Regimen Monograph

Regimen Name | Drug Regimen | Cycle Frequency | Premedication and Supportive Measures | Dose Modifications | Adverse Effects | Interactions | Drug Administration and Special Precautions | Recommended Clinical Monitoring | Administrative Information | References | Other Notes | Disclaimer

A - Regimen Name

ERLO Regimen

Erlotinib

Disease Site
Lung
Non-Small Cell

Intent
Palliative

Regimen Category
Evidence-Informed :

Regimen is considered appropriate as part of the standard care of patients; meaningfully improves outcomes (survival, quality of life), tolerability or costs compared to alternatives (recommended by the Disease Site Team and national consensus body e.g. pan-Canadian Oncology Drug Review, pCODR). Recommendation is based on an appropriately conducted phase III clinical trial relevant to the Canadian context OR (where phase III trials are not feasible) an appropriately sized phase II trial. Regimens where one or more drugs are not approved by Health Canada for any indication will be identified under Rationale and Use.

Rationale and Uses
Treatment of locally advanced or metastatic non-small cell lung cancer.
Funded by EAP for second- or third-line treatment of NSCLC (Refer to EAP criteria)

Supplementary Public Funding
erlotinib
Exceptional Access Program (erlotinib - Incurable progressive NSCLC, with specific criteria) (EAP Website)

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B - Drug Regimen

erlotinib	150 mg	PO	Daily

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C - Cycle Frequency

CONTINUOUS TREATMENT

Until evidence of disease progression or unacceptable toxicity

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D - Premedication and Supportive Measures

Antiemetic Regimen: Minimal – No routine prophylaxis; PRN recommended

Other Supportive Care:

Provide patient with loperamide (including instructions) for diarrhea management.

Also refer to CCO Antiemetic Recommendations.

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E - Dose Modifications

Doses should be modified according to the protocol by which the patient is being treated. EGFR mutation positive status must be confirmed with a validated test prior to starting erlotinib therapy in the first line and maintenance settings.

Dosage with toxicity

Dose levels: 150 mg, 100 mg, 50 mg

Toxicity	Action
• Diarrhea	Manage with loperamide. If severe, associated with dehydration or unresponsive to loperamide, hold and/or reduce dose.
• Patients with dehydration at risk of renal failure • Acute/new or worsening ocular disorders	Hold or discontinue
• Acute/new or worsening pulmonary symptoms (e.g. dyspnea, cough, fever)	Hold; investigate and treat appropriately. Discontinue if ILD confirmed
• GI bleeding/perforation • Severe bullous, blistering or exfoliating rashes • Rhabdomyolysis • ≥ grade 3 LFTs	Discontinue; treat patient appropriately
• Other grade 3 or 4 toxicity	Reduce by one dose level especially if being administered with potent CYP3A4 inhibitors

Hepatic Impairment

Use with caution in combination with other hepatotoxic drugs.

Hepatic Dysfunction	Bilirubin		Transaminases	Action
Mild	< 1.5 x ULN	and	1-2.5 x ULN	100% , caution
Moderate	1.5-3 x ULN	and/or	2.5-5 x ULN	Caution; consider ↓. If worsens, hold then ↓ 50% or discontinue
Severe	> 3 x ULN (or 2 x baseline values)	or	> 5 x ULN (or 3 x baseline values)	Discontinue

Renal Impairment

Not significantly renally excreted. No dose adjustment required (Miller et al).

Dosage in the Elderly

No adjustment required.

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F - Adverse Effects

Refer to erlotinib drug monograph(s) for additional details of adverse effects

Very common (≥ 50%)	Common (25-49%)	Less common (10-24%)	Uncommon (< 10%), but may be severe or life-threatening
• Rash (may be severe) • Diarrhea (may be severe) • Anorexia • Fatigue	• Cough, dyspnea • Nausea, vomiting	• Infection • Mucositis • Nail disorder • Conjunctivitis • Corneal ulcer/perforation • Abdominal pain • Myelosuppression	• Venous thromboembolism • GI hemorrhage, perforation • Pneumonitis • Nephrotoxicity • Rhabdomyolysis • Hemolysis • Uveitis • Phototoxicity (radiation-induced) • Hepatotoxicity

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G - Interactions

Refer to erlotinib drug monograph(s) for additional details

- Avoid grapefruit, pomegranate, starfruit, Seville oranges or their juices/products as they may increase erlotinib toxicity.
- Avoid strong inhibitors of CYP3A4 and 1A2 (e.g. ketoconazole, clarithromycin, ciprofloxacin) as they may increase erlotinib toxicity. Decrease erlotinib dose if must be co-administered.
- Avoid strong inducers of CYP3A4 (e.g. phenytoin, rifampin) as they may decrease erlotinib efficacy.
- Avoid co-administration with drugs that increase gastric pH (e.g. PPIs) as they may decrease erlotinib exposure.
- Avoid cigarette smoking as this may decrease erlotinib exposure.
- Monitor closely in patients also receiving statins (e.g. atorvastatin, simvastatin) as the combination increases the risk of myopathy.

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H - Drug Administration and Special Precautions

Refer to erlotinib drug monograph(s) for additional details

Administration:

- Administer erlotinib at least one hour before or two hours after a meal.
- Avoid grapefruit, starfruit, Seville oranges, their juices or products during erlotinib treatment.

Contraindications:

- Patients who have a hypersensitivity to this drug or any of its components

Warnings/precautions:

- Erlotinib has not been studied in patients with severe hepatic or renal impairment.
- Patients on oral anticoagulants should be closely monitored when doses of erlotinib are started, modified or discontinued.
- Contains lactose; carefully consider use in patients with hereditary galactose intolerance, severe lactase deficiency or glucose-galactose malabsorption.

Pregnancy/Lactation:

- Erlotinib is not recommended for use in pregnancy. Adequate contraception should be used by both sexes during treatment, and for at least **2 weeks** after the last dose.
- Breastfeeding is not recommended during treatment and for at least **2 weeks** after the last dose.
- Fertility effects: Unlikely

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I - Recommended Clinical Monitoring

Treating physicians may decide to monitor more or less frequently for individual patients but should always consider recommendations in the product monograph.

Recommended Clinical Monitoring

- Liver function tests; Baseline and at each visit (monitor closely if abnormal).
- INR in patients on warfarin, especially initially, or when dose modified, held, or discontinued; Baseline and as clinically indicated
- Renal function tests and electrolytes in patients at high risk of dehydration; Baseline and at each visit.
- Clinical toxicity assessment of GI, skin/nails and ocular toxicity, thromboembolism, and respiratory symptoms; At each visit

- Grade toxicity using the current NCI-CTCAE (Common Terminology Criteria for Adverse Events) version

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J - Administrative Information

Outpatient prescription for home administration

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K - References

Cappuzzo, F et al. Erlotinib as maintenance treatment in advanced non-small-cell lung cancer: a multicentre, randomised, placebo-controlled phase 3 study. Lancet. 2010 June;11(6): 521-9.

Erlotinib drug monograph, Ontario Health (Cancer Care Ontario).

Miller AA, Murry DJ, Owzar K, et al. Phase I and Pharmacokinetic Study of Erlotinib for Solid Tumors in Patients With Hepatic or Renal Dysfunction: CALGB 60101. J Clin Oncol 2007; 25: 3055-60.

Shepherd F, Pereira J, Ciuleanu T, et al. Erlotinib in Previously Treated Non–Small-Cell Lung Cancer. NEJM 2005; 353(2): 123-32.

PEBC Advice Documents or Guidelines

- Use of the EGFR Inhibitors Gefitinib, Erlotinib, Afatinib, Dacomitinib or Icotinib in the Treatment of NSCLC
- Systemic Treatment for Patients with Advanced Non-Small Cell Lung Cancer
- The Use of Systemic Treatment in the Maintenance of Patients with Non-small Cell Lung Cancer
- Therapy for Stage IV Non-Small-Cell Lung Cancer With Driver Alterations: ASCO and OH(CCO) Joint Guideline Update

October 2022 Modified Warnings/Precautions and Pregnancy/lactation sections

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M - Disclaimer

Regimen Abstracts

A Regimen Abstract is an abbreviated version of a Regimen Monograph and contains only top level information on usage, dosing, schedule, cycle length and special notes (if available). It is intended for healthcare providers and is to be used for informational purposes only. It is not intended to constitute or be a substitute for medical advice, and all uses of the Regimen Abstract are subject to clinical judgment. Such information is provided on an "as-is" basis, without any representation, warranty, or condition, whether express, or implied, statutory or otherwise, as to the information's quality, accuracy, currency, completeness, or reliability, and Cancer Care Ontario disclaims all liability for the use of this information, and for any claims, actions, demands or suits that arise from such use.

Information in regimen abstracts is accurate to the extent of the ST-QBP regimen master listings, and has not undergone the full review process of a regimen monograph. Full regimen monographs will be published for each ST-QBP regimen as they are developed.

Regimen Monographs

Refer to the New Drug Funding Program or Ontario Public Drug Programs websites for the most up-to-date public funding information.

The information set out in the drug monographs, regimen monographs, appendices and symptom management information (for health professionals) contained in the Drug Formulary (the "Formulary") is intended for healthcare providers and is to be used for informational purposes only. The information is not intended to cover all possible uses, directions, precautions, drug interactions or adverse effects of a particular drug, nor should it be construed to indicate that use of a particular drug is safe, appropriate or effective for a given condition. The information in the Formulary is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. All uses of the Formulary are subject to clinical judgment and actual prescribing patterns may not follow the information provided in the Formulary.

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that original references or product monograph be consulted prior to using a chemotherapy regimen for the first time.

Some Formulary documents, such as the medication information sheets, regimen information sheets and symptom management information (for patients), are intended for patients. Patients should always consult with their healthcare provider if they have questions regarding any information set out in the Formulary documents.

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