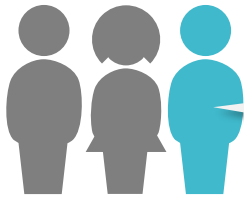




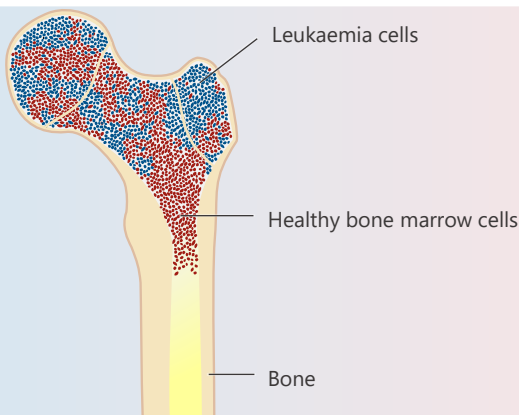
# TREATMENTS FOR CHRONIC LYMPHOCYTIC LEUKAEMIA



Around **40 people** are diagnosed with chronic lymphocytic leukaemia (**CLL**) **every year**.<sup>1</sup> It is an uncommon cancer of the white blood cells that usually occurs in older adults.

CLL is a long-term (**chronic**) condition that develops **slowly**. Most patients wait until symptoms develop before starting treatment.

**Small lymphocytic lymphoma (SLL)** is very similar to CLL, except the cancer cells are mainly found in the lymph nodes instead of the blood. SLL and CLL are usually treated in the **same** way.



Some patients with CLL have **unfavourable genetic features** that makes the cancer **resistant** to chemotherapy.

Doctors may send samples of the cancer for **testing** to determine which treatment will work best.

## How is CLL **treated**?

**Local treatment** options for CLL include:







Targeted therapy

Chemotherapy

**Targeted therapy** are medicines that block **specific proteins** on cancer cells. This kills or stops the growth of cancer cells.

There are **6** targeted therapies that have been approved for patients with CLL. Acalabrutinib, ibrutinib and venetoclax can be used **alone** or in **combination** with obinutuzumab or rituximab.

**Fludarabine-based chemotherapy** is commonly used to treat younger patients with CLL who **do not** have unfavourable genetic features.

-  Acalabrutinib
-  Ibrutinib
-  Zanubrutinib
-  Venetoclax
-  Obinutuzumab
-  Rituximab

Legend:  Capsules  Tablets  Tablets and capsules  Slow drip into the veins

Published studies show that these therapies are **effective** for treating patients with CLL.

They have **different** side effects from each other.



- ▶ For **newly-diagnosed** patients who are **suitable** for **fludarabine-based chemotherapy, ibrutinib plus rituximab** is also an effective treatment option but its **long-term** benefits are uncertain.
- ▶ For newly-diagnosed patients who are **unsuitable** for chemotherapy, **acalabrutinib** and **ibrutinib**, used alone or with obinutuzumab, **venetoclax plus obinutuzumab**, and **zanubrutinib** are effective treatment options in extending the length of time patients can live without their cancer getting worse.
- ▶ For patients whose cancer has **come back** or worsened after previous treatment, **acalabrutinib** and **ibrutinib** used alone, **venetoclax plus rituximab**, and **zanubrutinib** are effective treatment options.

ACE reviewed all available clinical evidence and received clinical advice from doctors for each treatment. ACE also negotiated prices with the companies.

**Acalabrutinib, fludarabine-based chemotherapy, venetoclax-based therapies and zanubrutinib** were the best value for money (most cost-effective) for CLL at the prices proposed by the companies.

For **eligible** patients who need acalabrutinib, the company will provide some **free capsules/tablets** to help reduce treatment costs.



**Cash or MediSave** needed **every month** after subsidy and MediShield Life for a **middle-income patient** receiving **outpatient** treatment at **public hospitals\***:

Fludarabine + rituximab biosimilar (Truxima) + cyclophosphamide	<b>\$50 to \$400<sup>#</sup></b>	Subsidised ✓ MediShield Life: \$1000 ✓
Zanubrutinib	<b>\$75 to \$175</b>	Subsidised ✓ MediShield Life: \$2000 ✓
Acalabrutinib	<b>\$100 to \$200</b>	Subsidised ✓ MediShield Life: \$2000 ✓
Venetoclax + rituximab biosimilar (Truxima)	<b>\$300 to \$600<sup>#</sup></b>	Subsidised ✓ MediShield Life: \$3800 ✓
Venetoclax + obinutuzumab	<b>\$500 to \$2,500<sup>#</sup></b>	Subsidised ✓ MediShield Life: \$5400 ✓
Acalabrutinib + obinutuzumab	<b>\$4,000 to \$9,000<sup>#</sup></b>	Subsidised ✗ MediShield Life: \$3000 ✓
Ibrutinib	<b>\$6,500 to \$7,000</b>	Subsidised ✗ MediShield Life: \$2000 ✓
Ibrutinib + rituximab	<b>\$5,500 to \$14,500<sup>#</sup></b>	Subsidised ✗ MediShield Life: \$3000 ✓
Ibrutinib + obinutuzumab	<b>\$9,000 to \$14,000<sup>#</sup></b>	Subsidised ✗ MediShield Life: \$3000 ✓

**Acalabrutinib** (used alone), **fludarabine-based chemotherapy, venetoclax-based therapies** and **zanubrutinib** were **recommended** for government funding<sup>3</sup> because they are **effective** and provide good value for money for treating CLL.

Acalabrutinib plus obinutuzumab, and ibrutinib-based therapies were **not recommended** for subsidy because their benefits do not justify their costs at the prices offered by the companies. MediShield Life is available to help with some of the cost of these treatments.

Discuss with your **doctor** which treatment is suitable for you. You can also speak to a **medical social worker** if you need further financial assistance for any treatment, or you can reach out to **local patient support groups**<sup>3</sup> if you want to meet people with similar experiences.

\* Expenses will differ according to the amount of medicine that each patient needs and does not include other costs for doctor consultations, medical tests etc. MediSave withdrawal is capped at \$600 per month for these treatments. For Singaporeans who are eligible for subsidy, treatment costs will be subsidised by 40% to 75%. For subsidised drugs, expenses have been calculated using prices proposed by the companies including patient assistance programmes. For non-subsidised drugs, prices at public healthcare institutions at the time of subsidy review were used.

<sup>#</sup> Obinutuzumab and rituximab are given once every 4 weeks, so patients will require one treatment per month for most months and up to 2 treatments per month occasionally.

Sources:  
1. Health Promotion Board National Registry of Diseases Office. Singapore Cancer Registry 50th Anniversary Monograph 1968 to 2017.  
2. Ministry of Health, Singapore. Cancer Drug List.  
3. Leukemia & Lymphoma Foundation, Singapore Cancer Society



The Agency for Care Effectiveness (ACE) was established by the Ministry of Health (Singapore) to drive better decision-making in healthcare through health technology assessment (HTA), clinical guidance and education. It publishes guidances on diagnosing, treating, and preventing different medical conditions based on the latest research information available worldwide. This factsheet is not, and should not be regarded as, a substitute for professional or medical advice. Please seek the advice of a qualified healthcare professional about any medical condition.

© Agency for Care Effectiveness, Ministry of Health, Republic of Singapore. All rights reserved. Reproduction of this publication in whole or part in any material form is prohibited without the prior written permission of the copyright holder. **Updated 1 August 2024; first published 4 November 2022.**

To find out more about ACE, scan the QR code or visit [www.ace-hta.gov.sg](http://www.ace-hta.gov.sg). You can also follow us on social media at: [f](#) [in](#)