NGN NCLEX 2026 · INTEGUMENTARY / INFECTIOUS DISEASE

Herpes Zoster & Varicella-Zoster Virus

A single virus, two distinct presentations. Chickenpox is the primary infection; shingles is the reactivation decades later. Master the rash patterns, isolation rules, and the 72-hour antiviral window.

VZV / HHV-3 | DNA Herpesvirus | Airborne + Contact | Dermatomal Pattern | Shingrix Vaccine

1 Definition & Overview

FOUNDATION

Varicella (Chickenpox)

- **Primary infection** with varicella-zoster virus (VZV / HHV-3)
- Highly contagious; spread by **airborne droplet** + direct contact with vesicle fluid
- Generalized, pruritic vesicular rash; lesions appear in **different stages simultaneously**
- Incubation: 10–21 days; contagious 1–2 days before rash until all lesions are **crusted over**

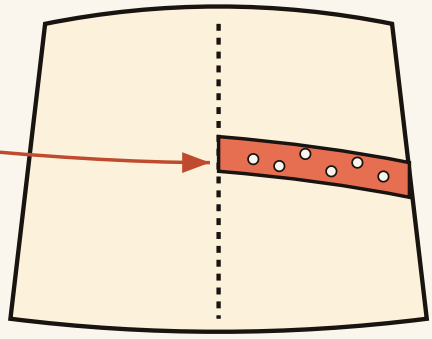
Herpes Zoster (Shingles)

- **Reactivation** of latent VZV in the dorsal root ganglia (years to decades later)
- Unilateral, painful vesicular rash following **one or two dermatomes** — does NOT cross midline
- Triggers: aging (>50), stress, illness, immunosuppression (HIV, chemo, steroids)
- Most feared complication: **postherpetic neuralgia (PHN)** — pain lasting months to years

2 Pathophysiology

MECHANISM

1. Initial VZV exposure via respiratory droplets →
2. Primary infection: **varicella** (chickenpox) →
3. Virus travels along sensory nerves & **becomes latent** in dorsal root ganglia
4. Trigger event: aging, stress, immunosuppression →
5. Virus **reactivates** ; travels back down sensory nerve →
6. **Herpes zoster** : unilateral dermatomal rash + pain



SHINGLES
Unilateral · Dermatomal
Does NOT cross midline

MIDLINE
Spine acts as a "wall" the rash respects

3 Varicella vs. Herpes Zoster

HIGH-YIELD COMPARISON

Feature	Varicella (Chickenpox)	Herpes Zoster (Shingles)
Type of Event	Primary infection	Reactivation of latent virus
Typical Age	Children (unvaccinated); peak 5–10 yrs	Adults >50, immunocompromised
Rash Pattern	Generalized; trunk first → spreads outward	Unilateral, follows 1–2 dermatomes
Rash Stages	**All stages at once** (macule → papule → vesicle → crust)	All lesions roughly the **same stage**
Sensation	Intense itching (pruritus)	**Burning pain**, tingling, paresthesia
Prodrome	Fever, malaise, anorexia (1–2 days)	Pain/tingling along dermatome **before** rash (1–3 days)
Crosses Midline?	Yes — bilateral, widespread	**No** — respects the midline
Contagious Period	1–2 days before rash → all lesions crusted	Until all lesions crusted (less contagious; spreads varicella to non-immune)
Isolation	**Airborne + Contact**	Localized: **Standard + Contact** · Disseminated/immunocompromised: **Airborne + Contact**
Vaccine	Varivax (live) — 2 doses childhood	Shingrix (recombinant) — 2 doses, age ≥50

4 Signs & Symptoms

RECOGNIZE CUES

EARLY / PRODROME

Before the Rash

- **Varicella:** low-grade fever, malaise, anorexia, headache (1–2 days)
- **Shingles:** burning, tingling, itching, or shooting pain along a dermatome (1–3 days before any visible lesion)
- Photophobia, mild fatigue
- **NCLEX Pearl:** Pain WITHOUT a rash in an older adult on one side of the body → think early shingles

ACTIVE / RASH STAGE

The Rash Itself

- **Macule → papule → vesicle → pustule → crust** (varicella: all stages at once)
- Shingles: clustered vesicles on erythematous base, unilateral, dermatomal
- Severe nerve pain (burning, stabbing, electric-shock)
- Pruritus, fever, lymphadenopathy
- Lesions crust over in 7–10 days; full healing 2–4 weeks

🚨 RED FLAGS — Escalate Immediately

Herpes Zoster Ophthalmicus (CN V_1): rash on tip/side of nose (*Hutchinson's sign*) → vision loss risk · **Ramsay Hunt Syndrome (CN VII):** facial paralysis + ear vesicles + hearing loss · **Disseminated zoster:** >20 lesions outside primary dermatome → immunocompromised crisis · **Reye Syndrome:** child with varicella + aspirin → encephalopathy, hepatic failure · **Pneumonia / encephalitis:** adult varicella complication

5 Isolation Precautions

TEST-DAY CRITICAL

VARICELLA (Chickenpox)	LOCALIZED SHINGLES	DISSEMINATED OR IMMUNOCOMPROMISED
Airborne + Contact Private negative-pressure room · N95 respirator · gown & gloves · door closed · maintain until *all lesions crusted*	**Standard + Contact** Cover the rash · gown & gloves for direct contact · private room not required if lesions covered · maintain until crusted	**Airborne + Contact** Treat as varicella · negative-pressure room · N95 · gown/gloves · until all lesions crusted

Who Should NOT Care for the Patient

- **Pregnant nurses** who have not had varicella or the vaccine (risk of congenital varicella syndrome)
- **Non-immune staff** (no history of disease or vaccination)
- **Immunocompromised staff** (chemo, steroids, HIV)
- Ideally, only nurses with documented immunity (positive titer or completed vaccine series) provide care

6 Priority Nursing Interventions

TAKE ACTION

Airway & Safety First

- **Assess** for respiratory involvement (varicella pneumonia, especially in adults)
- **Monitor** for neurologic changes — encephalitis is a deadly complication
- **Place** patient in correct isolation BEFORE entering room
- **Screen** visitors: no pregnant, immunocompromised, or non-immune contacts

Skin & Symptom Care

- **Trim fingernails** short, mittens for young children to prevent scratching/secondary infection
- Cool compresses, oatmeal/Aveeno baths, calamine lotion for itching
- Loose, soft cotton clothing
- Keep rash **clean, dry, covered** (especially shingles in public areas)
- Antihistamines (diphenhydramine) for pruritus per order

Pain Management (Shingles)

- **Assess pain** using a 0–10 scale every shift & PRN — nerve pain is severe
- Administer antivirals within the **72-hour window** from rash onset
- Gabapentin, pregabalin, or TCA (amitriptyline) for neuropathic pain & PHN prevention
- Topical lidocaine patch or capsaicin cream for localized pain
- Acetaminophen / opioids per protocol — **never aspirin in pediatric varicella**

Education & Monitoring

- Monitor temperature, hydration, fluid intake, lesion progression
- Watch for signs of bacterial superinfection (purulence, increased erythema, fever spike)
- Eye involvement (Hutchinson's sign) → **ophthalmology consult immediately**
- Encourage rest, oral fluids, soft bland diet if lesions in mouth
- Promote Shingrix vaccination for adults ≥50

7 Pharmacology

DRUGS TO KNOW

Drug / Class	Mechanism	Side Effects	Nursing Considerations
Acyclovir Antiviral (DNA synthesis inhibitor)	Inhibits viral DNA polymerase — stops replication	Nephrotoxicity, N/V, headache, IV phlebitis	**Start within 72 hr** of rash · push fluids 2–3 L/day · monitor BUN/Cr · infuse slowly over 1 hr
Valacyclovir / Famciclovir Antiviral (oral pro-drugs)	Converted to acyclovir; better oral bioavailability	Headache, GI upset, dizziness	Preferred PO option · same 72-hour window · adjust for renal impairment
Gabapentin / Pregabalin Anticonvulsant — neuropathic pain	Modulates calcium channels → decreases nerve excitability	Sedation, dizziness, peripheral edema, weight gain	Titrate slowly · do not stop abruptly · fall risk · best agent for PHN
Amitriptyline / Nortriptyline TCA — neuropathic pain	Inhibits norepinephrine reuptake; modulates pain pathways	Anticholinergic: dry mouth, constipation, urinary retention, sedation, orthostasis	Caution in elderly · monitor cardiac (QT) · take at bedtime
Lidocaine 5% Patch Topical anesthetic	Blocks sodium channels → local nerve block	Local skin irritation; minimal systemic	Apply to **intact skin only** (not on open vesicles) · 12 hr on / 12 hr off
Capsaicin Cream Topical for PHN	Depletes substance P from sensory neurons	Initial burning at site, erythema	Wear gloves to apply · wash hands · avoid eyes/mucous membranes
Varivax (Varicella) **LIVE** attenuated vaccine	Stimulates immunity to VZV before primary infection	Local pain, low-grade fever, mild rash	**Contraindicated:** pregnancy, immunocompromised, anaphylaxis to neomycin · 2 doses
Shingrix (Zoster) **Recombinant** (non-live)	Adjuvanted subunit vaccine — boosts T-cell response to VZV	Injection-site pain, myalgia, fatigue (often pronounced)	**Preferred** for adults ≥50 · 2 doses 2–6 mo apart · safe in immunocompromised · IM only

8 NCLEX Test Traps

⚠ WRONG VS. RIGHT

❌ The Wrong Answer (the Trap)	✅ The Right Answer (the NCLEX Way)
Give aspirin to a child with chickenpox for fever.	**NEVER give aspirin to a child with a viral illness — Reye syndrome.** Use acetaminophen instead.
Wait until the rash appears to start antivirals.	Antivirals are most effective **within 72 hours** of rash onset. Start as soon as shingles is suspected.
Place a localized shingles patient in airborne isolation.	Localized shingles in an immunocompetent patient = **Standard + Contact**. Airborne only if disseminated or immunocompromised.
Assign a pregnant nurse to a varicella patient because "she's been around viruses before."	A non-immune pregnant nurse must **never** care for varicella/zoster patients — risk of congenital varicella syndrome.
Tell the patient the rash is no longer contagious once it appears.	Contagious until **all lesions are crusted over**. Crusts = safe.
Recommend Zostavax for a 65-year-old asking for a shingles vaccine.	**Shingrix** is now the preferred vaccine (recombinant, more effective, safe in immunocompromised). Zostavax has been discontinued in the US.
Tell the patient pain after the rash heals is "normal aging."	Pain persisting >90 days after rash = **postherpetic neuralgia**. Needs gabapentin, TCA, or lidocaine patch — not dismissal.
Ignore a rash on the tip of the nose — "it's just shingles."	**Hutchinson's sign** = zoster ophthalmicus. Vision-threatening. Ophthalmology consult NOW.
A patient with shingles "got it from someone else with shingles."	You can't catch shingles from shingles. You can catch **varicella** from shingles vesicle fluid if you're non-immune. Shingles only comes from *your own* latent virus reactivating.
Give the Varivax vaccine to a pregnant client to protect the fetus.	Varivax is a **LIVE vaccine** — contraindicated in pregnancy and immunocompromised states. Defer until after delivery.

9 Patient & Family Education

TEACH-BACK

While Lesions Are Active

- Keep the rash **covered** when around others
- **Wash hands thoroughly** after touching lesions
- Avoid contact with **pregnant women, infants, immunocompromised**, and anyone not immune to varicella
- Do not share towels, clothing, or bedding
- Stay home from work / school until all lesions crusted
- Do not scratch — increases scarring & bacterial infection risk

Comfort Measures at Home

- Cool compresses, oatmeal baths, calamine lotion for itching
- Loose, breathable cotton clothing
- Acetaminophen for fever (NOT aspirin in children)
- Eat soft, bland foods if oral lesions present
- Stay well hydrated (2–3 L/day if no restriction)
- Adequate rest — immune support is critical

Call the HCP If...

- Rash spreads to the **eye, forehead, or tip of nose**
- Fever >101°F (38.3°C) lasting more than 4 days
- Lesions become purulent, swollen, increasingly red, or warm
- Severe headache, stiff neck, confusion, or vomiting
- Shortness of breath or persistent cough
- Severe pain not relieved by prescribed medication

Prevention & Vaccination

- **Children:** Varivax (live) at 12–15 mo & 4–6 yr
- **Adults ≥50:** Shingrix — 2 doses, 2–6 months apart (recommended even if you've had shingles or Zostavax)
- Shingrix expected side effects: arm soreness, fatigue, body aches for 2–3 days — this is normal
- Post-exposure: VZIG (varicella-zoster immune globulin) for high-risk non-immune contacts within 10 days

10 Memory Boosters

MNEMONICS

S H I N G L E S

KEY FEATURES OF HERPES ZOSTER

S **Stripe** of rash along a dermatome	**H** **Hurts** — severe burning nerve pain
I **Immunocompromised** & elderly at risk	**N** **Never** crosses midline
G **Ganglion** reactivation (dorsal root)	**L** **Lesions** same stage; same side
E **Eye** involvement = emergency (Hutchinson's)	**S** **Shingrix** vaccine prevents it (age ≥50)

V A R I

VARICELLA NURSING ESSENTIALS

V **Vesicles** in all stages at once	**A** **Airborne + Contact** isolation
R **Reye syndrome** — no aspirin in kids	**I** **Itching** — trim nails, mittens, cool compresses

Quick Pattern Recognition

- ★ **"All stages, all over"** → varicella
- ★ **"One side, one stripe"** → shingles
- ★ **"Pain before rash"** → shingles prodrome
- ★ **"Rash on nose tip"** → Hutchinson's = eye emergency
- ★ **"72 hours"** → antiviral window

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NCJMM Clinical Judgment Scenario

SIX-STEP FRAMEWORK

Case: *A 68-year-old immunocompetent male presents to the clinic reporting 2 days of burning pain on the right side of his chest. Today he noticed a "cluster of small blisters" in the same area. Vitals: T 100.2°F, HR 92, BP 138/82, RR 18, SpO_2 96%. He has not been vaccinated for shingles. He lives with his pregnant daughter and a 6-month-old grandchild.*

1 RECOGNIZE CUES

Unilateral vesicular rash on right thorax · 2-day burning pain prodrome · low-grade fever · age >50 · no shingles vaccine · household contains a pregnant woman and an infant (both **non-immune** to VZV).

2 ANALYZE CUES

Unilateral dermatomal pain → rash pattern is classic for **herpes zoster (shingles)**. The lesions are within the 72-hour antiviral window. Household exposure poses a varicella risk to the pregnant daughter (congenital varicella syndrome) and infant (severe varicella).

3 PRIORITIZE HYPOTHESES

Priority #1: Initiate antiviral therapy within the 72-hr window to reduce severity and PHN risk. **Priority #2:** Prevent transmission of varicella to the pregnant daughter and infant. **Priority #3:** Effective pain control. **Priority #4:** Screen for ophthalmic involvement and complications.

4 GENERATE SOLUTIONS

Start valacyclovir 1 g PO TID × 7 days · gabapentin titration for neuropathic pain · acetaminophen for fever · teach to **cover rash**, wash hands, avoid pregnant daughter & grandchild until *all lesions crusted* · arrange alternative caregiving or temporary separation · ophthalmology referral if any facial involvement · post-shingles education on Shingrix vaccination once recovered.

5 TAKE ACTION

Administer first dose of valacyclovir · place cover dressing over rash · provide written instructions about isolation from non-immune contacts · contact daughter's OB regarding possible VZIG prophylaxis · document teaching · schedule follow-up in 7 days.

6 EVALUATE OUTCOMES

Expected: pain reduced to ≤3/10 within 5–7 days · lesions crusted by day 7–10 · no new dermatome involvement · no eye symptoms · pregnant daughter and infant remain symptom-free · patient verbalizes vaccine plan after acute episode resolves. **Reassess if:** rash crosses midline (think disseminated), eye involvement, neurologic changes, or persistent pain beyond 90 days (PHN).