CLL SOCIETY

Smart Patients Get Smart Care™

UNDERSTANDING THE NUMBERS: A PATIENT'S GUIDE TO CLL / SLL TESTING AND IMAGING

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THIS PROGRAM IS MADE POSSIBLE THROUGH GENEROUS DONORS AND GRANT SUPPORT FROM

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CLL SOCIETY

Smart Patients Get Smart Care™

Understanding CLL/SLL Testing and Imaging: What Patients and Care Partners Need to Know

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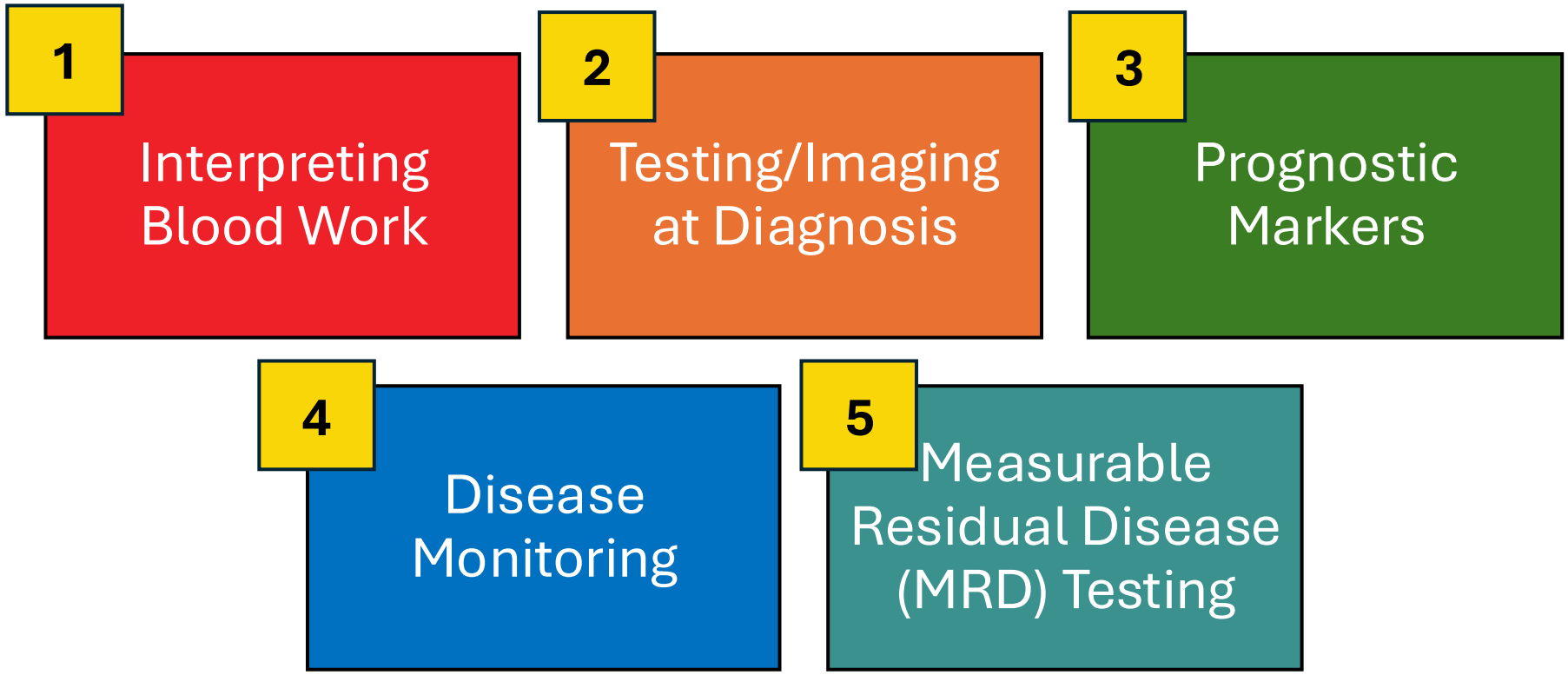
TOPICS COVERED TODAY



INTERPRETING BLOOD WORK

Complete Blood Count (CBC)

Test	Result	Reference Range
WBC	**38.6 K/µL ↑**	4.0–11.0 K/µL
RBC	4.35 M/µL	4.0–5.2 M/µL
Hemoglobin	13.1 g/dL	12.0–16.0 g/dL
Hematocrit	39.5%	36–46%
MCV	90.8 fL	80–100 fL
MCH	30.1 pg	27–33 pg
MCHC	33.2 g/dL	32–36 g/dL
RDW	13.4%	11.5–14.5%
Platelets	168 K/µL	150–400 K/µL

Differential

Differential	Result	Reference Range
Neutrophils	9%	40–70%
Absolute Neutrophils (ANC)	3.5 K/µL	1.5–7.5 K/µL
Lymphocytes	**88% ↑**	20–40%
Absolute Lymphocyte (ALC)	**34.0 K/µL ↑**	1.0–4.0 K/µL
Monocytes	2%	2–8%
Eosinophils	1%	0–5%
Basophils	0%	0–2%

INTERPRETING BLOOD WORK (CONT.)

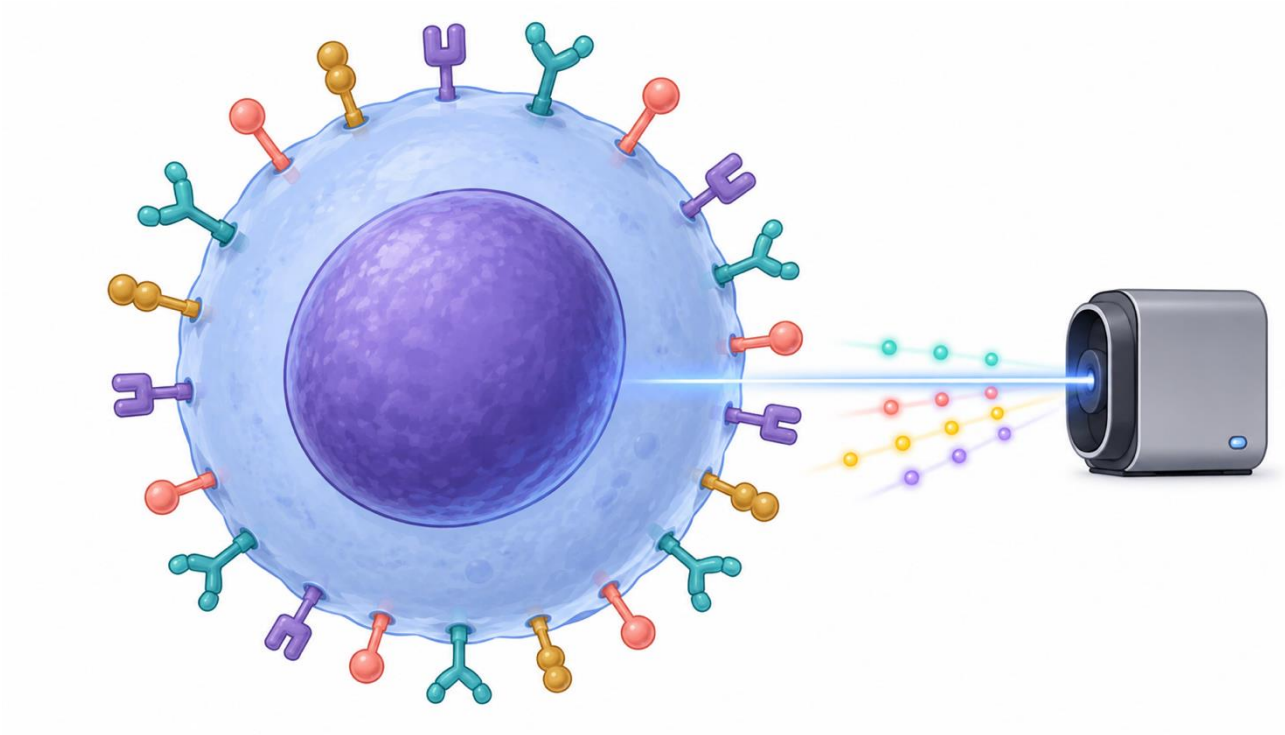
- **White Blood Cells** = A measurement of your total white blood cells (infection fighting cells)
- **Hemoglobin** = A way to measure your red blood cells (carry oxygen through the body)
  - A low hemoglobin (anemia) may contribute to fatigue or other symptoms.
- **Platelet Count** = Tiny cell fragments that help us stop bleeding.
  - Low platelets can increase the risk of bruising or bleeding
- **Absolute Lymphocyte Count (ALC)** = Number of circulating lymphocytes
  - Often more meaningful in terms of CLL disease burden than WBC alone.
- **Absolute Neutrophil Count (ANC)** = Measurement of good white blood cells called neutrophils
  - Important to maintain an adequate ANC to prevent against infections.

TESTING/IMAGING AT DIAGNOSIS

Usually Needed at Diagnosis	<u>Not Routine</u> But Useful in Special Circumstances
• Complete Blood Count with Differential • Comprehensive Metabolic Panel • Flow Cytometry ★ • Prognostic Testing ★	• Bone marrow biopsy • Lymph node biopsy • Imaging (CT scan or PET scan)

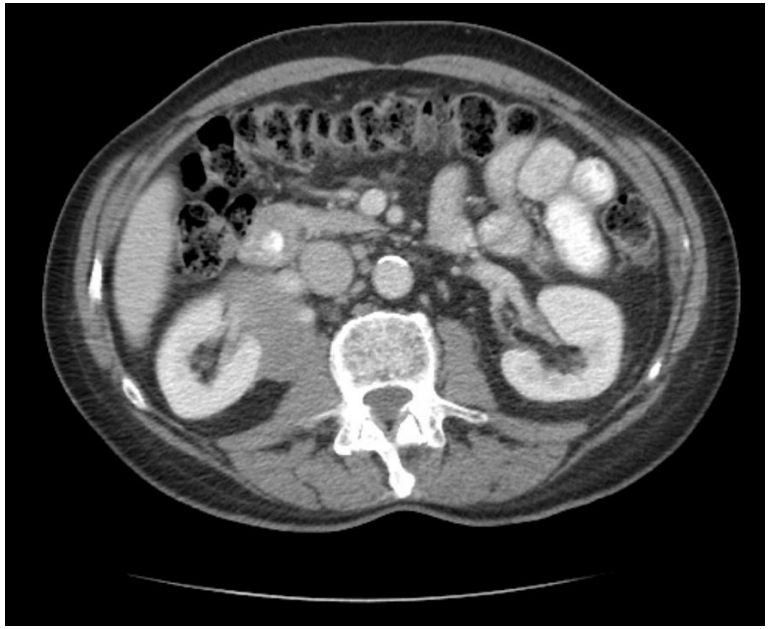
TESTING/IMAGING AT DIAGNOSIS (CONT.)

Flow Cytometry



- Typically performed on a blood sample.
- Analyzes “flags” on the surface of a cell to help identify the cell.
- Flow cytometry of a blood sample can make a diagnosis of CLL.

TESTING/IMAGING AT DIAGNOSIS (CONT.)

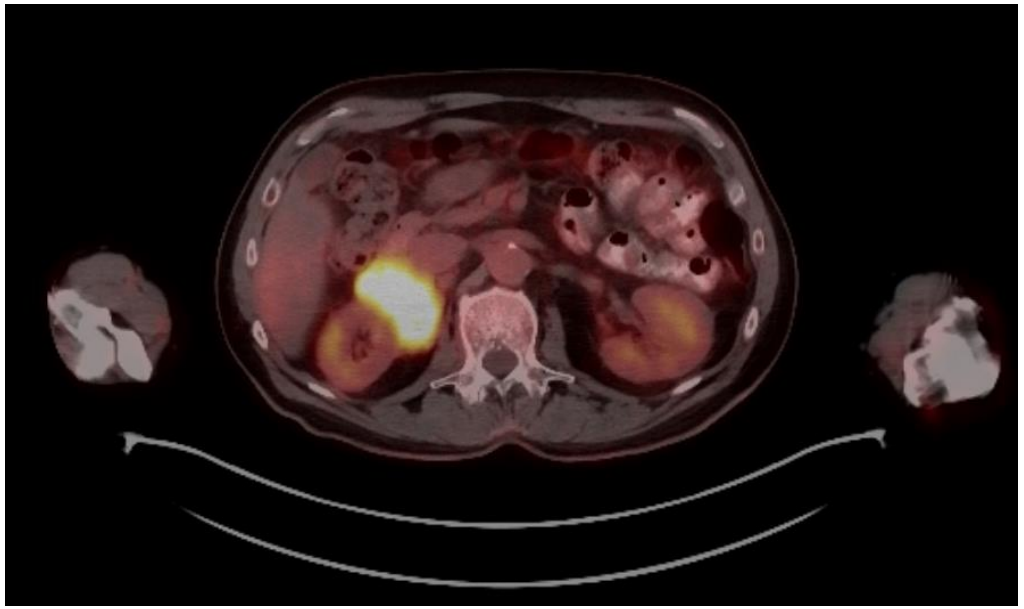


CT Scans

- Detailed anatomy
- Measures lymph-node and organ size
- Usually uses IV contrast
- Better anatomic detail
- Cannot determine activity from size alone

PET/CT

- Anatomy plus metabolic activity
- Identifies areas of increased glucose uptake using an injected radioactive tracer
- Useful if there is a concern for Richter's transformation (assessing site for biopsy).



MRI

- Does not use ionizing radiation
- Expensive $$$
- Time/Patient Tolerance

PROGNOSTIC MARKERS

Prognostic testing should be sent at diagnosis on **all** CLL/SLL patients.

1. **CLL-FISH** – looks for common chromosomal changes seen in CLL (that have prognostic significance)
   - Deletion 17p (Del17p)
   - Deletion 11q (Del11q)
   - Deletion 13q (Del13q)
   - Trisomy 12
2. **IGHV Mutation** – looks for a mutation in the Immunoglobulins variable heavy chain
   - Mutated
   - Unmutated
3. **TP53 Mutation** – looks for a mutation in the TP53 gene (TP53 normally acts like quality-control for a cell)
   - No mutation (wild-type)
   - Mutated

* Chromosome Analysis

** Next Generation Sequencing – NOTCH1 mutations, BTK mutations, etc.

CLL SOCIETY'S TEST BEFORE TREAT

Provides guidance on biomarker testing recommendations and their implications for prognosis and treatment decisions

TEST BEFORE **TREAT**

Critical testing should be performed as follows:

- FISH, TP53, and IGHV at diagnosis or before the first treatment is started
- FISH and TP53 should be tested again each and every time a new treatment is started

CHEMOIMMUNOTHERAPY SHOULD NOT BE CONSIDERED

for those who are:

- Deletion 17p
- TP53 mutated
- IGHV unmutated

NEXT GENERATION SEQUENCING (NGS)

- Looks for genetic mutations
- Some mutations can have prognostic significance or impact treatment decisions
- NOT yet standard of care in CLL, especially at diagnosis.

Sample Next-Generation Sequencing (NGS) Report

PATIENT	SPECIMEN	COLLECTED	ASSAY	QUALITY
Sample Patient	Peripheral blood	08/01/2026	648-gene DNA panel	Adequate for analysis

Clinically relevant genomic findings

Gene	Variant	VAF	Classification	What it may mean in CLL
TP53	p.R248Q	38%	**Pathogenic**	May predict poorer response to chemoimmunotherapy; helps guide treatment selection.
NOTCH1	p.P2514Rfs*4	22%	**Pathogenic**	Provides prognostic context; usually does not determine treatment by itself.
SF3B1	p.K700E	18%	**Pathogenic**	Provides prognostic context; usually does not determine treatment by itself.

DISEASE MONITORING

What to Watch

- History
- Physical Exam
- Complete Blood Count with Differential
  - Hemoglobin
  - Platelet Count
  - Absolute lymphocyte count (ALC) and doubling time
  - Absolute neutrophil count (ANC)
- Complete Metabolic Panel
- Immunoglobulins (particularly if recurrent infections are occurring)

Sometimes Helpful

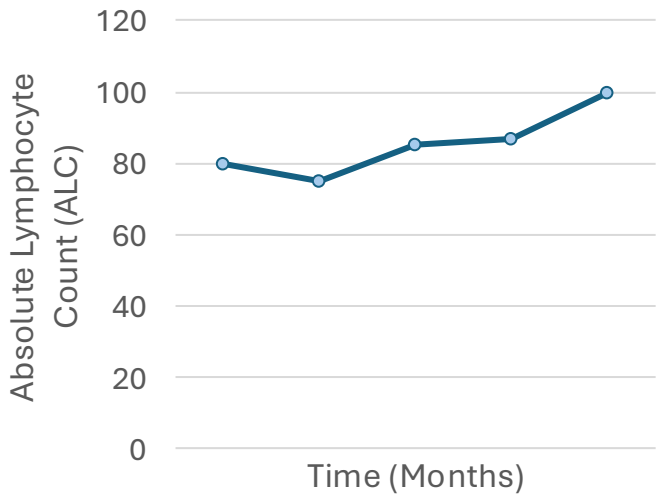
- **Imaging** – CT scans or PET scans
- **Biopsy**
  - Bone Marrow Biopsy
  - Lymph Node Biopsy

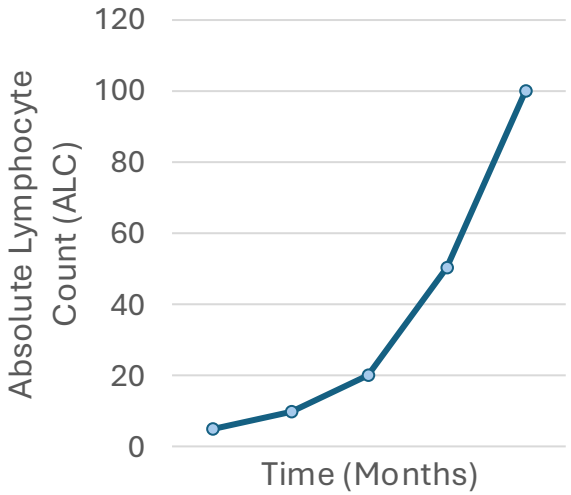
DISEASE MONITORING (CONT.)

What Matters the Most

- A single value does not tell the whole story.
- The trend and pace of change are more important!
- Also need to take symptoms and exam findings into account.

Treat the patient and not the number.





KEEPING TRACK OF LAB RESULTS

Understanding how to interpret your blood tests will empower you to ask appropriate questions and get the follow-up needed to ensure your best care

- Normal Lab Values
- Keeping Track of Lab Results

https://cllsociety.org/lab-values/

KEEPING TRACK OF LAB RESULTS (CONT.)

John Smith

HOME CHARTS

Click on a ?
for additional information

CBC INFORMATION

Date	WBC	RBC	HGB	HCT	Platelets	Percent Lymphs	Absolute Lymphs	Percent Neuts	Absolute Neuts	MCV	MCH	MCHC	RDW	MPV
?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
Range=>	3.5-10.5	4.2-6.1	12.1-17.2	36-50	150-450	28-55%	0.85-4.1	25-70%	1.5-7.8	80-100	28-32	32-36	11%-15%	7.5-11.5
2/14/20	10.0	6.0	17.0	38.0	300.0	40.0%	4.00	70.0%	7.0	85.0	29.0	33.0	13.0%	11.0
6/15/20	3.8	5.0	15.0	40.0	200.0	50.0%	2.00	60.0%	5.0	80.0	32.0	32.0	14.0%	9.0
8/8/21	10.0	6.0	17.0	38.0	300.0	40.0%	4.00	70.0%	7.0	85.0	29.0	33.0	13.0%	11.0
5/5/22	9.0	5.0	13.0	50.0	400.0	55.0%	3.80	30.0%	6.0	85.0	30.0	36.0	15.0%	10.0
12/15/23	3.8	5.0	15.0	40.0	200.0	50.0%	2.00	60.0%	5.0	80.0	32.0	32.0	14.0%	9.0
7/4/24	10.0	6.0	17.0	38.0	300.0	40.0%	4.00	70.0%	7.0	85.0	29.0	33.0	13.0%	11.0
6/20/25	3.5	4.2	12.1	36.0	150.0	30.0%	1.00	40.0%	2.0	90.0	30.0	35.0	12.0%	8.0
6/15/26	3.8	5.0	15.0	40.0	200.0	50.0%	2.00	60.0%	5.0	80.0	32.0	32.0	14.0%	9.0
8/8/27	10.0	6.0	17.0	38.0	300.0	40.0%	4.00	70.0%	7.0	85.0	29.0	33.0	13.0%	11.0
5/5/28	9.0	5.0	13.0	50.0	400.0	55.0%	3.00	30.0%	6.0	85.0	30.0	36.0	15.0%	10.0
12/15/29	3.8	5.0	15.0	40.0	200.0	50.0%	2.00	60.0%	5.0	80.0	32.0	32.0	14.0%	9.0
12/15/30	3.8	5.0	15.0	40.0	200.0	50.0%	2.00	60.0%	5.0	80.0	32.0	32.0	14.0%	9.0

https://cllsociety.org/cll-sll-patient-education-toolkit/keeping-track-of-lab-results/

RESPONSE CRITERIA - iwCLL

	Complete Response (CR)	Partial Response (PR)	Stable Disease (SD)	Progressive Disease (PD)
Circulating Lymphocyte Count	Normal	Decrease ≥ 50% from baseline	Similar to baseline	Increase ≥ 50% from baseline
Platelet Count	≥100 × 10^9/L	≥100 × 10^9/L or increase ≥50% over baseline	Similar to baseline	Decrease of ≥50% from baseline
Hemoglobin	≥11.0 g/dL	≥11 g/dL or increase ≥50% over baseline	Similar to baseline	Decrease of ≥2 g/dL from baseline secondary to CLL
Lymph Nodes	None ≥ 1.5 cm	Decrease ≥ 50% from baseline	Similar size as baseline	Increase ≥ 50% from baseline
Liver or Spleen	Spleen size < 13 cm	Decrease ≥ 50% from baseline	Similar size as baseline	Increase ≥ 50% from baseline

MEASURABLE RESIDUAL DISEASE (MRD)

- **MRD Testing** = looks for VERY small amount of cancer cells in a sample (below traditional testing methods)
  - Often looking for 1 in a 1,000,000 cells.
- MRD Testing can be performed with flow cytometry (1 in 10,000 cells), PCR testing, or next generation sequencing (1 in 1,000,000).
- Use in CLL is evolving quickly.
  - In many cases, may not change observation/treatment recommendations but does have prognostic significance.
  - Some newer trials/regimens using MRD-guided stopping strategies.
- In clinical trials, used with fixed-duration treatment strategies.
  - Venetoclax combinations
  - BTK Inhibitor + Venetoclax combinations

BIG PICTURE TAKE AWAYS

1. Often a CLL diagnosis can be made on peripheral blood draw alone.
2. Test before you treat! Know your markers.
3. Scans and bone marrow biopsies should answer a specific question.
4. Follow count trends, symptoms, and findings – not one isolated number.
5. We have time to watch/re-evaluate – most CLL is a slow evolving condition.

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THANK YOU FOR ATTENDING!

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A GUIDE TO CLL / SLL TREATMENT SELECTION AND SEQUENCING

SEPTEMBER 28

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