseling — major modifiable cofactor.
4. Reinforce consistent condom use; partner notification per state law.
5. Discuss HPV vaccine — still beneficial up to age 26 (and 27–45 with shared decision-making) even after diagnosis (other types).
6. Provide emotional support; assess for anxiety/depression.

STEP 5

Take Action

Nurse contacts the colposcopy clinic to expedite appointment, provides written discharge instructions about postcoital bleeding warning signs (severe bleeding, fever, foul discharge), administers first HPV vaccine dose after confirming non-

pregnant status (and observes 15 min for syncope), refers to smoking cessation program, and documents teaching.

STEP 6

Evaluate Outcomes

Expected outcomes: Patient verbalizes understanding of diagnosis and colposcopy plan; commits to smoking cessation trial; receives first HPV vaccine dose without adverse reaction; attends colposcopy appointment; partner is notified and screened; follow-up Pap demonstrates regression of dysplasia after treatment.