Community pharmacist fact sheet:

The role that community pharmacists play in supporting their customers

Community pharmacists are uniquely placed to provide patients with education regarding oral anti-cancer drugs to encourage their safe and effective use, minimise medication errors and avoid preventable adverse effects.

The development and availability of new oral anti-cancer drugs to treat cancer is rapidly increasing. As a result, the role of the community pharmacist in educating patients and providing the appropriate support will be invaluable in promoting and improving patient care.

Knowledge of oral anti-cancer drugs, doses, frequencies, indications and supportive therapies will assist community pharmacists reducing medication errors.

Through increased knowledge and awareness about oral anti-cancer treatments, the community pharmacist will be better equipped to engage and assist cancer patients in the management of their treatment and associated queries.

! Please read:

- Caution with oral chemotherapy for cancer. Victorian Department of Health: Information for community health professionals, 2010
- Safe use of oral cytotoxic medicines. Carrington C. Australian Prescriber Volume 36: Number 1, Feb 2013
- Clinical question: What is best practice when dispensing oral cancer treatment (chemotherapy and targeted therapy)?. In: COSA guidelines for the safe prescribing, dispensing and administration of systemic cancer therapy. Vasileff H, Powell M, Cancer Therapy Medication Safety Working Group. Clinical Oncology Society of Australia.

General principles

Oral formulations of anti-cancer drugs have been used for decades including cyclophosphamide, melphalan and tamoxifen. However, recent years have seen a rapid expansion in oral anti-cancer treatments. There are numerous advantages to oral anti-cancer therapy, as well as disadvantages.

Advantages	Disadvantages
Ease of administration	Reduced supervision
Improved quality of life	Requires patient concordance
Cost-saving benefits	Unpredictable pharmacology
	Increased complexity of dosing

Anti-cancer drugs can lead to toxicity with even a small increase in dose, or failure of therapy if they are under-dosed. Incorrect prescribing, dispensing errors and patient misinterpretation have led to serious toxicities and fatal outcomes.

Handling and related wastes

Many anti-cancer drugs are classified as hazardous substances, therefore adherence to safe handling and administration procedures is crucial as occupational exposure can be associated with adverse health effects.

All oral anti-cancer tablets and capsules should be handled in a manner which avoids:

- skin contact
- the liberation of powdered drug into the air
- chemical cross-contamination with other drugs.

When oral anti-cancer tablets or capsules need to be directly handled in the pharmacy, use:

- appropriate gloves (nitrile gloves or double gloves)
- a non-touch technique when transferring from their original container
- separate counting trays and disposable counting spatulas (clean equipment immediately after use).

Crushing or cutting of tablets and opening of capsules must not be carried out in the pharmacy, because of the unacceptable risk of exposure.

Dose administration aids

Anti-cancer drugs that are classified as hazardous substances are generally inappropriate for Dose Administration Aids (DAA), except if non-adherence is considered an issue and other solutions cannot be employed.

Consider if the drug poses any occupational health and safety risks and requires special handling (including solid dose cytotoxic agents i.e. tablets and capsules); can the dose be packed in the DAA in a way which will protect pharmacy staff and consumers?

The Pharmaceutical Society of Australia recommends that if a decision to pack a cytotoxic drug into a DAA has been made, a unit dose system must be used unless there is strong evidence that the potential risks of poor adherence from not packing the cytotoxic* drugs in a multi-dose system outweighs the risks of exposure to cytotoxic drugs.

*also applies to drugs classified as hazardous

Drug interactions

Drug-drug interactions in cancer patients receiving anti-cancer treatment are common, and many can cause considerable reactions or adverse effects.

? Did you know

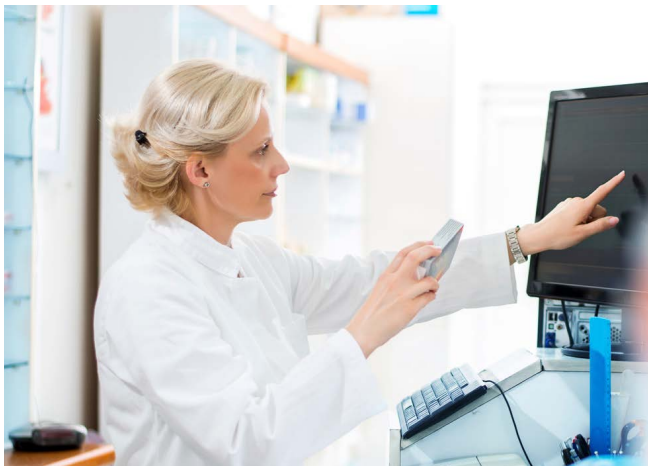
Drug interactions are estimated to account for approximately 4% of deaths among patients with cancer.

Common examples

- The efficacy of tamoxifen is decreased when given in combination with paroxetine, resulting in increased mortality in breast cancer.
- Imatinib increases paracetamol levels and chronic use may result in hepatotoxicity.
- St John's Wort interferes with the metabolism of multiple antineoplastic drugs including anastrozole, imatinib, etoposide and vinorelbine.
- Many antineoplastic drugs are also associated with prolongation of the QT interval, QT interactions have the potential for life-threatening consequences.

Clinical verification of oral anti-cancer drug prescriptions

Oral anti-cancer drugs have a high risk of adverse effects if used for the wrong indication, at the wrong dose, for the wrong duration; or may be less effective if doses are missed. **Clinical verification** is a systematic process pharmacists can use to check therapy accuracy and help to avoid medication errors.



The five 'P's should be followed as a part of a step-wise approach to verification of oral anti-cancer drug prescriptions. The 5 'P's include:

1. Patient details and dosing variables

- patient full name, gender, D.O.B, history of adverse drug reactions/allergies
- patient dosing variables (height, weight, body surface area)
- medication history including complementary medicines.

2. Prescription/medication order

- prescriber details (prescriber's name, signature/e-signature)
- prescription on the appropriate form, legible and unambiguous
- date of prescribing and the intended date of treatment
- drug information complete (medication name, strength, route, quantity, number of repeats)
- drugs prescribed are available and supported by an approved funding/access pathway.

3. Protocol and scheduling

- name of protocol and treatment arm (where relevant)
- protocol appropriate based on patient factors and diagnosis
- cycle length and interval
- intended dose and days of administration documented for each drug.

4. Prescribed medication, dose calculations and administration

- all drugs appropriate, including doses and dosing units, no unintended omissions
- all supportive pre-medicines, concurrent and post medicines are appropriate for the protocol and length of the course
- administration route for each medication is specified and correct according to the protocol (diluent, volume, infusion times)
- regimen prescribed correctly in terms of consecutive and/or non-consecutive days stated in the protocol (e.g. Day 1, 2 and 3 or Days 1, 8 and 15)
- all known adverse reactions are confirmed and documented
- potential drug interactions are identified and discussed with the prescriber, including appropriate action.

5. Patient organ function and laboratory blood tests

- relevant laboratory tests and organ function parameters available and current
- ANC and platelet count is within acceptable limits
- renal and hepatic function is appropriate for prescribed drugs
- all other organ function parameters and blood results (electrolytes, cardiac, respiratory tests etc.) are within normal limits.

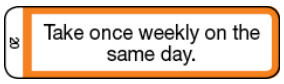
! Please read:

- COSA guidelines for the safe prescribing, dispensing and administration of systemic cancer therapy

Review and supply of oral anti-cancer drug prescriptions

Dispensing and supply

- The labelling of oral anti-cancer drugs should clearly state the dose and the number of tablets or capsules to be taken.
- The intended period of therapy including start and stop dates for short term or intermittent treatment should be clearly stated on the dispensed label of an anti-cancer drug.
- If the drug is to be taken on days 1 to 4 inclusively then the label must specify the actual calendar dates.
- The label of weekly dosing for drugs such as methotrexate and vinorelbine should include the term 'once a week' and specify the day of the week the dose should be taken. An additional label should also be added: This dose of 'drug x' is taken WEEKLY or ancillary label number 20.



*PSA permitted

- If the prescriber has not included these details on a prescription, firstly speak with the patient. They are often familiar with the day of the week that they take their drug or the start and stop dates. You may also need to contact the prescriber.
- 'As directed' should never be used to label oral anti-cancer drugs regardless of the doctor's instructions or of the patient's knowledge of the dosing regimen. Contact the prescriber to provide clear instructions for labelling any oral anti-cancer drugs.

Example

Vinorelbine 20 mg capsules

Take FIVE capsules altogether (dose =100 mg) ONCE a week on MONDAYs.

- Doses should be rounded to the nearest tablet or capsule size. If not, the prescriber should be contacted to confirm a measureable dose. Oral anti-cancer tablets and capsules should not be broken, split or crushed as this can increase the risk of exposure and alter the bioavailability of the drug.
- If the patient is required to take TWO different strengths of tablets or capsules to make up the dose then the dose instructions must include the number of tablets or capsules to take of each strength and the total dose.
- Steps must be taken to highlight the different strengths of the same drug to aid patient understanding.
- Boxes must never be taped together with a label on only ONE box. Where more than ONE container of the same drug is given then the following label (or similar) must be used.

- Childproof lids are required if any oral anti-cancer drug is repackaged from its original container into a bottle.

Example

Capecitabine 500 mg Tablet

Take FOUR tablets (=2000 mg) TWICE a day for 14 days (DD/MM/YY - DD/MM/YY) followed by a 7 day break. Take at the same time as 150 mg tablets to give a total dose of 2150 mg. Supply 112 tablets.

Capecitabine 150 mg Tablet

Take ONE tablet (=150 mg) TWICE a day for 14 days (DD/MM/YY - DD/MM/YY) followed by a 7 day break. Take at the same time as 500 mg tablets to give a total dose of 2150 mg. Supply 28 tablets.

NSW GOVERNMENT | eviQ

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NSW GOVERNMENT | eviQ Education

Education for community pharmacists

Cancer Medicines – the role that community pharmacists play in supporting their customers.

Learning activities addressing issues encountered in the community pharmacy setting:

- General principles in cancer treatment
- Oral anti-cancer drugs prescriptions and protocols
- Dispensing oral anti-cancer prescriptions
- Handling oral anti-cancer drugs and related wastes
- Adverse effects and supportive therapies
- Patient education

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For more information

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