

NGN NCLEX 2026 STUDY SERIES

Lymphoma — All Types

Hodgkin & Non-Hodgkin Lymphoma · Management, Nursing Care & Patient Teaching

System: Hematologic / Oncologic · Lymphatic

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Definition & Overview

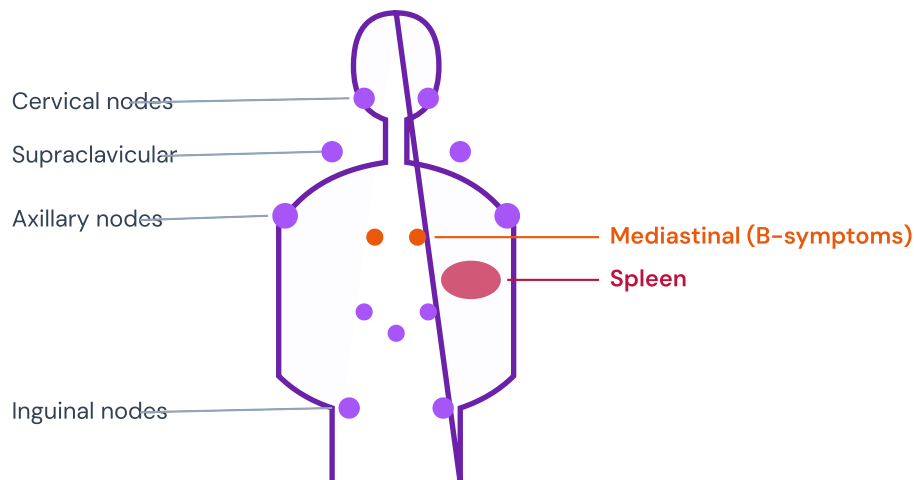
What is Lymphoma?

Malignancy of the **lymphatic system** — cancers arising from **lymphocytes** (B-cells, T-cells, NK cells) in lymph nodes, spleen, thymus, bone marrow, or extranodal lymphoid tissue.

Why It Matters

- One of the most curable cancers when caught early — especially Hodgkin
- Treatment carries serious toxicities the nurse must monitor
- Tumor lysis syndrome & neutropenic sepsis are oncologic emergencies

Common Lymphadenopathy Sites



*Painless, rubbery, mobile lymph nodes — most often **cervical** and **supraclavicular** in Hodgkin lymphoma*

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Pathophysiology — Simplified

1

Genetic mutation in a single lymphocyte (B-cell most often) — triggered by EBV, immunosuppression, HIV, autoimmune disease, H. pylori, or environmental exposure.



2

Uncontrolled clonal proliferation of abnormal lymphocytes — they fail to undergo apoptosis (programmed cell death).



3

Accumulation in **lymph nodes** → painless lymphadenopathy. In Hodgkin: characteristic **Reed-Sternberg cells** (large, multinucleated B-cells) appear among normal cells.



4

Spread: Hodgkin = **contiguous** (orderly, node-to-adjacent-node). Non-Hodgkin = **non-contiguous** (random, scattered, often extranodal).



5

Cytokine release → **B symptoms** (fever, night sweats, weight loss). Bone marrow infiltration → cytopenias. Extranodal disease → organ-specific dysfunction.

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Hodgkin vs. Non-Hodgkin — Side by Side

Feature	Hodgkin Lymphoma (HL)	Non-Hodgkin Lymphoma (NHL)
Hallmark cell	Reed-Sternberg cell (giant multinucleated B-cell)	No Reed-Sternberg cells; diverse B/T/NK cell origins
Frequency	~10% of lymphomas (less common)	~90% of lymphomas (more common)
Age peaks	Bimodal: 15–35 yrs & >60 yrs	Generally older adults; incidence rises with age
Spread pattern	Contiguous — orderly node-to-node	Non-contiguous — scattered, often extranodal
Initial site	Cervical / supraclavicular nodes most often	Variable — peripheral nodes, GI, CNS, skin
B symptoms	Common; Pel-Ebstein cyclic fever classic	Less common; presence indicates aggressive disease
Common subtypes	Nodular sclerosing (most), mixed cellularity, lymphocyte-rich, lymphocyte-depleted	DLBCL (most), follicular, mantle cell, Burkitt, MALT, T-cell
Prognosis	Excellent (5-yr survival 85–90%+ with early stage)	Variable — depends on subtype & stage
1st-line chemo	ABVD (Adriamycin, Bleomycin, Vinblastine, Dacarbazine)	R-CHOP (Rituximab + CHOP regimen)

4

Signs & Symptoms

Local / Early

- **Painless** lymphadenopathy (rubbery, mobile, >1 cm)
- Cervical & supraclavicular most common
- Mediastinal mass → cough, dyspnea, chest pressure
- Generalized **pruritus** (itching) — classic in HL
- Fatigue, malaise
- Splenomegaly / hepatomegaly

"B Symptoms" — Bad & Systemic

- Fever >38°C (100.4°F) — Pel-Ebstein in HL
- Night sweats (drenching, soak the sheets)
- Weight loss >10% of body weight in 6 months

 B symptoms = poorer prognosis & advanced staging

Red-Flag Findings — Notify HCP Immediately

SVC Syndrome

- Facial & neck swelling
- Distended neck/chest veins
- Dyspnea, headache, vision changes

Spinal Cord Compression

- Severe back pain
- Lower extremity weakness/numbness
- Bowel/bladder dysfunction

Alcohol-Induced Pain

- Pain at lymph node sites after alcohol
- Rare but classic for **Hodgkin**

Neutropenic Fever

- Temp ≥38°C in patient with ANC <1000
- **Oncologic emergency** — sepsis risk

5

Ann Arbor / Lugano Staging

I

One lymph node region OR single extralymphatic site

II

2+ regions, same side of diaphragm

III

Both sides of **diaphragm** (± spleen)

IV

Disseminated — extralymphatic involvement (liver, bone, marrow, lung)

A = no B symptoms · **B** = B symptoms present (fever/night sweats/weight loss) · **E** = extranodal extension · **X** = bulky disease (>10 cm or >1/3 chest width)

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Diagnostic Workup



Gold Standard

- **Excisional lymph node biopsy** — confirms diagnosis & subtype
- Reed-Sternberg cells = Hodgkin
- Immunophenotyping (CD20, CD30 markers)



Lab Studies

- **CBC** w/ diff — anemia, ↓platelets, ↑/↓ WBC
- **LDH** — ↑ in aggressive disease
- **ESR** (elevated in HL)
- Beta-2 microglobulin, uric acid
- HIV, Hep B/C screening
- **CMP** — liver, kidney, electrolytes



Imaging

- **PET-CT** — staging gold standard
- CT chest/abdomen/pelvis
- Chest x-ray



Other Studies

- **Bone marrow biopsy** — staging for advanced disease
- Lumbar puncture if CNS involvement suspected (e.g., Burkitt, DLBCL)
- Echocardiogram **before anthracyclines** (baseline EF)
- PFTs **before bleomycin** (baseline DLCO)

7 Pharmacology & Treatment

ABVD — Hodgkin Lymphoma First-Line

Drug	Class	Key Toxicity	Nursing Considerations
A — Adriamycin (Doxorubicin)	Anthracycline	Cardiotoxicity Red urine (harmless)	Baseline & serial echo (EF); lifetime cumulative dose limit; vesicant — central line preferred
B — Bleomycin	Antitumor antibiotic	Pulmonary fibrosis	Baseline PFTs (DLCO); monitor cough/dyspnea; avoid high FiO ₂
V — Vinblastine	Vinca alkaloid	Neurotoxicity Myelosuppression	Monitor neuro exam, CBC; vesicant — extravasation risk
D — Dacarbazine (DTIC)	Alkylating agent	Severe N/V, flu-like symptoms	Aggressive antiemetics; vesicant; photosensitivity

R-CHOP — Non-Hodgkin First-Line (DLBCL)

Drug	Class	Key Toxicity	Nursing Considerations
R — Rituximab	Anti-CD20 monoclonal antibody	Infusion reaction Hep B reactivation	Premedicate (acetaminophen, diphenhydramine); slow infusion; screen Hep B; stop infusion for reaction
C — Cyclophosphamide (Cytosan)	Alkylating agent	Hemorrhagic cystitis	Aggressive hydration; mesna; void frequently; report pink/red urine
H — Hydroxydaunorubicin (Doxorubicin)	Anthracycline	Cardiotoxicity	Baseline & serial echo; cumulative dose limit
O — Oncovin (Vincristine)	Vinca alkaloid	Peripheral neuropathy Paralytic ileus	Monitor reflexes, foot drop, jaw pain; bowel regimen; NEVER intrathecal — fatal
P — Prednisone	Corticosteroid	Hyperglycemia, immunosuppression, mood changes	Monitor BG; do not stop abruptly; infection precautions

Other Treatment Modalities

Radiation Therapy

- Often combined with chemo (combined modality)
- Mantle field, involved-site radiation
- Time / Distance / Shielding for staff
- Skin care: plain water, no metals, cornstarch for itch

Stem Cell Transplant

- Autologous (own cells) or allogeneic (donor)
- For relapsed/refractory disease
- Monitor for GVHD (allogeneic)
- Strict reverse isolation post-transplant

Targeted & Immunotherapy

- Brentuximab vedotin (anti-CD30) — Hodgkin
- Ibrutinib (BTK inhibitor) — mantle cell, CLL
- Checkpoint inhibitors (nivolumab, pembrolizumab)

CAR-T Cell Therapy

- Genetically modified T-cells target CD19
- For relapsed/refractory aggressive NHL
- Watch for cytokine release syndrome (CRS)
- Neurotoxicity (ICANS) monitoring

8 Priority Nursing Interventions (ABCs & Safety)

A

Airway: Monitor for mediastinal mass effects — stridor, dyspnea, SVC syndrome. Elevate HOB; report new respiratory changes immediately.

B

Breathing: Auscultate lung sounds — bleomycin pulmonary fibrosis, radiation pneumonitis, pleural effusion. Pulse ox q4h or per protocol.

C

Circulation: Baseline & serial echocardiograms before/during anthracyclines. Monitor for HF (dyspnea, edema, ↓EF). Trend BP, HR.

I

Infection prevention: Neutropenic precautions when ANC <1000 — private room, no fresh flowers/raw fruit, hand hygiene, screen visitors. **Fever ≥38°C = emergency**; obtain blood cultures, start broad-spectrum antibiotics within 1 hour.

B

Bleeding precautions: Soft toothbrush, electric razor, no rectal temps/suppositories, no IM injections, fall prevention. Monitor platelets & for petechiae/bruising.

T

Tumor lysis syndrome (TLS): Aggressive IV hydration, allopurinol or rasburicase prophylaxis, monitor electrolytes q6h, alkalinize urine if ordered. (See Section 9.)

N

Nutrition & hydration: Small frequent meals; bland, high-calorie/protein. Manage mucositis with saline or salt-soda rinses (avoid alcohol-based mouthwash). Antiemetics around the clock during chemo.

P

Pain & psychosocial: Multimodal pain control, fertility counseling **before** treatment, body image/hair loss support, spiritual care, support groups.

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Tumor Lysis Syndrome — Oncologic Emergency

Massive cell death (especially in **aggressive NHL like Burkitt lymphoma** or with first chemo dose) releases intracellular contents into bloodstream. Onset typically 12–72 hours after treatment starts.



The "4 Hypers + 1 Hypo"

↑ K⁺

Hyperkalemia
(arrhythmias)

↑ Phos

Hyperphosphatemia

↑ Uric Acid

Hyperuricemia
(AKI risk)

↓ Ca²⁺

Hypocalcemia
(tetany, seizures)

Prevention & Management

- **Aggressive IV hydration** (often 3 L/m²/day) — most important intervention
- **Allopurinol** (prophylaxis) or **rasburicase** (treatment) to lower uric acid
- Continuous cardiac monitoring (hyperkalemia)
- Strict I&O; monitor renal function; dialysis if severe AKI
- Electrolytes q6h during high-risk window

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NCLEX Test Traps ⚠️

❌ THE TRAP

"Painful lymph nodes" = lymphoma



✅ RIGHT ANSWER

Lymphoma nodes are **painless, rubbery, mobile**. Painful nodes suggest infection.

❌ THE TRAP

Reed-Sternberg cells appear in all lymphomas



✅ RIGHT ANSWER

Reed-Sternberg = **Hodgkin only**. NHL has none.

❌ THE TRAP

Neutropenic patient with fever — administer acetaminophen first



✅ RIGHT ANSWER

Blood cultures first, then broad-spectrum antibiotics within 1 hour.
Acetaminophen can mask the only sign of sepsis.

❌ THE TRAP

Give the live flu vaccine to a patient on R-CHOP



✅ RIGHT ANSWER

NO live vaccines during/after chemo — immunosuppression. Inactivated flu vaccine OK.

❌ THE TRAP

Vincristine can be given IV or intrathecal



✅ RIGHT ANSWER

Vincristine = IV ONLY. Intrathecal vincristine is **fatal** (ascending paralysis, death).

❌ THE TRAP

Bleomycin = bone marrow toxicity



✅ RIGHT ANSWER

Bleomycin = LUNGS (pulmonary fibrosis).
Adriamycin = HEART. Cytosin = BLADDER.

✗ **THE TRAP**

Hemorrhagic cystitis is treated with fluid restriction



✓ **RIGHT ANSWER**

Aggressive hydration + mesna (binds toxic acrolein metabolite) + frequent voiding.

✗ **THE TRAP**

Rituximab infusion reaction — slow the rate & continue



✓ **RIGHT ANSWER**

Stop the infusion immediately for severe reaction; maintain IV with NS, notify HCP, treat per protocol.

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Patient & Family Education



Infection Prevention

- Hand hygiene before eating, after toileting
- Avoid crowds, sick contacts, fresh flowers, raw fruits/veggies (peel/cook)
- No live vaccines (yourself or household members of CAR-T recipients)
- Daily oral hygiene with soft brush; avoid alcohol-based mouthwash



When to Call Provider

- **Fever $\geq 38^{\circ}\text{C}$ (100.4°F)** — call now
- Bleeding, easy bruising, petechiae
- New shortness of breath or chest pain
- Persistent N/V, diarrhea, inability to keep fluids down
- Painful urination, blood in urine



Nutrition & Hydration

- 2–3 L fluid daily unless restricted
- Small, frequent, bland meals
- High-calorie, high-protein
- Avoid raw seafood, undercooked meat, unpasteurized dairy
- Take antiemetics **before** meals as prescribed



Skin & Radiation Care

- Plain water only on radiation field — no soap, lotion, deodorant, perfume
- No metals (zinc oxide, silver products) on field
- Cornstarch for itching
- Loose cotton clothing; avoid sun exposure
- Do not wash off radiation skin markings



Fertility & Long-Term

- Discuss fertility preservation **before** starting treatment (sperm banking, oocyte/embryo cryopreservation)
- Use reliable contraception during & after treatment
- Long-term follow-up for secondary cancers, cardiomyopathy, pulmonary toxicity



Self-Care & Coping

- Energy conservation — rest periods, prioritize activities
- Wig/scarf resources before hair loss begins
- Support groups (Leukemia & Lymphoma Society)
- Keep a treatment journal — symptoms, questions, dates
- Ask about clinical trials

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Memory Boosters & Mnemonics

B SYMPTOMS = BAD

Fever $>38^{\circ}\text{C}$

Night sweats (drenching)

Weight loss $>10\%$ in 6 mo

Presence = advanced stage, worse prognosis

"R-S = HoDgkin"

Reed-**S**ternberg cells = **Hodgkin** only.

NHL has **NO** Reed-Sternberg cells.

ABVD (Hodgkin)

Adriamycin $\rightarrow$ heart

Bleomycin $\rightarrow$ lungs

Vinblastine $\rightarrow$ nerves

Dacarbazine $\rightarrow$ N/V

R-CHOP (NHL)

Rituximab $\rightarrow$ infusion rxn

Cytosan $\rightarrow$ bladder (cystitis)

Hydroxydaunorubicin $\rightarrow$ heart

Oncovin (vincristine) $\rightarrow$ nerves

Prednisone $\rightarrow$ $\uparrow$ BG, immunosuppression

TLS = "PUKE"

Phosphate $\uparrow$

Uric acid $\uparrow$

K $^{+}$ $\uparrow$ (potassium)

Everything else: Ca^{2+} $\downarrow$, AKI

Treat: hydrate + allopurinol/rasburicase

NEUTROPENIC FEVER

ANC <1000 + temp $\geq 38^{\circ}\text{C}$ =

1) Cultures

2) Antibiotics within **1 hour**

3) No rectal temps/suppositories

Treat as sepsis until proven otherwise

HODGKIN = "ORDERLY"

Spreads **contiguously** — node to adjacent node, predictably.

NHL = "RANDOM" — non-contiguous, scattered, often extranodal.

RADIATION SAFETY = TDS

Time — minimize

Distance — maximize

Shielding — lead

Pregnant nurses: NEVER for sealed implants

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NCJMM Clinical Judgment Scenario

Scenario: A 28-year-old client with newly diagnosed Stage IIB Hodgkin lymphoma is admitted to begin first cycle of ABVD chemotherapy. Past medical history is unremarkable. Vital signs on admission: T 38.2°C (100.8°F), HR 108, BP 118/72, RR 18, SpO₂ 97%. Labs: WBC 4.2 (ANC 920), Hgb 11.4, Plt 142, K⁺ 5.4, uric acid 9.8, creatinine 1.4, LDH 540. The client reports "drenching night sweats" and a 12-lb unintentional weight loss over 4 months. A right cervical lymph node is firm, mobile, and 3 cm.

1

Recognize Cues

Fever 38.2°C with ANC 920 (neutropenic), tachycardia 108, B symptoms (night sweats, weight loss), elevated uric acid 9.8 + creatinine 1.4 + K⁺ 5.4 + LDH 540 (TLS risk markers), painless cervical lymphadenopathy, large tumor burden.

2

Analyze Cues

Two competing priorities: (1) **neutropenic fever = potential sepsis** — must rule out infection within 1 hour, and (2) **impending tumor lysis syndrome** before chemo begins (high uric acid, K⁺, and LDH suggest rapid cell turnover already underway). B symptoms confirm advanced staging (IIB).

3

Prioritize Hypotheses

#1 — Neutropenic sepsis (ABCs, life-threatening, time-sensitive 1-hour window). **#2 — TLS prophylaxis** needed before chemo to prevent AKI & lethal arrhythmia. Hold chemotherapy until both are addressed.

4

Generate Solutions

Obtain **blood cultures × 2 + urine culture before** antibiotics; start **broad-spectrum antibiotics within 1 hour**; initiate **aggressive IV hydration** (NS at 150–200 mL/hr or per protocol); administer **allopurinol** (or rasburicase if uric acid extreme); place on continuous cardiac monitor; institute neutropenic precautions; notify oncologist; obtain ECG, repeat electrolytes q6h.

5

Take Action

Implement in this order: (1) cultures drawn → (2) IV antibiotics hung within 1 hour → (3) IV fluids initiated → (4) allopurinol PO administered → (5) cardiac monitor applied → (6)

neutropenic precautions posted → (7) chemotherapy held pending oncology orders → (8) baseline echo & PFTs verified before ABVD initiation.

6

Evaluate Outcomes

Effective: temp trends down, HR <100, cultures pending, uric acid trending down with hydration, K⁺ normalizing, urine output ≥0.5 mL/kg/hr, no arrhythmias, client tolerating fluids.

Reassess: repeat electrolytes q6h, monitor for ECG changes (peaked T waves, widened QRS = hyperkalemia), watch for new fevers and Tumor Lysis labs trend before next chemo cycle.



Source note: Diane — your uploaded NCLEX notes did not include a lymphoma file, so this infographic was built from standard NGN NCLEX 2026 nursing references (Hinkle & Cheever, Lewis Med-Surg, ATI Oncology, Saunders NCLEX Review, ONS Core Curriculum). Drug toxicity content cross-references your existing Chemotherapeutic Agent Toxicities notes.

Diane's NGN NCLEX 2026 Study Series · Lymphoma — All Types

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