

Regimen Reference Order – THOR – PEMEtrexed + CISplatin (NSCLC)

ARIA: LUNG – [PEMEtrexed + CIS (NSCLC)]

LUNG – [PEMEtrexed (maint) (NSCLC)]

LUNG – PEMEtrexed support (NSCLC)

Planned Course: PEMEtrexed + CISplatin every 21 days for 4 cycles, followed by PEMEtrexed every 21 days until disease progression or unacceptable toxicity

Indication for Use: Lung Cancer Non-Small Cell Non-Squamous Metastatic

CVAD: At Provider's Discretion

Proceed with treatment if:

PEMEtrexed + CISplatin (Cycles 1 to 4)

- ANC equal to or greater than $1.5 \times 10^9/L$ AND Platelets equal to or greater than $100 \times 10^9/L$
- Creatinine clearance greater than 45 mL/minute

PEMEtrexed Maintenance

- ANC equal to or greater than $1.5 \times 10^9/L$ AND Platelets equal to or greater than $100 \times 10^9/L$
- ❖ Contact Physician if parameters not met

SEQUENCE OF MEDICATION ADMINISTRATION

Pre-treatment Requirements

Drug	Dose	CCMB Administration Guideline
folic acid	1 mg	Orally daily beginning 7 – 14 days prior to first dose of PEMEtrexed and continuing daily until 21 days after the last dose of PEMEtrexed (Self-administered at home)
vitamin B12	1000 mcg	Intramuscularly 7 – 14 days prior to first dose of PEMEtrexed (Note: vitamin B12 continues every 9 weeks throughout treatment and for one additional dose upon discontinuation of PEMEtrexed)
dexamethasone	8 mg	Orally once daily the day before, day of and the day after each dose of PEMEtrexed (Higher or additional doses are permitted) (Self-administered at home)

Treatment Regimen – THOR – PEMEtrexed + CISplatin (NSCLC)

Establish primary solution 500 mL of: normal saline

Drug	Dose	CCMB Administration Guideline
PEMEtrexed + CISplatin (Cycles 1 to 4)		
magnesium sulfate	2 g	IV in normal saline 1000 mL over 2 hours (Pre hydration)
aprepitant	125 mg	Orally 1 hour pre-chemotherapy

ondansetron	16 mg	Orally 30 minutes pre-chemotherapy
dexamethasone	4 mg	Orally 30 minutes pre-chemotherapy <i>*Nursing Alert: this dose is in addition to the 8 mg self-administered dose taken at home morning of Day 1</i>
OLANzapine	2.5 mg	Orally 30 minutes pre-chemotherapy
PEMEtrexed	500 mg/m ²	IV in normal saline 100 mL over 10 minutes <i>*Nursing Alert: CISplatin starts at least 30 minutes after completion of PEMEtrexed infusion</i>
CISplatin	75 mg/m ²	IV in normal saline 500 mL over 1 hour <i>*Alert: CISplatin infusion must be complete prior to mannitol administration</i>
mannitol	12.5 g	IV in normal saline 1000 mL over 2 hours (Post hydration)
vitamin B12	1000 mcg	Intramuscularly once Cycle 4
PEMEtrexed Maintenance (Cycle 1 and Onwards)		
PEMEtrexed	500 mg/m ²	IV in normal saline 100 mL over 10 minutes
vitamin B12	1000 mcg	Intramuscularly once every 9 weeks throughout treatment and for one additional dose upon discontinuation of PEMEtrexed <i>*Nursing Alert: vitamin B12 will be given on Day 1 of maintenance Cycles 3, 6, 9, 12, etc (continued every 3 cycles) until PEMEtrexed is discontinued plus one additional dose</i> <i>*Alert: The last dose of vitamin B12 will be given either 3 weeks, 6 weeks, or 9 weeks after the patient's last dose of PEMEtrexed, depending on when they received their last dose of vitamin B12</i>
All doses will be automatically rounded that fall within the DSG Approved Dose Bands. See THOR DSG – 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, electrolytes, liver enzymes and total bilirubin as per Physician Orders

PEMEtrexed and CISplatin Cycles

- Baseline blood pressure prior to magnesium infusion and repeat 15 minutes after start of magnesium infusion

Recommended Support Medications

Drug	Dose	CCMB Administration Guideline
PEMEtrexed + CISplatin (Cycles 1 to 4)		
aprepitant	80 mg	Orally once daily on Days 2 and 3
dexamethasone	8 mg	Orally once daily on Days 3 and 4 Note additional Pre-treatment Requirements for PEMEtrexed
OLANzapine	2.5 mg	Orally the evening of Day 1 then twice daily on Days 2, 3 and 4. Also use OLANzapine 2.5 to 5 mg AS NEEDED for breakthrough nausea and vomiting (including Days 1 to 4) up to a maximum of 10 mg per day. Contact clinic if nausea/vomiting is not adequately controlled
PEMEtrexed Maintenance (Cycle 1 and Onwards)		
metoclopramide	10 – 20 mg	Orally every 4 hours as needed for nausea and vomiting

DISCHARGE INSTRUCTIONS

- Instruct patient to continue taking folic acid, dexamethasone and anti-emetic(s) at home. Patients should be instructed not to use OLANzapine and metoclopramide concurrently due to drug interactions
- vitamin B12 is part of this treatment regimen. Patient should notify clinic if they are receiving vitamin B12 for other indications
- Reinforce applicable safe handling precautions of medications, blood and body fluids for 48 hours after completion of chemotherapy

ADDITIONAL INFORMATION

- CISplatin is ototoxic and nephrotoxic
- CISplatin can cause hypomagnesemia
- folic acid, vitamin B12 and dexamethasone are prescribed to decrease PEMEtrexed toxicity
- During PEMEtrexed and CISplatin cycles, dexamethasone is also prescribed post treatment for delayed nausea
- Non-Steroidal Anti-Inflammatory drugs (NSAIDs) may increase the toxicity of PEMEtrexed. Hold NSAIDs for 2 days before, the day of and for 2 days after PEMEtrexed
- Support protocol under **PEME Support (NSCLC)** in the “Lung Cancer” folder is to be used to order folic acid and the first and last dose of vitamin B12
- PEMEtrexed + CISplatin may be continued for up to 6 cycles at the physician’s discretion
- **Note:** Upon completion of 4 cycles of **LUNG – [PEMEtrexed + CIS (NSCLC)]**, patients may be started on maintenance treatment with **LUNG – [PEMEtrexed (maint) (NSCLC)]**
 - **LUNG – [PEMEtrexed (maint) (NSCLC)]** should begin 21 days after Cycle 4, Day 1 of **LUNG – [PEMEtrexed + CIS (NSCLC)]**