# IDENTIFYING DISEASE PROGRESSION OR TREATMENT INTOLERANCE IN CLL

This presentation was commissioned by Lilly Medical and is intended to be used by HCPs for medical, scientific, and educational purposes.

# Table of Contents


1 Overview of CLL Treatment Intolerance and Disease Progression

2 Disease Progression in Patients With CLL Receiving Treatment

3 Treatment Intolerance in CLL

4 The Role of the MDT and SDM in Managing Treatment Intolerance and Disease Progression in CLL

5 Key Takeaways


CLL, chronic lymphocytic leukemia; MDT, multidisciplinary team; SDM, shared decision making.

# Learning Objectives

Apply current guideline-defined markers and diagnostic tools to differentiate between treatment intolerance and disease progression

Leverage an MDT approach and SDM to address intolerance and disease progression via:

- Treatment planning
- Communication with patients
- Effective monitoring for signs of intolerance and progression
- Implementation of early intervention strategies

MDT, multidisciplinary team; SDM, shared decision making.

1

# Overview of CLL Treatment Intolerance and Disease Progression

# Disease Progression and Treatment Intolerance Are the Primary Reasons for Treatment Discontinuation in CLL[1]

**Clinical decision making regarding subsequent therapy:**

**Intolerance**
- Inability of the patient to endure adverse events associated with a treatment[2]

If a patient is intolerant to a given therapy, a drug with a similar MOA can be an option at a later time[3,4]

**Progression**
- Worsening of disease as it continues to spread in the body[5]

When progression occurs, a switch to a therapy with a different MOA is recommended[3,4]

**In a real-world study of treatment discontinuation patterns in patients with CLL[1]:**

**Among 1,364 patients receiving first-line therapy,* the most common reasons for premature treatment discontinuation were treatment intolerance and disease progression.**

**Among 626 patients receiving second-line regimens,* treatment intolerance was the primary reason for premature treatment discontinuation.**

*First-line and second-line therapies included chemotherapy, chemoimmunotherapy, BTKi-based, and BCL-2i–based regimens.
BCL-2i, B-cell lymphoma-2 inhibitor; BTKi, Bruton's tyrosine kinase inhibitor; CLL, chronic lymphocytic leukemia; MOA, mechanism of action.
1. Shadman M, et al. *Clin Lymphoma Myeloma Leuk.* 2023;23(7):515-526 2. Flannery MA, et al. *J Clin Oncol.* 2021;39(19):2150-2163. 3. CGTlive. Accessed May 2, 2025. https://www.cgtlive.com/view/new-agents-and-optimal-patient-selection-in-cll-comprise-modern-paradigm. 4. Fresa A, et al. *Cancers (Basel).* 2024;16(11):2011. 5. National Cancer Institute. Accessed May 2, 2025. https://www.cancer.gov/publications/dictionaries/cancer-terms/def/progression.

# Differentiating Between Disease Progression and Treatment Intolerance Can Be Challenging

Disease progression and treatment intolerance may present with similar symptoms (eg, cytopenia)[1-4]

Additional challenges in patient assessment can stem from insufficient monitoring and lack of communication with the care team[4,5]

**To manage the complexities of CLL effectively, an MDT approach to patient care is essential[3,4]**

CLL, chronic lymphocytic leukemia; MDT, multidisciplinary team.

1. Hallek M, et al. *Blood.* 2018;131(25):2745-2760. 2. Hallek M. *Am J Hematol.* 2025;100(3):450-480. 3. Galitzia A, et al. *Cancers (Basel).* 2024;16(11):1996. 4. Upchurch MD, et al *Expert Rev Clin Pharmacol.* 2024;17(5-6):467-475. 5. Mazor KM, et al. *Patient Educ Couns.* 2016;99(8):1343-1348.

2

# Disease Progression in Patients With CLL Receiving Treatment

# Assessment of Treatment Response Should Include Physical Examination and Evaluation of Blood and Bone Marrow

| Diagnostic test[1] | General practice[1] |
|---|---|
| History, physical examination | Always |
| CBC and differential count | Always |
| Marrow aspirate and biopsy | At cytopenia of uncertain cause |
| Assessment of MRD | Not generally indicated |
| Ultrasound of the abdomen* | Consider if previously abnormal |
| CT scans of chest, abdomen and pelvis | Not generally indicated |

- When assessing response to treatment, **physical examination** and evaluation of **blood** and **bone marrow** should be performed[1,2]
- The **timing of assessment** for therapies with **fixed duration** should be at least **2 months** after completion of therapy[1,2]
- For **continuous** therapies, the assessment should be performed at least **2 months** after patients achieve their maximum response[1,2†]

**Monitoring for disease progression involves asking patients about their symptoms during physical examination and performing lab and diagnostic testing[1,2]**

*Used in some countries to monitor lymphadenopathy and organomegaly. †Maximum response: treatment phase in which no additional improvement is seen during at least 2 months of therapy.[1]
CBC, complete blood count; CT, computed tomography; MRD, minimal residual disease.
1. Hallek M, et al. *Blood.* 2018;131(25):2745-2760. 2. Del Giudice I, et al. *Cancers (Basel).* 2024;16(11):2049.

# Assessment of Treatment Efficacy Typically Used in CLL Clinical Trials

**OS**

Time between the first treatment day and death[1]

**PFS**

Time between the first treatment day and the first sign of disease progression or death from any cause[1]

**TTNT**

Time from the first treatment day until the patient starts an alternative therapy for progressive CLL[1]

**DOR**

Time to disease progression or death in patients who achieve complete or partial response[2]

**Undetectable MRD (MRD-neg)**

Defined as <1 CLL cell per 10,000 leukocytes in blood or marrow, detected using sensitive multicolor flow cytometry, RQ-PCR, NGF, or NGS[1]

**ORR**

Proportion of patients who respond to therapy (CR/PR)[2]

- **OS** has been a gold standard endpoint in oncology since the goal of cancer treatment is generally to extend life, but does not distinguish between disease- and non-disease-related deaths[2,3]
- **PFS** has been a gold standard efficacy endpoint in clinical trials, but results in a CLL population can be inconclusive since patients tend to be elderly and have underlying health conditions[4]
- **TTNT** is an emerging marker in CLL studies that may serve as a surrogate for duration of clinical benefit but requires validation before use as a standalone endpoint[3,4]
- **ORR** measures anti-tumor activity and **DOR** assesses how long progression may be delayed but both must use information available at a specific time point[2,3]
- **MRD-neg** has been correlated with longer PFS and OS in clinical trials but use as a decision tool in routine practice has not been established[5,6]

CLL, chronic lymphocytic leukemia; CR, complete response; DOR, duration of response; MRD, minimal residual disease; NGF, next-generation flow cytometry; NGS, next-generation sequencing; ORR, overall response rate; OS, overall survival; PFS, progression-free survival; PR, partial response; RQ-PCR, real-time quantitative polymerase chain reaction; TTNT, time to next treatment.

1. Hallek M, et al. *Blood.* 2018;131(25):2745-2760. 2. Brazauskas R, et al. *Best Pract Res Clin Haematol.* 2023;36(3):101479. 3. Delgado A, Guddati AK. *Am J Cancer Res.* 2021;11(4):1121-1131. 4. Molica S. *Expert Rev Hematol.* 2023;16(11):803-806. 5. Del Giudice I, et al. *Cancers (Basel).* 2024;16(11):2049. 6. Benintende G, et al. *Front Oncol.* 2023;13:1112616.

# Response to Treatment and Progressive Disease in CLL Are Defined by Specific Criteria

- Group A parameters assess the lymphoid tumor load and constitutional symptoms, whereas group B assess the hematopoietic system[1]

| | Parameter | CR | PR | SD | PD |
|---|---|---|---|---|---|
| | ***iwCLL 2018 criteria*** | *All criteria must be met* | *At least 2 from group A and 1 from group B need to improve if previously abnormal** | *All criteria need to be met* | *At least 1 criterion from group A or group B needs to be met†* |
| GROUP A | **Lymph nodes** | <1.5 cm in longest dimension | Decrease ≥50% from BL‡ | Change from −49% to +49% | Increase ≥50% from BL or response |
| GROUP A | **Liver/spleen size§** | Spleen size <13 cm<br>Liver size normal | Decrease ≥50% from BL | Change from −49% to +49% | Increase ≥50% from BL or response |
| GROUP A | **Constitutional symptoms** | None | Any | Any | Any |
| GROUP A | **Circulating lymphocyte count** | Normal | Decrease ≥50% from BL | Change from −49% to +49% | Increase ≥50% over BL |
| GROUP B | **Platelet count** | ≥100 X $10^9$/L | ≥100 X $10^9$/L or increase ≥50% from BL | Change from −49% to +49% | Decrease ≥50% over BL secondary to CLL |
| GROUP B | **Hemoglobin** | ≥11 g/dL‖ | ≥11 g/dL or increase ≥50% from BL | Increase <11.0 g/dL or <50% over BL or decrease <2 g/dL | Decrease of ≥2 g/dL from BL secondary to CLL |
| GROUP B | **Marrow** | Normocellular, no CLL cells, no B-lymphoid nodules | Presence of CLL cells or of B-lymphoid nodules, or not done | No change in marrow infiltrate | Increase of CLL cells by ≥50% on successive biopsies |

**SD and PD are considered treatment failure, but PD may indicate active disease[1,2]**

**Note: PR-L is recognized in scientific literature as meeting criteria for PR except for lymphocytosis, but is not included as a response definition in iwCLL 2018 guidelines.[1,3]**

*If only 1 parameter of both groups A and B is abnormal before therapy, only 1 needs to improve. †Constitutional symptoms alone do not define PD. ‡Sum of 6 or fewer lymph nodes. §Spleen size is considered normal if <13 cm. No international consensus for normal liver size. ‖Untransfused and without erythropoietin.

BL, baseline; CR, complete response; CLL, chronic lymphocytic leukemia; iwCLL, International Workshop on Chronic Lymphocytic Leukemia; PD, progressive disease; PR, partial response; PR-L, partial response with lymphocytosis; SD, stable disease.

1. Hallek M, et al. *Blood.* 2018;131(25):2745-2760. 2. National Cancer Institute. Accessed July 8, 2025. https://www.cancer.gov/publications/dictionaries/cancer-terms/def/progressive-disease. 3. Narang J, et al. *J Clin Oncol.* 2021;39(15 suppl):e19502.

# Progressive Disease Is Defined by Specific Characteristics

PD during or after therapy is characterized by **at least 1 of the parameters below**

| Parameter | Definition of progressive disease |
|---|---|
| Lymphadenopathy | • A new lesion such as enlarged lymph nodes (≥1.5 cm), splenomegaly, hepatomegaly, or other organ infiltrates<br>• An increase by ≥50% in greatest determined diameter of any previous site (≥1.5 cm)<br>❖ **Transient increases during treatment with novel agents should not be counted as PD** |
| Splenomegaly | • An increase in spleen size by ≥50% of its prior increase beyond baseline or new appearance of splenomegaly |
| Hepatomegaly | • An increase in the liver size of ≥50% of the extent of enlargement of the liver below the costal margin defined by palpation, or new appearance of hepatomegaly<br>❖ **Hepatomegaly must be attributable to lymphoid involvement to count as PD** |
| Lymphocytosis | • An increase in the number of blood lymphocytes by ≥50% with ≥5 x $10^9$/L B lymphocytes<br>❖ **Certain therapies may cause lymphocytosis, and, in these cases, lymphocytosis alone is not a sign of PD** |
| Aggressive histology | • Transformation to a more aggressive histology (Richter syndrome or Richter transformation) diagnosed by lymph node or tissue biopsy |
| Cytopenia | • Cytopenia (neutropenia, anemia, or thrombocytopenia)<br>❖ **Not attributable to autoimmune cytopenia (eg, ITP and AIHA)**<br>❖ **Cytopenia is a side effect of many therapies and cannot be used to define PD in patients during treatment. Progression of cytopenia at least 3 months after treatment defines PD** |

AIHA, autoimmune hemolytic anemia; ITP, autoimmune thrombocytopenia; PD, progressive disease.

1. Hallek M, et al. *Blood.* 2018;131(25):2745-2760.

# Symptoms and Diagnostic Test Results That Suggest Disease Progression in CLL

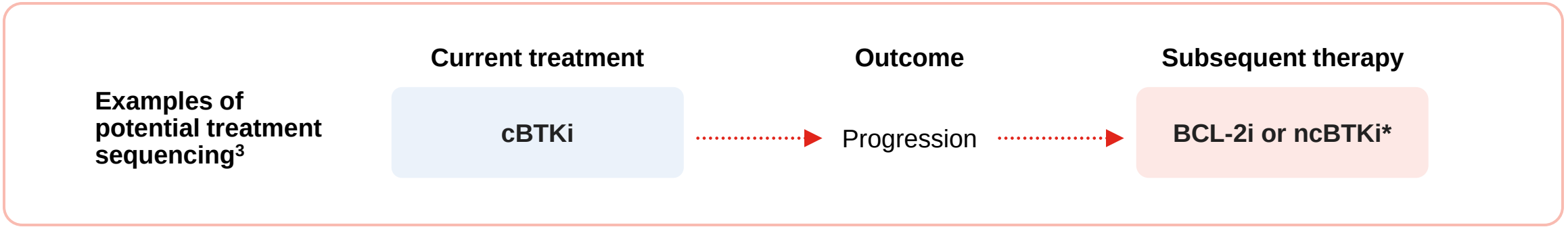
| Diagnostic test[1] | Potential symptoms of CLL progression[2] |
|---|---|
| History, physical examination | • Unexplained weight loss (>10% in 6 months)<br>• Extreme fatigue<br>• Fever (>2 weeks without signs of infection)<br>• Night sweats (>1 month)<br>• Lymphadenopathy |
| CBC and differential count | Increase in lymphocytes (>50% in 2 months or rapid doubling time); cytopenia (neutropenia, anemia, or thrombocytopenia) |
| Marrow aspirate and biopsy | Increasing number of CLL cells in bone marrow |
| Assessment of MRD | Not generally indicated in routine clinical practice |
| Ultrasound of the abdomen, CT scans of chest, abdomen, and pelvis | Lymphadenopathy, enlarged spleen, liver, or another organ |

CBC, complete blood count; CT, computed tomography; CLL, chronic lymphocytic leukemia; MRD, minimal residual disease.

1. Hallek M, et al. *Blood.* 2018;131(25):2745-2760. 2. Hallek M, et al. *Am J Hematol.* 2021;96(12):1679-1705.

# Considerations for Next Steps When Disease Progression Occurs in Patients Receiving Treatment

- As the majority of treated patients are not cured, disease progression will eventually occur[1]
- When a patient progresses on given therapy, a switch to a therapy with a different MOA is recommended[2-4]
  - For example, if a patient progresses on a cBTKi, they can switch to a BCL-2i or ncBTKi[3*]
- When a patient progresses during a treatment-free interval after time-limited therapy (eg, BCL-2i), rechallenging with the same MOA may be appropriate[3-5]




For more information, please see medical.lilly.com

* Noncovalent BTKi therapy is indicated in R/R CLL previously treated with a cBTKi.[6,7,8]

BCL-2, B-cell lymphoma-2; BCL-2i, B-cell lymphoma-2 inhibitor; BTK, Bruton's tyrosine kinase; cBTKi, covalent Bruton's tyrosine kinase inhibitor; MOA, mechanism of action; ncBTKi, noncovalent Bruton's tyrosine kinase inhibitor.

1. Hallek M, et al. *Am J Hematol.* 2021;96(12):1679-1705. 2. CGTlive. Accessed May 2, 2025. https://www.cgtlive.com/view/new-agents-and-optimal-patient-selection-in-cll-comprise-modern-paradigm. 3. Fresa A, et al. *Cancers (Basel).* 2024;16(11):2011. 4. Hampel PJ, Parikh SA. [published correction appears in *Blood Cancer J.* 2022;12(12):172]. *Blood Cancer J.* 2022;12(11):161. 5. Shadman M. *JAMA.* 2023;329(11):918-932. 6. Soumerai JD, et al. *Blood Adv.* 2025;9(5):1213-1229. 7. Sharman JP et al. *J Clin Oncol.* 2025;43(22): 2538-2549. 8. Hallek M. *Am J* Hematol. 2025;100:450-480.

# 3 Treatment Intolerance in CLL

# Effective AE Management Is Essential for Optimizing Patient Outcomes

The treatment landscape of CLL has changed dramatically in the past 10 years, with a shift toward targeted agents and immunotherapies[1-3]

Despite improved efficacy, these therapeutics have specific AE profiles that must be considered when selecting appropriate treatment[3,4]

Some AEs can manifest as class effect toxicities–for example, CV toxicity with BTKi, TLS with BCL-2i, and CRS with cellular therapy[3,5]

**AEs must be monitored regularly, promptly identified, and managed effectively to maximize anticancer treatment efficacy and maintain quality of life for patients[3,6]**

AE, adverse event; BCL-2i, B-cell lymphoma-2 inhibitor; BTKi, Bruton's tyrosine kinase inhibitor; CLL, chronic lymphocytic leukemia; CRS, cytokine release syndrome; CV, cardiovascular; TLS tumor lysis syndrome.

1. Woyach JA. *Am J Hematol.* 2022;97(suppl 2):S11-S18. 2. Gao P, et al. *Exp Hematol Oncol.* 2025;14(1):53. 3. Galitzia A, et al. *Cancers (Basel).* 2024;16(11):1996. 4. Pérez-Carretero C, et al. *Diagnostics (Basel).* 2021;11(5):853. 5. Adkins S. *J Adv Pract Oncol*. 2019;10(Suppl 3):21-28. 6. Muñoz JL, et al. *Interdisciplinary Cancer Research.* Cham, Switzerland: Springer International Publishing; 2023.

# Assessment of Potential Toxicity Requires Consideration of Disease Manifestations and Anticipated Adverse Reaction Profile

- Before choosing treatment, evaluation of a patient's clinical factors is recommended[1,2]
  - This includes assessing preexisting comorbidities, including CV conditions, need for anticoagulation, bleeding risk, and renal function[1,2]
  - Evaluation should also include concomitant medications that may impact efficacy due to DDIs[1,2]
- Each patient's disease symptoms and anticipated AE profile should be considered[3,4]
  - For example, many patients with CLL have low blood cell counts when starting therapy, and standard criteria for assessment of toxicity in solid tumors cannot be applied[3]

## Principal factors in treatment selection and development of AEs[1]

Available drugs and combinations

Age

DDIs

## Notable factors to consider in management of AEs

Baseline CV health

Renal function

TLS prevention

**Because dose adherence affects durability of response, recognizing toxicity early and utilizing effective management strategies including supportive care can maximize both adherence and outcomes[1,4]**

AE, adverse event; CLL, chronic lymphocytic leukemia; CTCAE, Common Terminology Criteria for Adverse Events; CV, cardiovascular; DDI, drug-drug interactions; NCI, National Cancer Institute; TLS, tumor lysis syndrome.

1. Galitzia A, et al. *Cancers (Basel).* 2024;16(11):1996. 2. Hallek M. *Hematol Oncol.* 2023;419suppl1):129-135. 3. Hallek M, et al. *Blood.* 2018;131(25):2745-2760. 4. Ahn IE, et al. *Hematology Am Soc Hematol Educ Program.* 2017;2017(1):354-357.

# Effective AE Management Is Critical to Maximizing Treatment Efficacy and Maintaining Patients' Quality of Life

| Select AE | Consider continuing treatment | Consider interrupting treatment* | Consider treatment discontinuation |
|---|---|---|---|
| **Hematologic toxicity** | Grade 1/2 | Grade 3/4 | Persistent cytopenia or onset of cytopenia after 6 months of therapy may require marrow assessment to detect hematologic disorders |
| **Infections†** | Grade 1/2 | Grade 3/4, interrupt/modify dose until infection is mild/resolves | Infection worsens or continues to return |
| **Secondary primary malignancies** | Screen, monitor, manage with targeted therapies | | |
| **GI events** | Grade 1/2 | Grade 3/4 | Persistent cases may require temporary discontinuation or initiation of an alternative treatment in the same drug class |
| **TLS** (more common with BCL-2i) | Lab abnormalities resolve within 24 to 48 hours | Lab abnormalities take more than 48 hours to resolve (effects amplified with combination therapies) | |
| **Cardiotoxicity‡** (more common with BTKi) | Grade 1/2 | Grade 3/4 | Recurrent, severe episodes |

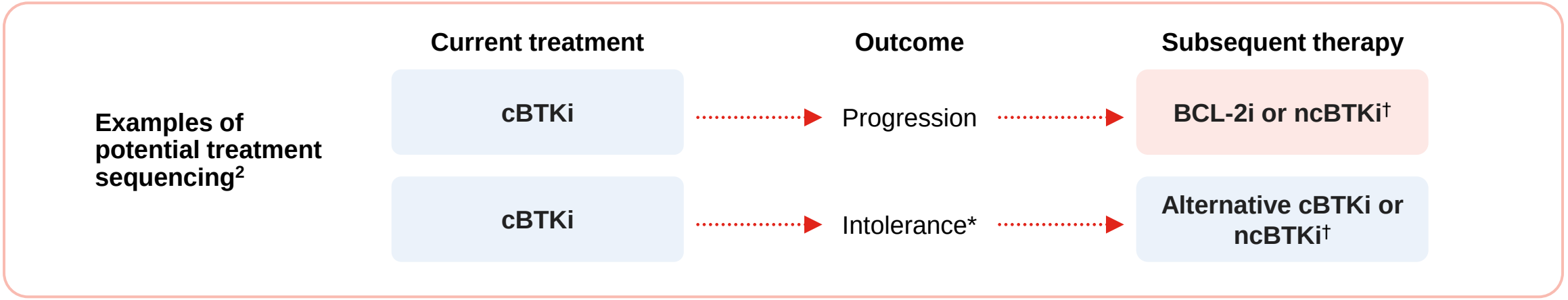
*Skipping a dose and/or reducing dose. †No consensus on managing infectious events. ‡Cardiotoxicity includes atrial fibrillation/flutter, hypertension, heart failure, ventricular arrythmias, and bleeding. For patients who experience grade 2 heart failure using a first generation covalent BTKi, the dose should be reduced or treatment discontinued. For bleeding, patients with minor events can continue treatment, but any major bleeding or life-threatening hemorrhage should prompt discontinuation of treatment.

BCL-2i, B-cell lymphoma 2 inhibitor; BTKi, Bruton's tyrosine kinase inhibitor; GI, gastrointestinal; TLS, tumor lysis syndrome.

Galitzia A, et al. *Cancers (Basel).* 2024;16(11):1996.

# Implications of Treatment Intolerance in CLL

- To avoid early discontinuation, dose adjustment following recommendations from the PI should be performed along with symptom-targeted measures[1]
- If a patient is intolerant to a therapy, it may be possible to try a different agent from the same drug class; in contrast, when a patient experiences disease progression, and stops responding to treatment, then therapy with a new MOA is recommended[2-4]
  - For example, if a patient is intolerant to a cBTKi and an AE is not a serious drug-class-associated toxicity, their treatment regimen can be switched to another cBTKi or ncBTKi†; whereas if a patient experiences disease progression on a cBTKi, a switch to a drug class with a different MOA, such as BCL-2i or ncBTKi,† is recommended[2-4]




*Intolerance with active disease. † Noncovalent BTKi therapy is indicated in R/R CLL previously treated with a cBTKi[5,6,7]

AE, adverse event; BCL-2, B-cell lymphoma 2; BCL-2i, B-cell lymphoma 2 inhibitor; BTK, Bruton's tyrosine kinase; cBTKi, covalent Bruton's tyrosine kinase inhibitor; CLL, chronic lymphocytic leukemia; MOA, mechanism of action; ncBTKi, noncovalent Bruton's tyrosine kinase inhibitor; PI, prescribing information.

1. Galitzia A, et al. *Cancers (Basel).* 2024;16(11):1996. 2. Fresa A, et al. *Cancers (Basel).* 2024;16(11):2011. 3. Shadman M. *JAMA*. 2023;329(11):918-932. 4. CGTlive. Accessed May 2, 2025. https://www.cgtlive.com/view/new-agents-and-optimal-patient-selection-in-cll-comprise-modern-paradigm. 5. Soumerai JD, et al. *Blood Adv.* 2025;9(5):1213-1229. 6. Sharman JP et al. *J Clin Oncol.* 2025;43(22): 2538-2549. 7. Hallek M. *Am J* Hematol. 2025;100:450-480.

4

# The Role of the MDT and SDM in Managing Treatment Intolerance and Disease Progression in CLL

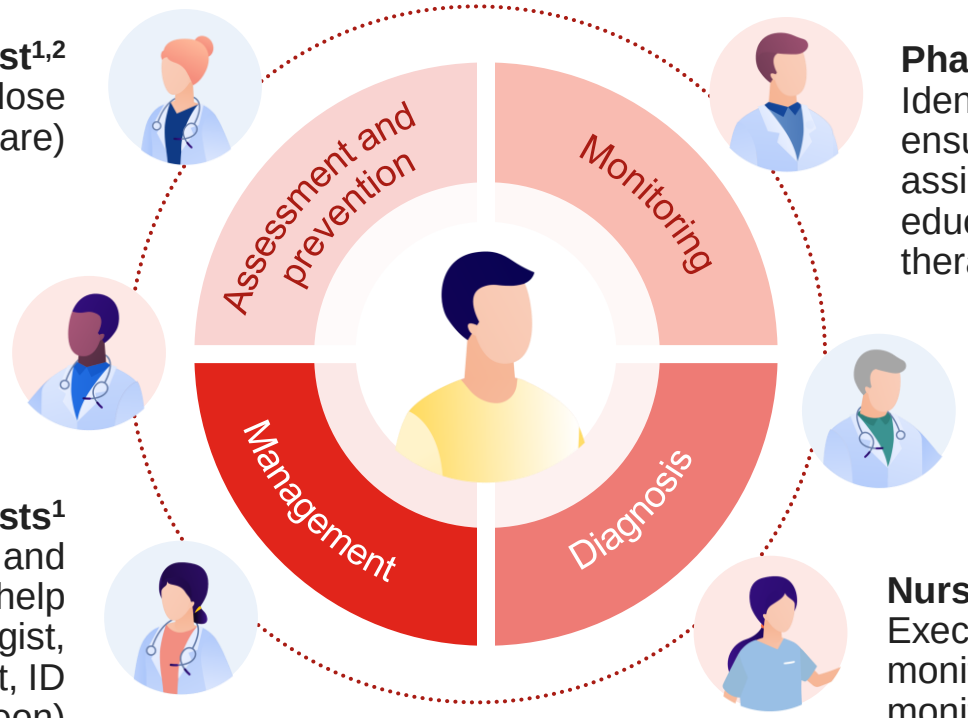
# A Multidisciplinary Approach Is Optimal for Managing Symptoms of Treatment Intolerance and Identifying Progression

An MDT approach involves different experts providing input into the strategies for prevention, assessment, monitoring, diagnosis, and management of symptoms of AEs and disease progression[1]

**Oncologist**[1,2]
Manages most grade 1-2 AEs (eg, dose adjustments, supportive care)

**General practitioner**[1]
Helps with treatment adherence; performs frequent checkups and blood pressure/AE monitoring

**Other specialists**[1]
May help with diagnosis, monitoring, and management of specific AEs to help implement early intervention (dermatologist, gastroenterologist, hematologist, ID specialist, pulmonologist, surgeon)




**Pharmacist**[1]
Identifies DDI before treatment initiation; ensures patients receive prophylaxis; assists with monitoring of toxicities; educates patients on risks/benefits of therapy and self-management of toxicities

**Cardiologist**[1]
May help with baseline CV assessment; identifies/manages CV AEs

**Nurses**[1]
Execute patient education to help with AE monitoring/adherence; provide intensive monitoring and personalized attention

AE, adverse event; DDI, drug-drug interaction; CV, cardiovascular; ID, infectious disease; MDT, multidisciplinary team.

1. Muñoz JL, et al. *Interdisciplinary Cancer Research.* Cham, Switzerland: Springer International Publishing; 2023. 2. Galitzia A, et al. *Cancers (Basel).* 2024;16(11):1996.

# The Importance of SDM in Managing Treatment Intolerance and Disease Progression

- Communication with patients is critical for SDM related to treatment decisions, recognizing AEs, identifying risk factors, reporting concurrent medications/DDIs, and monitoring treatment adherence[1]
- Effective communication with patients will ensure prompt reporting and addressing of side effects and symptoms of intolerance[2]
  - If not reported and managed early, AEs could lead to worsening symptoms, decreased adherence, decreased quality of life, and potentially dose reduction and discontinuation[2]
- Bothersome, long-term, treatment-related AEs (eg, fatigue, headaches, arthralgias) can impact many aspects of the patient's everyday life and may prompt discussions on whether to interrupt or discontinue treatment[3]
  - More serious, acute treatment-related AEs may necessitate rapid management, independent of SDM[3]

## New bi-directional patient-centered view: SDM[4]

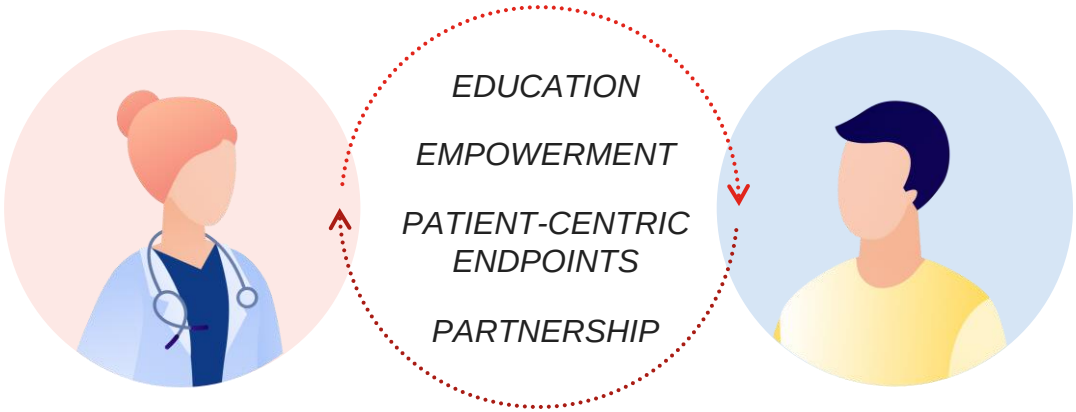



Image adapted from: LUNGevity Transforming Lunch Cancer. Accessed July 8, 2025. https://www.lungevity.org/research/patient-focused-research-center-patient-force/shared-decision-making.

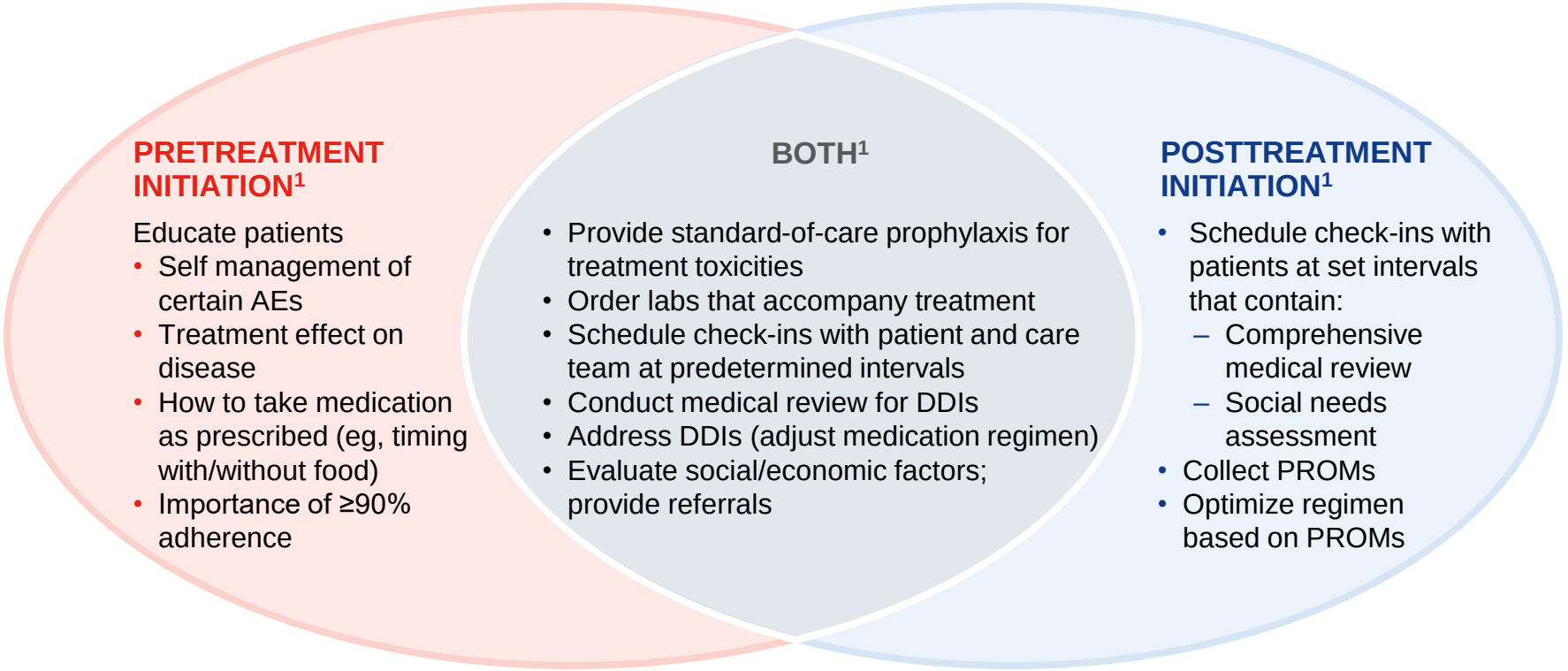
**Collaboration between a team of specialists can help patients understand their disease, how to optimize their treatment, and the importance of monitoring their overall health[1]**

For more information on shared decision making please see medical.lilly.com

AE, adverse event; DDI, drug-drug interaction; SDM, shared decision making.

1. Muñoz JL, et al. *Interdisciplinary Cancer Research.* Cham, Switzerland: Springer International Publishing; 2023. 2. Upchurch MD, et al. *Expert Rev Clin Pharmacol.* 2024;17(5-6):467-475. 3. Galitzia A, et al. *Cancers (Basel).* 2024;16(11):1996.
4. LUNGevity Transforming Lunch Cancer. Accessed June 30, 2025. https://www.lungevity.org/research/patient-focused-research-center-patient-force/shared-decision-making.

# The MDT and SDM Can Offer Support to Patients During Different Phases of Treatment




- Patients who discontinue therapy may need additional support[2,3]
- Suggest counseling/therapy, complementary therapies (eg, acupuncture, yoga, meditation), support groups, and educational resources[2-4]
- Promote maintaining healthy lifestyle[2-4]

**A structured multidisciplinary program to support patients throughout the course of treatment offers strategies to help with monitoring, early reporting, and management of side effects, ultimately contributing to improved adherence and outcomes[1,5]**

AE, adverse event; DDI, drug-drug interaction; MDT, multidisciplinary team; PROM, patient reported outcome measure; SDM, shared decision making.

1. Upchurch MD, et al. *Expert Rev Clin Pharmacol.* 2024;17(5-6):467-475. 2. National Cancer Institute. Accessed August 14, 2025. https://www.cancer.gov/about-cancer/treatment/cam 3. Leukemia & Lymphoma Society. Accessed June 3, 2025. https://www.lls.org/sites/default/files/2021-05/PS67_EachNewDay_2020_FINAL.pdf. 4. Leukemia & Lymphoma Society. Accessed June 3, 2025. https://www.lls.org/sites/default/files/2022-04/FS8_Integrative_Medicine_Complementary_Therapies_04.22.pdf 5. Muñoz JL, et al. *Interdisciplinary Cancer Research.* Cham, Switzerland: Springer International Publishing; 2023.

# Case Study: How a Pharmaceutical Care Program Can Lead to Improvements in Tolerance and Survival

A single-center, observational cohort study enrolled 155 patients with B-cell malignancies treated with a BTKi

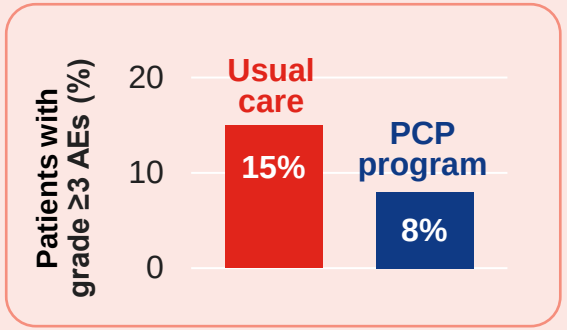
Patients were assigned either to a pharmaceutical care program (PCP) or to receive usual care

A PCP provided personalized outpatient monitoring and control of the key risks associated with OAAs through:

- Patient education for self-management of toxicities, proactive adherence monitoring, and interventions to reduce DDIs
- Follow-up of transition from hospital to community involving general practitioners, community pharmacists, care professionals, and specialists (as needed)

## Results

- Grade ≥3 AEs occurred more frequently for patients in the usual care group (15%) than the PCP group (8%)




- In addition, patients in the PCP had improved time to treatment failure ($P$ = 0.0005) and improved 30-month PFS and OS ($P$ = 0.002 and $P$ = 0.004, respectively) compared to the usual care group

**A PCP with personalized pathways for outpatient monitoring, patient education for self-management, and coordination of care from hospital to community can improve tolerance and adherence to OAAs, leading to better adherence to treatment and improved patient outcomes**

AE, adverse event; BTKi, Bruton's tyrosine kinase inhibitor; DDI, drug-drug interaction; OAA, oral anticancer agent.

1. Zerbit J, et al. *Ann Hematol*. 2020;99(7):1615-1625.

# 5 Key Takeaways

# Key Takeaways

Distinguishing between **treatment intolerance** and **disease progression** can be challenging as they can look similar, so it's important to utilize diagnostic tools, and to consider the anticipated side effect profile of therapy, the patient's comorbidities, and DDIs[1-4]

It's essential to distinguish between treatment intolerance and disease progression, as they have different clinical implications[5-7]

- If a patient is intolerant to a therapy, it may be possible to try a different agent from the **same drug class**; in contrast, when a patient experiences disease progression, a **new MOA** may be needed

An **MDT approach** and **effective communication** with patients through **SDM** is optimal for prevention, monitoring, proper assessment, and management of symptoms and signs of adverse events and disease progression, thereby ensuring patients maximize their duration of therapy to optimize outcomes[4,8,9]

DDI, drug-drug interaction; MDT, multidisciplinary team; MOA, mechanism of action; SDM, shared decision making.

1. Hallek M, et al. *Blood.* 2018;131(25):2745-2760. 2. Hallek M. *Am J Hematol.* 2025;100(3):450-480. 3. Galitzia A, et al. *Cancers (Basel).* 2024;16(11):1996. 4. Upchurch MD, et al *Expert Rev Clin Pharmacol.* 2024;17(5-6):467-475. 5. CGTlive. Accessed May 2, 2025. https://www.cgtlive.com/view/new-agents-and-optimal-patient-selection-in-cll-comprise-modern-paradigm. 6. Shadman M. *JAMA*. 2023;329(11):918-932. 7. Fresa A, et al. *Cancers (Basel).* 2024;16(11):2011. 8. Muñoz JL, et al. *Interdisciplinary Cancer Research.* Cham, Switzerland: Springer International Publishing; 2023. 9. Zerbit J, et al. *Ann Hematol*. 2020;99(7):1615-1625.