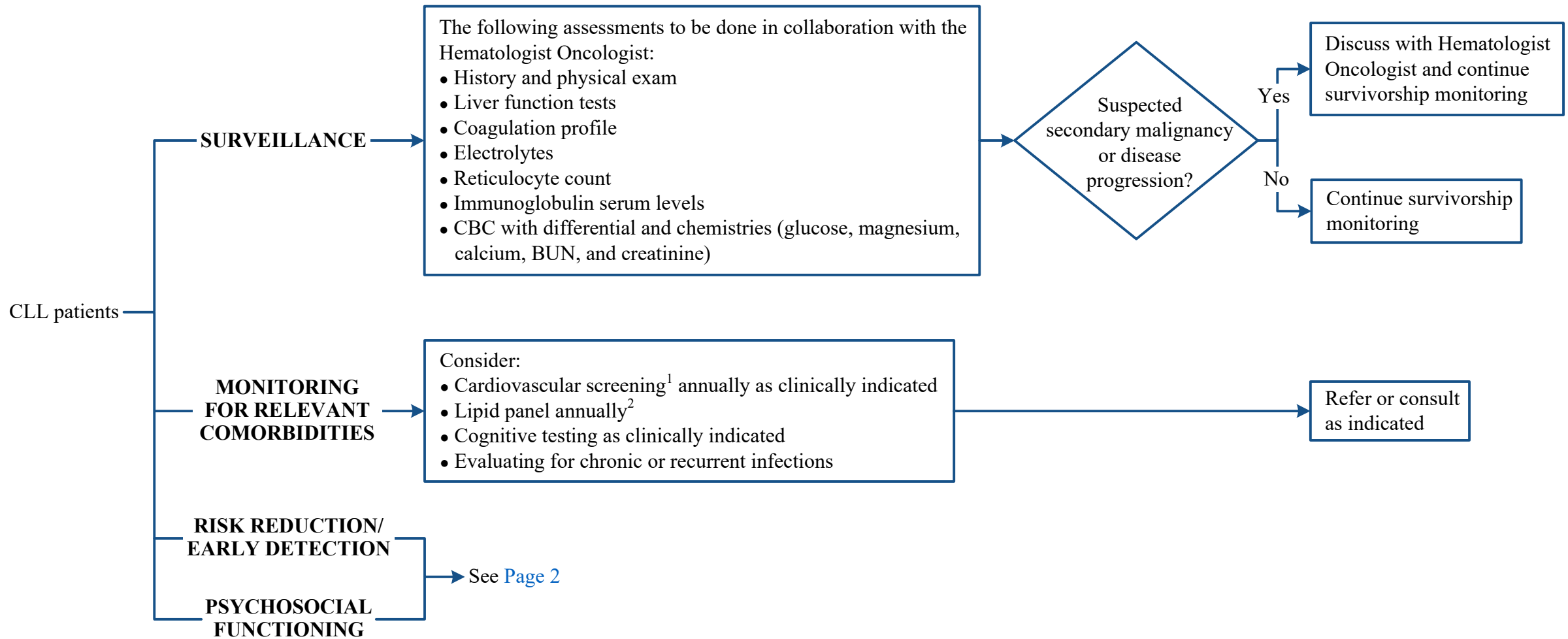


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ELIGIBILITY

CONCURRENT COMPONENTS OF VISIT

DISPOSITION



¹ Consider use of Vanderbilt’s [ABCDE’s approach to cardiovascular health](#)

² Labs may be monitored by primary care provider (PCP)

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ELIGIBILITY

CONCURRENT COMPONENTS OF VISIT

Patient education, counseling and screening:

- Lifestyle risk assessment¹
- Cancer screening²:
 - Skin exam
 - Colonoscopy
 - Screening mammogram
 - Prostate cancer screening
 - Screening pap smears
 - Low-dose CT lung screening
- Vision/cataract screening (see [Cataract Screening algorithm](#))
- Screening for Hepatitis B and C if not previously done (see [Hepatitis B Virus \(HBV\) Screening and Management](#) and [Hepatitis C Virus \(HCV\) Screening](#) algorithms)
- Vaccinations³ as appropriate
 - HPV vaccination as clinically indicated (see [HPV Vaccination algorithm](#))
 - For pneumococcal vaccine schedules, see [Appendix A](#)
 - Influenza vaccination yearly
 - Consider one dose of tetanus-diphtheria-pertussis (Tdap) vaccine as an adult if patient has not received Tdap previously and there are no contraindications. Thereafter tetanus-diphtheria (Td) vaccination every 10 years.
 - Zoster Vaccine Recombinant, Adjuvanted (Shingrix)⁴
 - Covid-19 vaccination as per CDC guideline
 - Hepatitis B vaccination as per CDC guideline
 - No live, attenuated vaccine
 - Patients should inform their providers about plans to travel outside of the US at least one month in advance for appropriate counseling and vaccinations
 - Patients should discuss recommendation for vaccines of household members

DISPOSITION

RISK REDUCTION/EARLY DETECTION

PSYCHOSOCIAL FUNCTIONING

Assess for the following as clinically indicated:

- Distress management (see [Distress Screening and Psychosocial Management algorithm](#))
- Access to primary health care for annual visit
- Financial stressors
- Relationship issues
- Infertility

CLL patients
(continued from
previous page)

Refer or consult
as indicated

¹ See [Physical Activity](#), [Nutrition](#), and [Tobacco Cessation Treatment](#) algorithms; ongoing reassessment of lifestyle risks should be a part of routine clinical practice

² Includes [breast](#), [cervical](#) (if appropriate), [colorectal](#), [lung](#), [pancreatic](#), [prostate](#), and [skin](#) cancer screening

³ Based on [Centers for Disease Control and Prevention \(CDC\) guidelines](#)

⁴ Can be administered > 6 months after anti-CD20 monoclonal antibody treatment

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APPENDIX A: Pneumococcal Vaccine¹ Schedules for Adults

Prior Vaccines	Recommendations
None or Unknown	1 dose of PCV20 or 1 dose of PCV15 followed by 1 dose of PPSV23 at least 8 weeks after PCV15
PPSV23 only	1 dose of PCV20 or PCV15 at least ≥ 1 year after the last pneumococcal vaccine
PCV13 only	1 dose of PCV20 or PPSV23 at least 8 weeks after PCV13, with second dose of PPSV23 given at least ≥ 5 years
PCV13 and 1 dose of PPSV23	1 dose of PCV20 at least ≥ 5 years after the last pneumococcal vaccine or 1 dose of PPSV23 at least 8 weeks after PCV13 and at least ≥ 5 years after the first dose of PPSV23
PCV13 and 2 doses of PPSV23 ²	The decision to administer 1 dose of PCV20 at least ≥ 5 years of last pneumococcal vaccine is a shared clinical decision between the patient and the provider

PCV13 = pneumococcal 13-valent conjugate vaccine

PCV15 = pneumococcal 15-valent conjugate vaccine

PCV20 = pneumococcal 20-valent conjugate vaccine

PPSV23 = pneumococcal polysaccharide 23-valent vaccine

¹ Based on [Centers for Disease Control and Prevention \(CDC\) guidelines](#)

² For adults ages ≥ 65 years of age, who received 1 dose of PCV13 at any age and all recommended doses of PPSV23 (including 1 dose of PPSV23 at ≥ 65 years of age)

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SUGGESTED READINGS

- Ammenheuser, M. (2017, February 21). *The ABCDEs of caring for the heart during cancer treatment - and beyond*. Vanderbilt Health. <https://my.vanderbilthealth.com/heart-damage-chemotherapy-radiation/>
- Archibald, W. J., Meacham, P. J., Williams, A. L. M., Baran, A. M., Victor, A. I., Barr, P. M., . . . Zent, C. S. (2018). Management of melanoma in patients with chronic lymphocytic leukemia. *Leukemia Research*, 71, 43-46. <https://doi.org/10.1016/j.leukres.2018.07.003>
- Centers for Disease Control and Prevention. (2023). *Pneumococcal Vaccination*. Retrieved from <https://www.cdc.gov/vaccines/vpd/pneumo/index.html>
- Centers for Disease Control and Prevention. (2023). *Recommended immunization schedule for adults aged 19 years or older, United States, 2023*. Retrieved from <https://www.cdc.gov/vaccines/schedules/hcp/imz/adult.html>
- Chavez, J. C., Kharfan-Dabaja, M. A., Kim, J., Yue, B., Dalia, S., Pinilla-Ibarz, J., . . . Locke, F. L. (2014). Genomic aberrations deletion 11q and deletion 17p independently predict for worse progression-free and overall survival after allogeneic hematopoietic cell transplantation for chronic lymphocytic leukemia. *Leukemia Research*, 38(10), 1165-1172. <https://doi.org/10.1016/j.leukres.2014.04.006>
- Davis, A. S., Viera, A. J., & Mead, M. D. (2014). Leukemia: An Overview for Primary Care. *American Family Physician*, 89(9), 731-738.
- Desikan, S. P., Venugopal, S., & Ferrajoli, A. (2022). BTK inhibitor selection for chronic lymphocytic leukemia: Which drug for which patient? *Expert Review of Hematology*, 15(5), 403-409. <https://doi.org/10.1080/17474086.2022.2074393>
- Else, M., Cocks, K., Crofts, S., Wade, R., Richards, S. M., Catovsky, D., & Smith, A. G. (2012). Quality of life in chronic lymphocytic leukemia: 5-year results from the multicenter randomized LRF CLL4 trial. *Leukemia & Lymphoma*, 53(7), 1289-1298. <https://doi.org/10.3109/10428194.2011.649479>
- Falchi, L., Keating, M. J., Marom, E. M., Truong, M. T., Schlette, E. J., Sargent, R. L., . . . Ferrajoli, A. (2014). Correlation between FDG/PET, histology, characteristics, and survival in 332 patients with chronic lymphoid leukemia. *Blood*, 123(18), 2783-2790. <https://doi.org/10.1182/blood-2013-11-536169>
- Falchi, L., Keating, M. J., Wang, X., Coombs, C. C., Lanasa, M. C., Strom, S., . . . Ferrajoli, A. (2013). Clinical characteristics, response to therapy, and survival of African American patients diagnosed with chronic lymphocytic leukemia: Joint experience of the MD Anderson Cancer Center and Duke University Medical Center. *Cancer*, 119(17), 3177-3185. <https://doi.org/10.1002/cncr.28030>
- Gordon, M. J., & Ferrajoli, A. (2022). Unusual complications in the management of chronic lymphocytic leukemia. *American Journal of Hematology*, 97(S2), S26-S34. <https://doi.org/10.1002/ajh.26585>
- Gordon, M. J., Jones, J. E., George, B., Peterson, C., Burger, J. A., Jain, N., . . . Ferrajoli, A. (2023). Long-term outcomes in patients with chronic lymphocytic leukemia treated with ibrutinib: Focus on hypertension and cardiovascular toxicity. *Cancer*. Advance online publication. <https://doi.org/10.1002/cncr.34787>
- Iskierka-Jazdzewska, E., & Robak, T. (2020). Minimizing and managing treatment-associated complications in patients with chronic lymphocytic leukemia. *Expert Review of Hematology*, 13(1), 39-53. <https://doi.org/10.1080/17474086.2020.1696185>

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SUGGESTED READINGS - continued

- Larsson, K., Mattsson, M., Ebrahim, F., Glimelius, I., & Hoglund, M. (2020). High prevalence and incidence of cardiovascular disease in chronic lymphocytic leukaemia: A nationwide population-based study. *British Journal of Haematology*, 190(4), e245-e248. <https://doi.org/10.1111/bjh.16859>
- Malhotra, P., Hogan, W. J., Litzow, M. R., Elliott, M. A., Gastineau, D. A., Ansell, S. M., . . . Tefferi, A. (2008). Long-term outcome of allogeneic stem cell transplantation in chronic lymphocytic leukemia: Analysis after a minimum follow-up of 5 years. *Leukemia & Lymphoma*, 49(9), 1724-1730. <https://doi.org/10.1080/10428190802263535>
- National Comprehensive Cancer Network. (2023). *Chronic Lymphocytic Leukemia/Small Lymphocytic Lymphoma* (NCCN Guideline Version 2.2023). https://www.nccn.org/professionals/physician_gls/pdf/cll.pdf
- Pashos, C. L., Flowers, C. R., Kay, N. E., Weiss, M., Lamanna, N., Farber, C., . . . Khan, Z. M. (2013). Association of health-related quality of life with gender in patients with B-cell chronic lymphocytic leukemia. *Supportive Care in Cancer*, 21(10), 2853-2860. <https://doi.org/10.1007/s00520-013-1854-z>
- Rivera, D., & Ferrajoli, A. (2022). Managing the risk of infection in chronic lymphocytic leukemia in the era of new therapies. *Current Oncology Reports*, 24(8), 1003-1014. <https://doi.org/10.1007/s11912-022-01261-9>
- Royle, J. A., Baade, P. D., Joske, D., Girschik, J., & Fritschi, L. (2011). Second cancer incidence and cancer mortality among chronic lymphocytic leukaemia patients: A population-based study. *British Journal of Cancer*, 105(7), 1076-1081. <https://doi.org/10.1038/bjc.2011.313>
- Shen, Y., Coyle, L., Kerridge, I., Stevenson, W., Arthur, C., McKinlay, N., . . . Mulligan, S. P. (2022). Second primary malignancies in chronic lymphocytic leukaemia: Skin, solid organ, haematological and Richter's syndrome. *British Society for Haematology*, 3(1), 129-138. <https://doi.org/10.1002/jha2.366>
- Tsimberidou, A.-M., Wen, S., McLaughlin, P., O'Brien, S., Wierda, W. G., Lerner, S., . . . Keating, M. J. (2009). Other Malignancies in Chronic Lymphocytic Leukemia/Small Lymphocytic Lymphoma. *Journal of Clinical Oncology*, 27(6), 904-910. <https://doi.org/10.1200/JCO.2008.17.5398>
- van den Broek, E. C., Oerlemans, S., Nijziel, M. R., Posthuma, E. F. M., Coebergh, J. W. W., & van de Poll-Franse, L. V. (2015). Impact of active surveillance, chlorambucil, and other therapy on health-related quality of life in patients with CLL/SLL in the Netherlands. *Annals of Hematology*, 94(1), 45-56. <https://doi.org/10.1007/s00277-014-2161-6>

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This survivorship algorithm is based on majority expert opinion of the Leukemia Survivorship workgroup at the University of Texas MD Anderson Cancer Center. It was developed using a multidisciplinary approach that included input from the following:

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