

### 3.1.4 Administration of Oral Hazardous Drugs

*Examples: Mercaptopurine, Thioguanine*

Healthcare personnel should avoid manipulating hazardous drugs (HDs), such as by crushing tablets or opening capsules, if possible. Liquid formulations are preferred if solid oral dosage forms are not appropriate for the patient.

#### Handling Precautions

- Transfer oral HDs without touching them (PPE on).
- If available, all HDs manipulation (opening/cutting/dissolving) should be performed in a biohazard hood.
- It is preferable to dissolve tablets in water instead of crushing them (see below).
- Prepare each dose on an absorbent pad on an uncluttered surface.
- Discard materials that have been in contact with the tablets/capsules (medicine cups, oral syringes, absorbent pads, etc.) as hazardous waste.
- Wash your hands after preparing medication.

#### Alternatives to HD Tablets

For children who cannot swallow tablets, methotrexate, mercaptopurine and thioguanine can be dissolved in water according to the following procedure:

- Manipulate the required number of tablets into a liquid formulation immediately prior to dose time as follows:
  - Remove the plunger of a 10mL oral syringe.
  - Place the required number of tablets into the barrel of the oral syringe.
  - Replace the plunger and draw up 5–7.5–10mL of tap water (not hot water) into syringe.
  - Cap oral syringe with blue syringe tip.
- Wait 5–15 minutes to allow the tablets to disintegrate (gently rock back and forth; shake syringe occasionally).
- Give the dose in usual manner.
- Draw up another 5mL of tap water into oral syringe. Cap syringe and shake well to dislodge any remaining particles. Give dose in usual manner.
- Rinse the dissolve and dose device after each use.

#### Alternatives to HD Capsules

For children who cannot swallow capsules or where the dose is less than one capsule, the contents of the capsule can be emptied into a Dissolve and Dose™ container and made into a solution using the following procedure. This activity should be performed in a biohazard hood if possible. Examples include procarbazine, temozolomide, and hydroxyurea:

- Knock the powder down into one end of the capsule.
- Take the top off the capsule and empty the contents into the Dissolve and Dose™ device.



- Add 10mL of tap water (not hot).
- Cap the device, shake well and allow to sit for 2 minutes.
- Measure the appropriate dose using an oral syringe.

For children who cannot swallow capsules where the dose is one or more capsules, the contents of the capsule(s) may be removed and mixed with food or liquid immediately prior to dose time as follows. This activity should be performed in a biohazard hood if possible. Examples include lomustine, temozolomide, hydroxyurea, and procarbazine:

- Put the food or liquid you will mix the drug with in a small medication cup. Ensure the food or liquid being used is compatible with the drug.
- Knock the powder down into one end of the capsule.
- Take the top off the capsule and empty the contents into the medication cup.
- Mix the powder and the food/liquid that is in the cup.
- Draw liquid mixed with drug into a syringe.

This guidance document was developed by Mr. Kaniska Young Tai, The Hospital for Sick Children, Toronto and Ms. Sylvie Kozlowskyj, Northeast Cancer Centre, Health Sciences North, Sudbury. Reviewed in consultation with Ms. Janie Lappan, McMaster Children’s Hospital, Hamilton Health Sciences, Hamilton, Ms. Mary Jo De Courcy, Children’s Hospital, London Health Sciences Centre, London and Ms. Christina McCauley, POGO/The Hospital for Sick Children, Toronto based on the sources in [Sub-Section 3.1.7](#).

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**Record of Updates**

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