TLS Risk Assessment Tool

Evaluate your patients' risk for tumor lysis syndrome (TLS) to help guide management decisions.

TLS is a life-threatening oncologic emergency that occurs rapidly but may be preventable. Risk for developing TLS varies considerably based on tumor type and disease-, patient-, and treatment-specific factors.[1]

This tool is only representative of a single publication; full TLS risk assessment should incorporate clinician judgment and consultation of clinical guidelines, product prescribing information, or other appropriate literature.

Using the TLS
Risk Assessment Tool

This TLS Risk Assessment Tool is based on the findings of an international consensus panel of experts in pediatric and adult oncology, TLS pathophysiology, and TLS management.[1]

The panel conducted a review of literature published from 1966 to 2009 regarding the incidence and treatment of TLS. Recommendations were agreed upon using both evidence-based literature and expert opinion-based approaches.[1]
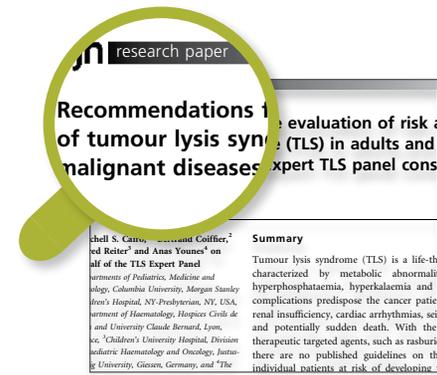
To use the TLS Risk Assessment Tool, begin by clicking the relevant tab to determine your patient's disease risk.

Reference: 1. Cairo MS, Coiffier B, Reiter A, Younes A; on behalf of the TLS Expert Panel. *Br J Haematol.* 2010;149(4):578-586.
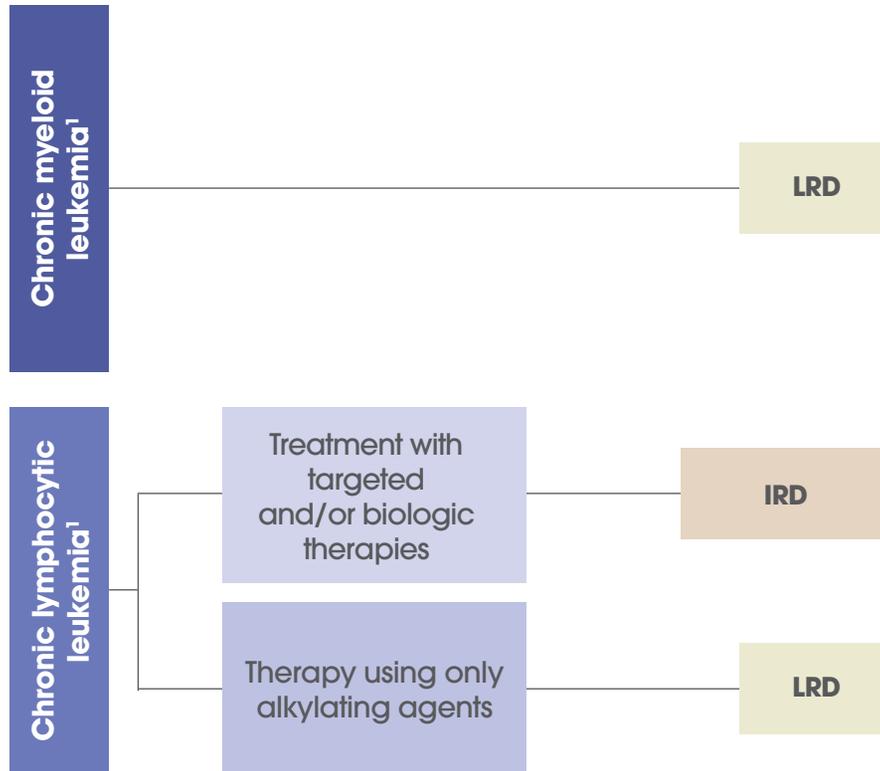
Chronic Leukemias

STEP ONE

In the diagram below, **see the disease risk** for each relevant patient characteristic.

Please note that these do not represent all potential risk factors for the development of TLS.

Chronic myeloid leukemia[1] ⟶ LRD

Chronic lymphocytic leukemia[1]
- Treatment with targeted and/or biologic therapies ⟶ IRD
- Therapy using only alkylating agents ⟶ LRD

Take the disease risk from the diagram above and go to Step Two on the right.

IRD=intermediate-risk disease; LRD=low-risk disease.

STEP TWO

After you have determined your patient's disease risk from Step One, choose the appropriate flow chart below to evaluate their overall risk for developing TLS.[1]*

RESPONSES FROM STEP ONE

LRD
- Normal renal function ⟶ **Low risk**
- Renal dysfunction/involvement ⟶ **Intermediate risk**

Patients with low-risk disease (LRD) are at intermediate risk for TLS when renal dysfunction and/or renal involvement is present.[1]

IRD
- Normal renal function **AND** UA, PO_4^{3-}, K^+ all WNL ⟶ **Intermediate risk**
- Renal dysfunction/involvement **OR** UA or PO_4^{3-} or K^+ >ULN ⟶ **High risk**

Patients with intermediate-risk disease (IRD) are at high risk for TLS when renal dysfunction and/or renal involvement is present or uric acid, phosphate, or potassium levels are elevated.[1]

HRD
- Renal dysfunction/involvement **OR** UA or PO_4^{3-} or K^+ >ULN ⟶ **High risk**

Antihyperuricemic prophylaxis is recommended for patients at high or intermediate risk for TLS.[1]

HRD=high-risk disease; UA=uric acid; ULN=upper limit of normal; WNL=within normal limits.

***Always use your best clinical judgment when assessing individual patient scenarios.**

Acute Leukemias

STEP ONE

In the diagram below, **see the disease risk** for each relevant patient characteristic.

Please note that these do not represent all potential risk factors for the development of TLS.
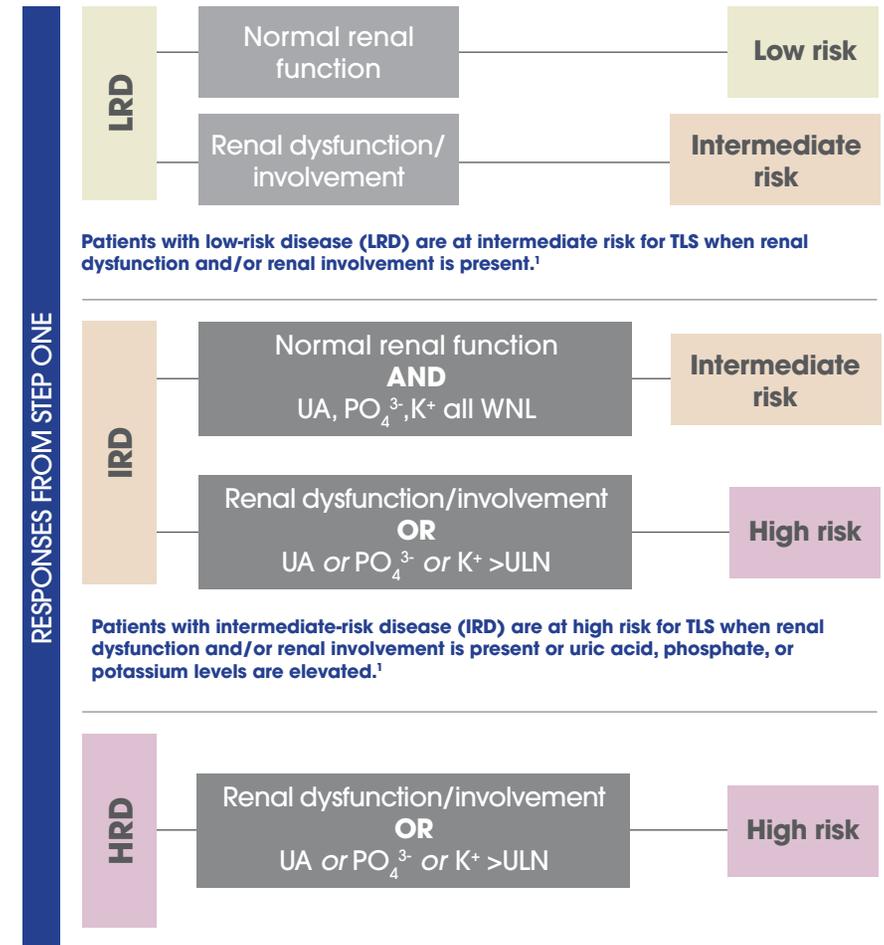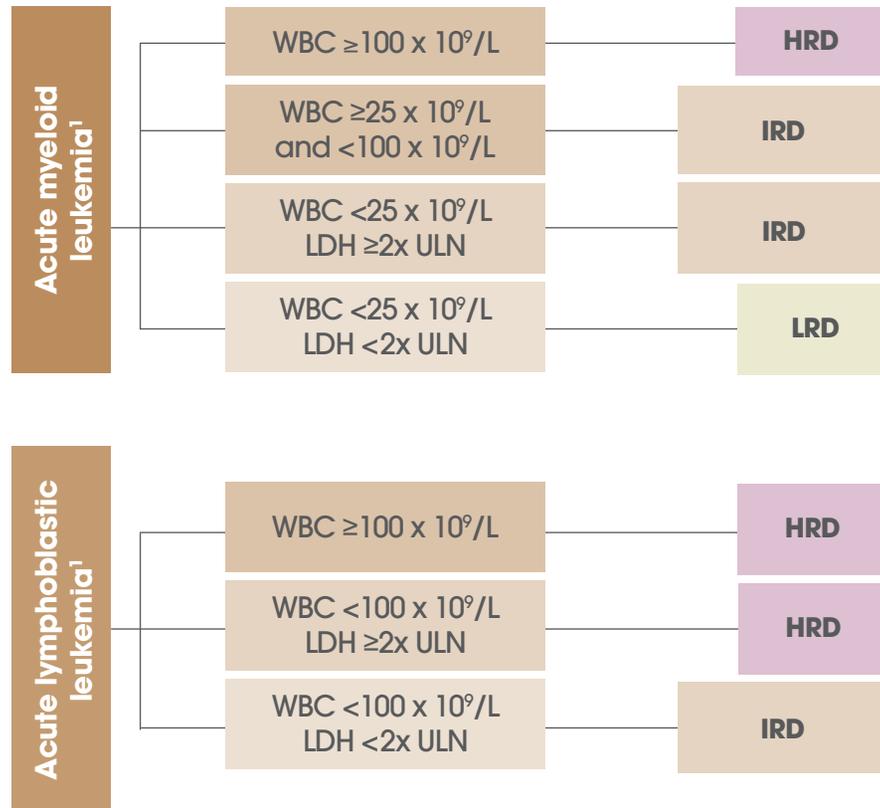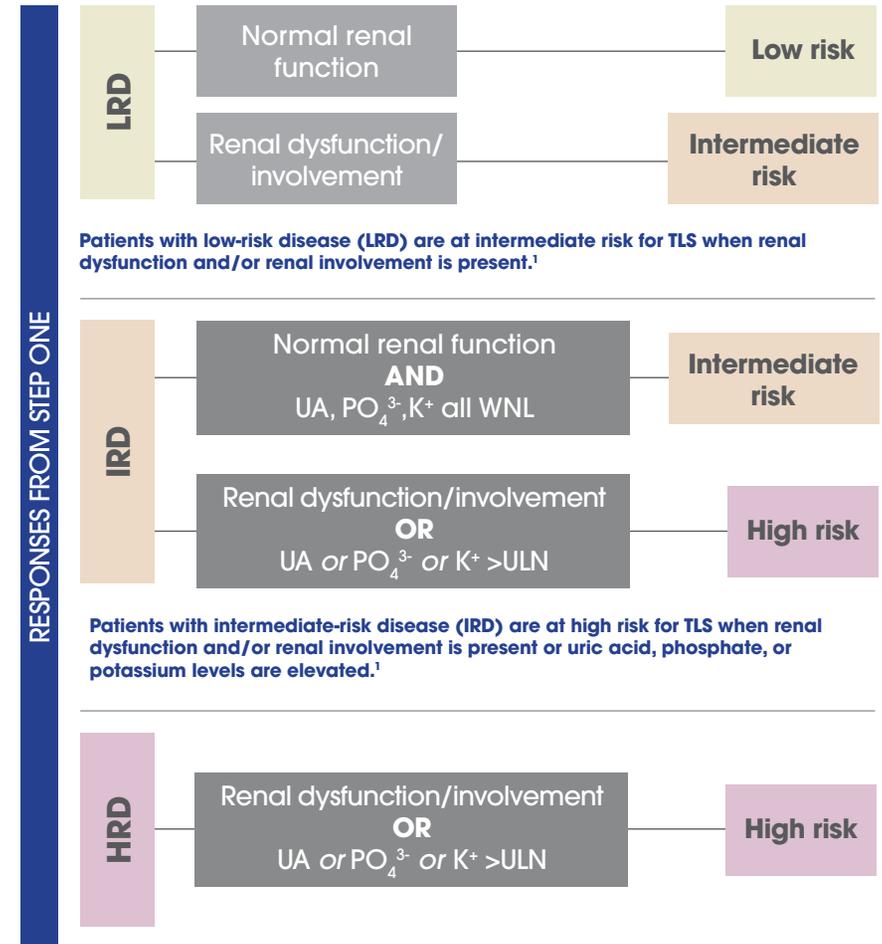
Acute myeloid leukemia[1]

Characteristic	Risk
WBC $\geq 100 \times 10^9$/L	HRD
WBC $\geq 25 \times 10^9$/L and $<100 \times 10^9$/L	IRD
WBC $<25 \times 10^9$/L LDH ≥ 2x ULN	IRD
WBC $<25 \times 10^9$/L LDH <2x ULN	LRD

Acute lymphoblastic leukemia[1]

Characteristic	Risk
WBC $\geq 100 \times 10^9$/L	HRD
WBC $<100 \times 10^9$/L LDH ≥ 2x ULN	HRD
WBC $<100 \times 10^9$/L LDH <2x ULN	IRD

Take the disease risk from the diagram above and go to Step Two on the right.

HRD=high-risk disease; IRD=intermediate-risk disease; LDH=lactate dehydrogenase; LRD=low-risk disease; ULN=upper limit of normal; WBC=white blood cell.

STEP TWO

After you have determined your patient's disease risk from Step One, choose the appropriate flow chart below to evaluate their overall risk for developing TLS.[1]*

RESPONSES FROM STEP ONE

LRD
- Normal renal function → Low risk
- Renal dysfunction/involvement → Intermediate risk

Patients with low-risk disease (LRD) are at intermediate risk for TLS when renal dysfunction and/or renal involvement is present.[1]

IRD
- Normal renal function **AND** UA, PO_4^{3-}, K^+ all WNL → Intermediate risk
- Renal dysfunction/involvement **OR** UA or PO_4^{3-} or K^+ >ULN → High risk

Patients with intermediate-risk disease (IRD) are at high risk for TLS when renal dysfunction and/or renal involvement is present or uric acid, phosphate, or potassium levels are elevated.[1]

HRD
- Renal dysfunction/involvement **OR** UA or PO_4^{3-} or K^+ >ULN → High risk

Antihyperuricemic prophylaxis is recommended for patients at high or intermediate risk for TLS.[1]

HRD=high-risk disease; UA=uric acid; ULN=upper limit of normal; WNL=within normal limits.

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Burkitt Lymphoma

STEP ONE

In the diagram below, **see the disease risk** for each relevant patient characteristic.

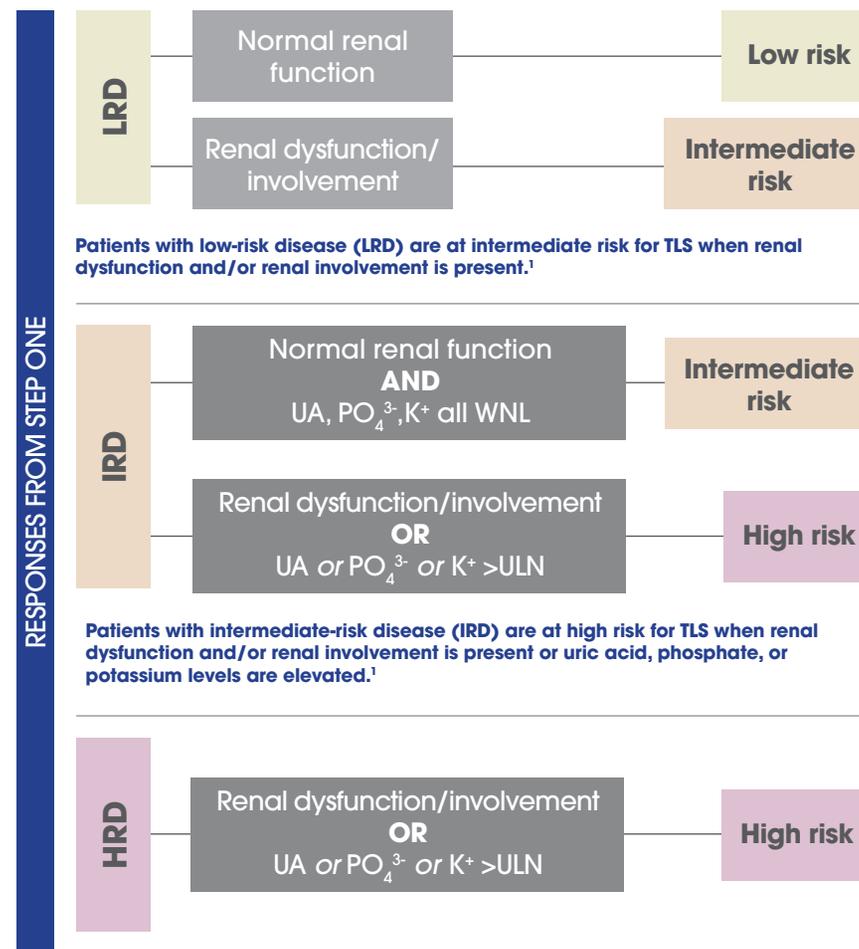**Please note that these do not represent all potential risk factors for the development of TLS.**

Early-stage Burkitt lymphoma[1]

- LDH <2x ULN → **IRD**
- LDH ≥2x ULN → **HRD**

Late-stage Burkitt lymphoma[1] → **HRD**
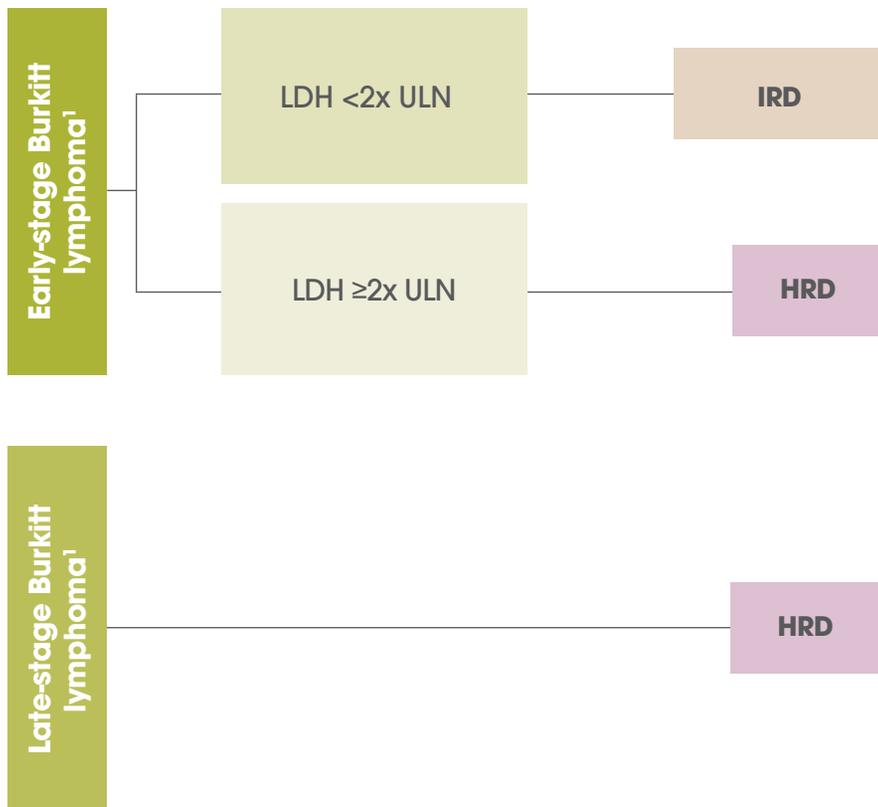
Take the disease risk from the diagram above and go to Step Two on the right.

HRD=high-risk disease; IRD=intermediate-risk disease; LDH=lactate dehydrogenase; ULN=upper limit of normal.

STEP TWO

After you have determined your patient's disease risk from Step One, choose the appropriate flow chart below to evaluate their overall risk for developing TLS.[1]*

RESPONSES FROM STEP ONE

LRD
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IRD
- Normal renal function **AND** UA, PO_4^{3-}, K^+ all WNL → **Intermediate risk**
- Renal dysfunction/involvement **OR** UA *or* PO_4^{3-} *or* K^+ >ULN → **High risk**

Patients with intermediate-risk disease (IRD) are at high risk for TLS when renal dysfunction and/or renal involvement is present or uric acid, phosphate, or potassium levels are elevated.[1]

HRD
- Renal dysfunction/involvement **OR** UA *or* PO_4^{3-} *or* K^+ >ULN → **High risk**

Antihyperuricemic prophylaxis is recommended for patients at high or intermediate risk for TLS.[1]

HRD=high-risk disease; UA=uric acid; ULN=upper limit of normal; WNL=within normal limits.

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DLBCL & Other Non-Hodgkin Lymphomas (ATL, MCL, Peripheral T-cell, Transformed)

STEP ONE

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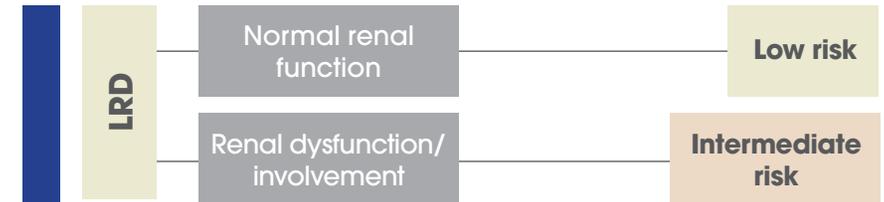
DLBCL & other NHLs[1]*

- LDH WNL → **LRD**
- LDH > ULN
  - Non-bulky disease → **IRD**
  - Bulky disease → **HRD**
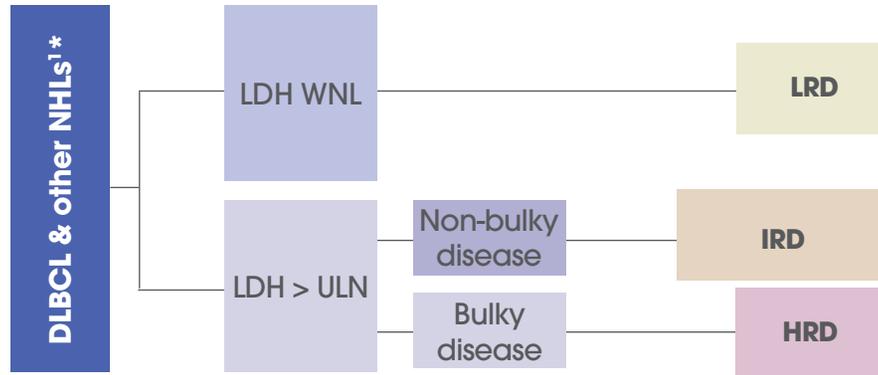
Take the disease risk from the diagram above and go to Step Two on the right.

ATL=adult T-cell lymphoma; DLBCL=diffuse large B-cell lymphoma; HRD=high-risk disease; IRD=intermediate-risk disease; LDH=lactate dehydrogenase; LRD=low-risk disease; MCL=mantle cell lymphoma; ULN=upper limit of normal; WNL=within normal limits.
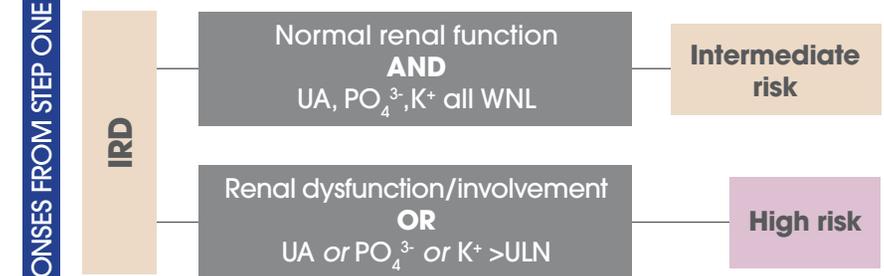
*Other NHLs include ATL, peripheral T-cell, transformed, and MCL (blastoid variants).
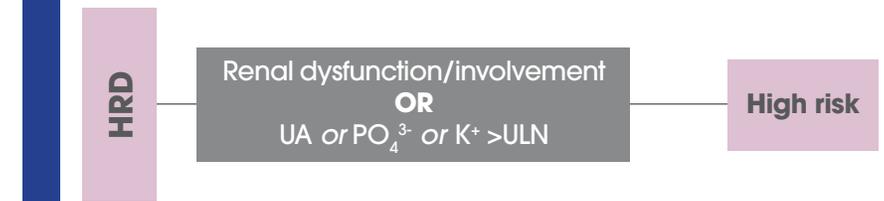
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