



HYDROXYUREA

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, as described below. Consult the **Drug Interactions** section (page 4), and consider an online drug interactions checking program.
- Check with patient for any other medications filled at a different pharmacy

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 **sodium hypochlorite (bleach)** solution, followed by **soap and water** then rinsing with copious amounts of water (wear gloves).
- Do not open capsules 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

Hydroxyurea is clinically indicated for:



- Chronic myelogenous leukemia
- Head and neck cancer, squamous cell
- Malignant melanoma
- Ovarian cancer

DRUG ADMINISTRATION

- Hydroxyurea may be given **once daily**
- Swallow whole capsules with a glass of water- Do not open capsules.
- 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.

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) • When to call back to the cancer care team for urgent care • Use the Initial Assessment and Patient Counseling Visit- Pharmacist Guide ❶ and the drug-specific Medication Info Sheet ❷
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 ❶ and the Medication Info Sheet ❷ (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. • Identify any early adverse effect symptoms; suggest management strategies
End of Treatment call-back – Depends on treatment regimen: (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 any adverse effect listed below) • Use the Continuing Follow-Up Calls/Visits- Pharmacist Guide ❶ <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
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 ❶ • 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✳:

- Symptoms of infection (fever, chills, body aches, flu symptoms)

The following are the common adverse effects from Hydroxyurea.

<p><u>CNS disorders</u></p> <ul style="list-style-type: none"> • Disorientation, dizziness, fatigue, hallucinations, headache, seizure- may be due to underlying CNS malignancy♦ <p><u>Dermatological disorders</u></p> <ul style="list-style-type: none"> • Maculopapular rash✳, redness of the face • Nail discoloration♦, skin ulcer ♦ • Violet papules♦, hyperpigmentation ♦ 	<p><u>Gastrointestinal disorders</u></p> <ul style="list-style-type: none"> • Anorexia✳, constipation✳, diarrhea✳ • Nausea✳, vomiting✳, stomatitis✳ <p><u>Hematologic disorders</u></p> <ul style="list-style-type: none"> • Myelosuppression✳- neutropenia, thrombocytopenia, anemia <p><u>Respiratory disorders</u></p> <ul style="list-style-type: none"> • Trouble breathing (dyspnea- rare) † <p><u>General disorders</u></p> <ul style="list-style-type: none"> • Fever♦, chills♦, malaise♦, asthenia♦
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- ✳ 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

DRUG INTERACTIONS

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

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



It is strongly recommended that you check any concurrent medications for interactions with this oral chemotherapy agent. 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

Ethanol should also be avoided while taking this medication to prevent gastrointestinal irritation.

Some common interactions with Hydroxyurea are:

- CloZAPine: may increase the toxicity of Clozapine (specifically, agranulocytosis). *Avoid combination.*
- Echinacea: may decrease the therapeutic effect of Hydroxyurea
- Leflunomide: may increase toxicity of Leflunomide (specifically, the risk of hematologic toxicity). Consider not using a leflunomide loading dose in patients receiving Hydroxyurea. Monitor patient for bone marrow suppression at least monthly if using these drugs concurrently.
- Tacrolimus (topical): may increase the toxicity of Hydroxyurea (*avoid combination*)
- Vaccines (inactivated, live): may increase toxicity and decrease therapeutic effect of vaccines (*avoid combination*)
- Vaccines (live, inactivated): may increase toxicity of vaccines and decrease the therapeutic effect of vaccines (*avoid combination*)