

## For Health Professionals Who Care for People with Cancer

### Inside This Issue:

#### Editor's Choice

##### New Programs

**LYCLLIV:** Ibrutinib and Venetoclax for Previously Untreated Chronic Lymphocytic Leukemia or Small Lymphocytic Lymphoma

##### Expansion of Existing Programs

**GUPADT:** Relugolix as New Option in Androgen Deprivation Therapy for Prostate Cancer

##### Updated Programs

**UBRAVCAFLV:** Next-Generation Sequencing (NGS) Testing

#### Drug Update

Subcutaneous Atezolizumab

#### Cancer Drug Manual®

**New:** Ivosidenib **Revised:** Apalutamide, Atezolizumab, Relugolix, Chemotherapy Preparation and Stability Chart

#### Benefit Drug List

**New:** LYCLLIV, atezolizumab subcutaneous injection, relugolix

**Revised:** GIATZB, GUPADT, LUAVATZ, LUSCATPE, ULYOGLOFIT

#### NEW Protocols, PPPOs and Patient Handouts

LY LYCLLIV

#### REVISED Protocols, PPPOs and Patient Handouts

**BR** UBRAVCAFLV | **CN** CNELTZRT, CNTEMOZ | **GI** GIATZB | **GU** UGUMCSPDD, GUPADT, GUPDOCADT | **HN** HNLACETRT, HNOTTSH | **LU** LUAVATZ, LUSCATPE | **LY** LYEPOCHR, ULYOGLOFIT, LYPALL, ULYVENETO, LYVENETOR, LYVENOB | **MY** UMYTEC | **SC** SCHBV | **SM** SMAJNIV, SMAJNIV4, SMAJPEM, SMAJPEM6, SMAVALIPNI, SMAVIPNI, SMNAPEM

#### Resources and Contact Information

### Editor's Choice

#### New Programs

BC Cancer Provincial Systemic Therapy has approved the following new treatment programs effective 01 July 2025. Full details of all treatment programs are available in the [Chemotherapy Protocols](#) section of the BC Cancer website.

#### Lymphoma

**Ibrutinib and Venetoclax for Previously Untreated Chronic Lymphocytic Leukemia or Small Lymphocytic Lymphoma (LYCLLIV)** – The BC Cancer Lymphoma Tumour Group is implementing combination ibrutinib and venetoclax as initial therapy for patients presenting with chronic lymphocytic leukemia (CLL) or small lymphocytic lymphoma. Ibrutinib is administered for three cycles as lead-in, followed by 12 cycles of ibrutinib-venetoclax (with venetoclax ramp-up to target dose) for a total duration of 15 months.

Approval of this treatment program is supported by the pivotal phase III, randomized controlled GLOW trial comparing combination ibrutinib-venetoclax vs. chlorambucil-obinutuzumab in patients with previously untreated CLL.<sup>1,2,3</sup> The primary end point, progression-free survival, was significantly longer for the ibrutinib-venetoclax group. Undetectable minimal residual disease, a secondary endpoint, was also significantly higher for ibrutinib-venetoclax. Substantially less patients treated with ibrutinib-venetoclax required subsequent therapy compared with patients receiving chlorambucil-obinutuzumab. Adverse events grade 3 or greater occurred in similar numbers of patients in both arms, with neutropenia the most common in each arm.

## Editor's Choice

### References:

1. Kater AP, Owen C, Moreno C, et al. Fixed-duration ibrutinib-venetoclax in patients with chronic lymphocytic leukemia and comorbidities. *NEJM Evid* 2022;1(7):1-13. <https://doi.org/10.1056/EVIDoa2200006>
2. Niemann CU, Munir T, Moreno C, et al. Fixed-duration ibrutinib-venetoclax versus chlorambucil-obinutuzumab in previously untreated chronic lymphocytic leukaemia (GLOW): 4-year follow-up from a multicentre, open-label, randomised, phase 3 trial. *Lancet Oncol* 2023;24(12):1423-1433. [https://doi.org/10.1016/S1470-2045\(23\)00452-7](https://doi.org/10.1016/S1470-2045(23)00452-7)
3. CADTH Reimbursement Recommendation. Ibrutinib (Imbruvica®). *Canadian Journal of Health Technologies* 2023;3(11):1-25. <https://doi.org/10.51731/cjht.2023.785>

## Expansion of Existing Programs

BC Cancer Provincial Systemic Therapy has approved the expansion of the following treatment program effective 01 July 2025.

### Genitourinary

**Relugolix as New Option in Androgen Deprivation Therapy for Prostate Cancer (GUPADT)** – The BC Cancer Genitourinary Tumour Group is introducing relugolix as an oral treatment option for androgen deprivation therapy in the management of prostate cancer. Relugolix is an oral gonadotropin-releasing hormone (GnRH) receptor antagonist, also known as luteinizing hormone-releasing hormone (LHRH) antagonist. Relugolix binds to pituitary GnRH receptors, reducing the release of luteinizing hormone and follicle-stimulating hormone into the systemic circulation, decreasing testosterone production by the testes. It induces testosterone suppression without causing an initial testosterone surge, therefore, addition of an oral antiandrogen (e.g., bicalutamide) is unnecessary. After an initial loading dose of 360 mg, relugolix dosing is 120 mg once daily. Existing LHRH agonist (goserelin, leuprolide) and antagonist (degarelix) options in GUPADT remained unchanged.

This expansion is supported by data from the phase III, randomized, controlled HERO trial which compared relugolix with leuprolide in advanced prostate cancer.<sup>1,2</sup> Relugolix achieved rapid, sustained suppression of testosterone levels, and was shown to be noninferior to leuprolide in the primary end point of sustained testosterone suppression below castrate levels through 48 weeks. All key secondary end points showed superiority of relugolix over leuprolide, including the cumulative probability of castration on day 4 and on day 15, and the percentage of patients with a confirmed PSA response at day 15.

### References:

1. CADTH Reimbursement Recommendation. Relugolix (Orgovyx®). *Canadian Journal of Health Technologies* 2024;4(8):1-22. <https://doi.org/10.51731/cjht.2024.946>
2. Shore ND, Saad F, Cookson MS, et al. Oral relugolix for androgen-deprivation therapy in advanced prostate cancer. *N Engl J Med* 2020;382(23):2187-2196. <https://doi.org/10.1056/NEJMoa2004325>

## Updated Programs

### Breast

**Next-Generation Sequencing (NGS) Testing for UBRVCAFLV Treatment Eligibility** – The UBRVCAFLV treatment protocol using capivasertib and fulvestrant in advanced breast cancer was launched May 2025. Eligibility includes a confirmed *PIK3CA*, *AKT1* or *PTEN* gene alteration using NGS testing. Testing was previously done via Alberta Precision Laboratories (APL). Moving forward, testing will transition to **OncoPanel** at the Cancer Genetics and Genomics Laboratory at BC Cancer, using the Solid Tumour Testing – Molecular requisition. More details are available in a memorandum from the Breast Tumour Group.

## Drug Update

### Implementation of Subcutaneous Atezolizumab

Effective 01 July 2025, the treatment protocols GIATZB, LUAVATZ and LUSCATPE have been revised to include a subcutaneous (SC) atezolizumab option. Subcutaneous atezolizumab is provided as a fixed dose of 1875 mg. In these treatment protocols, both the intravenous (IV) dose and the SC option are administered every three weeks. Patients starting on these treatment protocols can receive SC atezolizumab starting from the first dose. Patients who have already started IV atezolizumab treatment may receive subsequent doses administered as the SC injection.

Note that the treatment protocols ULUAJATZ and LUAVATZ4 continue to use IV atezolizumab only, as these protocols use a different atezolizumab dose.

#### Advantages

Administration time is shorter for the SC formulation. Intravenous atezolizumab is infused over 60 minutes initially and potentially over 30 minutes for subsequent infusions. Subcutaneous atezolizumab is administered as a single injection into the thigh over 7 minutes.

#### Reactions, Monitoring and Observation

There are no substantial differences for patients switching to SC atezolizumab administration. Local injection site reactions following SC atezolizumab occur in up to 5% of patients. Systemic administration-related reactions – commonly referred to as infusion-related reactions – may occur with IV or SC atezolizumab; systemic injection-related reactions reported with SC atezolizumab were mild. Observation is required for 15 minutes after SC administration. Observation may be discontinued after three treatments with no reaction.

#### Medication Safety Considerations

The IV and SC formulations are NOT interchangeable. The subcutaneous formulation contains the enzyme hyaluronidase to temporarily degrade the extracellular matrix under the skin. This increases the permeability of subcutaneous tissue to allow the absorption of 15 mL of atezolizumab.

Standard strategies to mitigate look-alike/sound-alike (LASA) error risks include:

- Physical separation
- Product differentiation
- Product checking
- Raising awareness

All documents are available in the [Cancer Drug Manual<sup>®</sup>](#) on the BC Cancer website.

## New Documents

Note that the following drug is not a BC Cancer Benefit Drug and requires application to the BC Cancer Compassionate Access Program (CAP). The corresponding Interim Monograph and Patient Handout are made available for reference only.

The **Ivosidenib Interim Monograph** and **Patient Handout** have been developed with expert review provided by Dr. David Sanford (hematologist, BC Cancer Leukemia and Bone Marrow Transplant Tumour Group) and Robert Tillmanns (tumour group pharmacist, BC Cancer Provincial Pharmacy). Ivosidenib is an orally administered small molecule inhibitor that targets mutant isocitrate dehydrogenase 1 (IDH1) enzyme. It is used in combination with azacitidine to treat acute myeloid leukemia (AML) in patients with an *IDH1* gene mutation. The usual dose is 500 mg PO once daily.

Highlights from these documents include:

- monitor for development of differentiation syndrome; signs include fever, dyspnea/cough, rash, hypotension, pleural/pericardial effusion, rapid weight gain and renal dysfunction
- QT prolongation is reported; monitor ECG and correct electrolytes prior to treatment initiation
- dose reduction may be required for drug interactions involving the CYP 3A4 metabolic pathway

**Ivosidenib** has been added to the **Auxiliary Label List** and was evaluated for the **BC Health Authorities Provincial Hazardous Drug List**.

## Revised Documents

### Apalutamide Monograph

*Interactions:* added relugolix interaction to table

### Atezolizumab Monograph, Patient Handout, and Chemotherapy Preparation and Stability Chart

*Pharmacokinetics table:* updated to include median time to T<sub>max</sub> and statement about elderly patients

*Side Effects table:* added injection site reactions for SC administration; consolidated immune-mediated reactions to *Immune System* section

*Supply and Storage:* added new SC formulation and information pertaining to hyaluronidase

*Parenteral Administration table:* added information and warnings pertaining to SC administration

*Dosage Guidelines:* added information and warnings pertaining to SC administration

*Patient Handout (IV):* added route of administration to Header/Footer

*Patient Handout (SC):* created new handout for SC administration (using IV handout as backbone)

*Chemotherapy Preparation and Stability Chart:* added new SC formulation

### Relugolix Monograph and Patient Handout

*Header and Footer:* removed “interim” from *Header and Footer*

*Interactions:* added apalutamide interaction to table

*Dosage Guidelines:* bolded and italicized BC Cancer standard dosing and added BC Cancer protocol GUPADT

*Patient Handout:* removed “interim” from *Header and Footer*

## Chemotherapy Preparation and Stability Chart

*Bevacizumab*: added biosimilar brand AYBINTIO

*Carmustine*: added Marcan ready-to-use formulation and powder for reconstitution

*Dexrazoxane*: added Juno brand

*Gemcitabine*: expanded recommended bag volume to include range per IV bag size selection table

*Trastuzumab*: added biosimilar brand ONTRUZANT

## Benefit Drug List

### New Programs

The following treatment programs have been added to the BC Cancer [Benefit Drug List](#) effective 01 July 2025:

Protocol Title	Protocol Code	Benefit Status
Treatment of Previously Untreated Chronic Lymphocytic Leukemia or Small Lymphocytic Lymphoma using <b>Ibrutinib</b> and <b>Venetoclax</b>	LYCLLIV	Class I
✓ <b>Atezolizumab subcutaneous injection</b> (TECENTRIQ SC) has been added to the BC Cancer Benefit Drug List	See BC Cancer Benefit Drug List – Revised Programs, immediately below, for applicable protocols	
✓ <b>Relugolix</b> has been added to the BC Cancer Benefit Drug List		

### Revised Programs

The following treatment programs have been revised on the BC Cancer [Benefit Drug List](#) effective 01 July 2025:

Protocol Title	Protocol Code	Benefit Status
First-Line Treatment of Advanced Hepatocellular Carcinoma using <b>Atezolizumab</b> and <b>Bevacizumab</b> ✓ <b>Atezolizumab subcutaneous injection</b> added	GIATZB	Class I
Androgen Deprivation Therapy for Prostate Cancer ✓ <b>Relugolix</b> added	GUPADT	Class I
Treatment of Advanced Non-Small Cell Lung Cancer using <b>Atezolizumab</b> ✓ <b>Atezolizumab subcutaneous injection</b> added	LUAVATZ	Class I
Treatment of Extensive Stage Small Cell Lung Cancer (SCLC) with <b>Atezolizumab</b> , <b>Platinum</b> and <b>Etoposide</b> ✓ <b>Atezolizumab subcutaneous injection</b> added	LUSCATPE	Class I
Treatment of Lymphoma using <b>Obinutuzumab</b> and <b>Glofitamab</b> ✓ ULYOGLOFIT protocol title updated and <b>obinutuzumab</b> added to the BC Cancer Benefit Drug List under ULYOGLOFIT protocol code	ULYOGLOFIT	Restricted

## Highlights of New & Revised Protocols, PPPOs and Patient Handouts

**BC Cancer Protocol Summaries, Provincial Pre-Printed Orders (PPPOs) and Patient Handouts** are revised periodically. New, revised or deleted protocols, PPPOs and patient handouts for this month are listed below, with document revisions indicated in the respective columns. Protocol codes for treatment requiring BC Cancer Compassionate Access Program (CAP) approval are prefixed with the letter **U**.

### NEW Protocols, PPPOs and Patient Handouts (*new documents checked* ☒)

Protocol Code	Protocol Title	Protocol	PPPO	Handout
<b>LYCLLIV</b>	Treatment of Previously Untreated Chronic Lymphocytic Leukemia or Small Lymphocytic Lymphoma using Ibrutinib and Venetoclax	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### REVISED Protocols, PPPOs and Patient Handouts (*revisions in respective columns*)

Protocol Code	Protocol Title	Protocol	PPPO	Handout
<b>BR   Breast</b>				
<b>UBRAVCAFLV</b>	Therapy of Advanced Breast Cancer using Capiasertib and Fulvestrant with or without LHRH Agonist	<i>Laboratory requisition link updated</i>	---	---
<b>CN   Neuro-Oncology</b>				
<b>CNELTZRT</b>	Treatment of Elderly Newly Diagnosed Glioma Patient with Concurrent and Adjuvant Temozolomide and Radiation Therapy	---	<i>Max duration of concomitant treatment added</i>	---
<b>CNTEMOZ</b>	Therapy for Malignant Brain Tumours using Temozolomide	<i>Treatment duration updated</i>	---	---
<b>GI   Gastrointestinal</b>				
<b>GIATZB</b>	First-Line Treatment of Advanced Hepatocellular Carcinoma using Atezolizumab and Bevacizumab	<i>Premedications clarified; Treatment, Precautions and References updated</i>	<i>Atezolizumab subcut option added</i>	<i>Uses and Treatment Summary updated</i>
<b>GU   Genitourinary</b>				
<b>UGUMCSPDD</b>	Treatment of Metastatic Castration-Sensitive Prostate Cancer using Darolutamide and Docetaxel	<i>ADT section updated (relugolix)</i>	---	---
<b>GUPADT</b>	Androgen Deprivation Therapy for Prostate Cancer	<i>Tests, Treatment, Precautions and References updated; Dose Modifications added (relugolix)</i>	<i>Treatment option added; Tests updated</i>	---
<b>GUPDOCADT</b>	First-Line Treatment of Castration-Sensitive, Metastatic Prostate Cancer using Docetaxel and Androgen Deprivation Therapy	<i>ADT treatment options updated (relugolix)</i>	---	---

## REVISED Protocols, PPPOs and Patient Handouts (*revisions in respective columns*)

Protocol Code	Protocol Title	Protocol	PPPO	Handout
<b>HN   Head and Neck</b>				
<b>HNLACETR</b>	Combined Cetuximab and Radiation Treatment for Locally Advanced Squamous Cell Carcinoma of the Head and Neck	<i>Radiation oncologist contact physician removed</i>	---	---
<b>HNOTTSH</b>	Radioiodine Imaging and Treatment in Patients with Thyroid Cancer using Thyrotropin Alpha	<i>Contact physician updated</i>	---	---
<b>LU   Lung</b>				
<b>LUAVATZ</b>	Treatment of Advanced Non-Small Cell Lung Cancer using Atezolizumab	<i>Tests and Premedications clarified; Treatment, Precautions and References updated</i>	<i>Atezolizumab subcut option added; asterisks removed</i>	<i>Treatment Summary updated</i>
<b>LUSCATPE</b>	Treatment of Extensive Stage Small Cell Lung Cancer (SCLC) with Atezolizumab, Platinum and Etoposide	<i>Premedications clarified; Treatment, Precautions and References updated</i>	<i>Atezolizumab subcut option added</i>	<i>Treatment Summary updated</i>
<b>LY   Lymphoma</b>				
<b>LYEPOCHR</b>	Treatment of Lymphoma with Dose-Adjusted Etoposide, Doxorubicin, Vincristine, Cyclophosphamide, Prednisone and Rituximab with Intrathecal Methotrexate	<i>Tests, Supportive Medications and Treatment updated; Dose Modifications clarified</i>	---	---
<b>ULYOGLOFIT</b>	Treatment of Lymphoma using Obinutuzumab and Glofitamab	<i>Protocol title updated</i>	---	---
<b>LYPALL</b>	Lymphoma Palliative Chemotherapy	<i>Treatment table updated</i>	---	---
<b>ULYVENETO</b>	Treatment of Relapsed/Refractory Chronic Lymphocytic Leukemia or Small Lymphocytic Lymphoma using Venetoclax	<i>Venetoclax start date clarified; SCHBV hyperlinks added</i>	---	---
<b>LYVENETOR</b>	Treatment of Relapsed/Refractory Chronic Lymphocytic Leukemia or Small Lymphocytic Lymphoma using Venetoclax and Rituximab	<i>Venetoclax start date clarified</i>	---	---
<b>LYVENOB</b>	Treatment of Previously Untreated Chronic Lymphocytic Leukemia or Small Lymphocytic Lymphoma using Venetoclax and Obinutuzumab	<i>Venetoclax start date clarified</i>	---	---
<b>MY   Myeloma</b>				
<b>UMYTEC</b>	Treatment of Relapsed and Refractory Multiple Myeloma using Teclistamab	<i>Protocol code corrected in footer</i>	---	---
<b>SC   Supportive Care</b>				
<b>SCHBV</b>	Hepatitis B Virus Reactivation Prophylaxis	<i>Appendix updated</i>	---	---
<b>SM   Skin and Melanoma</b>				
<b>SMAJNIV</b>	Adjuvant Treatment of Resected Stage III-IV NED Melanoma using Nivolumab	<i>Eligibility updated</i>	---	---

## REVISED Protocols, PPPOs and Patient Handouts (*revisions in respective columns*)

Protocol Code	Protocol Title	Protocol	PPPO	Handout
<b>SMAJNIV4</b>	Adjuvant Treatment of Resected Stage III-IV NED Melanoma using 4-Weekly Nivolumab	<i>Eligibility updated</i>	---	---
<b>SMAJPEM</b>	Adjuvant Treatment of Resected Stage IIB to IV NED Melanoma using Pembrolizumab	<i>Eligibility updated</i>	---	---
<b>SMAJPEM6</b>	Adjuvant Treatment of Resected Stage IIB to IV NED Melanoma using 6-Weekly Pembrolizumab	<i>Eligibility updated</i>	---	---
<b>SMAVALIPNI</b>	Treatment of Unresectable or Metastatic Melanoma using Alternative Dosing Regimen of Ipilimumab and Nivolumab	<i>Eligibility and Exclusions updated; Tests clarified</i>	<i>Tests clarified</i>	---
<b>SMAVIPNI</b>	Treatment of Unresectable or Metastatic Melanoma using Ipilimumab and Nivolumab	---	<i>Tests clarified</i>	---
<b>SMNAPEM</b>	Neoadjuvant-Adjuvant Treatment of Stage IIIB to IV Melanoma using Pembrolizumab	<i>Eligibility updated</i>	---	---



## Resources and Contact Information

Resource	Phone	Email / Toll Free / Fax
Systemic Therapy Update: <a href="http://www.bccancer.bc.ca/health-professionals/clinical-resources/systemic-therapy/systemic-therapy-update">www.bccancer.bc.ca/health-professionals/clinical-resources/systemic-therapy/systemic-therapy-update</a>		
Systemic Therapy Update Editor	604-877-6000 x 672649	<a href="mailto:bulletin@bccancer.bc.ca">bulletin@bccancer.bc.ca</a>
Oncology Drug Information	604-877-6275	<a href="mailto:druginfo@bccancer.bc.ca">druginfo@bccancer.bc.ca</a>
Cancer Drug Manual Editor	250-519-5500 x 693742	<a href="mailto:nbadry@bccancer.bc.ca">nbadry@bccancer.bc.ca</a>
Pharmacy Oncology Certification	250-712-3900 x 686820	<a href="mailto:rxchemocert@bccancer.bc.ca">rxchemocert@bccancer.bc.ca</a>
CAP – Compassionate Access Program	604-877-6277	<a href="mailto:cap_bcca@bccancer.bc.ca">cap_bcca@bccancer.bc.ca</a> fax 604-708-2026
OSCAR – Online System for Cancer Drugs Adjudication and Reimbursement	888-355-0355	<a href="mailto:oscar@bccancer.bc.ca">oscar@bccancer.bc.ca</a> fax 604-708-2051
Library/Cancer Information	604-675-8003	toll free 888-675-8001 x 8003 <a href="mailto:requests@bccancer.bc.ca">requests@bccancer.bc.ca</a>
Library Document Delivery	604-675-8002	<a href="mailto:requests@bccancer.bc.ca">requests@bccancer.bc.ca</a>
Pharmacy Professional Practice	604-877-6000 x 672247	<a href="mailto:mclin@bccancer.bc.ca">mclin@bccancer.bc.ca</a>
Professional Practice, Nursing	604-877-6000 x 672623	<a href="mailto:BCCancerPPNAdmin@phsa.ca">BCCancerPPNAdmin@phsa.ca</a>
Provincial Systemic Therapy Network	604-877-6000 x 672247	<a href="mailto:ProvincialSystemicOffice@bccancer.bc.ca">ProvincialSystemicOffice@bccancer.bc.ca</a>
BC Cancer – Abbotsford	604-851-4710	toll free 877-547-3777
BC Cancer – Kelowna	250-712-3900	toll free 888-563-7773
BC Cancer – Prince George	250-645-7300	toll free 855-775-7300
BC Cancer – Surrey	604-930-2098	toll free 800-523-2885
BC Cancer – Vancouver	604-877-6000	toll free 800-663-3333
BC Cancer – Victoria	250-519-5500	toll free 800-670-3322
Community Oncology Network (CON) sites: To update your contact information, please contact: <a href="mailto:bulletin@bccancer.bc.ca">bulletin@bccancer.bc.ca</a>		

## Editorial Review Board

Anne Dar Santos, BScPharm, PharmD (Editor)  
 Jelena Mucovic, BScPharm (Assistant Editor)  
 Mario de Lemos, PharmD, MSc(Oncol)  
 Jeevan Dosanjh, RN, BScN, MN

Alina Gerrie, MD, MPH, FRCPC  
 Alison Pow, BScPharm  
 Yuna Jang, RN