

Regimen Reference Order

THOR – atezolizumab + CARBOplatin + etoposide

ARIA: LUNG - [atezolizumab + CARBO + etop]

LUNG - [atezolizumab (maintenance)]

To order this therapy in ARIA, refer to ADDITIONAL INFORMATION

Planned Course: atezolizumab + CARBOplatin + etoposide every 21 days for 4 cycles, followed by atezolizumab every 21 days until disease progression or unacceptable toxicity

Indication for Use: Small Cell Lung Cancer, Extensive Stage

Drug Alert: Immune Checkpoint Inhibitor (atezolizumab)

CVAD: At Provider’s Discretion

Proceed with treatment if:

Cycles 1 to 4

- *ANC equal to or greater than 1.5 x 10⁹/L AND Platelets equal to or greater than 100 x 10⁹/L*
- *AST/ALT equal to or less than 3 times the upper limit of normal*
- *Total bilirubin equal to or less than 1.5 times the upper limit of normal*
- *Creatinine clearance equal to or greater than 30 mL/minute*

atezolizumab maintenance

- *ANC equal to or greater than 1.5 x 10⁹/L AND Platelets equal to or greater than 50 x 10⁹/L*
- *AST/ALT equal to or less than 3 times the upper limit of normal*
- *Total bilirubin equal to or less than 1.5 times the upper limit of normal*
- *Creatinine clearance equal to or greater than 30 mL/minute*

❖ **Contact Physician if parameters not met**

SEQUENCE OF MEDICATION ADMINISTRATION

Pre-treatment Requirements

Drug	Dose	CCMB Administration Guideline
Not Applicable		

Treatment Regimen – THOR – atezolizumab + CARBOplatin + etoposide

Establish primary solution 500 mL of: normal saline

Drug	Dose	CCMB Administration Guideline
atezolizumab + CARBOplatin + etoposide (Cycles 1 to 4)		
Day 1		
atezolizumab (Subcutaneous)	1875 mg (1875 mg = 15 mL)	<p>Subcutaneous: Administer over 7 minutes into lateral aspect of thigh</p> <p>Allow vial to come to room temperature</p> <p>Use a 23G needle for injection</p> <p><i>*Nursing Alert: atezolizumab must be administered into the thigh</i></p> <p><i>*Alert: Ensure subcutaneous atezolizumab formulation is used (atezolizumab-hyaluronidase)</i></p>
		OR
atezolizumab (Intravenous)	1200 mg	<u>Cycle 1:</u> IV in normal saline 250 mL over 1 hour
		<u>Cycle 2 and subsequent cycles:</u> IV in normal saline 250 mL over 30 minutes
aprepitant	125 mg	Orally 1 hour pre-chemotherapy
ondansetron	16 mg	Orally 30 minutes pre-chemotherapy
dexamethasone	12 mg	Orally 30 minutes pre-chemotherapy
CARBOplatin	AUC 6 mg/mL.min; maximum dose 900 mg (see table below)	IV in D5W 250 mL over 30 minutes
etoposide	75 mg/m ²	IV in normal saline 500 mL over 1 hour <i>Use non-DEHP bags and non-DEHP administration sets</i>
Days 2 and 3		
dexamethasone	8 mg	Orally 30 minutes pre-chemotherapy
etoposide	75 mg/m ²	IV in normal saline 500 mL over 1 hour <i>Use non-DEHP bags and non-DEHP administration sets</i>
atezolizumab maintenance starts 3 weeks after Cycle 4, Day 1 of atezolizumab + CARBOplatin + etoposide		
atezolizumab maintenance every 3 weeks (Cycle 1 and Onwards)		
atezolizumab (Subcutaneous)	1875 mg (1875 mg = 15 mL)	<p>Subcutaneous: Administer over 7 minutes into lateral aspect of thigh</p> <p>Allow vial to come to room temperature</p> <p>Use a 23G needle for injection</p> <p><i>*Nursing Alert: atezolizumab must be administered into the thigh</i></p> <p><i>*Alert: Ensure subcutaneous atezolizumab formulation is used (atezolizumab-hyaluronidase)</i></p>

OR		
atezolizumab (Intravenous)	1200 mg	IV in normal saline 250 mL over 30 minutes
All doses will be automatically rounded that fall within CCMB Approved Dose Bands. See Dose Banding document for more information		

In the event of an infusion-related hypersensitivity reaction, refer to the 'Hypersensitivity Reaction Standing Order'

REQUIRED MONITORING

All Cycles

- CBC, serum creatinine, urea, sodium, potassium, calcium, magnesium, phosphate, AST, ALT, total bilirubin, albumin and glucose as per Physician Orders
- TSH every 6 weeks as per Physician Orders
- Medical oncologist or designate (i.e. family practitioner in oncology) must assess patient for immune-mediated adverse reactions prior to each cycle

Recommended Support Medications

Drug	Dose	CCMB Administration Guideline
atezolizumab + CARBOplatin + etoposide (Cycles 1 to 4)		
aprepitant	80 mg	Orally once daily on Days 2 and 3
metoclopramide	10 – 20 mg	Orally every 4 hours as needed for nausea and vomiting
atezolizumab maintenance (Cycle 1 and Onwards)		
None required		

DISCHARGE INSTRUCTIONS

All Cycles

- Patients should be instructed to contact their cancer team immediately if symptoms of hypersensitivity reactions occur after discharge
- Confirm that patient has received the CCMB Immune Checkpoint Inhibitor Medical Alert wallet card
- Reinforce to patient the immune-mediated adverse reactions and importance of reporting immediately
 - For severe symptoms, the patient should be instructed to go to the nearest emergency room. Oncologist on call should be contacted

Cycles 1 to 4 (atezolizumab + CARBOplatin + etoposide)

- Instruct patient to continue taking anti-emetic(s) at home
- Reinforce applicable safe handling precautions of medications, blood and body fluids for 48 hours after completion of chemotherapy

ADDITIONAL INFORMATION

- atezolizumab is an Immune Checkpoint Inhibitor. Consult with oncologist for immune-mediated adverse reactions; corticosteroids are often indicated
 - **ARIA ordering:**
 - Note that **ARIA regimen is built with atezolizumab administered by subcutaneous injection**
 - If atezolizumab by intravenous infusion is the preferred route of administration, a Support protocol is available to use under **atezolizumab IV** in the “Lung Cancer” folder
- Note:** Upon completion of 4 cycles of **LUNG - [atezolizumab + CARBO + etop]**, patients should be started on maintenance treatment with **LUNG - [atezolizumab (maintenance)]**
- **LUNG - [atezolizumab (maintenance)]** should begin 21 days after Cycle 4, Day 1 of **LUNG - [atezolizumab + CARBO + etop]**
- CARBOplatin dosing considerations:
 - CCMB Thoracic DSG uses **actual body weight** to calculate GFR
 - CCMB Thoracic DSG uses a maximum CARBOplatin dose of 900 mg for this regimen
 - If calculated CARBOplatin dose differs **more than 10%** from prescribed CARBOplatin dose, contact the prescriber

CARBOplatin Dosing Calculations per CCMB Thoracic DSG										
<i>Calculation of CARBOplatin dose: (maximum 900 mg)</i>										
Dose (mg) = target AUC (GFR + 25)										
$\text{GFR} = \frac{N \times (140 - \text{age in years}) \times \text{Actual Body Weight (kg)}}{\text{serum creatinine in micromol/L}} = \text{___ mL/min}$										
N = 1.23 in males N = 1.04 in females										
<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 5px;">AUC (mg/mL.min)</td> </tr> <tr> <td style="border-top: 1px solid black; padding: 5px;">6</td> </tr> </table>	AUC (mg/mL.min)	6	X	<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 5px;">GFR + 25 (mL/min)</td> </tr> <tr> <td style="border-top: 1px solid black; padding: 5px;">___ + 25</td> </tr> </table>	GFR + 25 (mL/min)	___ + 25	=	<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Total Dose (mg)</td> </tr> <tr> <td style="border-top: 1px solid black; padding: 5px;"> </td> </tr> </table>	Total Dose (mg)	
AUC (mg/mL.min)										
6										
GFR + 25 (mL/min)										
___ + 25										
Total Dose (mg)										

AUC = Area Under Curve

The estimated creatinine clearance is based on limited evidence. Sound clinical judgment and interpretation of the estimation are required, because the equation above may not be appropriate for some patient populations (for example, acute renal failure).