

# Oral Therapies in Lymphoma & Chronic Lymphocytic Leukaemia



## OVERVIEW

Lymphoma and chronic lymphocytic lymphoma (CLL) treatment has been a combination anti-neoplastic medicines given into the vein (intravenously), usually involving a combination of medicines including antibody and chemotherapies. This involves administration of the treatment at a hospital or specialist cancer centre. However, there have been many developments in anti-neoplastic medicines for the treatment of lymphoma and CLL that can be taken by mouth in tablet form. Oral therapies can be just as effective as intravenous options and they also have some different side effects. There are many factors relating to your particular subtype of lymphoma and your personal medical situation that must be balanced to choose the best treatment of your lymphoma therefore the choice is best made in discussion with your specialist.

Most oral medicines used to treat lymphoma and CLL are immunotherapy agents or targeted therapies. Targeted therapies are directed against specific enzymes needed for the lymphoma to grow whereas standard chemotherapy medicines are directed against rapidly dividing cells whether they are lymphoma or other normal cells within the human body. As chemotherapy medicines do not distinguish between lymphoma cells and normal healthy cells they inadvertently damage normal healthy cells leading to side effects such as lowered blood counts, hair loss, mouth sores, nausea, vomiting and diarrhoea whereas targeted therapies usually effect fewer normal healthy cells resulting in fewer of these types of serious side effects.

Oral anti-neoplastic medicines can be a convenient option for patients as they can be taken at home, however there are a few factors to consider;

- Patients are responsible for ensuring that they take their medicine, therefore there may be an increased risk of medication errors such as forgetting to take medication

on certain days or taking the incorrect dose which can compromise the effectiveness of the medicine

- It is critical that patients take all medications as prescribed to maximise the effectiveness of the treatment and to minimise any side effects. Since keeping track of all of your medications can be complicated, speak to your specialist team about how to keep yourself on track. You can utilise a variety of tools including recording your medication in a diary or create online reminders in apps on your smart phone for your medications.
- Patients may feel less connected to their specialist team than they would if they were receiving intravenous medicines because they visit the hospital or specialist cancer centre less frequently. However, taking oral medicines at home may be beneficial for patients who have to travel a long distance to their hospital in terms of time and money spent on travel.
- Side effects may also go unnoticed or unreported to their specialist team and patients may be uncertain how to manage side effects at home, so it is important to educate patients and their carers on these important areas. Many of the side effects of oral medications can be alleviated by supportive care so patients should carefully track all side effects of their treatment and report them to their specialist team regularly, so they receive the best care.

## TYPES OF ORAL THERAPY

TGA approved (the TGA is the Therapeutic Goods Authority in Australia) oral anti-neoplastic therapies are therefore medicines that inhibit the growth and promote the death of lymphoma cells. Some immune therapies stimulate the patient's immune system to recognise the lymphoma cells and encourage the destruction of these cells. There are several classes of these medicines listed below;

Agent	Class	How it works	Subtypes	Most common side effects
Bexarotene	Retinoid	Selectively binds and activates retinoid receptors resulting in expression of genes that control cell growth and replication	CTCL	<ul style="list-style-type: none"> <li>• Skin rash</li> <li>• Nausea</li> <li>• Low thyroid hormones levels</li> <li>• Infections</li> </ul>

# FACT SHEET

Agent	Class	How it works	Subtypes	Most common side effects
Ibrutinib	BTK Inhibitor	Inhibits an enzyme involved in B cell receptor signalling needed for lymphoma cell survival and growth	CLL SLL MCL	<ul style="list-style-type: none"> <li>Heart rhythm problems</li> <li>Bleeding problems</li> <li>High blood pressure</li> <li>Infections</li> </ul>
Acalabrutinib	BTK Inhibitor	Inhibits an enzyme involved in B cell receptor signalling needed for lymphoma cell survival and growth.	CLL SLL	<ul style="list-style-type: none"> <li>Anaemia</li> <li>Bleeding problems</li> <li>Infection</li> <li>Diarrhoea</li> </ul>
Idelalisib	P13K Inhibitor	Inhibits an enzyme involved in B cell receptor signalling needed for lymphoma cell survival and growth	CLL SLL FL	<ul style="list-style-type: none"> <li>Diarrhoea</li> <li>Liver problems</li> <li>Lung problems</li> <li>Infection</li> </ul>
Lenalidomide	Immunomodulatory agent	Precise mechanism unknown. Thought to modulate immune system.	Used in some NHLs	<ul style="list-style-type: none"> <li>Skin rash</li> <li>Nausea</li> <li>Diarrhoea</li> </ul>
Panabinstat	HDAC Inhibitor	Inhibits HDAC enzymes needed for expression of genes in DNA to inhibit lymphoma cell growth and division	HL CTCL	<ul style="list-style-type: none"> <li>High magnesium levels</li> <li>High bilirubin levels</li> <li>Nausea</li> <li>Infections</li> </ul>
Venetoclax	BCL2 Inhibitor	Targets proteins known to prevent lymphoma cells from dying	CLL SLL	<ul style="list-style-type: none"> <li>Nausea</li> <li>Diarrhoea</li> <li>Bleeding problems</li> <li>Infection</li> </ul>
Vorinostat	HDAC Inhibitor	Inhibits HDAC enzymes needed for expression of genes in DNA to inhibit lymphoma cell growth and division	CTCL	<ul style="list-style-type: none"> <li>Loss of appetite</li> <li>Dry mouth</li> <li>Hair loss</li> <li>Infections</li> </ul>

## RESOURCES AND SUPPORT

Lymphoma Australia offers a wide variety of resources and support for people with lymphoma and their carers including a free copy of our patient diary that could help you keep track of your lymphoma journey and medications. Please visit our website [www.lymphoma.org.au](http://www.lymphoma.org.au), call nurse support line 1800 953 081 or email [nurse@lymphoma.org.au](mailto:nurse@lymphoma.org.au) for further information.

YOU&I Program – a nurse team that provides phone support to patients and clinicians about Imbruvica™ (ibrutinib). Enrol by phoning 1800 861 502 or via website [www.janssenpatientsupport.com.au/imbruvica](http://www.janssenpatientsupport.com.au/imbruvica)

## SOME QUESTIONS TO ASK YOUR DOCTOR

- What subtype of lymphoma do I have?
- Do I need any other tests before we can decide on treatment?
- What are the treatment options for my subtype of lymphoma?
- Are there any treatment options that I can take orally?
- Are there any treatment options that are better for my type of lymphoma but are yet to be funded by the PBS in Australia?
- Are there any clinical trials currently available to me?

This resource was last reviewed and updated September 2020