AAVBC
AMERICAN ACADEMY OF VALUE BASED CARE

Non-Hodgkin's Lymphoma

Quick Reference Guide

2026

Table of Contents

1 CLINICAL SNAPSHOT

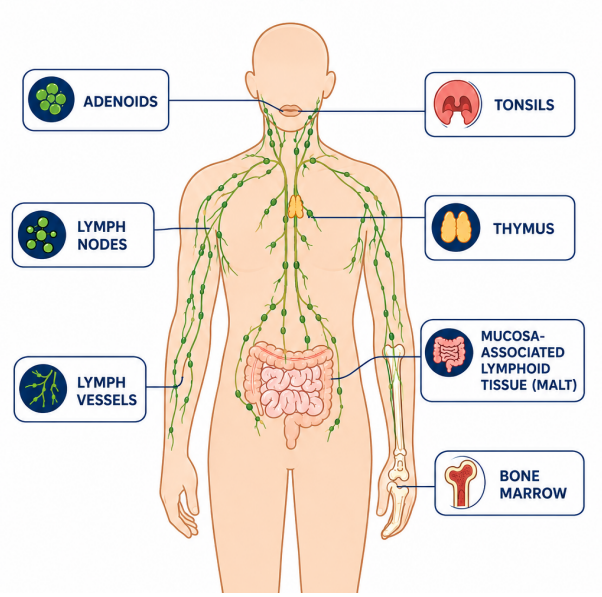
Definition: **Non-Hodgkin lymphoma** (NHL) is not a single disease but a heterogeneous group of more than **60** distinct lymphoid malignancies arising from **B-cell**, **T-cell**, or **NK-cell lymphocytes**, classified by the 2022 WHO/ICC framework into **indolent** and **aggressive** subtypes with widely divergent natural histories, treatment algorithms, and prognoses.[1,2] The most clinically important distinction for primary care is **indolent versus aggressive**: a patient with low-burden **follicular lymphoma** on active surveillance and a patient with **diffuse large B-cell lymphoma** (DLBCL) receiving curative-intent chemoimmunotherapy are not experiencing variations of one disease.[2,3] 'Indolent' **does not mean benign**: follicular lymphoma can undergo **histologic transformation** to DLBCL, a life-threatening event requiring urgent re-biopsy, code update, and treatment escalation; conversely, aggressive DLBCL is **potentially curable** with first-line therapy.[1,3]

ICD-10 Codes:

NHL is reported across the **C82-C88** range, with three mandatory axes of specificity: histologic subtype, anatomic site (5th character), and disease status (active vs. **in remission**, suffix '**A**').[4] Follicular lymphoma is **C82.-** (grade I-IIIb plus site); small-cell B-cell lymphoma is **C83.0-**; mantle cell lymphoma is **C83.1-**; DLBCL is **C83.3-** (primary CNS lymphoma **C83.390**); mycosis fungoides is **C84.0-**, Sezary disease **C84.1-**, and peripheral T-cell lymphoma not otherwise specified (PTCL-NOS) **C84.4-**; extranodal marginal zone (MALT) lymphoma is **C88.4-**.[4] **C85.90** (NHL, unspecified, unspecified site) is a temporary placeholder for **pending pathology only** and must be updated to the confirmed subtype-and-site code.[4] Use **Z85.72** (personal history of NHL) only **after treatment is complete with no active surveillance**.[4]

Prevalence and Burden: The American Cancer Society estimates approximately **79,320** new NHL cases and **19,970** NHL-related deaths in the United States in 2026, with an overall 5-year relative survival near **74%** (ranging from **~88%** for **stage I** to **~64%** for **stage IV**).[5] NHL is strongly age-predisposed: more than **half** of all diagnoses occur in adults aged **65 or older**, the median age at DLBCL diagnosis is the **mid-60s** with roughly **30%** of patients older than **75**, and age-adjusted NHL incidence in adults aged 75–84 reaches approximately **110.9 per 100,000** versus **~19 per 100,000** in the overall population.[3,5,6] The **Global Burden of Disease 2021 analysis** estimated about **306,296** new cases and **158,813** deaths among adults ≥65 worldwide, a burden that is rising.[7,8] This makes NHL one of the **most clinically significant cancers older adults**.[7]

Common Sites of Origin



HCC/RAF V28 Mapping

ICD-10 CODE(S)[4]	HCC CATEGORY (V28)[9]	RAF (CNA)*[10]	DOCUMENTATION REQUIREMENT[4]
C91.10–C91.19 Chronic lymphocytic leukemia (CLL/SLL)	**HCC 22** Bladder/ Colorectal and **Other Cancers**	0.363	**Same biologic entity as SLL**; coded **C91.1-** (**NOT** an NHL C-code); **document**: Rai/Binet stage and treatment status; Richter transformation to DLBCL → recode to **C83.3-** (**HCC 20**)
C83.30–C83.39 Diffuse large B-cell lymphoma (DLBCL)	**HCC 20** Lung and Other Severe Cancers	1.136	Aggressive tier; **document**: subtype (e.g., GCB vs. ABC), site, stage, and treatment status; confirm by hematopathology
C83.3A DLBCL (in remission)	**HCC 20** Lung and Other Severe Cancers	1.136	**Document**: remission status confirmed by oncology (complete vs. partial), date of last treatment, and ongoing surveillance plan; do not use for active disease — recode to C83.3- if relapse documented
C82.00–C82.99 Follicular lymphoma	**HCC 21** Lymphoma and Other Cancers	0.671	**Most common indolent NHL**; **document**: grade (1–3A vs. 3B), site(s), stage, and active treatment or watch-and-wait status with annual MEAT

ICD-10 CODE(S)[4]	HCC CATEGORY (V28)[9]	RAF (CNA)*[10]	DOCUMENTATION REQUIREMENT[4]
C88.40–C88.49 Extranodal marginal zone lymphoma of MALT	**HCC 21 Lymphoma** and Other Cancers	0.671	**Document**: primary site (e.g., gastric, ocular), stage, and treatment status; specify "MALT lymphoma," not "lymphoma NOS"
C83.10–C83.19 Mantle cell lymphoma	**HCC 20** Lung and Other Severe Cancers	1.136	**Document**: subtype, site(s), stage, and Ki-67 if available; do not group with indolent disease
C83.1A Mantel cell lymphoma (in remission)	**HCC 21** Lymphoma and Other Cancers	0.671	**Document:** remission status confirmed by oncology (complete vs. partial), date of last treatment, and ongoing surveillance plan; do not use for active disease — recode to C83.1- if relapse documented
C84.00–C84.09 Mycosis fungoides	**HCC 20** Lung and Other Severe Cancers	1.136	**Document**: TNMB stage, skin involvement, and treatment status; **distinguish from Sézary disease** (**C84.1-**)
C84.10–C84.19 Sézary disease	**HCC 17** Cancer Metastatic; AML Except Promyelocytic	4.209	Aggressive T-cell lymphoma; **document**: blood involvement (circulating Sézary cells), skin staging, and **leukemic status**; specify "Sézary disease," **not** "cutaneous lymphoma NOS"
C84.40–C84.49 Peripheral T-cell lymphoma, not otherwise specified (PTCL-NOS)	**HCC 19** Myelodysplastic Syndromes/ Multiple Myeloma/ and Other Cancers	1.798	**Document**: T-cell phenotype confirmed by immunohistochemistry, subtype, site(s), and stage
C84.60–C84.69 Anaplastic large cell lymphoma (ALCL), ALK-positive	**HCC 20** Lung and Other Severe Cancers	1.136	**Document**: ALK status by immunohistochemistry, subtype, site, and stage
C83.00–C83.09 Small cell B-cell lymphoma	**HCC 21** Lymphoma and Other Cancers	0.671	**Document**: subtype, site, stage, and active status; distinguish from CLL/SLL (**C91.1-**)
C85.90–C85.99 Non-Hodgkin lymphoma, unspecified	**HCC 21** Lymphoma and Other Cancers	0.671	**AVOID** if pathology specifies subtype; **placeholder for pending pathology ONLY**; overuse as a permanent code is the most common NHL coding error; query pathology/ oncology record

ICD-10 CODE(S)[4]	HCC CATEGORY (V28)[9]	RAF (CNA)*[10]	DOCUMENTATION REQUIREMENT[4]
Z85.72 Personal history of NHL	No HCC	—	**AVOID** for active disease: use **ONLY after** oncology confirms treatment complete and active surveillance has ended;never use while monitoring active disease

ABBREVIATIONS: ICD-10 = International Classification of Diseases, 10th Revision; HCC = Hierarchical Condition Category; RAF = Risk Adjustment Factor; CNA = Community Non-Dual Eligible, Aged segment; AML = acute myeloid leukemia; NOS = not otherwise specified; PTCL-NOS = peripheral T-cell lymphoma, not otherwise specified; MDS = myelodysplastic syndrome; DLBCL = diffuse large B-cell lymphoma; GCB = germinal center B-cell; ABC = activated B-cell; TNMB = tumor/node/metastasis/blood; ALCL = anaplastic large cell lymphoma; ALK = anaplastic lymphoma kinase; NHL = non-Hodgkin lymphoma; MEAT = Monitor, Evaluate, Assess, Treat; CLL = chronic lymphocytic leukemia; SLL = small lymphocytic lymphoma; MALT = mucosa-associated lymphoid tissue; CMS = Centers for Medicare & Medicaid Services; ICD-10-CM = International Classification of Diseases, 10th Revision, Clinical Modification
***RAF values represent the Community Non-Dual Eligible Aged (CNA) coefficient from the 2026 CMS-HCC model;[10] values vary across patient populations based on eligibility and care setting**

Risk-Adjusted Care Resources per Patient/Year[9,10]

Risk-adjusted care resource allocation — MA base rate (~$10,402.34) × RAF coefficient

SÉZARY DISEASE	CLL/SLL
$43.8K	**$3.8K**
HCC 17 · RAF 4.209	HCC 22 · RAF 0.363

AAVBC PERSPECTIVE

From the AAVBC's perspective,value-based care in non-Hodgkin's lymphoma *requires replacing a "wait-and-see" approach with accountable diagnostic stewardship that prioritizes early tissue diagnosis, recognizing that NHL frequently mimics benign disease and* ***often presents extranodally****.*[11] *Persistent lymphadenopathy or chronic, treatment-refractory presentations (including unexplained gastrointestinal, cutaneous, or neurologic symptoms) with or without B symptoms should trigger an* ***urgent suspected lymphoma pathway*** *rather than repeated empiric therapy or prolonged observation, with explicit documentation of "suspected lymphoma → urgent hematology referral" and a goal of initiating diagnostic workup* ***within 14 days****.*[12] *Definitive diagnosis requires* ***excisional lymph node biopsy whenever feasible****, with tissue reviewed by an experienced hematopathologist rather than reliance on fine-needle aspiration alone.*[1,13]

The PCP's role extends well beyond diagnosis*. Value is created through* ***active shared-care with hematology*** *by preventing avoidable complications,* ***including****: febrile neutropenia, tumor lysis syndrome, polypharmacy toxicity, steroid-induced hyperglycemia, and unnecessary emergency visits. Equally important is* ***coordinating treatment-informed survivorship care*** *and* ***long-term monitoring*** *for therapy-related cardiovascular disease, secondary malignancies, infection risk, and other late effects.*[14,15] *This positions primary care*

> *as an **accountable co-manager throughout the NHL care continuum** rather than a passive referrer.*[15]

2 RECOGNITION AND DIAGNOSIS

Medicare Part B Covered Screenings and Surveillance (Adult and Geriatric)

There is no NHL-specific population-wide screening test; workup begins once clinical suspicion is established.[1] Coverage applies to diagnostic and staging workup, not screening. **Medicare Part B** covers the following diagnostic tests and workup **when medically necessary**:

TEST/PROCEDURE	FREQUENCY	CPT/HCPCS	CLINICAL INDICATION[1,13,16,17]
Excisional lymph node biopsy	**At diagnosis**; the diagnostic standard	38500/38510 /38525	**Suspected NHL**; FNA alone is **insufficient** for diagnosis; preserves architecture for grading
Core needle biopsy (± FNA + ancillary studies)	**At diagnosis**; anatomically inaccessible nodes only, with expert pathology review	38505	Acceptable alternative only with immunohistochemistry, flow cytometry, molecular analysis, and FISH; **multiple cores preferred**
Flow cytometry/ immunophenotyping	On the diagnostic specimen	88184/88185 /88187/88188	Establishes **lineage** and **subtype** (e.g., CD20, CD5, CD10, cyclin D1); required **before** subtype-specific coding
FDG-PET/CT (staging/ restaging)†	**At staging**; end-of-induction response assessment (Deauville score)	78814/78816	**Standard for FDG-avid lymphomas** under Lugano classification; CT alone for non-avid histologies (marginal zone, CLL/SLL)
Hepatitis B serology	**ONCE before** any rituximab/anti-CD20 therapy = **mandatory**	—	HBsAg, anti-HBc, anti-HBs; PCPs can complete this **before referral** to prevent fatal reactivation
Echocardiogram or MUGA	**ONCE before** anthracycline-based therapy	—	**Baseline LVEF guides regimen selection**; document LVEF **before** doxorubicin (R-CHOP); guides anthracycline-free regimens in cardiac disease

TEST/PROCEDURE	FREQUENCY	CPT/HCPCS	CLINICAL INDICATION[1,13,16,17]
Comprehensive Geriatric Assessment	**Before treatment** in older adults with tolerance concerns	99483 (cognitive)/ G0438–G0439 (AWV)	ADL/IADL, Mini-Cog, nutrition, polypharmacy, comorbidity; G-8, VES-13, CARG/CRASH tools **guide treatment intensity**
Advance Care Planning (AWV)‡	**At diagnosis** in frail/ elderly + when goals change	99497/99498	**Document**: directives, surrogate, code status; NHL diagnosis is an appropriate trigger when comorbidities or advanced age shape treatment intensity decisions

ABBREVIATIONS: CPT/HCPCS = Current Procedural Terminology/Healthcare Common Procedure Coding System; NHL = non-Hodgkin lymphoma; FNA = fine-needle aspiration; FISH = fluorescence in situ hybridization; FDG = fluorodeoxyglucose; PET/CT = positron emission tomography/computed tomography; CLL = chronic lymphocytic leukemia; SLL = small lymphocytic lymphoma; HBsAg = hepatitis B surface antigen; anti-HBc = hepatitis B core antibody; anti-HBs = hepatitis B surface antibody; PCP = primary care provider; MUGA = multigated acquisition scan; LVEF = left ventricular ejection fraction; R-CHOP = rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone; ADL = activities of daily living; IADL = instrumental activities of daily living; CARG = Cancer and Aging Research Group; CRASH = Chemotherapy Risk Assessment Scale for High-Age Patients; VES-13 = Vulnerable Elders Survey-13; AWV = Annual Wellness Visit; ACP = advance care planning; CMS = Centers for Medicare & Medicaid Services; NCD = National Coverage Determination; LCD = Local Coverage Determination; CGA = Comprehensive Geriatric Assessment
† CMS covers FDG-PET for staging, restaging, and treatment monitoring of lymphoma under NCD 220.6 Coverage includes up to 3 post-therapy PET/CT scans per patient per tumor type; additional scans require LCD-level medical necessity justification
‡ ACP is covered with no patient copay when performed during the AWV; 99497 covers the first 30 minutes, 99498 each additional 30 minutes

CLINICAL PEARL: PATTERN RECOGNITION- HODGKIN VS. NON-HODGKIN LYMPHOMA IN OLDER ADULTS

NHL and HL cannot be distinguished clinically; both require excisional biopsy with immunohistochemistry.[1,18] However, **presentation patterns** can guide suspicion and referral urgency.[19,20]

NHL is far more common in older adults (median diagnosis **~67 years**) and more often presents with generalized, **noncontiguous lymphadenopathy** and **extranodal involvement** (GI tract, skin, bone marrow, CNS).[21] **Indolent subtypes** (e.g., follicular, marginal zone) may wax and wane over months; aggressive subtypes (e.g., DLBCL) present with rapidly enlarging masses, elevated LDH, and B symptoms. Mediastinal disease is less common than in HL.[22]

HL **spreads predictably node-to-node** and classically presents with localized cervical/ supraclavicular adenopathy plus a mediastinal mass (>50% of cases).[18,22] In older adults, HL's second incidence peak (ages **50–70**) involves **mixed-cellularity and EBV-positive subtypes** with advanced disease and B symptoms — **mimicking aggressive NHL**.[23,24]

Bottom line: Diffuse adenopathy with extranodal sites **favors NH**L; localized upper-body adenopathy with a mediastinal mass **raises HL suspicion**.[18,19] Both require **excisional biopsy**, not FNA: Reed-Sternberg cells (HL) and NHL subtyping both depend on **intact tissue architecture**.[1,18]

Subtle Early Signs in Older Adults (>65)

SIGN/SYMPTOM[19,23,25,26]	CLINICAL SIGNIFICANCE[1,20,27,28]
Firm, rubbery, mobile, painless lymph node >1 cm not regressing within 4 weeks	The **classic lymphoma node**; should not be dismissed as reactive; nodes >2 cm, hard, fixed, or matted carry **higher malignancy risk** and warrant excisional biopsy
Supraclavicular or epitrochlear lymphadenopathy of any duration	These locations carry the **highest malignancy signal**; check beyond the cervical chain → supraclavicular, axillary, epitrochlear, and inguinal nodes are **frequently missed**
B-symptoms: fever >38°C, drenching night sweats, >10% weight loss over 6 months	Constitutional symptoms suggest an **aggressive subtype** and require expedited evaluation, not routine scheduling
Persistent extranodal symptoms unresponsive to standard therapy	Gastric MALT (epigastric pain mimicking *H. pylori* gastritis), cutaneous lymphoma (eczema-like lesions), or splenomegaly may be **lymphoma presenting outside the nodes**
Disproportionate growth of one node, rising LDH, or new B-symptoms in a known indolent lymphoma	Suggests **histologic transformation** (or Richter transformation in CLL) to aggressive disease; re-biopsy and **urgent oncology contact**
Fatigue, weight loss, or night sweats attributed to existing comorbidities	In multimorbid elderly patients these are too readily ascribed to CHF, COPD, or diabetes, driving emergency-route diagnosis (OR 1.56-1.80)
Unexplained cytopenias with or without lymphadenopathy	Anemia, thrombocytopenia, or leukopenia **may reflect marrow involvement**; **pursue workup** rather than isolated symptomatic treatment
Persistent pruritus or skin lesions unresponsive to dermatologic treatment	Consider **cutaneous T-cell lymphoma** (mycosis fungoides), routinely misdiagnosed as psoriasis, contact dermatitis, or fungal infection

ABBREVIATIONS: MALT = mucosa-associated lymphoid tissue; LDH = lactate dehydrogenase; CLL = chronic lymphocytic leukemia; CHF = congestive heart failure; COPD = chronic obstructive pulmonary disease; OR = odds ratio

Geriatric Risk Factors

FACTOR	RISK SIGNAL	NOTES
Immunosuppression (HIV, transplant, primary immunodeficiency)	RR **15** (low-grade) to **400** (high-grade NHL) in HIV vs. general population[1,29,30]	The strongest single risk category; loss of immune surveillance drives lymphomagenesis[1,29,30]

FACTOR	RISK SIGNAL	NOTES
Autoimmune disease (RA, Sjögren, SLE)	**Increased risk**; magnitude varies by subtype[31]	Chronic **antigenic/ inflammatory drive**; Sjögren is strongly linked to parotid/MALT lymphoma[32]
Adult-onset diabetes mellitus (after age 30)	RR **2.18** (95% CI 1.22-3.90); RR **2.90** for ≥15 years' duration[33]	Iowa Women's Health Study (women 55-69) → among the most directly **elderly-relevant estimates**[33]
Chronic infections (H. pylori, EBV, hepatitis C)	**Causal for gastric MALT** (*H. pylori*); **EBV** → Burkitt and NK/T-cell; HCV → splenic MZL and DLBCL[11,34]	*H. pylori* eradication can **induce remission** of localized gastric MALT lymphoma[1,34,35]
Prior blood transfusion	RR **1.95** (95% CI 1.33-2.85)[33]	Observed in older women; mechanism likely **immune modulation**[33]
Obesity	Risk factor specifically for **DLBCL**[36]	A **modifiable factor**; also affects chemotherapy dosing and tolerance[11]
Cigarette smoking	Association with **follicular lymphoma** in pooled analyses[11]	The most actionable modifiable exposure; **counsel cessation**[37]
History of prior cancer	RR **1.92** (95% CI 1.21-3.06)[33]	Survivors warrant **continued surveillance**; secondary-malignancy risk is elevated[38]
Older age (peak risk ~age 80)	Incidence ~**59.2 per 100,000** at ≥65 (global)[8]	**More than half** of NHL is diagnosed at **≥65**; the dominant epidemiologic driver in Medicare[39]

ABBREVIATIONS: RR = relative risk; NHL = non-Hodgkin lymphoma; HIV = human immunodeficiency virus; RA = rheumatoid arthritis; SLE = systemic lupus erythematosus; MALT = mucosa-associated lymphoid tissue; CI = confidence interval; EBV = Epstein-Barr virus; HCV = hepatitis C virus; MZL = marginal zone lymphoma; DLBCL = diffuse large B-cell lymphoma

Diagnostic Thresholds (Lugano Staging and Risk Stratification)

NHL diagnosis follows a stepwise sequence: clinical suspicion (persistent lymphadenopathy, extranodal symptoms, B symptoms, or incidental imaging finding), excisional lymph node biopsy with immunohistochemistry and flow cytometry to confirm subtype, laboratory workup, and imaging for staging.[1,2,11,13] NHL encompasses **>60 subtypes** ranging from **indolent** (follicular, marginal zone) to **aggressive** (DLBCL, mantle cell, Burkitt), each requiring subtype-specific

immunophenotyping: this is why **excisional biopsy** (not FNA) is the diagnostic standard.[1,11,13] Core needle biopsy is acceptable **only when excisional biopsy is not feasible**, provided multiple cores are obtained with IHC, flow cytometry, and molecular studies.

Essential Workup

The standard workup **across NHL subtypes includes**:[1,13,40]

- **CBC** with differential, comprehensive metabolic panel, LDH
- **Hepatitis B serology** (HBsAg, anti-HBc) = mandatory **before** any anti-CD20 therapy (e.g., rituximab) to prevent **fatal reactivation**
- **PET/CT for FDG-avid lymphomas** (DLBCL, FL, MCL); CT alone for non-avid histologies (marginal zone, CLL/SLL)
- **Echocardiogram** if anthracycline-based therapy (e.g., R-CHOP) is planned
- Bone marrow biopsy is **no longer routinely required for DLBCL** when PET/CT is performed, but remains **useful for indolent lymphomas**

PCPs can expedite the diagnostic pathway by ordering the initial labs (CBC, CMP, LDH, hepatitis B serology) and **referring for excisional biopsy before the oncology appointment**.

Staging: Lugano Classification (2014)

NHL uses the same Lugano classification as HL, with one key difference: the A/B suffix for constitutional symptoms is not used in NHL staging.[1,13] For treatment purposes, stages **I–II** are considered **limited** and stages **III–IV** are **advanced**.[1] PET-CT determines extent for **FDG-avid lymphomas**; CT is sufficient for non-avid subtypes.[1,13]

STAGE	DEFINITION
I	One nodal region or one extranodal site
II	≥2 nodal regions, same side of diaphragm
III	Nodal regions on both sides of diaphragm
IV	Disseminated extralymphatic involvement (liver, lung, bone marrow)

Risk Stratification: Key Prognostic Indices

Unlike HL (which uses a **single IPS for advanced disease**), NHL uses **subtype-specific prognostic scores**.[1,2,11] PCPs do not need to calculate these, but understanding them helps **contextualize oncology communications**.

International Prognostic Index (IPI) — used for DLBCL and aggressive NHL

IPI FACTOR (1 POINT EACH)	THRESHOLD
Age	>60 years
Serum LDH	>ULN

IPI FACTOR (1 POINT EACH)	THRESHOLD
ECOG performance status	≥2
Ann Arbor Stage	III-IV
Extranodal sites	>1
Risk groups: low (0–1), low-intermediate (2), high-intermediate (3), high (4–5). The NCCN-IPI refines this with weighted age and LDH categories for better discrimination in the rituximab era[1]	

ABBREVIATIONS: ECOG = Eastern Cooperative Oncology Group performance status

Follicular Lymphoma International Prognostic Index (FLIPI)

Five factors: age >60, stage III–IV, hemoglobin <12 g/dL, LDH >ULN, >4 nodal sites. Three risk groups (low 0–1, intermediate 2, high ≥3).[1,19] Treatment initiation in FL is guided by the GELF criteria (tumor burden assessment), not FLIPI alone — many patients are appropriately managed with **active surveillance** ("watch and wait").[1]

Mantle Cell Lymphoma International Prognostic Index (MIPI)

Four factors: age, ECOG, LDH, WBC. Three risk groups with 5-year OS of **83%** (low), **63%** (intermediate), **34%** (high).[41,42] **TP53 mutation status** is an additional critical prognostic marker.[43]

Response Assessment: Deauville 5-Point Scale

The Deauville scale standardizes PET/CT interpretation at **end-of-treatment** and drives all PET-adapted treatment decisions.[1,44]

SCORE		FDG PET/CT SCAN RESULT
Negative	**1**	No uptake
Negative	**2**	Uptake ≤ mediastinum
Negative	**3**	Uptake > mediastinum but ≤ liver
Positive	**4**	Uptake moderately higher than liver and visually above adjacent background activity
Positive	**5**	Uptake markedly higher than liver and/or new lesions
Positive	**X***	New areas of uptake unlikely to be related to lymphoma

ABBREVIATIONS: CT = computed tomography; FDG = fluorodeoxyglucose; PET = positron emission tomography
***Watchful waiting, biopsy, or additional imaging tests may be appropriate depending on clinical circumstances**

CLINICAL PEARL - COMPREHENSIVE GERIATRIC ASSESSMENT TO GUIDE THERAPY INTENSITY IN NHL

More than half of NHL is diagnosed at age ≥65.[45] Both the NCCN Older Adult Oncology Guidelines and ASCO guidelines recommend geriatric assessment (GA) in **all older patients with cancer** to identify vulnerabilities not captured by routine evaluation.[17,46]

The GA evaluates functional status (ADL/IADL), comorbidity, cognition, nutrition, polypharmacy, and mobility/falls.[46] The **G-8** (score ≤14 triggers full GA) and **VES-13** (score ≥3 indicates vulnerability) are recommended screening tools;[46,47] **CARG** and **CRASH** tools further guide treatment intensity.[17]

Fitness classification directly determines treatment approach: **fit patients** may receive full-dose chemoimmunotherapy (e.g., R-CHOP), **unfit patients** attenuated regimens (e.g., R-mini-CHOP), and **frail patients** palliative or novel-agent approaches.[45] A study of 105 older adults with **aggressive NHL** validated the VES-13 as **significantly associated with**: grade ≥3 toxicity, unplanned hospitalization, and 1-year mortality (100% sensitivity).[48] Proactive multidisciplinary management (geriatrics, cardiology, primary care) is recommended.[46]

Summary of Staging and Assessment Tools

SYSTEM	PURPOSE	PCP RELEVANCE
Lugano (2014)[13]	Anatomic staging (I–IV)	**Same system as HL**; no A/B suffix for NHL
IPI[49]	DLBCL/aggressive NHL prognosis	**5 simple factors**; helps interpret oncology notes
FLIPI[50]	Follicular lymphoma prognosis	Guides **watch-and-wait vs. treatment decisions**
MIPI[41]	Mantle cell lymphoma prognosis	Age, ECOG, LDH, WBC; TP53 status critical
Deauville 5-PS[13]	PET response assessment	Scores **1–3** = adequate; **4–5** = inadequate
Geriatric Assessment[17]	Fitness classification (age ≥65)	G-8 ≤14 or VES-13 ≥3 **triggers full assessment**

ABBREVIATIONS: HL = Hodgkin lymphoma; NHL = non-Hodgkin lymphoma; IPI = International Prognostic Index; DLBCL = diffuse large B-cell lymphoma; FLIPI = Follicular Lymphoma International Prognostic Index; MIPI = Mantle Cell Lymphoma International Prognostic Index; ECOG = Eastern Cooperative Oncology Group; LDH = lactate dehydrogenase; WBC = white blood cell count; 5-PS = 5-point scale; PET = positron emission tomography; VES-13 = Vulnerable Elders Survey-13

Clues to Dig Deeper

CLINICAL CLUE	WHY IT MATTERS	NEXT DIAGNOSTIC STEP
Lymphadenopathy persisting beyond 4 weeks	The single highest-yield PCP behavior change is to **shorten diagnostic delay** rather than re-treat empirically[12,51]	Excisional lymph node biopsy with hematopathology review; **do not rely on FNA**[1,12]
Persistent extranodal symptoms (GI, skin, CNS) refractory to standard treatment	One-third of NHL is **extranodal** and is the most frequently miscoded; chronic refractory presentations should raise **lymphoma suspicion**[11]	Biopsy the involved site with immunophenotyping; *H. pylori* testing for gastric MALT[34,35]
Single rapidly enlarging node or rising LDH in known indolent lymphoma	Signals **histologic** (or **Richter**) **transformation** to aggressive disease → update code and treatment-escalation trigger[1,52]	**Re-biopsy the discordant site**; urgent oncology contact; update ICD-10 on confirmation[1]
CD5+ small B-cell neoplasm called 'CLL' without cyclin D1 testing	Mantle cell lymphoma **mimics CLL** but needs intensive therapy; misclassification has high clinical stakes[43,53]	Request **cyclin D1/t(11;14) FISH** (and SOX11 if cyclin D1−) **before** accepting a CLL label[1,54]
Lymph-node specimen read as 'reactive hyperplasia' that does not resolve	Follicular lymphoma and AITL are routinely **misread as benign hyperplasia** early in disease[55]	Request **expert hematopathology consultation** and ensure full immunophenotyping/molecular testing[1]
Unexplained splenomegaly or cytopenias	May reflect splenic **marginal zone lymphoma** or marrow involvement[1,34]	CBC, peripheral smear, imaging; **hematology referral** for marrow evaluation[26]
Symptoms attributed to age or comorbidity in a multimorbid elder	Diagnostic anchoring delays NHL recognition and raises emergency-route diagnosis[26]	Re-examine all nodal basins and spleen; pursue biopsy when a node is persistent or atypical[2,56]

ABBREVIATIONS: PCP = primary care physician; FNA = fine-needle aspiration; NHL = non-Hodgkin lymphoma; GI = gastrointestinal; CNS = central nervous system; MALT = mucosa-associated lymphoid tissue; LDH = lactate dehydrogenase; ICD-10 = International Classification of Diseases, 10th Revision; CLL = chronic lymphocytic leukemia; FISH = fluorescence in situ hybridization; AITL = angioimmunoblastic T-cell lymphoma; CBC = complete blood count

Common Oversights

OVERSIGHT/SHORTCUT[1,12,55,56]	WHY IT MATTERS — WHAT TO DO INSTEAD[1,11,26,57]
Relying on FNA for the initial lymphoma diagnosis	FNA cannot assess architecture or grade and is insufficient per NCCN; obtain an **excisional biopsy** reviewed by a hematopathologist
Prescribing empiric corticosteroids for unexplained lymphadenopathy	Steroids **lyse lymphoma cells** and mask histology, causing false-negative biopsies; **avoid them until lymphoma is excluded**
Interpreting waxing-and-waning nodes as resolved infection	Indolent lymphoma nodes **naturally fluctuate**; track size and dates, and biopsy a node persisting beyond 4 weeks rather than re-treating
Accepting a 'CLL' label on a CD5+ neoplasm without cyclin D1	Mantle cell lymphoma **masquerades as CLL** but is aggressive; request cyclin D1/t(11;14) **before** treatment is chosen
Treating 'NHL' as one disease with one regimen	More than 60 subtypes have **distinct trajectories**; indolent disease may be actively monitored while aggressive DLBCL is curative-intent → **confirm subtype first**
Missing histologic/Richter transformation in known indolent disease	A single growing node, rising LDH, or new B-symptoms warrant **re-biopsy and urgent escalation**, not continued surveillance
Examining only the cervical chain	Supraclavicular (highest malignancy signal), axillary, epitrochlear, and inguinal nodes plus splenomegaly are **commonly missed** → palpate all basins
Ascribing B-symptoms and fatigue to existing comorbidities	Diagnostic anchoring in multimorbid elders **delays diagnosis** and worsens the route to care; **keep lymphoma on the differential**
Equating 'watch and wait' with doing nothing	**Active surveillance** is evidence-based for **low-burden indolent FL**; schedule **structured monitoring visits** rather than discharging the patient

ABBREVIATIONS: FNA = fine-needle aspiration; NCCN = National Comprehensive Cancer Network; CLL = chronic lymphocytic leukemia; NHL = non-Hodgkin lymphoma; DLBCL = diffuse large B-cell lymphoma; LDH = lactate dehydrogenase; FL = follicular lymphoma

Key Differentials in Elderly

PRESENTATION	DIFFERENTIAL	KEY TESTS
Persistent generalized or localized lymphadenopathy	**Reactive/infectious lymphadenitis**; **NHL**; Hodgkin lymphoma; metastatic carcinoma; sarcoidosis[12]	**Excisional biopsy**; CBC, LDH; viral serologies; chest/abdomen/pelvis imaging[1,12]
CD5+ small B-cell neoplasm	**CLL/SLL** vs. **mantle cell lymphoma** (both CD5+); marginal zone lymphoma[1,34]	Cyclin D1, t(11;[14]) FISH, SOX11; CD23/CD200; flow cytometry[43,53]
Lymph node read as reactive follicular hyperplasia	Benign reactive hyperplasia vs. **follicular lymphoma** vs. **early AITL**[55]	BCL2 IHC, CD10, light-chain restriction; **expert hematopathology review**[1,11]
Chronic gastric or GI symptoms	*H. pylori* gastritis/peptic ulcer disease vs. **gastric MALT lymphoma** or GI DLBCL[1,34]	Endoscopy with adequate biopsies; *H. pylori* staining; FISH for MALT1; flow cytometry[1,58]
Chronic refractory skin lesions	Eczema, psoriasis, dermatitis, fungal infection vs. **cutaneous T-cell or B-cell lymphoma**[59,60]	Skin biopsy with T-cell clonality and **immunophenotyping** per NCCN cutaneous algorithm[60,61]
Systemic symptoms with polyclonal hypergammaglobulinemia	Autoimmune disease or chronic infection vs. **angioimmunoblastic T-cell lymphoma** (AITL)[55]	**Lymph node biopsy** with CD10+ T cells, expanded CD21+ follicular dendritic meshwork; T-cell clonality[40,55]
New rapidly growing node + rising LDH in known indolent lymphoma	Indolent progression vs. **histologic/ Richter transformation** to DLBCL[1,53]	**Re-biopsy the discordant site**; PET-CT; LDH; urgent oncology referral[1,57]

ABBREVIATIONS: NHL = non-Hodgkin lymphoma; CBC = complete blood count; LDH = lactate dehydrogenase; CLL = chronic lymphocytic leukemia; SLL = small lymphocytic lymphoma; FISH = fluorescence in situ hybridization; AITL = angioimmunoblastic T-cell lymphoma; BCL2 = B-cell lymphoma 2; IHC = immunohistochemistry; GI = gastrointestinal; MALT = mucosa-associated lymphoid tissue; DLBCL = diffuse large B-cell lymphoma; NCCN = National Comprehensive Cancer Network; PET-CT = positron emission tomography-computed tomography

Comorbidity Screening

CONDITION	PRELEVANCE/ASSOCIATION*[1,2,11,62]	SCREENING APPROACH*[1]
Cardiovascular disease/CHF	**Anthracycline** (doxorubicin) **cardiotoxicity** may preclude standard R-CHOP; LVEF <50% requires **regimen modification**	**Baseline echocardiogram** or MUGA **before** anthracycline therapy; favor CDOP/CEOP/GCVP + rituximab in cardiac disease; document **I11.0/I50.-** when present
Diabetes mellitus	**Independent NHL risk factor** (RR 2.18); prednisone in CHOP causes significant hyperglycemia requiring active management	Intensify **glucose monitoring during steroid phases**; coordinate insulin adjustments with oncology; document **E11.-**
Chronic kidney disease	**Alters clearance of**: methotrexate, lenalidomide, and other renally excreted agents; common in elderly NHL patients	Calculate CrCl **before** renally cleared agents; monitor renal function per cycle; adjust doses per FDA labels; document N18.- CKD stage
Hepatitis B (chronic or resolved)	Rituximab can trigger **fatal HBV reactivation**, including in anti-HBc+/ HBsAg− patients (resolved infection)	**Mandatory** HBsAg, anti-HBc, anti-HBs **before any anti-CD20 therapy**; antiviral prophylaxis when indicated; document **B18.-/ Z22.51**
Cognitive impairment	**Affects**: adherence, consent capacity, toxicity reporting, and delirium risk during treatment	**Mini-Cog/MoCA screen**; document **R41.-/F03.-**; caregiver involvement; delirium-prevention protocols
Malnutrition/ hypoalbuminemia	Strongest modifiable predictor of **grade 3+ chemotoxicity** (OR 4.29) and **unplanned hospitalization** (OR 2.83) in older NHL patients	**Nutritional assessment before treatment**; albumin as prognostic marker; **dietitian referral**; document **E44.-/R63.4**
Polypharmacy	**Drug-drug interactions with**: ibrutinib (CYP3A4), venetoclax, and lenalidomide; raises toxicity risk	Medication reconciliation **every visit**; Beers Criteria review; **GA-guided deprescribing**; document **Z79.-**
VTE risk	NHL is independently prothrombotic, **compounded by**: immobility, central lines, and certain agents (lenalidomide, L-asparaginase)	**Risk-based thromboprophylaxis**; vigilance for new limb swelling or dyspnea; document **Z86.718**

CONDITION	PRELEVANCE/ASSOCIATION*[1,2,11,62]	SCREENING APPROACH*[1]

ABBREVIATIONS: CHF = congestive heart failure; R-CHOP = rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone; LVEF = left ventricular ejection fraction; MUGA = multigated acquisition scan; NHL = non-Hodgkin lymphoma; RR = relative risk; CHOP = cyclophosphamide, doxorubicin, vincristine, prednisone; CDOP = cyclophosphamide, doxorubicin (liposomal), vincristine, prednisone; CEOP = cyclophosphamide, etoposide, vincristine, prednisone; GCVP = gemcitabine, cyclophosphamide, vincristine, prednisone; CrCl = creatinine clearance; FDA = U.S. Food and Drug Administration; HBV = hepatitis B virus; HBsAg = hepatitis B surface antigen; anti-HBc = hepatitis B core antibody; anti-HBs = hepatitis B surface antibody; MoCA = Montreal Cognitive Assessment; OR = odds ratio; CYP3A4 = cytochrome P450 3A4; GA = geriatric assessment; VTE = venous thromboembolism; CKD = chronic kidney disease
***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

⚠ RED FLAG — EMERGENCY/ACTIVATE CRISIS RESPONSE

These emergency conditions require **immediate intervention** in patients with known or suspected non-Hodgkin lymphoma:

- **Superior vena cava (SVC) syndrome** (facial/upper extremity swelling, dyspnea, stridor with mediastinal mass):[63,64] in NHL, chemotherapy alone achieves **complete symptom relief in ~80% of cases**
  - → **Emergency CT angiography**; endovascular stenting for life-threatening symptoms; tissue diagnosis before chemotherapy when feasible
- **Tumor lysis syndrome** (hyperkalemia, hyperuricemia, hyperphosphatemia, hypocalcemia, AKI):[1] highest risk in Burkitt and bulky DLBCL; may cause fatal arrhythmias and renal failure
  - → **Rigorous IV hydration**; rasburicase for high-risk (G6PD testing required); allopurinol for low/intermediate risk
- **Spinal cord compression** (new back pain with weakness, sensory change, or bladder dysfunction):[65] lymphoma is highly **radiosensitive** → primary RT preferred over surgery
  - → **Emergency MRI entire spine**; high-dose dexamethasone; radiation oncology consultation
- **Febrile neutropenia** (temp ≥38.3°C with ANC <500/mm^3):[66] empiric antibiotics within 1 hour of triage
  - → Blood cultures **before** antibiotics; anti-pseudomonal monotherapy (cefepime, meropenem, or piperacillin/tazobactam)
- **Airway compromise from rapidly enlarging cervical or mediastinal lymphadenopathy**[67]
  - → **Emergency airway management**; avoid sedation/supine positioning; urgent oncology consultation
- **Severe symptomatic hypercalcemia** (confusion, arrhythmias):[68] calcitriol-mediated mechanism in lymphoma makes glucocorticoids particularly effective
  - → IV saline hydration; IV zoledronic acid; calcitonin for rapid onset; glucocorticoids

⚠ RED FLAG — URGENT (24-72 HOURS)

Expedited workup required = **do not** refer to routine follow-up:

- **Rapidly enlarging lymphadenopathy with B symptoms, especially age >55**:[67,69] suggests aggressive subtype; avoid empiric corticosteroids, which mask histology
  - → Urgent hematology-oncology referral; do not complete an empiric antibiotic trial before referring
- **Suspected histologic or Richter transformation** = disproportionate growth of a single site, rising LDH, or new B symptoms in known indolent lymphoma[1,53]
  - → Same-day oncology contact; PET-CT; excisional biopsy of discordant lesion (SUV ≥5); update ICD-10 on confirmation
- **New neurologic symptoms in a known NHL patient** (headache, seizures, focal deficits) suggesting CNS involvement[69,70]
  - → **Urgent MRI brain ± spine**; lumbar puncture if safe; neurology and oncology consultation
- **Persistent lymphadenopathy >4 weeks**; supraclavicular or epitrochlear adenopathy of any duration; nodes >2 cm, hard, fixed, or matted[67]
  - → Expedited referral (within days, not routine); **excisional biopsy**, not FNA
- **Unexplained cytopenias or splenomegaly**:[69] may reflect marrow involvement or splenic MZL
  - → CBC, peripheral smear, imaging; hematology referral
- **Persistent skin lesions unresponsive to dermatologic treatment**:[67] consider cutaneous T-cell lymphoma
  - → Skin biopsy with T-cell clonality and immunophenotyping

3 MEAT DOCUMENTATION ESSENTIALS

NHL documentation translates a heterogeneous, subtype-defined malignancy into **a record that supports continuity**, **care coordination**, and **accurate risk adjustment**.[4,9] **The most frequent pitfalls**: leaving a patient on **C85.90** (NHL unspecified) after pathology confirms a subtype, failing to update the code after histologic or Richter transformation, dropping anatomic-site and remission-status specificity, and omitting comorbidities that drive treatment tolerance. The MEAT framework below ties **each element into appropriate clinical action**:

***Case vignette**: A 74-year-old male presents for follow-up. Excisional biopsy confirmed **diffuse large B-cell lymphoma** after three weeks of a firm, non-tender left supraclavicular node, fatigue, and 5 kg unintentional weight loss. **Past medical history**: type 2 diabetes on metformin, heart failure with reduced ejection fraction (LVEF 45%), and stage 3 CKD. Staging PET-CT shows **stage III disease**. LDH is elevated, ECOG is 1, giving an NCCN-IPI in the **high-intermediate range**. Because he has active disease, the accurate code is **C83.33** (DLBCL, intra-abdominal) or the appropriate site-specific code, **not C85.90**.*

MONITOR: "Weight: 79 kg, down 5 kg over 3 weeks. **Functional status**: ECOG 1; G-8 = 12 → geriatric vulnerability flagged. **B symptoms**: unintentional weight loss >10% (present), night sweats (absent), fever (absent). Left supraclavicular node: 2.8 cm, firm, non-tender. **Baseline ECHO**: LVEF 45% → anthracycline limitation documented. **CrCl calculated**: stage 3 CKD → renally cleared agents **require dose adjustment**. Baseline CBC, CMP with LDH (elevated), albumin (low → OR 4.29 for grade 3+ toxicity). **Hepatitis B serology**: pending = must result **before** rituximab."

EVALUATE: "**Surgical pathology**: diffuse large B-cell lymphoma, GCB subtype by Hans algorithm, CD20+. Lugano stage III by PET-CT. **NCCN-IPI**: high-intermediate (age >60, LDH elevated, stage III, ECOG 1). **Geriatric assessment**: G-8 = 12 → unfit; **formal CGA completed**; HFrEF (**I50.22**), type 2 diabetes (**E11.65**), CKD stage 3 (**N18.3**), polypharmacy (8 medications). **Hepatitis B serology**: HBsAg, anti-HBc, anti-HBs ordered → **reactivation** with rituximab **can be fatal**."

ASSESS: "Active diffuse large B-cell lymphoma, intra-abdominal and nodal sites (**C83.33**; HCC 20). **Associated**: HFrEF LVEF 45% (**I50.22**) → precludes standard-dose doxorubicin; type 2 diabetes (**E11.65**) → **steroid-phase hyperglycemia anticipated**; CKD stage 3 (**N18.3**) → methotrexate contraindicated, monitor lenalidomide clearance; hypoalbuminemia (**E44.0**) → nutritional optimization before treatment. **Avoid C85.90**, subtype is confirmed. PHQ-2 screened: negative."

TREAT: "**Oncology-directed**: anthracycline-sparing regimen (R-CDOP, R-CEOP, or R-GCVP) under consideration given LVEF 45%; if patient ≥80 or very frail, **R-mini-CHOP** is the evidence-based **dose-reduced option**. Hepatitis B status must result **before** rituximab; antiviral prophylaxis arranged if anti-HBc positive. G-CSF prophylaxis given age ≥65. **PCP co-management**: intensify glucose monitoring during prednisone phases with sliding-scale insulin protocol; optimize heart failure management (continue guideline-directed medical therapy); monitor renal function per cycle. Nutrition support → **dietitian referral** for weight loss and hypoalbuminemia. **Early palliative care consultation placed** for symptom management. ACP documented (CPT 99497): surrogate named, code status discussed, goals of care aligned with high-intermediate prognosis. Return in 2 weeks or sooner for new symptoms."

Clinical Documentation Elements

- **Document the confirmed histologic subtype**:[1,4] (e.g., DLBCL **C83.3x**, follicular **C82.xx** with grade, mantle cell **C83.1x**, MALT **C88.4x**, PTCL-NOS **C84.4x**) once hematopathology is available → subtype drives both code family and treatment; **never leave C85.90** as a permanent code when pathology specifies it
- **Document the anatomic site of involvement from imaging/pathology**:[4] Use 5th-character specificity (e.g., intra-abdominal **.3x**, intrathoracic **.2x**, multiple sites **.8x**) and disease status = active (**C8x.xx**) vs. in remission (suffix '**A**')
- **Record stage under the Lugano classification and the applicable prognostic index**: [1,13] IPI for DLBCL/aggressive NHL, FLIPI for follicular lymphoma, MIPI for mantle cell lymphoma → score **informs prognosis and treatment intensity**
- **Re-confirm transformation status annually**:[1,53] A single growing node, rising LDH, or new B symptoms in known indolent disease **triggers re-biopsy** and a code update (e.g., follicular **C82.xx** → DLBCL **C83.3x**; CLL **C91.1x** → DLBCL **C83.3x** via Richter transformation)
- **Code each comorbidity at every applicable encounter**:[46,62] Cardiac function/LVEF (**I50.xx**) affects anthracycline eligibility, renal impairment (**N18.xx**) alters methotrexate/lenalidomide clearance, diabetes (**E11.xx**) requires steroid-phase glucose management,

cognition (**R41.xx**/**F03.xx**) and nutrition/albumin (**E44.xx**, **R63.4**) predict toxicity and guide intensity

- **Record the regimen, supportive prophylaxis, and monitoring plan**:[1] Document hepatitis B screening status and antiviral prophylaxis, G-CSF use, PJP prophylaxis (TMP-SMX), and distinguish curative-intent from disease-control intent
- **Document that active surveillance is an evidence-based decision**[71] when chosen for **low-burden indolent disease** (e.g., follicular lymphoma not meeting GELF criteria) → record scheduled monitoring intervals; this is a treatment strategy, **not the absence of care**
- **Document goals-of-care and advance-care-planning discussions**[46] (CPT 99497/99498), especially in patients ≥75 or with significant comorbidity → record surrogate, code status, and whether treatment intent is curative or palliative

Reframing Common Documentation Shortcuts

INSTEAD OF...[1,4,11,53]	DOCUMENT...[1,16,46,53]
'Lymphoma' or 'NHL'	'Diffuse large B-cell lymphoma, intra-abdominal nodes, active (**C83.33**); stage III; NCCN-IPI high-intermediate'
'NHL, unspecified (C85.90)' after pathology is back	Update to the confirmed subtype-and-site code once hematopathology resolves it; reserve **C85.90** for pending pathology only
'Small lymphocytic lymphoma, coded C83.0x'	'CLL/SLL (**C91.10**) — SLL and CLL are one biologic entity; nodal-predominant SLL is still **C91.1-**, not an NHL C-code'
'Known CLL, stable' despite a new growing node	'CLL with suspected Richter transformation → single enlarging node and rising LDH; **re-biopsy obtained**; recode **C91.10** → **C83.3-** on confirmation'
'On chemo'	'**R-CHOP cycle 2 of 6** (rituximab-based); hepatitis B screened and negative; G-CSF prophylaxis; PJP prophylaxis with TMP-SMX'
'Follicular lymphoma, watch and wait'	'Follicular lymphoma grade 1 (**C82.01**), low tumor burden by GELF, on **active surveillance with scheduled 3-month monitoring**'
'Gastric lymphoma'	'Extranodal marginal zone (**MALT**) lymphoma of stomach (**C88.4-**); *H. pylori* positive, eradication therapy initiated'
'Heart failure, continue meds' (NHL patient on doxorubicin)	'Heart failure, LVEF 45% (**I50.-**) → **anthracycline-sparing regimen selected**; echocardiogram documented pre-treatment'

INSTEAD OF...[1,4,11,53]	DOCUMENT...[1,16,46,53]
'Diabetes, stable' during R-CHOP	'Type 2 diabetes (**E11.-**) with steroid-related hyperglycemia during prednisone phases; **glucose monitoring intensified** and co-managed with oncology'
'History of lymphoma (Z85.72)' while still monitored	Use the active C-code with MEAT while under surveillance; reserve **Z85.72** for **after treatment completion with no active monitoring**

ABBREVIATIONS: NHL = non-Hodgkin lymphoma; DLBCL = diffuse large B-cell lymphoma; NCCN = National Comprehensive Cancer Network; IPI = International Prognostic Index; CLL = chronic lymphocytic leukemia; SLL = small lymphocytic lymphoma; LDH = lactate dehydrogenase; R-CHOP = rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone; G-CSF = granulocyte colony-stimulating factor; PJP = Pneumocystis jirovecii pneumonia; TMP-SMX = trimethoprim-sulfamethoxazole; GELF = Groupe d'Etude des Lymphomes Folliculaires; MALT = mucosa-associated lymphoid tissue; LVEF = left ventricular ejection fraction; MEAT = Monitor, Evaluate, Assess, Treat

DOCUMENTATION REMINDER IS COMPREHENSIVE CODING

Every NHL encounter should document the **confirmed subtype**, anatomic site, and **status** (active vs. in remission), the **stage** and IPI/FLIPI score, the regimen with its prophylaxis and monitoring, and the **full comorbidity burden**: cardiac, renal, glycemic, cognitive, and nutritional.[1,2,11,13] Re-confirm transformation status **annually** so the code reflects the true disease course, and frame active surveillance as a deliberate, evidence-based plan.[1,53]

4 TREATMENT AND REFERRAL QUICK GUIDE

Treatment is subtype-dependent.[1,2,11] The two most common subtypes, **DLBCL** (**~40%**) and **follicular lymphoma** (**~20%**), follow **opposite paradigms**: curative-intent chemoimmunotherapy versus active surveillance or disease control.[1,11,21] Treatment is initiated and directed by **hematology/oncology**; the **PCP role is** early recognition, urgent referral for excisional biopsy, pre-treatment screening (hepatitis B before rituximab, echocardiogram before anthracyclines), co-management of therapy-altered comorbidities, and reinforcing surveillance and adherence.[1,53] In older adults, functional status, **not chronological age**, drives treatment intensity; Comprehensive Geriatric Assessment guides whether a patient receives full-dose, dose-reduced, or supportive care.[17,46,72]

Therapy Escalation Criteria

TRIGGER[1,2,12,53]	ACTION*[1,34,53,73]
Persistent unexplained lymphadenopathy >4 weeks or chronic refractory presentation	**Excisional biopsy** with hematopathology review; refer to hematology/oncology → **do not rely on FNA** or empiric steroids

TRIGGER[1,2,12,53]	ACTION*[1,34,53,73]
Confirmed DLBCL, fit patient	Oncology initiates curative-intent **R-CHOP x6**; Pola-R-CHP is a Category 1 alternative **for IPI ≥2**
DLBCL in a patient ≥80 or very frail	**R-mini-CHOP** (~50% dose reduction) = 2-year OS 59-66% in the **Peyrade/Oberic trials**; prephase steroids ± vincristine for frail patients
DLBCL with reduced LVEF or cardiac disease	Anthracycline-sparing regimen (CDOP with liposomal doxorubicin, CEOP, or GCVP + rituximab); **echocardiogram/ MUGA first**
Relapsed/refractory DLBCL	**CAR T-cell therapy** (axi-cel, liso-cel, tisagenlecleucel) for eligible patients; bispecifics (epcoritamab, glofitamab) after ≥2 lines
Follicular lymphoma, low burden, asymptomatic	**Active surveillance**: randomized trials show no OS benefit from early treatment; schedule **structured monitoring**
Follicular lymphoma meeting GELF criteria (high burden)	**Chemoimmunotherapy**: bendamustine + rituximab or obinutuzumab, R-CHOP, R-CVP, or lenalidomide + rituximab (Category 2A)
Mantle cell lymphoma	**Fit**: intensive chemoimmunotherapy + autologous stem cell transplant; **elderly/frail**: BTK inhibitor + rituximab or BR
CLL/SLL requiring treatment	BTK inhibitor (ibrutinib, acalabrutinib, zanubrutinib) or venetoclax + obinutuzumab = well tolerated orally in older adults
Localized gastric MALT lymphoma	***H. pylori* eradication can induce remission**; rituximab-based therapy or local radiation for non-gastric or refractory disease
Suspected histologic/Richter transformation	**Re-biopsy the discordant site**; treat as DLBCL; update the code and escalate urgently to oncology

ABBREVIATIONS: DLBCL = diffuse large B-cell lymphoma; FNA = fine-needle aspiration; R-CHOP = rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone; Pola-R-CHP = polatuzumab vedotin, rituximab, cyclophosphamide, doxorubicin, prednisone; IPI = International Prognostic Index; OS = overall survival; R-mini-CHOP = reduced-dose rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone; LVEF = left ventricular ejection fraction; CDOP = cyclophosphamide, liposomal doxorubicin, vincristine, prednisone; CEOP = cyclophosphamide, etoposide, vincristine, prednisone; GCVP = gemcitabine, cyclophosphamide, vincristine, prednisone; MUGA = multigated acquisition scan; CAR = chimeric antigen receptor; axi-cel = axicabtagene ciloleucel; liso-cel = lisocabtagene maraleucel; GELF = Groupe d'Etude des Lymphomes Folliculaires; R-CVP = rituximab, cyclophosphamide, vincristine, prednisone; BTK = Bruton tyrosine kinase; BR = bendamustine + rituximab; CLL = chronic lymphocytic leukemia; SLL = small lymphocytic lymphoma; MALT = mucosa-associated lymphoid tissue; ASCT = autologous stem cell transplant; FDA = U.S. Food and Drug Administration

***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

NCCN-Aligned Treatment by Subtype, Fitness, and Patient Profile

SUBTYPE/SETTING	GUIDELINE-ALIGNED APPROACH*[1,34,40,53,73]	KEY PCP NOTES*[1,17,46,72]
DLBCL, fit (curative intent)	**R-CHOP x6** (category 1); Pola-R-CHP for IPI ≥2	**Aggressive but potentially curable**; complete hepatitis B screening and echocardiogram **before** treatment
DLBCL, age ≥80 or very frail	**R-mini-CHOP** (~50% dose reduction); prephase steroids ± vincristine	2-year OS 59–66%; G-CSF prophylaxis liberal at age ≥65; CARG/CRASH toxicity estimate **before** treatment
DLBCL, relapsed/ refractory	**CAR-T** (axi-cel, liso-cel, tisagenlecleucel); **bispecifics** (epcoritamab, glofitamab); polatuzumab ± BR; tafasitamab + lenalidomide	CAR-T typically **requires ECOG 0–1** and a **specialized center**; selinexor and loncastuximab in later lines
Follicular, low burden asymptomatic	**Active surveillance** (category 1)	**Evidence-based**; no OS benefit from early treatment; frame as active monitoring with scheduled visits, **not inaction**
Follicular, low burden symptomatic	**Single-agent rituximab** (375 mg/m^2 weekly x4)	**Minimal toxicity**; preferred in elderly when chemoimmunotherapy is not tolerable
Follicular, high burden (GELF+)	**BR or obinutuzumab-based**; R-CHOP; R-CVP; lenalidomide + rituximab	Rituximab maintenance (every 8–12 weeks ×2 years) **after chemoimmunotherapy** is category 1
Mantle cell lymphoma	**Fit**: intensive chemoimmunotherapy + ASCT; **frail**: BTK inhibitor + rituximab or BR	Cyclin D1+/t(11;^{14})+ aggressive subtype; **not curable with standard therapy in most elderly**; confirm with FISH
CLL/SLL	BTK inhibitor (acalabrutinib, zanubrutinib, ibrutinib) or venetoclax + obinutuzumab	Oral agents suit **frail elderly**; monitor for **Richter transformation** (~5–10% of CLL); ibrutinib: monitor for **atrial fibrillation** and **hypertension**
Extranodal MZL/MALT	***H. pylori* eradication** (gastric); rituximab-based or local radiation (non-gastric/limited)	**Often highly responsive**; document *H. pylori* status and remission; eradication can induce CR in **~75%** of localized gastric MALT

SUBTYPE/SETTING	GUIDELINE-ALIGNED APPROACH*[1,34,40,53,73]	KEY PCP NOTES*[1,17,46,72]
PTCL-NOS and aggressive T-cell	**Anthracycline-based chemotherapy** (CHOP/CHOEP); specialist-directed	Poorer prognosis than most B-cell NHL; confirm T-cell phenotype by IHC; clinical trial enrollment encouraged

ABBREVIATIONS: DLBCL = diffuse large B-cell lymphoma; R-CHOP = rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone; Pola-R-CHP = polatuzumab vedotin, rituximab, cyclophosphamide, doxorubicin, prednisone; IPI = International Prognostic Index; R-mini-CHOP = reduced-dose rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone; OS = overall survival; G-CSF = granulocyte colony-stimulating factor; CARG = Cancer and Aging Research Group; CRASH = Chemotherapy Risk Assessment Scale for High-Age patients; CAR = chimeric antigen receptor; axi-cel = axicabtagene ciloleucel; liso-cel = lisocabtagene maraleucel; BR = bendamustine + rituximab; ECOG = Eastern Cooperative Oncology Group performance status; GELF = Groupe d'Etude des Lymphomes Folliculaires; R-CVP = rituximab, cyclophosphamide, vincristine, prednisone; ASCT = autologous stem cell transplant; BTK = Bruton tyrosine kinase; FISH = fluorescence in situ hybridization; CLL = chronic lymphocytic leukemia; SLL = small lymphocytic lymphoma; MZL = marginal zone lymphoma; MALT = mucosa-associated lymphoid tissue; CR = complete remission; PTCL-NOS = peripheral T-cell lymphoma, not otherwise specified; CHOP = cyclophosphamide, doxorubicin, vincristine, prednisone; CHOEP = cyclophosphamide, doxorubicin, etoposide, vincristine, prednisone; NHL = non-Hodgkin lymphoma; IHC = immunohistochemistry; FDA = U.S. Food and Drug Administration

***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

CLINICAL PEARL — SUBTYPE & FUNCTION > CHRONOLOGIC AGE

Treat NHL by subtype and function, not chronological age.[1,46] **R-CHOP** applies to **fit DLBCL patients**, **not to**: indolent subtypes, CLL/SLL, and or uniformly across very frail patients.[1,3,53] In the landmark **R-mini-CHOP trials**, patients aged ≥80 with DLBCL achieved 2-year OS of **59–66%** with dose-attenuated chemoimmunotherapy, establishing that **curative-intent treatment is feasible** in selected older adult patients.[73] The decision lever is **Comprehensive Geriatric Assessment** (ADL/IADL, cognition, nutrition, and comorbidity) which determines full-dose, dose-reduced (**R-mini-CHOP**), or supportive care, and reduces toxicity when used to guide care.[17,46,72]

Non-Pharmacologic Care and Supportive Interventions

INTERVENTION	TARGET/RECOMMENDATION	NOTES
Nutritional optimization	Assess and correct **before treatment**; **albumin** as a prognostic marker[46]	Hypoalbuminemia is the **strongest modifiable predictor** of grade 3+ toxicity (**OR 4.29**); dietitian referral[74]
Low-intensity physical activity	Walking programs within tolerance during treatment[75]	Safe; associated with **reduced fatigue and preserved function**[76]
Comprehensive Geriatric Assessment	**Before treatment** for older adults with tolerance concerns[17,72]	ADL/IADL, Mini-Cog, nutrition, polypharmacy, social support; G-8, VES-13, CARG, CRASH tools[46]

INTERVENTION	TARGET/RECOMMENDATION	NOTES
Infection-prevention education	Hygiene, crowd avoidance, **prompt fever reporting**[66]	Prolonged B-cell depletion (6-12 months) **raises infection risk**; PJP prophylaxis during therapy[66]
Caregiver engagement for oral targeted agents	Pill organizers, written hold/reduce criteria, pharmacist support[77]	Polypharmacy and cognitive impairment **complicate** ibrutinib/venetoclax/lenalidomide **adherence**[78]
Active-surveillance education	Explain that monitoring is evidence-based, **not inaction**; schedule visits[1]	Reduces 'untreated' anxiety in low-burden indolent FL and maintains engagement[71]
Goals-of-care and advance care planning	**At diagnosis** in frail/elderly; document directives and surrogate[79,80]	Early palliative integration **improves quality of life** without shortening survival[81]

ABBREVIATIONS: OR = odds ratio; ADL = activities of daily living; IADL = instrumental activities of daily living; G-8 = Geriatric 8 screening tool; VES-13 = Vulnerable Elders Survey-13; CARG = Cancer and Aging Research Group; CRASH = Chemotherapy Risk Assessment Scale for High-Age patients; PJP = Pneumocystis jirovecii pneumonia; FL = follicular lymphoma

Medication Safety and Key Interactions

DRUG/CLASS	INTERACTION/TOXICITY*	CLINICAL ACTION*
Rituximab (anti-CD20)	**HBV reactivation** = potentially fatal even in resolved infection (anti-HBc+/HBsAg−); PJP and prolonged B-cell depletion[16]	**Mandatory** HBsAg/anti-HBc/anti-HBs **before start**; antiviral prophylaxis (entecavir/tenofovir) when indicated; TMP-SMX for PJP[66]
Venetoclax	**TLS within hours of first dose** → hyperkalemia and acute kidney injury[53]	**TLS risk stratification**; ramp-up dosing; allopurinol, hydration, electrolyte monitoring; do not accelerate the schedule[53]
Ibrutinib + CYP3A4 inhibitors	Azole antifungals, clarithromycin, and grapefruit **raise ibrutinib exposure** up to 24-fold→ increasing AF, bleeding, infection[82]	**Avoid strong CYP3A4 inhibitors**; reduce dose or hold if unavoidable; **avoid grapefruit**[82]
Ibrutinib, bleeding and atrial fibrillation	**Impaired platelet aggregation**; new-onset AF in **~3%–16%** (off-target TEC kinase)[82]	**Hold 3 days** (minor procedures) or **7 days** (major procedures) **around surgery**; monitor BP and rhythm every visit; hematology input on anticoagulation[82]

DRUG/CLASS	INTERACTION/TOXICITY*	CLINICAL ACTION*
Doxorubicin (in R-CHOP)	**Cumulative anthracycline cardiotoxicity**, amplified by CHF/CAD/ LVEF <50%[15]	Echocardiogram or MUGA **before treatment**; substitute liposomal doxorubicin or anthracycline-free regimen in high-risk patients[15,83]
Corticosteroids (prednisone in CHOP)	**Hyperglycemia** during steroid phases; mood change; infection[84]	**Intensify glucose monitoring** (postprandial, not fasting alone); adjust hypoglycemics proactively; co-manage with oncology[84]
Lenalidomide	Renal clearance → **accumulation causes**: cytopenias, neurotoxicity, VTE in CKD[85]	Calculate CrCl (Cockcroft-Gault) **before start**; dose-adjust per renal function; VTE prophylaxis; monitor renal function[85]
Obinutuzumab (anti-CD20)	Rare **JC virus–related PML**; infusion reactions[86]	Consider PML with new neurologic symptoms → prompt MRI and neurology referral[1,66]

ABBREVIATIONS: HBV = hepatitis B virus; HBsAg = hepatitis B surface antigen; PJP = Pneumocystis jirovecii pneumonia; TMP-SMX = trimethoprim-sulfamethoxazole; TLS = tumor lysis syndrome; CYP3A4 = cytochrome P450 3A4; AF = atrial fibrillation; BP = blood pressure; R-CHOP = rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone; CHF = congestive heart failure; CAD = coronary artery disease; LVEF = left ventricular ejection fraction; MUGA = multigated acquisition scan; CHOP = cyclophosphamide, doxorubicin, vincristine, prednisone; VTE = venous thromboembolism; CKD = chronic kidney disease; CrCl = creatinine clearance; JC = John Cunningham; PML = progressive multifocal leukoencephalopathy; MRI = magnetic resonance imaging; FDA = U.S. Food and Drug Administration
***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

When to Refer

CRITERION	SPECIALIST*[1,12,79]	URGENCY*[87,88]
SVC syndrome, tumor lysis, cord compression, or airway compromise	Emergency department	**Emergent**
Febrile neutropenia during/after chemotherapy	Emergency department/ oncology	**Emergent**
Rapidly enlarging adenopathy with B-symptoms	Hematology/oncology	Urgent (same/next day)
Suspected histologic or Richter transformation	Hematology/oncology	Urgent (same/next day)
New neurologic symptoms in a known NHL patient	Hematology/oncology/ neurology	Urgent

CRITERION	SPECIALIST*[1,12,79]	URGENCY*[87,88]
Persistent unexplained lymphadenopathy >4 weeks	Surgery (excisional biopsy) → hematology/oncology	Expedited (1–2 weeks)
Supraclavicular/epitrochlear node or node >2 cm, hard, fixed	Surgery → hematology/oncology	Expedited
Confirmed NHL needing systemic therapy	Hematology/oncology (first-line treatment)	Routine-expedited
Persistent skin lesions unresponsive to dermatology	Dermatology → hematology/oncology	Routine
Goals-of-care/symptom needs in advanced disease	Palliative care	Routine

ABBREVIATIONS: NHL = non-Hodgkin lymphoma; SVC = superior vena cava
***Consult institutional protocols for specific referral pathways and timelines**

Follow-Up Timing

PHASE	PCP FOLLOW-UP FOCUS[13,15]	TIMING[1,3]
CBC with differential	**Before each chemotherapy cycle**; weekly in dose-dense regimens; each surveillance visit	ANC <500 → neutropenic precautions; **febrile neutropenia is an emergency**; platelets <50,000 → hold per protocol
Comprehensive metabolic panel	**Before each cycle**; more often during venetoclax ramp-up	Creatinine, electrolytes (TLS window), LFTs; >2–3x ULN **may require holding an agent**
LDH	Baseline, pre-treatment, each restaging PET-CT	A rising LDH in known indolent lymphoma **raises transformation concern** → re-biopsy
Hepatitis B serology/ HBV DNA	**Serology ONCE before rituximab**; HBV DNA every 3–6 months on prophylaxis	HBsAg+ or anti-HBc+ → antiviral prophylaxis **before and ≥12 months after** last rituximab dose
Echocardiogram/ MUGA	**Once before anthracycline**; repeat if symptoms develop	LVEF below institutional threshold → **cardio-oncology input**; anthracycline-free regimen
PET-CT (Deauville)	**End of induction**; interim after ~2 cycles for selected high-risk	**Deauville** 4–5 at end of induction = **treatment failure**; 1–3 = **complete response**

PHASE	PCP FOLLOW-UP FOCUS[13,15]	TIMING[1,3]
Blood pressure and rhythm (ibrutinib)	**Every visit** on ibrutinib	New hypertension in **~20%–30%** and AF in **~6%–16%**; prefer non-CYP3A4-inhibiting antihypertensives
Geriatric/functional reassessment	**Each visit during treatment**; at least annually in surveillance	ADL/IADL decline, new cognitive impairment, or >5% weight loss → **reassess plan**

ABBREVIATIONS: CBC = complete blood count; ANC = absolute neutrophil count; TLS = tumor lysis syndrome; LFT = liver function test; ULN = upper limit of normal; LDH = lactate dehydrogenase; PET-CT = positron emission tomography-computed tomography; HBV = hepatitis B virus; HBsAg = hepatitis B surface antigen; MUGA = multigated acquisition scan; LVEF = left ventricular ejection fraction; AF = atrial fibrillation; CYP3A4 = cytochrome P450 3A4; ADL = activities of daily living; IADL = instrumental activities of daily living

Comorbidity Management — Primary Care Role

COMORBIDITY	APPROACH[1,46,82,84]	CAUTION*[74,89]
Heart failure/cardiac disease (I50.-)	Echocardiogram **before** anthracycline; favor CDOP/CEOP/GCVP in cardiac disease	Doxorubicin cardiotoxicity is **cumulative and amplified at LVEF <50%**
Diabetes mellitus (E11.-)	**Intensify glucose monitoring** during prednisone phases; adjust agents	**Steroid-driven hyperglycemia** can be severe; co-manage with oncology
Chronic kidney disease (N18.-)	Calculate CrCl **before** renally cleared agents; monitor function	Affects methotrexate and lenalidomide clearance; **avoid nephrotoxins**
Hepatitis B (B18.-, Z22.51)	Screen and arrange antiviral prophylaxis **before** rituximab	**Reactivation can be fatal**, including in anti-HBc+/HBsAg− patients
Hypertension on ibrutinib (I10)	Monitor BP **every visit**; calcium channel blocker preferred	**Avoid**: diltiazem/verapamil (CYP3A4 interaction with ibrutinib)
Cognitive impairment (G31.84)	**Mini-Cog**; caregiver involvement; written dosing schedules	**Raises**: medication-error, delirium, and consent risk during treatment
Malnutrition/frailty (E44.-, R54)	Nutritional optimization and functional assessment **before** treatment	**Hypoalbuminemia** (OR 4.29) **and frailty** predict toxicity and hospitalization

COMORBIDITY	APPROACH[1,46,82,84]	CAUTION*[74,89]
Polypharmacy (Z79.-)	Medication review (Beers); **deprescribe** where possible	Drug-drug interactions with: ibrutinib, venetoclax, and lenalidomide → **compound toxicity**

ABBREVIATIONS: LVEF = left ventricular ejection fraction; CrCl = creatinine clearance; HBsAg = hepatitis B surface antigen; BP = blood pressure; CYP3A4 = cytochrome P450 3A4; OR = odds ratio; FDA = U.S. Food and Drug Administration
***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

Cost-Smart Options

BRAND (EST. COST)[90–92]	GENERIC/ALTERNATIVE (EST. COST)[93–96]	EST. SAVINGS	COST-SMART TIP[1,97,98]
Originator rituximab (Rituxan) (~$3,800–$4,000/mo Medicare Part B pay or cost pre-biosimilar)	Rituximab **biosimilars** (rituximab-pvvr, -arrx, -abbs) (**~$1,700/mo** by 2023)	**~$33,000–$46,000/yr** in total medication costs; hospital acquisition price declined 63% (2020–2024)	**Biosimilars are interchangeable** for NHL; confirm formulary preference; 84% adoption by 2024
Ibrutinib (Imbruvica) (~$12,000/30-day supply)	Acalabrutinib (Calquence) or zanubrutinib (Brukinsa) (**~$11,400–$12,500/30-day** supply)	**~$47,000** per patient over treatment course (including AE management)	Second-generation BTKis have **lower AF** (9% vs. 16%) and **hypertension** (9% vs. 23%); **no generic BTKi available**
Continuous BTKi monotherapy (~$140,000–$150,000/yr indefinitely)	Fixed-duration venetoclax + obinutuzumab (~12 months; **~$94,000 total**)	**~$46,000–$150,000+** over 3–5 years	Time-limited regimen with **comparable PFS**; eliminates indefinite drug exposure and long-term AE costs
Low-burden indolent FL — early chemoimmunotherapy (~$50,000–$75,000 per course)	Active surveillance = no drug cost (**~$200–$400/visit** for H&P + labs)	**Avoids ~$50,000–$75,000** in first-line costs; many patients defer treatment for years	**NCCN category 1**; no OS benefit from early treatment; 19% of watchful-waiting patients untreated at 10 years
Localized *H. pylori*–positive gastric MALT — systemic chemoimmunotherapy (~$30,000–$50,000+)	***H. pylori*** eradication therapy (**~$100–$300** for antibiotics + PPI)	**Avoids ~$30,000–$50,000+** in systemic therapy	**NCCN first-line**; 75% CR with eradication alone; t(11;18)+ unlikely to respond

BRAND (EST. COST)[90–92]	GENERIC/ALTERNATIVE (EST. COST)[93–96]	EST. SAVINGS	COST-SMART TIP[1,97,98]
Preventable febrile neutropenia hospitalization (~$25,000–$40,000 per episode)	G-CSF prophylaxis with biosimilar filgrastim (**~$200–$280/dose**) or biosimilar pegfilgrastim (**~$1,500–$2,500/dose**)	**~$20,000–$35,000** per avoided hospitalization; biosimilar G-CSF ~30–50% less than originator	NCCN category 1 for >20% FN risk; liberal use in patients ≥65; **biosimilar substitution appropriate**
Self-administered Part D oral agents (pre-IRA OOP: ~$10,000–$14,000/yr)	Medicare Part D $2,000 **annual OOP cap** + MPPP ($167/mo)	**~$8,000–$12,000/yr** in OOP savings	Hematologic cancer patients see greatest OOP reduction (**~$10,846/beneficiary**); enroll in MPPP to avoid front-loaded January costs

ABBREVIATIONS: BTKi = Bruton tyrosine kinase inhibitor; AF = atrial fibrillation; PFS = progression-free survival; AE = adverse event; FL = follicular lymphoma; H&P = history and physical; OS = overall survival; MALT = mucosa-associated lymphoid tissue; PPI = proton pump inhibitor; CR = complete response; G-CSF = granulocyte colony-stimulating factor; FN = febrile neutropenia; IRA = Inflation Reduction Act; OOP = out-of-pocket; MPPP = Medicare Prescription Payment Plan; FDA = U.S. Food and Drug Administration

***Costs are approximate US estimates and vary by institution, payer, and region. Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

Patient Education and Adherence

Non-Hodgkin lymphoma patient education is distinguished by two features: the heterogeneity of the disease — spanning **indolent subtypes** (follicular lymphoma, marginal zone lymphoma) where active surveillance may be appropriate, to **aggressive subtypes** (DLBCL, Burkitt lymphoma) requiring urgent chemoimmunotherapy — and the **subtype-dependent survivorship horizon**, during which late effects (secondary malignancies, cardiovascular disease, infections from prolonged B-cell depletion) may **exceed the original lymphoma** in clinical significance.[2,11] In older adults, the additional challenge is that treatment intensity is **fitness-stratified**, meaning patients must understand that geriatric assessment–guided dose adjustments are evidence-based optimization, **not under-treatment**.[17,45,46] **Education should emphasize**: which symptoms require **emergency evaluation** (SVC syndrome, febrile neutropenia, tumor lysis syndrome, cord compression), why excisional biopsy is preferred over FNA, the meaning of B symptoms and their role in staging, the **rationale for active surveillance in indolent disease**, and the subtype-specific surveillance schedule that the PCP co-manages after oncology discharge.[1,11,13,56]

DOCUMENTATION REMINDER — PATIENT EDUCATION

Document the following education topics, the patient and caregiver(s) present, materials provided, and patient understanding (**teach-back method**):

- **Diagnosis in plain language**:[2] Patient understands histologic subtype (e.g., follicular vs. DLBCL vs. marginal zone), grade, stage, and whether disease is indolent or aggressive
- **Warning symptoms and when to call 911**:[56,66] Facial/upper extremity swelling or stridor (SVC syndrome), temperature ≥38.3°C with neutropenia, new back pain with neurologic deficit, and **tumor lysis signs** (muscle cramps, decreased urine output, especially during venetoclax ramp-up)
- **B symptoms and their significance**:[11] Fever >38°C, **drenching night sweats**, weight loss >10% in 6 months affect staging; in indolent NHL under surveillance, new B symptoms may signal transformation requiring re-biopsy
- **Active surveillance rationale (when applicable)**:[1] For asymptomatic low-burden indolent NHL, **surveillance is NCCN category 1** → early treatment has not improved OS; document specific triggers for therapy initiation (symptoms, end-organ threat, cytopenias, bulk)
- **Treatment toxicity awareness**:[1] **R-CHOP**: cardiac symptoms, vincristine neuropathy; BTK inhibitors: AF, hypertension, bleeding; **venetoclax**: TLS during ramp-up; **all anti-CD20 regimens**: prolonged B-cell depletion, infection risk, hepatitis B prophylaxis
- **Transformation awareness** (indolent subtypes):[1] Report disproportionate nodal growth, new B symptoms, rising LDH, or new extranodal disease → prompts **urgent re-biopsy**
- **GA-guided dose adjustment** (when applicable):[17,46] Document counseling that GA-guided dose reductions are evidence-based care shown to **reduce toxicity without compromising survival**, not under-treatment
- **Survivorship monitoring**:[1,11,13,15] **Aggressive NHL**: H&P + labs every 3–6 months for 5 years then annually; CT no more than every 6 months for 2 years; routine surveillance PET/CT discouraged after CR. **Indolent NHL**: similar schedule with ongoing transformation monitoring. **All subtypes**: cardiovascular risk management after anthracycline, secondary malignancy screening, infection vigilance during B-cell depletion
- **Advance care planning**:[79,80] Surrogate, code status, goals of care; CPT 99497/99498 billable during AWV; prioritize in frail older adults
- **Caregiver assessment**:[45,46] Document caregiver understanding of TLS signs, FN protocol, transformation red flags, and oral agent adherence support; screen for caregiver burden; refer to social work if needed

Quality Metrics Tie-In

No NHL-specific HEDIS or MIPS measures are currently active in MY2026, but NHL management intersects cross-cutting quality domains: depression screening, cardiovascular risk management, geriatric safety, care transitions, and advance care planning.[1,11] NHL patients face elevated depression risk (HR 2.09), cardiovascular morbidity (heart failure SIR 3.9 in DLBCL survivors), steroid-induced hyperglycemia (47% during R-CHOP), high readmission rates (hematologic malignancy HR 2.26 vs. solid tumors), and prevalent polypharmacy (69% of older DLBCL patients on ≥5 medications). These cross-cutting measures **anchor quality reporting for any PCP managing an NHL patient in a value-based program**.

MEASURE	STANDARD	APPLICABILITY TO NHL*
HEDIS CBP: Controlling High Blood Pressure	**Denominator**: adults 18–85 with hypertension **Numerator**: BP <140/90 mmHg **Exclusions**: hospice, ESRD, inpatient palliative care	**Heart failure SIR 3.9** in DLBCL survivors after anthracycline-based therapy; ibrutinib causes hypertension in **~20–30%**; NCCN recommends CVD risk factor management for **all anthracycline-exposed survivors**[15,99]
HEDIS COA: Care for Older Adults — Medication Review	**Denominator**: MA enrollees ≥66, continuously enrolled **Numerator**: 2 sub-measures documented annually: (**1**) functional status assessment, (**2**) medication review, **Exclusions**: hospice, ESRD	**69%** of older DLBCL patients have polypharmacy (≥5 medications; aHR 1.14 for mortality); ibrutinib has major CYP3A4 interactions with azole antifungals and clarithromycin; Beers Criteria review **at every visit**[100]
HEDIS COA: Care for Older Adults — Functional Status Assessment	**Denominator**: enrollees ≥66 **Numerator**: functional status assessment documented annually **Exclusions**: hospice, ESRD	GA reveals deficits in **56%** of lymphoma patients despite preserved performance status; functional status drives regimen intensity (mini-CHOP vs. full CHOP)[17,101]

MEASURE	STANDARD	APPLICABILITY TO NHL*
HEDIS TRC: Transitions of Care — Patient Engagement After Inpatient Discharge	**Denominator**: enrollees ≥18 with inpatient discharge **Numerator**: 4 sub-measures within 30 days: (**1**) notification of inpatient admission, (**2**) receipt of discharge information, (**3**) patient engagement after discharge, (**4**) medication reconciliation post-discharge **Exclusions**: hospice	Hematologic malignancy is an independent readmission predictor (HR 2.26 vs. solid tumors); NHL in-hospital mortality 5.9%; polypharmacy (HR 1.78) and advanced stage (OR 2.85) are major drivers; PCP follow-up **within 7 days reduces readmission risk**[102]
HEDIS DMS-E: Utilization of the PHQ-9 to Monitor Depression Symptoms for Adolescents and Adults	**Denominator**: enrollees ≥12 with diagnosis of major depression or dysthymia AND elevated PHQ-9 ≥10 **Numerator**: follow-up PHQ-9 documented within 4–8 months of index elevated score **Exclusions**: hospice	Depression risk **2.09x higher** in NHL (HR 2.09); psychotropic drug use 16.4% vs. 5.1% in comparators; indolent NHL patients at persistently elevated risk (**~30.7%** with clinically significant distress)[103]
HEDIS ACP: Advance Care Planning	**Denominator**: enrollees ≥66 **Numerator**: advance care plan or surrogate decision-maker documented, **OR** documentation that ACP was discussed but patient declined **Exclusions**: hospice	GA-guided care **shapes regimen selection in older NHL**; CPT 99497/99498 billable during AWV; particularly relevant for frail older adults where **fitness assessment drives treatment intensity**[1,46]
HEDIS PCR: Plan All-Cause Readmission	**Denominator**: enrollees ≥18 with acute inpatient discharge **Numerator**: unplanned readmission within 30 days (lower is better) **Exclusions**: planned readmissions (maintenance chemotherapy, transplant), hospice, psychiatric	Hematologic malignancy **HR 2.26 for readmission**; polypharmacy (OR 1.78) and hypoalbuminemia are major drivers; G-CSF prophylaxis in patients ≥65 prevents avoidable admissions; early palliative care **reduces non-beneficial emergency utilization**[104]

MEASURE	STANDARD	APPLICABILITY TO NHL*
HEDIS CDC: Comprehensive Diabetes Care	**Denominator**: adults 18–75 with diabetes **Numerator**: HbA1c testing, eye exam, nephropathy screening **Exclusions**: hospice	**47%** develop hyperglycemia during **R-CHOP**; B-NHL survivors have **4.41-fold increased DM risk** in first year post-diagnosis; do not defer HbA1c; intensify glucose monitoring during prednisone phases[105]

ABBREVIATIONS: ESRD = end-stage renal disease; BP = blood pressure; SIR = standardized incidence ratio; DLBCL = diffuse large B-cell lymphoma; CVD = cardiovascular disease; MA = Medicare Advantage; aHR = adjusted hazard ratio; CYP3A4 = cytochrome P450 3A4; GA = geriatric assessment; CHOP = cyclophosphamide, doxorubicin, vincristine, prednisone; HR = hazard ratio; NHL = non-Hodgkin lymphoma; PCP = primary care provider; PHQ-9 = Patient Health Questionnaire-9; ACP = advance care planning; CPT = Current Procedural Terminology; AWV = Annual Wellness Visit; G-CSF = granulocyte colony-stimulating factor; OR = odds ratio; HbA1c = hemoglobin A1c; B-NHL = B-cell non-Hodgkin lymphoma; DM = diabetes mellitus; R-CHOP = rituximab, cyclophosphamide, doxorubicin, vincristine, prednisone; HEDIS = Healthcare Effectiveness Data and Information Set; CMS = Centers for Medicare & Medicaid Services; MIPS = Merit-based Incentive Payment System; TLS = tumor lysis syndrome; FDA = U.S. Food and Drug Administration
***Consult FDA labels for the most up-to-date dosage information, contraindications, and drug-drug interactions**

5 CODING REMINDERS AND CASE EXAMPLES

Coding Specificity

ELEMENT	DOCUMENTATION REQUIREMENT[1,4,40,53]
Subtype specificity	Document the confirmed histologic subtype with site (e.g., DLBCL **C83.3-**; follicular **C82.-**; mantle cell **C83.1-**; MALT **C88.4-**; PTCL-NOS **C84.4-**)
C85.90 is temporary only	Use NHL-unspecified **C85.90** only while pathology is pending; update on confirmation → permanent use is the most common NHL coding error
SLL is coded as CLL	Small lymphocytic lymphoma and CLL are one biologic entity → **C91.1-** (HCC 22), **never C83.0x**; nodal-predominant SLL is still **C91.1-**
Richter/histologic transformation	On transformation to DLBCL, replace the code (CLL **C91.10** → DLBCL **C83.3-**, HCC 22 → HCC 20); this is a code replacement, **not an addition**
Disease status & remission	Use the **active C-code** with MEAT during treatment/surveillance; the '**A**' suffix denotes documented remission; reserve **Z85.72** for **after treatment with no monitoring**
Anatomic site (5th character)	**Specify** the involved nodal region or extranodal site rather than defaulting to 'unspecified site'

ELEMENT	DOCUMENTATION REQUIREMENT[1,4,40,53]
Grade for follicular lymphoma	Document grade I, II, IIIa, or IIIb; grade IIIb (FLBCL) **is treated as DLBCL**
Comorbidities co-managed during treatment	Code heart failure (**I50.-**), diabetes (**E11.-**), CKD (**N18.-**), hepatitis B status (**B18.-/Z22.51**), malnutrition (**E44.-**), and long-term drug therapy (**Z79.-**) when addressed
Annual re-documentation	Active NHL (**C82-C88**) requires yearly MEAT evidence; a history code (**Z85.72**) eliminates mapping, NHL typically requires lifelong active monitoring

ABBREVIATIONS: DLBCL = diffuse large B-cell lymphoma; MALT = mucosa-associated lymphoid tissue; PTCL-NOS = peripheral T-cell lymphoma, not otherwise specified; NHL = non-Hodgkin lymphoma; SLL = small lymphocytic lymphoma; CLL = chronic lymphocytic leukemia; HCC = Hierarchical Condition Category; MEAT = Monitor, Evaluate, Assess, Treat; FLBCL = follicular large B-cell lymphoma; CKD = chronic kidney disease

Annual Clinical Review and Confirmation

- **Annual review**:[4] An active NHL diagnosis remains current and must be **reassessed and documented with MEAT each year** → confirmed histologic subtype, anatomic site, Ann Arbor/Lugano stage, disease status, treatment phase, IPI/FLIPI score, and comorbidity burden
- **Visit modality**:[4] A face-to-face **or** synchronous audio-video telehealth encounter qualifies when it **supports meaningful clinical evaluation**; chart updates without an encounter do not satisfy MEAT
- **Histologic subtype verification**:[1,53] Before accepting **C85.90** (unspecified), **confirm subtype from pathology**: DLBCL → **C83.3-**; follicular → **C82.-**; mantle cell → **C83.1-**; MALT → **C88.4-**; PTCL-NOS → **C84.4-**; CLL/SLL → **C91.1-**; each follows a distinct treatment algorithm
- **Active disease vs. history**:[4,13] **Z85.72** (personal history) applies **only after** oncology has definitively closed surveillance; a patient on active treatment or post-treatment surveillance retains the active code (**C82–C88**); use the 'A' suffix only with oncologist-documented remission
- **Transformation check**:[13,14] Re-document transformation status **at each annual review** → any Richter or histologic transformation (single growing node, rising LDH, new B symptoms) triggers a **code replacement** (e.g., CLL **C91.10** → DLBCL **C83.3-**, HCC 22 → HCC 20), not an addition
- **Comorbidity carry-forward**:[14,23] Confirm that treatment-shaping comorbidities = cardiac (**I50.-**), diabetes (**E11.-**), renal (**N18.-**), hepatitis B status (**B18.-/Z22.51**), malnutrition (**E44.-**), and long-term drug therapy (**Z79.-**) remain on the problem list and are **independently coded each year** they are addressed

- **Avoid rollover**: Do not copy forward a prior note **without updating**: the histologic subtype and site, active-disease status, current stage, IPI/FLIPI, treatment phase and modifications, transformation status, and the comorbidity burden that documents regimen rationale

Good Documentation - EHR Tips

- **EHR TIP — Smartphrase]** Build a **.nhl_visit dot phrase** that **auto-populates**: subtype-specific code (**C83.3-** DLBCL, **C82.-** follicular with grade, **C83.1-** mantle cell, **C88.4-** MALT, **C84.4-** PTCL-NOS, **C91.1-** CLL/SLL), anatomic site (5th character), Ann Arbor/Lugano stage, disease status (active/remission/history), IPI/FLIPI score, and treatment-shaping comorbidities (I50.-, **E11.-**, **N18.-**, **B18.-/Z22.51**). Separate **.nhl_survivor phrase** for **post-treatment**: subtype, last PET-CT date/Deauville score, LDH, and screening schedule. Eliminates unspecified C85.90 coding and supports MEAT in a single paste
- **[EHR TIP — Alert]** "Subtype Check" = flags **C85.90** when pathology-confirmed subtype exists elsewhere in chart. "Active vs. History Guard" = flags **Z85.72** while antineoplastic therapy remains on active medication list or surveillance imaging is ongoing. "**Transformation Prompt**" = at annual review, requires response to: "Any histologic/Richter transformation? Single growing node, rising LDH, new B symptoms?"
- **[EHR TIP — Best Practice]** Pin subtype-specific code with site and stage (e.g., "Diffuse large B-cell lymphoma, intra-abdominal nodes, **C83.33**, stage III, NCCN-IPI high-intermediate, active"), not "lymphoma." Code comorbidities individually (**I50.-**, **E11.-**, **N18.-**, **B18.-**). Reserve **Z85.72** only after oncology has definitively closed surveillance
- **[EHR TIP — Workflow] Fire BPA when**: **HBV serology absent before rituximab**; baseline echocardiogram/MUGA undocumented before anthracycline; CrCl unchecked before renally cleared agents; follicular lymphoma grade undocumented; **C85.90 persisting >30 days** for subtype upgrade; no MEAT encounter in 6 months. Flag transformation status undocumented at annual review
- **[EHR TIP — Order Set]** "**NHL Active Treatment**": CBC, CMP, LDH, uric acid, hepatitis B serology (HBsAg, anti-HBc, anti-HBs), echocardiogram/MUGA (if anthracycline planned), CrCl, PET-CT per protocol, pathology review. "**NHL Survivorship**": annual CBC, CMP, LDH, PET-CT/Deauville per schedule, HBV monitoring (if on prophylaxis), cardiac assessment (if prior anthracycline), nutrition screen

Brief Case Examples

SUCCESS: THREE-AXIS CODING, COMORBIDITIES LINKED, COORDINATED CARE

SCENARIO

A 74-year-old male with three weeks of a firm, non-tender left supraclavicular node, fatigue, and >10% weight loss. **PMH**: type 2 diabetes, heart failure (LVEF 45%), stage 3 CKD. Provider obtained

excisional biopsy with hematopathology review, confirmed diagnosis, and **documented the full clinical picture** through staging and treatment initiation:

Documentation: "**C83.33**: Active diffuse large B-cell lymphoma, intra-abdominal nodes, stage III, **NCCN-IPI high-intermediate** (pathology confirmed [date]). **Excisional biopsy** with hematopathology review; FNA avoided. Hepatitis B screened **before rituximab** → prophylaxis arranged. **I50.-** : Heart failure, LVEF 45% → anthracycline-sparing regimen selected. **E11.-**: Type 2 diabetes → glucose co-managed during steroid phases. **N18.-**: Stage 3 CKD → renal dosing confirmed. G-CSF prophylaxis initiated. Goals of care documented. Care coordinated with hematology-oncology, cardiology, endocrinology, and nephrology. Return [interval] or sooner for new symptoms."

Outcome: C83.33 (HCC 20) + **I50.-** + **E11.-** + **N18.-** mapped with full diagnostic and treatment course documented. **Every MEAT element present**: subtype-specific diagnosis with pathology confirmation, anatomic site, staging with prognostic index, treatment-shaping comorbidities coded independently and linked to regimen rationale (anthracycline-sparing for HF, glucose management for steroids, renal dosing for CKD), HBV prophylaxis preventing reactivation, G-CSF prophylaxis preventing avoidable admission, goals of care, multidisciplinary care coordination, and follow-up interval with return criteria. Diagnosis made by **excisional biopsy rather than FNA**. Subtype confirmed and coded specifically (HCC 20) rather than left on **C85.90** (HCC 21).

PITFALL: UNSPECIFIED CODING AND OMITTED COMPLEXITY

SCENARIO

A 74-year-old with an enlarging cervical node. Empiric prednisone had been given before biopsy. Presents for routine follow-up. PMH includes type 2 diabetes, heart failure, and stage 3 CKD.

Documentation as written: "74-year-old with lymphoma, stable. Continue care. Non-Hodgkin lymphoma, unspecified (**C85.90**)."

Consequence: (**1**) Subtype never specified: **C85.90** used **despite confirmed DLBCL** on pathology = most common NHL coding error. (**2**) Anatomic site defaulted to unspecified despite imaging documenting supraclavicular involvement. (**3**) Empiric steroids masked histology and risked a false-negative biopsy. (**4**) Hepatitis B **not screened before rituximab**. (**5**) Heart failure, diabetes, and CKD went uncoded, understating true complexity and the rationale for regimen modification. (**6**) No staging, IPI, treatment details, or goals of care documented. No MEAT elements present beyond a bare, inaccurate diagnosis label.

RAF Impact: C85.90 maps to HCC 21 (CNA RAF 0.671), whereas confirmed DLBCL (**C83.3-**) maps to HCC 20 (CNA RAF 1.136).[9,10] Beyond the RAF, the unspecified note **misrepresents** an aggressive, curable disease as undifferentiated, weakens authorization for subtype-directed therapy, and **fragments care coordination**.

Fix: Obtain excisional biopsy without empiric steroids; on pathology, update to the specific subtype/site code. **Corrected documentation**: "**C83.33**: Active diffuse large B-cell lymphoma, intra-abdominal nodes, stage III, NCCN-IPI high-intermediate. Hepatitis B screened → prophylaxis initiated. **I50.-**: Heart failure, LVEF 45% → anthracycline-sparing regimen. **E11.-**: Type 2 diabetes → steroid-phase glucose co-management. **N18.-**: Stage 3 CKD → renal dosing confirmed. Goals of care documented. Return [interval] or sooner for new symptoms." **Coding after fix**: **C83.33** (HCC 20) + **I50.-** + **E11.-** + **N18.-** replaces **C85.90** = subtype-accurate, site-specific, active-disease coding with full clinical picture preserved.

REFERENCES

1.National Comprehensive Cancer Network. *NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®): B-Cell Lymphomas*. National Comprehensive Cancer Network; 2026. https://www.nccn.org/professionals/physician_gls/pdf/b-cell.pdf

2.Silkenstedt E, Salles G, Campo E, Dreyling M. B-cell non-Hodgkin lymphomas. *Lancet Lond Engl*. 2024;403(10438):1791-1807. doi:10.1016/S0140-6736(23)02705-8

3.Sehn LH, Salles G. Diffuse Large B-Cell Lymphoma. *N Engl J Med*. 2021;384(9):842-858. doi:10.1056/NEJMra2027612

4.Centers for Medicare & Medicaid Services (CMS), National Center for Health Statistics (NCHS), American Hospital Association (AHA), American Health Information Management Association (AHIMA). *ICD-10-CM Official Guidelines for Coding and Reporting, FY 2026*. U.S. Department of Health and Human Services; 2025. https://www.cms.gov/medicare/coding-billing/icd-10-codes

5.Siegel RL, Kratzer TB, Wagle NS, Sung H, Jemal A. Cancer statistics, 2026. *CA Cancer J Clin*. 2026;76(1):e70043. doi:10.3322/caac.70043

6.Krok-Schoen JL, Fisher JL, Stephens JA, et al. Incidence and survival of hematological cancers among adults ages ≥75 years. *Cancer Med*. 2018;7(7):3425-3433. doi:10.1002/cam4.1461

7.Chen Y, Jiang Y, Xu Y, et al. Burden of Middle-Aged and Elderly Patients With Non-Hodgkin Lymphoma From 1990 to 2021: A Systematic Analysis Based on the Global Burden of Disease 2021. *Cancer Med*. 2026;15(3):e71609. doi:10.1002/cam4.71609

8.Wang Y, Chen J, Guo J, et al. Global burden of non-Hodgkin lymphoma in the elderly: a population-based study using GBD 2021. *Ann Hematol*. 2026;105(2):39. doi:10.1007/s00277-026-06772-0

9.Centers for Medicare & Medicaid Services. *2026 Final ICD-10-CM Mappings (CMS-HCC V28)*. U.S. Department of Health and Human Services; 2025. https://www.cms.gov/medicare/health-plans/medicareadvtgspecratestats/risk-adjustors/2026-model-software

10.Centers for Medicare & Medicaid Services. *CMS-HCC Model Relative Factor Tables (Community, Non-Dual, Aged)*. 2024. https://www.cms.gov/files/document/revised-cms-hcc-model-relative-factor-tablespdf

11.Armitage JO, Gascoyne RD, Lunning MA, Cavalli F. Non-Hodgkin lymphoma. *Lancet Lond Engl*. 2017;390(10091):298-310. doi:10.1016/S0140-6736(16)32407-2

12.Falk N, Joseph R, Dieujuste M. Lymphadenopathy: Evaluation and Differential Diagnosis. *Am Fam Physician*. 2025;112(3):286-293.

13.Cheson BD, Fisher RI, Barrington SF, et al. Recommendations for initial evaluation, staging, and response assessment of Hodgkin and non-Hodgkin lymphoma: the Lugano classification. *J Clin Oncol Off J Am Soc Clin Oncol*. 2014;32(27):3059-3068. doi:10.1200/JCO.2013.54.8800

14.National Comprehensive Cancer Network. *NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®): Hodgkin Lymphoma*. Version 2.2026. National Comprehensive Cancer Network; 2026. Accessed July 5, 2026. https://www.nccn.org/professionals/physician_gls/pdf/hodgkin.pdf

15.Sanft T, Day AT, Ansbaugh SM, et al. *NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®): Survivorship. Version 2.2026*. Version 2.2026. National Comprehensive Cancer Network; 2026. https://www.nccn.org/guidelines/guidelines-detail?category=3&id=1466

16.Hwang JP, Feld JJ, Hammond SP, et al. Hepatitis B Virus Screening and Management for Patients With Cancer Prior to Therapy: ASCO Provisional Clinical Opinion Update. *J Clin Oncol Off J Am Soc Clin Oncol*. 2020;38(31):3698-3715. doi:10.1200/JCO.20.01757

17.Dale W, Klepin HD, Williams GR, et al. Practical Assessment and Management of Vulnerabilities in Older Patients Receiving Systemic Cancer Therapy: ASCO Guideline Update. *J Clin Oncol Off J Am Soc Clin Oncol*. 2023;41(26):4293-4312. doi:10.1200/JCO.23.00933

18.Ansell SM. Hodgkin lymphoma: 2025 update on diagnosis, risk-stratification, and management. *Am J Hematol*. 2024;99(12):2367-2378. doi:10.1002/ajh.27470

19.Shankland KR, Armitage JO, Hancock BW. Non-Hodgkin lymphoma. *Lancet Lond Engl*. 2012;380(9844): 848-857. doi:10.1016/S0140-6736(12)60605-9

20.Paes FM, Kalkanis DG, Sideras PA, Serafini AN. FDG PET/CT of extranodal involvement in non-Hodgkin lymphoma and Hodgkin disease. *Radiogr Rev Publ Radiol Soc N Am Inc*. 2010;30(1):269-291. doi: 10.1148/rg.301095088

21.Wagle NS, Nogueira L, Devasia TP, et al. Cancer treatment and survivorship statistics, 2025. *CA Cancer J Clin*. 2025;75(4):308-340. doi:10.3322/caac.70011

22.Townsend W, Linch D. Hodgkin's lymphoma in adults. *Lancet Lond Engl*. 2012;380(9844):836-847. doi: 10.1016/S0140-6736(12)60035-X

23.Brice P, de Kerviler E, Friedberg JW. Classical Hodgkin lymphoma. *Lancet Lond Engl*. 2021;398(10310): 1518-1527. doi:10.1016/S0140-6736(20)32207-8

24.Teras LR, DeSantis CE, Cerhan JR, Morton LM, Jemal A, Flowers CR. 2016 US lymphoid malignancy statistics by World Health Organization subtypes. *CA Cancer J Clin*. 2016;66(6):443-459. doi:10.3322/caac.21357

25.Hristov AC, Tejasvi T, Wilcox RA. Mycosis Fungoides, Sézary Syndrome, and Cutaneous B-Cell Lymphomas: 2025 Update on Diagnosis, Risk-Stratification, and Management. *Am J Hematol*. 2025;100(9):1603-1628. doi:10.1002/ajh.27735

26.Smith MJ, Fernandez MAL, Belot A, et al. Investigating the inequalities in route to diagnosis amongst patients with diffuse large B-cell or follicular lymphoma in England. *Br J Cancer*. 2021;125(9): 1299-1307. doi:10.1038/s41416-021-01523-6

27.Evans LS, Hancock BW. Non-Hodgkin lymphoma. *Lancet Lond Engl*. 2003;362(9378):139-146. doi: 10.1016/S0140-6736(03)13868-8

28.Kane E, Howell D, Smith A, et al. Emergency admission and survival from aggressive non-Hodgkin lymphoma: A report from the UK's population-based Haematological Malignancy Research Network. *Eur J Cancer Oxf Engl 1990*. 2017;78:53-60. doi:10.1016/j.ejca.2017.03.013

29.Hernández-Ramírez RU, Qin L, Lin H, et al. Association of immunosuppression and HIV viraemia with non-Hodgkin lymphoma risk overall and by subtype in people living with HIV in Canada and the USA: a multicentre cohort study. *Lancet HIV*. 2019;6(4):e240-e249. doi:10.1016/S2352-3018(18)30360-6

30.Jin F, Vajdic CM, Poynten IM, McGee-Avila JK, Castle PE, Grulich AE. Cancer risk in people living with HIV and solid organ transplant recipients: a systematic review and meta-analysis. *Lancet Oncol*. 2024;25(7):933-944. doi:10.1016/S1470-2045(24)00189-X

31.Chen C, Guo W, Zhao Y, et al. Autoimmune disease-associated lymphomas: research progress and review. *Front Immunol*. 2025;16:1719391. doi:10.3389/fimmu.2025.1719391

32.Mariette Xavier, Criswell Lindsey A. Primary Sjögren's Syndrome. *N Engl J Med*. 2018;378(10):931-939. doi:10.1056/NEJMcp1702514

33.Cerhan JR, Wallace RB, Folsom AR, et al. Medical history risk factors for non-Hodgkin's lymphoma in older women. *J Natl Cancer Inst*. 1997;89(4):314-318. doi:10.1093/jnci/89.4.314

34.Rossi D, Bertoni F, Zucca E. Marginal-Zone Lymphomas. *N Engl J Med*. 2022;386(6):568-581. doi:10.1056/NEJMra2102568

35.Matysiak-Budnik T, Priadko K, Bossard C, Chapelle N, Ruskoné-Fourmestraux A. Clinical Management of Patients with Gastric MALT Lymphoma: A Gastroenterologist's Point of View. *Cancers*. 2023;15(15). doi:10.3390/cancers15153811

36.Moore A, Kane E, Teras LR, et al. Genetically determined body mass index is associated with diffuse large B-cell lymphoma in polygenic and Mendelian randomization analyses. *Int J Cancer*. 2026;158(1):45-59. doi:10.1002/ijc.70039

37.Reunamo T, Alanne E, Mikkola T, et al. Continuous tobacco smoking increases mortality in diffuse large B-cell lymphoma but not follicular lymphoma, a Finnish population-based study. *Acta Oncol Stockh Swed*. 2025;64:1680-1687. doi:10.2340/1651-226X.2025.44776

38.Brennan P, Scélo G, Hemminki K, et al. Second primary cancers among 109 000 cases of non-Hodgkin's lymphoma. *Br J Cancer*. 2005;93(1):159-166. doi:10.1038/sj.bjc.6602654

39.Krok-Schoen JL, Fisher JL, Stephens JA, et al. Incidence and survival of hematological cancers among adults ages ≥75 years. *Cancer Med*. 2018;7(7):3425-3433. doi:10.1002/cam4.1461

40.National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®): T-Cell Lymphomas. Version 2.2026. National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology. February 13, 2026. https://www.nccn.org/professionals/physician_gls/pdf/t-cell.pdf

41.Hoster E, Dreyling M, Klapper W, et al. A new prognostic index (MIPI) for patients with advanced-stage mantle cell lymphoma. *Blood*. 2008;111(2):558-565. doi:10.1182/blood-2007-06-095331

42.Hoster E, Klapper W, Hermine O, et al. Confirmation of the mantle-cell lymphoma International Prognostic Index in randomized trials of the European Mantle-Cell Lymphoma Network. *J Clin Oncol Off J Am Soc Clin Oncol*. 2014;32(13):1338-1346. doi:10.1200/JCO.2013.52.2466

43.Armitage JO, Longo DL. Mantle-Cell Lymphoma. *N Engl J Med*. 2022;386(26):2495-2506. doi:10.1056/NEJMra2202672

44.Meignan M, Gallamini A, Meignan M, Gallamini A, Haioun C. Report on the First International Workshop on Interim-PET-Scan in Lymphoma. *Leuk Lymphoma*. 2009;50(8):1257-1260. doi:10.1080/10428190903040048

45.Akhtar OS, Huang LW, Tsang M, et al. Geriatric assessment in older adults with non-Hodgkin lymphoma: A Young International Society of Geriatric Oncology (YSIOG) review paper. *J Geriatr Oncol*. 2022;13(5):572-581. doi:10.1016/j.jgo.2022.02.005

46.National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology: Older Adult Oncology. 2025. https://www.nccn.org/professionals/physician_gls/pdf/senior.pdf*

47.Bergerot CD, Temin S, Verduzco-Aguirre HC, et al. Geriatric Assessment: ASCO Global Guideline. *JCO Glob Oncol*. 2025;11:e2500276. doi:10.1200/GO-25-00276

48.Johnson PC, Newcomb RA, Nipp RD, et al. Evaluating Vulnerable Elders Survey-13 and FIL Geriatric Assessment in Older Adults With Aggressive Lymphomas. *J Natl Compr Cancer Netw JNCCN*. 2026;24(2):e257100. doi:10.6004/jnccn.2025.7100

49.A predictive model for aggressive non-Hodgkin's lymphoma. *N Engl J Med*. 1993;329(14):987-994. doi:10.1056/NEJM199309303291402

50.Solal-Céligny P, Roy P, Colombat P, et al. Follicular lymphoma international prognostic index. *Blood*. 2004;104(5):1258-1265. doi:10.1182/blood-2003-12-4434

51.Paquin AR, Oyogoa E, McMurry HS, Kartika T, West M, Shatzel JJ. The diagnosis and management of suspected lymphoma in general practice. *Eur J Haematol*. 2023;110(1):3-13. doi:10.1111/ejh.13863

52.Smith S. Transformed lymphoma: what should I do now? *Hematol Am Soc Hematol Educ Program*. 2020;2020(1):306-311. doi:10.1182/hematology.2020000115

53.National Comprehensive Cancer Network. *NCCN Clinical Practice Guidelines in Oncology: Chronic Lymphocytic Leukemia/Small Lymphocytic Lymphoma*. Version 2.2026. National Comprehensive Cancer Network; 2025. https://www.nccn.org/professionals/physician_gls/pdf/cll.pdf

54.Jain N, Wierda WG, O'Brien S. Chronic lymphocytic leukaemia. *Lancet Lond Engl*. 2024;404(10453):694-706. doi:10.1016/S0140-6736(24)00595-6

55.Chan JKC, Kwong YL. Common misdiagnoses in lymphomas and avoidance strategies. *Lancet Oncol*. 2010;11(6):579-588. doi:10.1016/S1470-2045(09)70351-1

56.Paquin AR, Oyogoa E, McMurry HS, Kartika T, West M, Shatzel JJ. The diagnosis and management of suspected lymphoma in general practice. *Eur J Haematol*. 2023;110(1):3-13. doi:10.1111/ejh.13863

57.Kroft SH, Sever CE, Bagg A, et al. Laboratory Workup of Lymphoma in Adults: Guideline From the American Society for Clinical Pathology and the College of American Pathologists. *Arch Pathol Lab Med*. 2021;145(3):269-290. doi:10.5858/arpa.2020-0261-SA

58.Chey WD, Howden CW, Moss SF, et al. ACG Clinical Guideline: Treatment of Helicobacter pylori Infection. *Am J Gastroenterol*. 2024;119(9):1730-1753. doi:10.14309/ajg.0000000000002968

59.Griffiths CEM, Armstrong AW, Gudjonsson JE, Barker JNWN. Psoriasis. *Lancet Lond Engl*. 2021;397(10281):1301-1315. doi:10.1016/S0140-6736(20)32549-6

60.National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®): Cutaneous Lymphomas. Version 2.2026. National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology. February 13, 2026. https://www.nccn.org/professionals/physician_gls/pdf/cutaneous.pdf

61.Hwang ST, Janik JE, Jaffe ES, Wilson WH. Mycosis fungoides and Sézary syndrome. *Lancet Lond Engl*. 2008;371(9616):945-957. doi:10.1016/S0140-6736(08)60420-1

62.Tucci A, Martelli M, Rigacci L, et al. Comprehensive geriatric assessment is an essential tool to support treatment decisions in elderly patients with diffuse large B-cell lymphoma: a prospective multicenter evaluation in 173 patients by the Lymphoma Italian Foundation (FIL). *Leuk Lymphoma*. 2015;56(4):921-926. doi:10.3109/10428194.2014.953142

63.Wilson Lynn D., Detterbeck Frank C., Yahalom Joachim. Superior Vena Cava Syndrome with Malignant Causes. *N Engl J Med*. 356(18):1862-1869. doi:10.1056/NEJMcp067190

64.Azizi AH, Shafi I, Shah N, et al. Superior Vena Cava Syndrome. *JACC Cardiovasc Interv*. 2020;13(24): 2896-2910. doi:10.1016/j.jcin.2020.08.038

65.Ropper Alexander E., Ropper Allan H. Acute Spinal Cord Compression. *N Engl J Med*. 376(14): 1358-1369. doi:10.1056/NEJMra1516539

66.National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology: Prevention and Treatment of Cancer-Related Infections, Version 1.2026. Published online 2026.

67.Higdon ML, Atkinson CJ, Lawrence KV. Oncologic Emergencies: Recognition and Initial Management. *Am Fam Physician*. 2018;97(11):741-748.

68.Guise TA, Wysolmerski JJ. Cancer-Associated Hypercalcemia. *N Engl J Med*. 2022;386(15):1443-1451. doi:10.1056/NEJMcp2113128

69.Okello CD, Niyonzima N, Ferraresso M, et al. Haematological malignancies in sub-Saharan Africa: east Africa as an example for improving care. *Lancet Haematol*. 2021;8(10):e756-e769. doi:10.1016/S2352-3026(21)00198-8

70.Khasraw M, Posner JB. Neurological complications of systemic cancer. *Lancet Neurol*. 2010;9(12): 1214-1227. doi:10.1016/S1474-4422(10)70220-9

71.Ardeshna KM, Qian W, Smith P, et al. Rituximab versus a watch-and-wait approach in patients with advanced-stage, asymptomatic, non-bulky follicular lymphoma: an open-label randomised phase 3 trial. *Lancet Oncol*. 2014;15(4):424-435. doi:10.1016/S1470-2045(14)70027-0

72.Mohile SG, Mohamed MR, Xu H, et al. Evaluation of geriatric assessment and management on the toxic effects of cancer treatment (GAP70+): a cluster-randomised study. *Lancet Lond Engl*. 2021;398(10314):1894-1904. doi:10.1016/S0140-6736(21)01789-X

73.Oberic L, Peyrade F, Puyade M, et al. Subcutaneous Rituximab-MiniCHOP Compared With Subcutaneous Rituximab-MiniCHOP Plus Lenalidomide in Diffuse Large B-Cell Lymphoma for Patients Age 80 Years or Older. *J Clin Oncol Off J Am Soc Clin Oncol*. 2021;39(11):1203-1213. doi:10.1200/JCO.20.02666

74.Johnson PC, Yi A, Horick N, et al. Clinical Outcomes, Treatment Toxicity, and Health Care Utilization in Older Adults with Aggressive Non-Hodgkin Lymphoma. *The oncologist*. 2021;26(11):965-973. doi:10.1002/onco.13915

75.National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®): Cancer-Related Fatigue. Version 2.2026. National Comprehensive Cancer Network Clinical Practice Guidelines in Oncology. April 10, 2026. https://www.nccn.org/professionals/physician_gls/pdf/fatigue.pdf

76.Ligibel JA, Bohlke K, May AM, et al. Exercise, Diet, and Weight Management During Cancer Treatment: ASCO Guideline. *J Clin Oncol*. 2022;40(22):2491-2507. doi:10.1200/JCO.22.00687

77.Rosenberg SM, Petrie KJ, Stanton AL, Ngo L, Finnerty E, Partridge AH. Interventions to Enhance Adherence to Oral Antineoplastic Agents: A Scoping Review. *J Natl Cancer Inst*. 2020;112(5):443-465. doi:10.1093/jnci/djz244

78.Wyatt H, White S, Holloway H, et al. Integrated health system pharmacy role in adherence, persistence, and adverse effect management for oral chronic lymphocytic leukemia therapy. *J Manag Care Spec Pharm*. 2025;31(3):253-261. doi:10.18553/jmcp.2025.31.3.253

79.Sanders JJ, Temin S, Ghoshal A, et al. Palliative Care for Patients With Cancer: ASCO Guideline Update. *J Clin Oncol*. 2024;42(19):2336-2357. doi:10.1200/JCO.24.00542

80.Ferrell BR, Temel JS, Balboni TA, et al. *NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®): Palliative Care. Version 2.2026*. Version 2.2026. National Comprehensive Cancer Network; 2026. https://www.nccn.org/professionals/physician_gls/pdf/palliative.pdf

81.Haun MW, Estel S, Rücker G, et al. Early palliative care for adults with advanced cancer. *Cochrane Database Syst Rev*. 2017;6(6):CD011129. doi:10.1002/14651858.CD011129.pub2

82.Ganatra S, Barac A, Armenian S, et al. Diagnosis and Management of Cardiovascular Adverse Effects of Targeted Oncology Therapies: Bruton's Tyrosine Kinase, Immune Checkpoint, and Vascular Endothelial Growth Factor Inhibitors: 2025 ACC Concise Clinical Guidance: A Report of the American College of Cardiology Solution Set Oversight Committee. *J Am Coll Cardiol*. 2026;87(5):654-682. doi: 10.1016/j.jacc.2025.10.018

83.Addison D, Neilan TG, Barac A, et al. Cardiovascular Imaging in Contemporary Cardio-Oncology: A Scientific Statement From the American Heart Association. *Circulation*. 2023;148(16):1271-1286. doi: 10.1161/CIR.0000000000001174

84.9. Pharmacologic Approaches to Glycemic Treatment: Standards of Care in Diabetes-2026. *Diabetes Care*. 2026;49(Suppl 1):S183-S215. doi:10.2337/dc26-S009

85.National Comprehensive Cancer Network. *NCCN Clinical Practice Guidelines in Oncology: Multiple Myeloma*. Version 5.2026. National Comprehensive Cancer Network; 2026.

86.Diamantopoulos PT, Kalopisis K, Tsatsou A, et al. Progressive multifocal leukoencephalopathy in the context of newer therapies in hematology and review of new treatment strategies. *Eur J Haematol*. 2022;108(5):359-368. doi:10.1111/ejh.13751

87.Kittai AS, Marchetti M, Al-Sawaf O, et al. International consensus statement on diagnosis, evaluation, and research of Richter transformation: the ERIC recommendations. *Blood*. 2025;146(3):291-303. doi: 10.1182/blood.2024028064

88.McCurdy MT, Shanholtz CB. Oncologic emergencies. *Crit Care Med*. 2012;40(7):2212-2222. doi: 10.1097/CCM.0b013e31824e1865

89.Hee NKY, Lim QH, Khunti K, et al. Secondary causes of diabetes: a crossroad of endocrinology and oncology. *Lancet Diabetes Endocrinol*. 2026;14(5):422-436. doi:10.1016/S2213-8587(26)00027-6

90.Robinson JC, Kosorukov AD, Whaley CM. Hospital Adoption and Pricing for Oncology Biosimilars. *JAMA*. 2026;335(14):1243-1249. doi:10.1001/jama.2026.1777

91.Cliff ERS, Kesselheim AS, Rome BN, Feldman WB. Trends in Medicare Spending on Oral Drugs for Chronic Lymphocytic Leukemia From 2014 to 2020. *JAMA Netw Open*. 2023;6(4):e237467-e237467. doi:10.1001/jamanetworkopen.2023.7467

92.Boccia R, Glaspy J, Crawford J, Aapro M. Chemotherapy-Induced Neutropenia and Febrile Neutropenia in the US: A Beast of Burden That Needs to Be Tamed? *The oncologist*. 2022;27(8):625-636. doi: 10.1093/oncolo/oyac074

93.Chanan-Khan A, Hanna K, Xue M, et al. Number needed to treat and associated cost analysis of zanubrutinib vs ibrutinib in chronic lymphocytic leukemia. *J Manag Care Spec Pharm*. 2025;31(5): 482-490. doi:10.18553/jmcp.2025.24330

94.Prica A, Chan K, Cheung M. Frontline rituximab monotherapy induction versus a watch and wait approach for asymptomatic advanced-stage follicular lymphoma: A cost-effectiveness analysis. *Cancer*. 2015;121(15):2637-2645. doi:10.1002/cncr.29372

95.National Comprehensive Cancer Network. *NCCN Clinical Practice Guidelines in Oncology: Hematopoietic Growth Factors*. Version 3.2026. National Comprehensive Cancer Network; 2025.

96.U.S. Food and Drug Administration. *Approved Drug Products with Therapeutic Equivalence Evaluations (Orange Book)*. 46th ed. U.S. Food and Drug Administration; 2026. https://www.fda.gov/drugs/drug-approvals-and-databases/approved-drug-products-therapeutic-equivalence-evaluations-orange-book

97.Abdelaziz A, Winn AN, Dusetzina SB, Mitchell AP. Biologic Drug Prices in Medicare Part B After Entry of Biosimilars to the Market. *JAMA Netw Open*. 2025;8(11):e2542937-e2542937. doi:10.1001/jamanetworkopen.2025.42937

98.Sepassi A, Gabriel N, Sullivan SD, Fendrick AM, Zell JA, Mukamel DB. Estimated True Out-of-Pocket Cost Changes From the Inflation Reduction Act on Medicare Part D Beneficiaries With Cancer. *Value Health J Int Soc Pharmacoeconomics Outcomes Res*. 2025;28(10):1526-1531. doi:10.1016/j.jval.2025.07.003

99.Geurts YM, Neppelenbroek SIM, Aleman BMP, et al. Cardiovascular disease risk after radiotherapy and anthracycline-based chemotherapy for diffuse large B-cell lymphoma. *J Natl Cancer Inst*. Published online March 25, 2026:djag085. doi:10.1093/jnci/djag085

100.Gong IY, Vijenthira A, Ante Z, et al. Association of Polypharmacy and Potentially Inappropriate Medications With Outcomes in Older Adults With DLBCL: A Population Study. *J Natl Compr Cancer Netw JNCCN*. 2025;23(8):e257029. doi:10.6004/jnccn.2025.7029

101.Scheepers ERM, Vondeling AM, Thielen N, van der Griend R, Stauder R, Hamaker ME. Geriatric assessment in older patients with a hematologic malignancy: a systematic review. *Haematologica*. 2020;105(6):1484-1493. doi:10.3324/haematol.2019.245803

102.Guven DC, Ceylan F, Cakir IY, et al. Evaluation of early unplanned readmissions and predisposing factors in an oncology clinic. *Support Care Cancer Off J Multinatl Assoc Support Care Cancer*. 2021;29(7):4159-4164. doi:10.1007/s00520-020-05927-7

103.Kuiper JW, Custers JAE, Kleinjan A, Verpoorte-Botden IPG, van Amstel FKP. Psychological distress and quality of life in patients with indolent non-Hodgkin lymphoma. *Support Care Cancer Off J Multinatl Assoc Support Care Cancer*. 2026;34(5). doi:10.1007/s00520-026-10737-4

104.Raiss ME, Mehta KK, Zhang X, et al. Factors associated with avoidable 30-day readmissions in patients with cancer: a single institution study. *Support Care Cancer Off J Multinatl Assoc Support Care Cancer*. 2025;33(3):206. doi:10.1007/s00520-025-09215-0

105.Chi E, Chang DK, Chang CPE, et al. Risk of Type II Diabetes Mellitus Among B-Cell Non-Hodgkin's Lymphoma Survivors. *Cancer Med*. 2026;15(1):e71367. doi:10.1002/cam4.71367

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