NGN NCLEX 2026 • REPRODUCTIVE / ONCOLOGY

Cervical Cancer

Pathophysiology • Screening • Treatment • Cesium Implant Safety

Women's Health | Oncology | Radiation Safety | Health Promotion

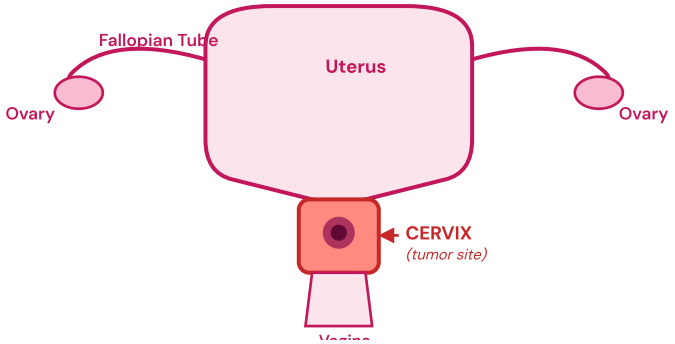
1 Definition & Overview

What Is It?

- Malignant tumor arising from the cervix (lower portion of uterus)
- Most are **squamous cell carcinomas** (~80–90%); the rest are adenocarcinomas
- Strongly linked to **persistent HPV infection** (esp. types 16 & 18)
- One of the most **preventable** cancers — vaccine + screening

Why It Matters

- Often **asymptomatic** in early stages — screening saves lives
- Average diagnosis age: **50 years**
- HPV is identified in **>99%** of cervical cancers
- Survival is high when caught early; drops sharply once metastatic



Female reproductive anatomy — cervix is the lower neck of the uterus

2 Pathophysiology Flow

Cervical cancer develops slowly over years through a stepwise progression of cellular changes. Most begin at the squamocolumnar junction.

1 HPV Exposure
Sexual contact transmits high-risk HPV types (16, 18, 31, 33, 45) — virus infects cervical epithelial cells

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2 Persistent Infection
Most HPV clears in 1–2 years; persistent infection allows viral DNA to integrate into host cells

↓

3 Cervical Dysplasia (CIN 1 → 2 → 3)
Abnormal cell growth begins — "Cervical Intraepithelial Neoplasia" — graded by depth of involvement

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4 Carcinoma in Situ (Stage 0)
Full-thickness abnormal cells confined to surface layer — has NOT crossed basement membrane

↓

5 Invasive Cervical Cancer
Cells break through basement membrane → invade stroma, vagina, parametrium, bladder, rectum, lymph nodes

🚨 **RED FLAG: The progression from HPV → invasive cancer typically takes 10–20 years. This long window is why regular screening with Pap + HPV testing is so effective at catching disease early.**

3 Signs & Symptoms

🟢 Early Stage

- **Often ASYMPTOMATIC** — diagnosed via Pap smear
- Abnormal Pap smear results
- Mild postcoital spotting
- Slight watery vaginal discharge
- This is why **screening is essential** — by the time symptoms appear, cancer may already be advanced

🔴 Late Stage / Advanced

- **Postcoital bleeding** (after intercourse) 🚨
- Intermenstrual or postmenopausal bleeding
- Watery, blood-tinged, **foul-smelling** vaginal discharge
- Pelvic pain, low back pain, leg pain
- **Unilateral leg edema** (lymphatic/vascular obstruction)
- Hematuria, rectal bleeding (bladder/rectal invasion)
- Weight loss, anemia, fatigue

🚨 **RED FLAG: Classic Triad of Advanced Disease:** Painful unilateral leg edema + sciatic-type pain + ureteral obstruction (hydronephrosis) → suggests **pelvic wall extension**. Report immediately.

4 Priority Nursing Interventions (ABCs + Safety)

PRIORITY	ACTION
Airway / Breathing	Monitor respiratory status post-op; assess for PE risk after pelvic surgery (immobility + malignancy = high VTE risk)
Circulation	Monitor vaginal bleeding, vital signs, hemoglobin/hematocrit; signs of shock if bleeding becomes profuse
Pain Management	Assess pain (0–10), administer analgesics, position for comfort, non-pharm measures
Infection Prevention	Monitor temperature, WBCs, surgical/implant site for drainage; report fever >100.4°F
Psychosocial	Address fear, body image, sexuality, fertility loss; involve partner; refer to support resources
Education	HPV vaccination, screening schedule, treatment plan, what to report after discharge

Treatment Modalities — Nurse's Role

Surgery

- Conization, hysterectomy, radical hysterectomy
- Pelvic exenteration (advanced)
- Post-op: monitor bleeding, output, DVT prevention, early ambulation

Radiation

- External beam radiation
- Internal: brachytherapy (cesium implant) — see Section 9
- Skin care, mucositis management, fatigue

Chemotherapy

- Often combined with radiation
- Cisplatin (most common)
- Monitor for nausea, neutropenia, nephrotoxicity, neuropathy

5 Pharmacology

DRUG / CLASS	PURPOSE	KEY SIDE EFFECTS	NURSING CONSIDERATIONS
HPV Vaccine (Gardasil 9)	Primary prevention — protects against 9 HPV types	Local injection site pain, syncope	Routine ages 9–26 (catch-up to 45); 2-dose if <15 yrs, 3-dose if ≥15
Cisplatin (chemo)	First-line chemotherapy with radiation	Nephrotoxicity, ototoxicity, peripheral neuropathy, N/V	Aggressive IV hydration before/after; monitor BUN/creatinine; antiemetics
Paclitaxel (Taxol)	Combination chemotherapy	Bone marrow suppression, peripheral neuropathy, hypersensitivity	Premedicate with steroids/antihistamines; assess for foot drop, paresthesia
Bevacizumab (Avastin)	Targeted therapy for advanced disease	Hypertension, bleeding, GI perforation, impaired wound healing	Monitor BP, watch for bleeding/GI symptoms; hold before surgery
Opioid analgesics	Pain management — pelvic & bone metastasis	Constipation, sedation, respiratory depression	Bowel regimen, fall precautions, naloxone availability
Ondansetron (Zofran)	Antiemetic for chemo-induced N/V	Headache, constipation, QT prolongation	Monitor ECG with high doses; assess hydration

6 Cesium Implant (Brachytherapy) Safety

A cesium implant delivers internal radiation directly to the cervical tumor. The patient becomes a **radiation source** while the implant is in place — staff and visitor protection is the priority.

TIME

Limit exposure to **30 min/day max** per nurse. Plan care efficiently.

DISTANCE

Talk from the **doorway**. Provide care from the **head of bed**.

SHIELDING

Use **lead aprons**; private room with lead-lined door if available.

✅ DO

- **Foley catheter** in place (prevents bladder distension against implant)
- **Absolute bed rest** in supine position
- Side-to-side movement only
- HOB elevated to **maximum 45°**
- **Low-residue diet** (prevents BMs that could dislodge implant)
- Wear dosimeter badge
- Use **long-handled forceps** if implant dislodges
- Place dislodged implant in **lead container** in room

❌ DO NOT

- **NO perineal care** while implant is in place (radiation hazard)
- **NEVER touch implant** with hands — even with gloves
- **NO pregnant nurses** in patient assignment
- **NO children visitors** <18 years old
- NO visitors who are pregnant
- Visitors limited to **30 min/day, 6 ft distance**
- Do NOT bring linens/items out without checking with radiation safety

🚨 **RED FLAG: If implant dislodges: ① Pick up with long-handled forceps ONLY → ② Place in lead-lined container in the patient's room → ③ Notify radiation safety officer & physician immediately. NEVER touch with bare or gloved hands.**

Symptoms to Report Immediately

- Profuse vaginal discharge (possible perforation)
- Elevated temperature >100.4°F (infection)
- Nausea and vomiting (perforation/peritonitis)
- Severe abdominal or pelvic pain
- Implant displacement

7 NCLEX Test Traps ⚠️

❌ **WRONG**

"Pick up the dislodged implant with sterile gloves and place it back in the patient."

✅ **RIGHT**

Use **long-handled forceps** to pick up the implant and place it in a **lead-lined container**. Notify radiation safety.

❌ **WRONG**

"Provide thorough perineal care every shift to prevent infection."

✅ **RIGHT**

NO perineal care while the implant is in place. The Foley prevents soiling. Perineal care resumes only after the implant is removed.

❌ **WRONG**

"The pregnant nurse can care for the patient as long as she wears a lead apron."

✅ **RIGHT**

Pregnant nurses NEVER care for a patient with a sealed implant. Reassign without exception.

❌ **WRONG**

"Encourage the patient to ambulate to the bathroom every 2 hours."

✅ **RIGHT**

Absolute bed rest. Foley in place. Patient may turn side-to-side only. HOB max 45°.

❌ **WRONG**

"Spend extra time at the bedside to provide emotional support."

✅ **RIGHT**

Limit time in room to **30 min/day**. Provide emotional support from the **doorway**. Cluster care to minimize exposure.

❌ **WRONG**

"HPV vaccine is only for sexually active females ages 18–26."

✅ **RIGHT**

HPV vaccine is recommended for **males AND females ages 9–26** (catch-up to 45). Best given **before sexual activity begins**.

❌ **WRONG**

"Postmenopausal bleeding after a hysterectomy is normal and doesn't need to be reported."

✅ **RIGHT**

Any postmenopausal bleeding is abnormal and must be evaluated — could indicate recurrence or another gyn malignancy.

8 Patient & Family Education

Prevention

- **Get the HPV vaccine** — ideally before sexual debut
- Use barrier protection (condoms reduce but don't eliminate HPV risk)
- Limit number of sexual partners
- Avoid sexual activity at a young age
- **STOP SMOKING** — smoking doubles cervical cancer risk
- Maintain immune health (manage HIV, immunosuppression)

Screening Schedule

Ages 21–29	Pap smear **every 3 years**
Ages 30–65	Pap + HPV co-test **every 5 years** (preferred), or Pap alone every 3 years
After 65	May stop if adequate prior negative screening
Post-hyst	Discontinue if hysterectomy was for non-cancer reasons

Pap Smear Prep Teaching

- No douching, vaginal medications, or intercourse **24–48 hours before**
- Schedule between menstrual cycles (avoid heaviest flow days)
- Empty bladder before exam
- Cervical screening can detect changes **before** they become cancer

Post-Treatment Self-Care

Post-Surgery

- No heavy lifting (>10 lbs) × 6 weeks
- No intercourse, tampons, or douching × 6 weeks
- Report fever, heavy bleeding, foul discharge

Post-Radiation

- Vaginal dilator use to prevent stenosis
- Water-based lubricant for dryness
- Skin care: pat dry, no metals/powders

- Address grief over fertility loss; counseling resources

- Manage fatigue, GI side effects, urinary symptoms

9 Memory Boosters & Mnemonics

RADIATION SAFETY TRIO

T · D · S

- **T Time** — 30 min/day MAX
- **D Distance** — Doorway / 6 feet
- **S Shielding** — Lead apron / lead-lined room

CERVICAL CANCER WARNING SIGNS

B · L · E · E · D

- **B Bleeding** — postcoital, intermenstrual
- **L Leukorrhea** — watery, foul discharge
- **E Edema** — unilateral leg
- **E Excruciating** — pelvic/back pain
- **D Dysuria** — hematuria/rectal blood

CESIUM IMPLANT — PROTECT

P · R · O · T · E · C · T

- **P Private room** — lead-lined, dosimeter required
- **R Restrict** — no pregnant nurses, no kids <18
- **O Only forceps** — never touch implant
- **T Time limited** — 30 min/day max
- **E Empty bladder** — Foley required
- **C Check from doorway** — distance protects

T **Total bed rest** + low-residue diet, HOB ≤ 45°

Quick Pattern Recognition

"HPV → Cervical Cancer"

If a question mentions **HPV, multiple partners, smoking, early sexual debut**, or **postcoital bleeding** → think cervical cancer.

"Implant on the floor"

If implant dislodges → **FORCEPS first, lead container second, call third.** Never touch.

"Pregnant nurse"

Pregnant nurse + sealed implant = **NEVER**. Reassign without question.

"Foley + bed rest + low-residue"

All three exist to **keep the implant in place** by preventing distension or movement.

10 NCJMM Clinical Judgment Scenario

Case Scenario

A 48-year-old woman is on Day 2 of brachytherapy with a cesium implant for stage IIB cervical cancer. She has a Foley catheter, is on absolute bed rest, and is receiving a low-residue diet. The nurse enters the room and finds the patient sitting up at 90°, complaining of urinary urgency, with a small metallic-appearing object on the bed linen. The Foley is kinked. Vital signs: T 100.8°F, HR 102, BP 138/86, RR 20, SpO_2 97%.

1 Recognize Cues

Concerning: Object on linen (likely dislodged implant) • Patient at 90° (max is 45°) • Kinked Foley (bladder distension risk → could displace implant) • Temp 100.8°F (possible infection or perforation) • Tachycardia 102.

2 Analyze Cues

The metallic object is most likely the **dislodged cesium implant** — radiation hazard. The HOB at 90° violates positioning protocols. Kinked Foley + distended bladder may have contributed to displacement. Fever could indicate infection or pelvic perforation. Patient is now an active radiation source for staff and visitors.

3 Prioritize Hypotheses

#1 Priority — Radiation safety: Dislodged implant is the most immediate threat (staff exposure, patient under-treatment). **#2:** Possible perforation/infection given fever. **#3:** Foley patency to prevent further displacement.

4 Generate Solutions

① **Use long-handled forceps** to retrieve implant → place in **lead-lined container** in room. ② **Step away**, increase distance, limit time. ③ Notify **radiation safety officer**, physician, and charge nurse **immediately**. ④ Lower HOB to ≤ 45°, return patient to bed rest. ⑤ Unkink Foley, assess output. ⑥ Reassess vitals and abdomen for perforation signs.

5 Take Action

Retrieve implant with forceps → lead container → notify radiation safety/MD → reposition patient flat → fix Foley → continue monitoring temp, abdomen, bleeding. **Do NOT touch implant with hands. Do NOT delay** notifying radiation safety. **Do NOT** remain in the room longer than necessary.

6 Evaluate Outcomes

Implant secured in lead container ✓ • Radiation safety officer present ✓ • Patient HOB ≤ 45° on absolute bed rest ✓ • Foley draining clear yellow urine ✓ • Temp downtrending after MD notified and orders received ✓ • Staff exposure documented; dosimetry checked ✓

Diane's NGN NCLEX 2026 Study Series

Cervical Cancer • Reproductive / Oncology • Pair with companion flashcard deck for full mastery

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