

What is Relapsed CLL?

- Cancer comes back or recurs

What is Refractory CLL?

- Cancer does not respond to therapy, or
- Cancer recurs within 6 months of completing therapy

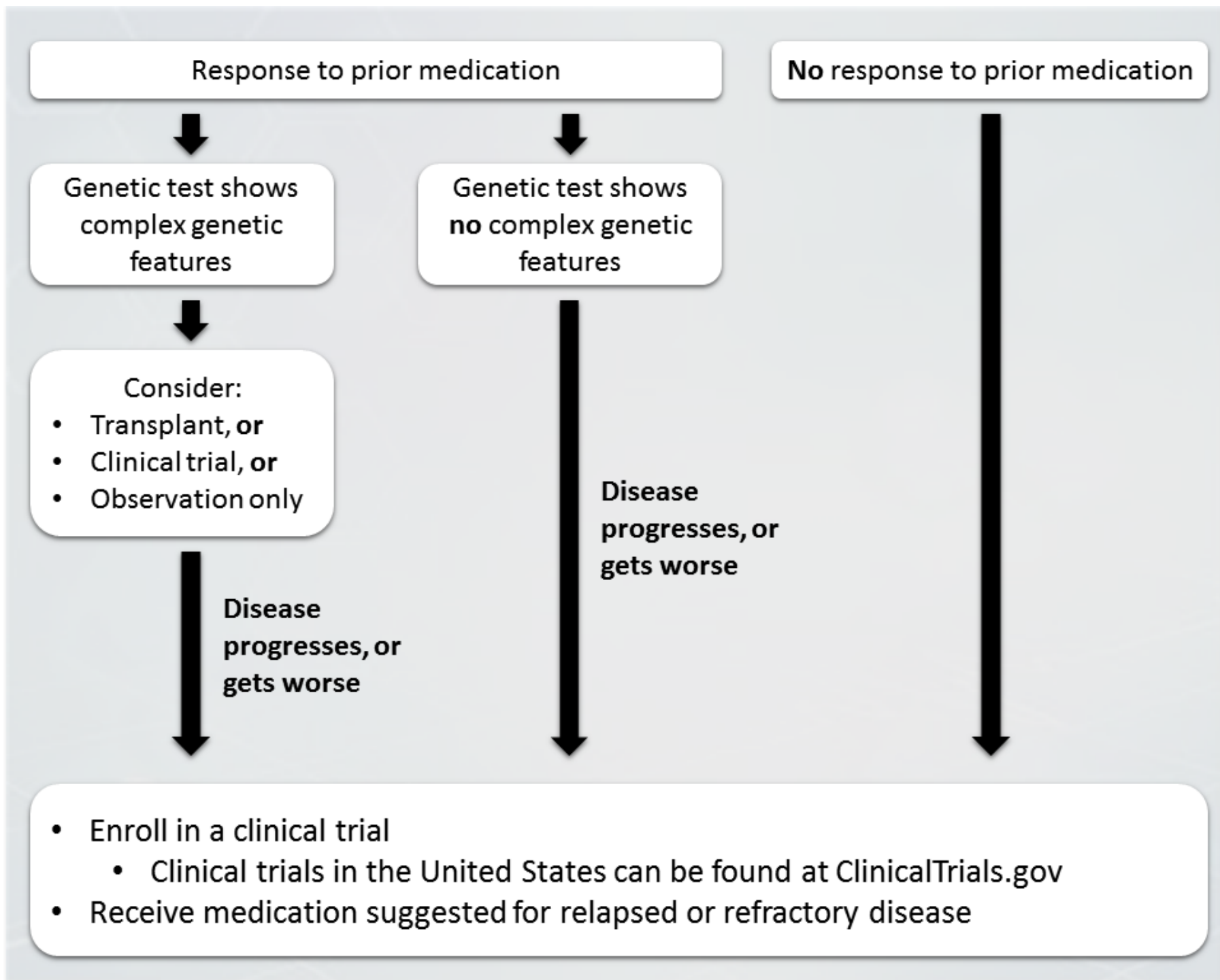
What are the suggested medications in relapsed or refractory disease?

- Ibrutinib
- Venetoclax
- Idelalisib
- Idelalisib + Rituximab
- High-dose Methylprednisolone +/- Rituximab
- Lenalidomide +/- Rituximab
- Alemtuzumab +/- Rituximab
- Ofatumumab
- Oxaliplatin + Fludarabine + Cytarabine + Rituximab (OFAR)

Source

NCCN Clinical Practice Guidelines in Oncology.
Chronic Lymphocytic Leukemia. Version 1.2017

Treatment Pathways in Relapsed or Refractory del(17p)-Positive Chronic Lymphocytic Leukemia (CLL)



Summary

- Comorbidities are the presence of **more than 1** distinct medical condition.
- The **Cumulative Illness Rating Scale (CIRS)** is used to assess your comorbidities.
- The CIRS measures the health of **14 different organ systems**.
- Each organ system is **rated on a scale of 0 to 4**, with 0 meaning there is no problem and 4 meaning there is a severe problem.
- Each score is added up for a total CIRS score.
- In recent CLL clinical trials, a patient with a **CIRS score of 6 or more is considered "less fit."**

Your health care provider will use your CIRS score to help develop a treatment plan for your CLL.

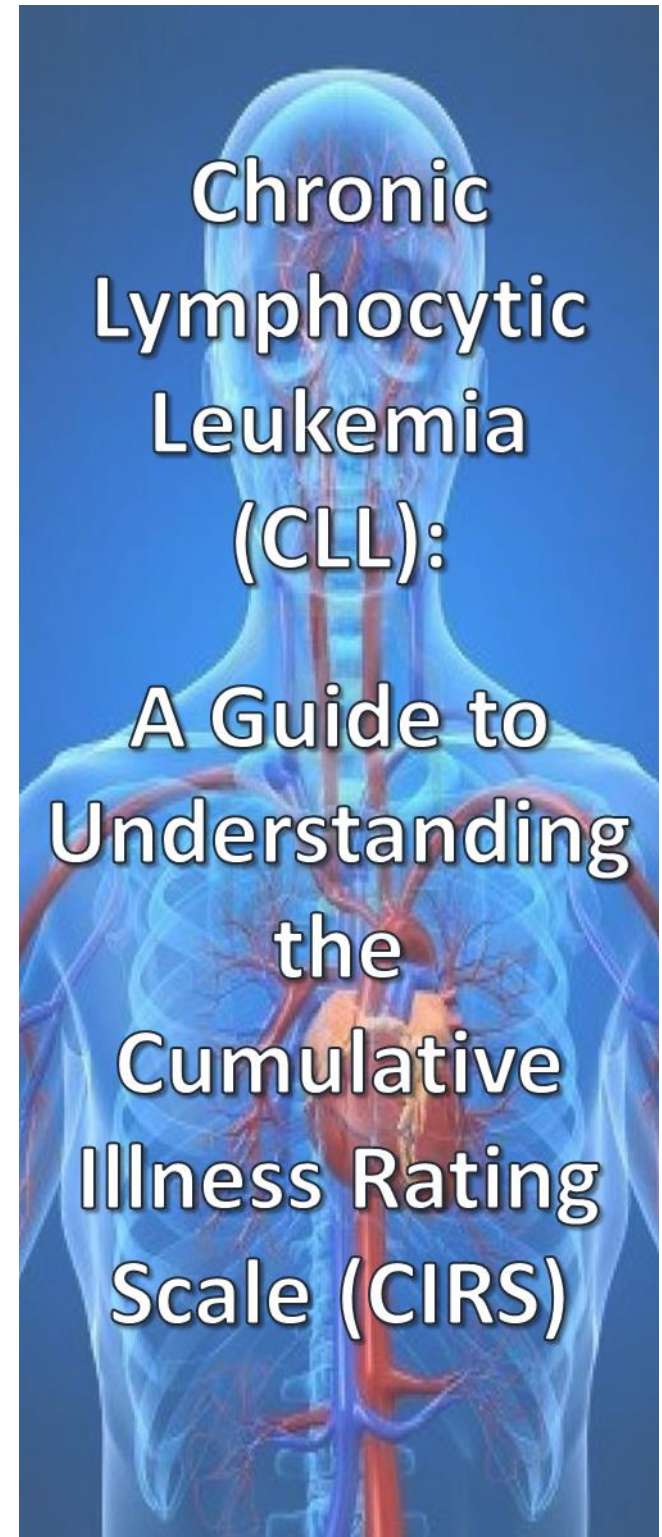
Sources

Valderas JM, et al. *Ann Fam Med*. 2009;7(4):357-363.
Salvi F, et al. *J Am Geriatr Soc*. 2008;56(10):1926-1931.



Chronic Lymphocytic Leukemia (CLL):

A Guide to Understanding the Cumulative Illness Rating Scale (CIRS)



What are comorbidities?

Comorbidities are the presence of **more than 1** distinct medical condition in an individual.

Comorbidities play an important role in:



Assessing your overall level of fitness



Selecting medications to treat your CLL



Evaluating the risk associated with specific therapies

Your health care provider will conduct a thorough evaluation of your comorbidities to better determine the treatment and management of your CLL.

What is the Cumulative Illness Rating Scale (CIRS)?

Health care providers use the CIRS to assess different organ systems.

CIRS reviews 14 organ systems:



Artery Disease



Skeletal/Bones



Endocrine/
Metabolic System



Eyes, Ears, Nose,
Throat & Larynx



Heart



Blood Pressure



Kidneys



Liver



Upper
Digestive System



Lower
Digestive System



Lungs



Nervous System



Psychiatric



Genitourinary

How does the CIRS work?

Each organ system is rated on a **scale of 0 to 4**.

0	No problem
1	Mild problem; doesn't interfere with activity
2	Problem interferes with normal activity
3	Severe problem
4	Extremely severe problem; impaired organ function

The scores are then added up for a total CIRS score.

What do the results mean?

The **higher the CIRS score**, the **worse your comorbid conditions** may be.

In recent clinical trials for CLL, patients with a **CIRS score of 6 or higher** were considered “less fit.”

Your health care provider will use your CIRS score to determine your health status and help develop an appropriate treatment plan.

Summary

- DNA is packaged into chromosomes within the cell
- The short arm of the chromosome is the “p arm”
- Chromosomes may have abnormalities
- Deletion (del) results in the loss of a segment of the chromosome
- Del(17p13.1) results in loss of section 13.1 of the p arm of chromosome 17
- *TP53* gene is located at chromosome 17p13.1
- Del(17p13.1) results in loss of the *TP53* gene
- Without *TP53* gene, CLL cells can grow with damaged DNA and mutations that make it a more aggressive form of CLL

Your health care provider will develop a treatment plan intended to specifically treat your del(17p)-positive CLL.

Sources

NIH Genetics HomeReference. <https://ghr.nlm.nih.gov/primer>.
Stephens DM, et al. *Oncology*. 2012;26(11):1044-1054.
Coriell Institute. <https://www.coriell.org/research-services/cytogenetics/what-is-cytogenetics>

Chronic Lymphocytic Leukemia (CLL):

A Guide to Understanding Deletion 17p (del17p)

DNA, or deoxyribonucleic acid, is the genetic material in humans.

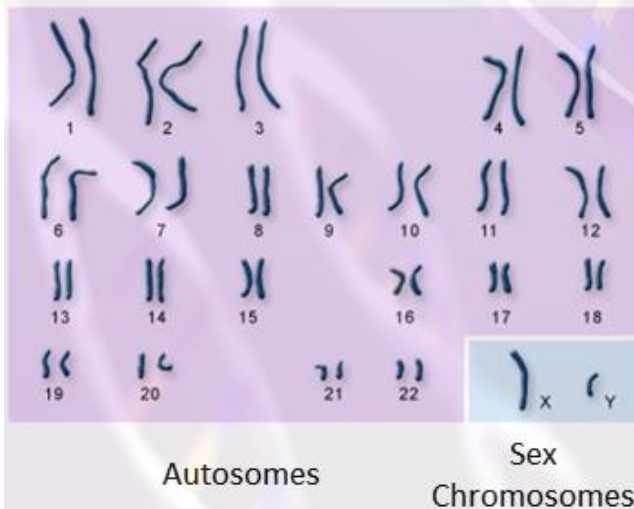
DNA is packaged into thread-like structures called chromosomes.



The chromosome has two short arms and two long arms.

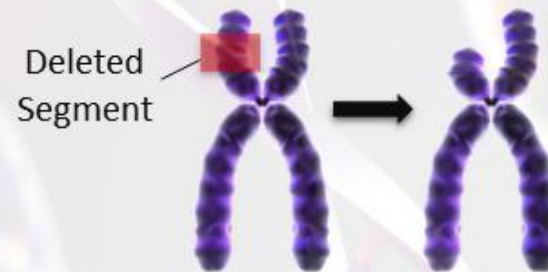
The **short arm is called the “p arm.”** and the long arm is called the “q arm.”

Each human cell contains 23 pairs of chromosomes, for a total of 46.



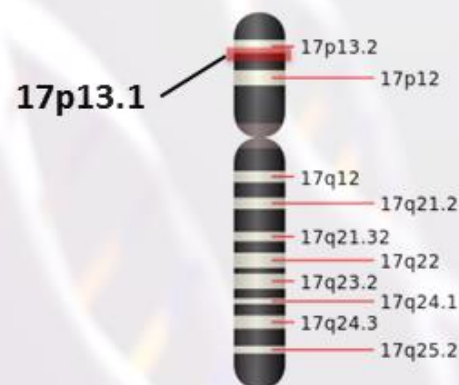
Cancer cells may have abnormal chromosomes, also called cytogenetic abnormalities.

Deletion (del) is a type of cytogenetic abnormality that results in the loss of a segment of a chromosome.



Chronic lymphocytic leukemia (CLL) cells can have a **deletion of a segment of the p arm of chromosome 17**. This is called deletion 17p, or **del(17p)**.

Deletion of the segment of the 17p arm **at location 13.1**, can result in more aggressive disease. This is called **del(17p13.1)**.



Segments of a chromosome can encode certain genes.

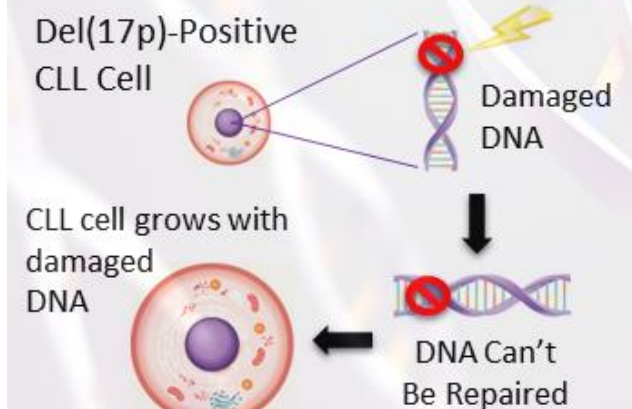
The **17p13.1** chromosomal segment **encodes** the **TP53**, or tumor protein 53, gene.

Del(17p13.1) results in loss of the TP53 gene.

The *TP53* gene codes for the p53 protein, which normally helps the cell repair damaged DNA.

It also helps the cell die by normal mechanisms, called apoptosis, if the damaged DNA cannot be repaired.

CLL cells with del(17p13.1) make less p53 protein, so the cells may grow even if they have damaged DNA.



The damaged DNA may result in cell mutations that make the cancer more aggressive.