



LAPATINIB

INSTRUCTIONS FOR THE PHARMACIST

Prescription

- All orders should be written on a **pre-printed order**; if not, compare prescription to standard regimens in the Systemic Therapy Manual to confirm the dosing and instructions
 - The order must be signed by BOTH the prescriber (at the bottom) AND at least one other oncology health professional (nurse or hospital pharmacist) who has verified the order
- The prescription may **not** be refilled (unless specifically ordered by the oncologist) and it may **not** be filled as a continuing care prescription
 - If the prescriber has written for refills, do **not** dispense until the oncology team authorizes the refill; Blood work must be checked for each cycle.
- **Always check for drug-drug interactions, especially before the first cycle. There is a strong potential for Lapatinib to interact with other drugs, foods or natural health products**, so a thorough drug interaction check (including medications filled at different pharmacies) is recommended before dispensing the first dose of Enzalutamide and after each new drug is considered for concomitant use. Consult the **Drug Interactions Table**, in this Toolkit.

Handling and Dispensing

- When handling this drug, disposable gloves should be worn at all times by any woman of child-bearing potential. Counting trays and other equipment directly exposed to the drug should be cleaned with **soap and water**, followed by rinsing with copious amounts of water (wear gloves).
- Do not crush tablets in an open air environment and risk inhalation of powder.
- ALWAYS affix the auxiliary label to identify this medication as “Cancer Chemotherapy”- this is an important warning label for other health professionals caring for the patient.



Patient Counseling and Follow-up

- Counsel the patient, including the key messages listed below. Use the **Initial Assessment and Patient Counseling Visit- Pharmacist Guide ①** and the **Medication Info Sheet ②** for this drug. Be sure that you know the specific treatment schedule and that this is clearly communicated to the patient.
- Call the patient within the first week to identify any problems with adverse reactions or adherence.
 - When speaking with the patient and during call backs, ask the patient to identify any problems with medication adherence. Use the **First Follow-Up Call/Visit- Pharmacist Guide ①**.
- Continuing follow up calls between clinic visits are necessary for ADR identification and prevention and for adherence management. Contact the oncology clinic nurse or hospital pharmacist to negotiate who will do follow-up calls between clinic visits. Tell the patient that you plan to call back to check on their progress. Consider the suggested call-back schedule (pg. 2), with specific questions for each contact.
 - When speaking with the patient and during call backs, ask the patient to identify any problems with medication adherence. Use the **Continuing Follow-Up Calls/Visits - Pharmacist Guide ①**.
- If the patient reports any adverse effects, consider the management strategies suggested in the **Adverse Drug Reaction Management Guide ②**.
- ALWAYS document your findings in the patient profile of your pharmacy computer system
- ALWAYS contact the patient’s cancer care team of any findings and actions you have taken.
- ALWAYS **watch for any unusual or unexpected symptoms or problems** (such as an adverse reaction that appears too soon or too severe) and contact the cancer care team promptly if something seems wrong with the patient experience.



CLINICAL INDICATIONS

Lapatinib is clinically indicated for:

- Advanced breast cancer—given in combination with Capecitabine or Letrozole

DRUG ADMINISTRATION

- Lapatinib is generally taken **once daily**, on an empty stomach. It should be taken at least one hour before or two hours after a low fat meal; systemic exposure to Lapatinib is increased when administered with food.
- Lapatinib pills should be taken all at once—the dose should not be divided.
- Patients should not eat grapefruits or drink grapefruit juice while taking Lapatinib.
- Do not crush, split, or dissolve the tablets. Keep out of reach of children.
- If a dose is missed, do not take a double dose the next day to make up for it.
- Lapatinib is taken for 21 days as part of a repeating cycle. The cycle may include a daily dose of Capecitabine from Days 1-14 or a daily dose of Letrozole.

PATIENT COUNSELLING- INITIAL AND FOLLOW-UP CALLS

- In addition to other printed materials, use the **Medication Info Sheet** from the Cancer Care Nova Scotia website, and consider the more detailed suggestions in this toolkit.

	Key Messages
Initial counselling- At time of dispensing	<ul style="list-style-type: none"> • How to take the medication properly (including treatment-free breaks) • Prevention measures for Hand-Foot Skin Reaction and skin rashes* • When to call back to the cancer care team for urgent care • Use the Initial Assessment and Patient Counseling Visit- Pharmacist Guide ① and the drug-specific Medication Info Sheet ②
First call-back – Within first week: 	<ul style="list-style-type: none"> • Identify any initial problems with understanding or adherence • Use the First Follow-Up Call/Visit- Pharmacist Guide ① and the Medication Info Sheet ② (if needed) • Reinforce initial key messages <ul style="list-style-type: none"> ○ How and when treatment is taken ○ Barriers to adherence- remembering to take medication; reluctance to take treatment; financial issues; nausea, vomiting or other adverse effects; trouble with packaging; felt better off medication; other concerns ○ Suggest strategies to ensure adherence; reminder that full dose is needed for cancer control- partial doses may be ineffective. • Management of diarrhea- ensure patient has some Loperamide at home • Management of mild HFSR- ensure patient uses appropriate moisturizer • Identify any early adverse effect symptoms; suggest management strategies
End of Treatment call-back – After 3 weeks: (telephone or return visit to Pharmacy) 	<ul style="list-style-type: none"> • Ask if there are any pills left over and, if so, PROBE to determine any barriers to treatment adherence (see above) • Identify any adverse effects (PROBE for evidence of HFSR; skin rashes; nausea and vomiting; fatigue; trouble breathing; diarrhea) • Use the Continuing Follow-Up Calls/Visits- Pharmacist Guide ① <ul style="list-style-type: none"> ○ If any identified, contact oncologist or oncology nurse, and consider the information below under Adverse Effects • Reinforce initial key messages

	Key Messages
Subsequent cycles- (at least one call during each cycle):	<ul style="list-style-type: none"> • Negotiate with patient and cancer care team for ongoing needs for counseling and timely follow up calls • Use the Continuing Follow-Up Calls/Visits- Pharmacist Guide ① • Adherence assessment and support is an important issue for reinforcement at each visit and mid-cycle call-back as treatment continues

ADVERSE EFFECTS: PREVENTION AND MANAGEMENT SUGGESTIONS

If you identify any of the following, you should contact the oncologist and tell the patient to call the oncologist or go directly to the Emergency Department of the nearest hospital right away **↗**:

- Signs of allergic reaction (hives, trouble breathing, swollen face, lips, tongue, or throat.
- Symptoms of pneumonitis (shortness of breath ,persistent cough or wheeze)
- Signs of infection (fever, chills, sore throat, redness, pain)
- Severe liver damage (itching, yellow eyes or skin, dark urine, tiredness, or pain in the upper right belly)

The following are the common adverse effects from Lapatinib.

<p>More Common</p> <p><u>Gastrointestinal disorders</u></p> <ul style="list-style-type: none"> • Diarrhea ★, nausea and vomiting ★ <p><u>General disorders</u></p> <ul style="list-style-type: none"> • Fatigue ★ <p><u>Hematologic disorders</u></p> <ul style="list-style-type: none"> • Myelosuppression ★- anemia, neutropenia <p><u>Respiratory disorders</u></p> <ul style="list-style-type: none"> • Pneumonitis ↗, dyspnea ◆ <p><u>Skin disorders</u></p> <ul style="list-style-type: none"> • Hand-foot skin reactions ★ (when given with capecitabine), skin rash ★ 	<p>Less Common</p> <p><u>Gastrointestinal disorders</u></p> <ul style="list-style-type: none"> • Stomatitis ★, constipation ★, dyspepsia ★, anorexia ★ <p><u>General disorders</u></p> <ul style="list-style-type: none"> • Insomnia ★, headache ★ • Anaphylaxis ↗, hypersensitivity reactions ↗ - rare <p><u>Musculoskeletal disorders</u></p> <ul style="list-style-type: none"> • Back pain ★, arthralgia ★, myalgia ★ <p><u>Hepatobiliary disorders</u></p> <ul style="list-style-type: none"> • Hepatotoxicity- rare ↗ <p><u>Respiratory disorders</u></p> <ul style="list-style-type: none"> • Interstitial lung disease ↗ <p><u>Skin disorders</u></p> <ul style="list-style-type: none"> • Xerosis (dry skin) ★, nail disorders (paronychia) ★
---	---

★ For detailed recommendations on the management of these adverse drug reactions, see the **Adverse Drug Reaction Management Guide ②**

◆ For management of these symptoms, the patient should see his physician

↗ These symptoms require urgent attention- advise the patient to go to the Emergency Department or contact their doctor (see instructions above)

DRUG INTERACTIONS

Take a **thorough medication history** (call other pharmacies if necessary) and determine the potential for all other drugs to increase or decrease Lapatinib plasma concentration.

- Drug interactions are often missed by community pharmacy computer systems
- **REPORT any potential interaction** to the prescribing oncologist- either the Lapatinib or the interaction drug may need to be dose altered or discontinued.



LIST OF IMPORTANT DRUG-DRUG INTERACTIONS WITH LAPATINIB- *This is not a complete list*

Lapatinib is metabolized primarily in the CYP3A4 pathway in the liver. Significant interactions are possible with other drugs that affect the same metabolic pathway.

- Anticoagulants (Anisindione, Ardeparin, Dalteparin, Dicoumarol, Enoxaparin, Heparin, Tinzaparin, Warfarin) - may increase risk of bleeding from Lapatinib
- Bisphosphonate agents (Alendronate, Etidronate, Ibandronate, Pamidronate, Risedronate, Zoledronic Acid)- may increase risk of osteonecrosis of the jaw from bisphosphonates
- **CYP 3A4 inducer** medications (e.g., dexamethasone, phenytoin, carbamazepine, rifampicin, phenobarbital or St. John's Wort): consider dose increase of Lapatinib if co-administered with a strong CYP3A4 inducer (may decrease Lapatinib plasma concentrations)
- **CYP 3A4 inhibitor** medications (e.g., ketoconazole, itraconazole, erythromycin, clarithromycin): consider dose reduction of Lapatinib if co-administered with a strong CYP3A4 inhibitor (may increase Lapatinib plasma concentrations)
- Dabigatran- Increased levels of Dabigatrin in the blood
- Denosumab- Increased risk of serious infections
- Echinacea- Reduced Lapatinib levels
- Grapefruit or grapefruit juice- Increased Lapatinib blood levels
- Hepatotoxic drugs (Black Cohosh, Clofarabine, Interferon beta-1a, Interferon beta-1b, **Leflunomide**, Methotrexate, Naltrexone, **Teriflunomide**) - Increased risk of hepatotoxicity
- "Live" vaccinations
- PGP inhibitors (Cyclosporine, Nifedipine)- increase plasma levels of Lapatinib
- PR prolongation- medications that cause a change in the heart rhythm
- QT prolongation- medications that cause a change in the heart rhythm
- Silodosin- Increased silodosin blood levels
- Tacrolimus ointment- Increased risk of serious infections, lymphoma and skin cancers

It is strongly recommended that you check any concurrent medications for interactions with this oral chemotherapy agent. The pharmacy IT system may not provide a complete interaction cross-check. Try one of the following comprehensive programs for checking drug interactions.

Online Programs for Drug Interaction Checking-Publicly available:

- http://www.drugs.com/drug_interactions.php
- <http://reference.medscape.com/drug-interactionchecker>
- <http://www.healthline.com/druginteractions>
- <http://cpref.goldstandard.com/inter.asp?r=8084>
- <http://umm.edu/health/medical/drug-interaction-tool>
- <http://online.epocrates.com/> (free account required)

Other Interaction Checkers- Subscription required:

- Lexicomp
- Micromedex
- eCPS