Clinical Guidelines for the Administration of Oral Chemotherapy Agents in the Community Setting
## CONTENTS

**PREAMBLE**

Grampians Integrated Cancer Service (GICS) 04
Grampians Regional Palliative Care Team (GRPCT) 05

**BACKGROUND** 06
Acknowledgements 06
Guideline Objectives 07
Disclaimer 08

**INTRODUCTION** 09

**PATIENT EDUCATION** 10
Patient Education Pathway - Diagrammatic Diagram 13

**PRESCRIBING** 14

**DRUG SIGNAGE** 16

**DRUG LABELING** 17

**DRUG PACKAGING AND STORAGE** 19

**DRUG ADMINISTRATION** 20

**DISPOSAL OF DRUG/S, CONTAMINATED PRODUCTS AND WASTE** 21

**SPILLAGE** 23

**TRANSPORT OF CYTOTOXIC WASTE** 24

**REFERENCES** 25

**GLOSSARY** 28

**APPENDIX 1 - Oral Cytotoxic Drug Listing** 31

**APPENDIX 2 - Counselling Points for Pharmacy Staff** 32
PREAMBLE

Grampians Integrated Cancer Service (GICS)

Cancer is the greatest cause of mortality in Victoria and represents a significant proportion of all health care delivered in the state.

The need for improved service delivery along with improved outcomes for patients and their families has been identified as a priority for both State and Federal governments.

Victoria has developed a significant cancer reform agenda that seeks to improve the planning and delivery of treatment and support to patients so that the appropriate care is provided in a timely manner as close to the patients home as possible.

A part of the DHS Fighting Cancer Policy of 2003, Integrated Cancer Services were established to drive and develop cancer reform with and through key stakeholders, inclusive of service providers, patients and families of all age groups, across all treatment and care aspects of the cancer journey. The Grampians Integrated Cancer Service (GICS) is one of nine ICS established in Victoria to effect cancer reform at the local level. For further details on DHS policy and framework for cancer reform please see [http://www.health.vic.gov.au/cancer](http://www.health.vic.gov.au/cancer)

GICS Director: Dr. Stephen Vaughan  
GICS Manager: Eleanor Whitehead  
GICS Quality Coordinator: Sharon Daly  
GICS MDM Coordinator: Carole Jones  
GICS Cancer Service Improvement Coordinators: Maree White & Robyn McIntyre  
GICS Data Coordinator: Nicole Pelchen  
GICS Administration Assistant: Sarah Gillett  
Ph: (03) 53 20 4782  
Grampians Regional Palliative Care Team (GRPCT)

The role of the Grampians Regional Palliative Care Team includes elements of education, collaborative strategic planning, preparation of written materials, quality improvement processes and clinical consultation.

Our aim is to facilitate the ongoing development of palliative care services in the Grampians region so that people throughout the region have equitable access. We aim to increase awareness of palliative care services and practice by identifying the educational needs of health professionals in the effective and appropriate delivery of palliative care, and provide information and resources.

The team promotes awareness of palliative care standards and identifies strategies to ensure appropriate support and debriefing for community palliative care providers.

GRPCT Coordinator: Jade Odgers
GRPCT Clinical Nurse Consultant: Jan Milliken
GRPCT Clinical Nurse Educator: Regina Kendall
Palliative Care Physicians: Dr David Brumley, Dr Greg Mewett
Administration Officer: Bernadette Matthews
Ph: 03 5320 3553
www.grampianspalliativecare.com.au
BACKGROUND

In order to improve service delivery in cancer care the development of relationships with key stakeholders has been imperative, particularly in identifying service gaps.

One major service gap identified by stakeholders has been the lack of information related to the safe administration of oral chemotherapy agents in the community setting for health care professionals, patients and carers.

Oral chemotherapy carries the same risks in terms of potential for error and toxicities as chemotherapy administered by other routes and must be administered according to the same standards as parenteral therapy.

The development of guidelines to ensure the safe administration of oral chemotherapy agents is therefore imperative and is in accordance with best practice and the cancer reform agenda.

Acknowledgments

The author wishes to thank the many individuals who contributed their time and expertise to the development of this document in particular,

- Dr S. Vaughan, Medical Oncologist
- Dr R. Bond, Medical Oncologist
- Pharmacy and Oncology staff based at Ballarat Health Services
- Debbie Norton and the Community Pharmacy Group at the West Vic Division of General Practice
- Christine Carrington Principal Project Officer/Pharmacist for the Cancer Nurses Society of Australia

GICS and GRPCT would also like to thank Robyn McIntyre and Regina Kendall for their work on this project.
Guideline Objectives

Clinical Guidelines for the administration of oral chemotherapy agents in the community setting have been developed to –

1. ensure health care professionals, patients and family have information available to them in relation to –

   i. safe prescribing of oral chemotherapy agents
   ii. safe handling of chemotherapy agents
   iii. safe administration of chemotherapy agents
   iv. safe disposal of cytotoxic waste

2. act as a resource for health care professionals in providing information to patients and family

3. to provide a care pathway which is in alignment with best practice and the Worksafe Victoria, Jan 2003, Handling Cytotoxic Drugs in the Workplace.
Disclaimer

The development of the Oral Chemotherapy Guidelines has been a collaborative partnership between GICS and the GRPCT, and is intended to be used as a guide only.

This document reflects what is currently regarded as safe practice. In any situation there may be patient or drug specific factors which cannot be covered by a single set of guidelines.

This document:
- does not replace the need for the application of medical/nursing judgment to each individual patient case
- does not address oral chemotherapy administered for non malignant conditions
- is not a legally binding document

In any event where there has been a change in the patient’s situation or condition, further consultation with the patients treating medical oncologist should be undertaken.
INTRODUCTION

In the context of cancer, oral chemotherapy is the term used to describe all medicines which have an anti-tumour activity that are administered to cancer patients via the oral route.

The administration of oral chemotherapy has been in use as early as the 1940’s to treat chronic leukaemia’s. However, with new targeted therapies and the increasing ambulatory nature of chemotherapy treatment modalities, the development of oral chemotherapy agents has increased dramatically.

There are many social and economic advantages to the prescription of oral chemotherapy.

It offers advantages to patients in that it:

- gives them a sense of control over treatment
- reduces interference with daily activities
- reduces costs associated with hospital admission and travel to and from the treatment centre
- reduces the discomfort and complications associated with intravenous infusions

For health care professionals it places a lesser burden on resources which are often running at full capacity.

While there are several advantages to prescribing oral chemotherapy, one must bear in mind that home based chemotherapy may continue for some time without professional supervision. The intermittent nature of treatment regimes may be confusing to some patients and their carers and non compliance through misinterpretation carries the risk of serious harm.
PATIENT EDUCATION

All patients including their carers must be educated on how to take their medication to ensure they receive optimal benefit of chemotherapy and to minimise any opportunity for medication errors and unnecessary side effects.

All health care professionals have a role to play in providing patient education and information in respect to oral chemotherapy. A coordinated approach across all the disciplines is required to ensure the patient receives information appropriate to their needs. Additionally, effective communication between all disciplines involved in the patients care is essential for an optimal outcome. An agreed patient care plan may assist in some way to avoid this problem.

The role of the medical consultant, nurse and pharmacist in providing patient information may vary across the health care setting. However, the legal and professional requirements of each discipline must be considered and professional judgement must be used when deciding on appropriate and relevant information.

In the cancer context prescribing oral chemotherapy should be carried out by a Medical Oncologist who has the appropriate training and skills in cancer chemotherapy.

The prescriber is responsible for -

- making treatment decisions and ensuring that each treatment is appropriate for the patient according to diagnosis, laboratory parameters, performance status and organ function
- ensuring the patient understands their cancer diagnosis and required treatment
- monitoring the effects of the treatment
- ensuring that all professional and legal responsibilities are met with respect to prescribing

For further information on prescribing see pg 13.
The pharmaceutical care of patients receiving oral chemotherapy for cancer includes prescription verification, dispensing and education of patients which must be carried out by a pharmacist with the appropriate training and skills in cancer chemotherapy. If such a pharmacist is not available then a qualified pharmacist with competency in chemotherapy treatment and with access to specialist advice relating to cancer must carry out this task. Staff with insufficient knowledge or experience in cancer treatment must not be delegated to manage the supply of oral chemotherapy. (Most major hospitals within the Grampians region have pharmaceutical staff suitably qualified to assist with questions related to the supply of oral chemotherapy. Alternatively, the Peter MacCallum Cancer Institute information line can be contacted for assistance, please see Appendix 3 for contact details). The usual professional requirements of a pharmacist when dispensing prescriptions also apply.

Each patient must receive both verbal and written information. The use of written information leaflets is regarded as an important part of the process however steps must be taken to ensure the content is accurate and appropriate.

The patient must be educated on their treatment, expected adverse events and supportive therapy. Education must be carried out by pharmacists who have received appropriate training. Patient diaries can assist patients to remember when to take medications and to record any adverse effects. Patients must be given information on who to contact should they require any assistance with their oral chemotherapy.

Clear written instructions and patient medication guides for both chemotherapy and supportive therapy are essential along with the use of consumer medication information (CMI). The nature and the context in which chemotherapy agents are used often limits the availability or suitability of CMIs, as chemotherapy may be used outside Therapeutic Goods Administration (TGA) indications or as part of a protocol which may induce possible effects not listed in a CMI.
Institutions may have developed their own information leaflets. Pharmacists must ensure that information contained in any such leaflet has been appropriately verified and should be approved by the hospital drug and therapeutics committee or similar. Professional judgment must be used when deciding on appropriate and relevant information.

Not all nursing staff caring for patients receiving oral chemotherapy will have had experience in oncology nursing, particularly in the community setting (e.g. Community and District Nurses, Patient Care Attendants). Procedures must be in place to ensure that nurses have access to appropriate and accurate information in relation to their patient’s treatment. In this instance nursing staff must ensure they are aware of the nature and effects of the treatment given to patients in their care, and what steps to take in case of an adverse event. Contact numbers of the patient’s Medical Consultant and Pharmacist should be documented in the patient’s record.

Additionally, nurses should be provided with information pertaining to the precautions necessary to minimize the risks associated with handling and administering oral chemotherapy.

Additional information for patient’s receiving oral chemotherapy can be viewed in the Clinical Guidelines for the Administration of Oral Chemotherapy Agents in the Community Setting and Appendix 2 counselling points for pharmacy staff.
Patient Education Pathway – Diagrammatic Diagram

- Medical Oncologist
- Patient & Family
- Nursing Staff
  - Acute, Community, Private
- Patient Pharmacist
Clinical Guidelines for the Administration of Oral Chemotherapy Agents in the Community Setting

Process Outcome:
Preparations of oral cytotoxic medications will be administered in a safe manner which complies with the Worksafe Guidelines 2003 and best practice standards

PRESCRIPTION

<table>
<thead>
<tr>
<th>Process Standard</th>
<th>Key Points</th>
</tr>
</thead>
</table>
| The prescription for oral chemotherapy will be based in accordance with best practice guidelines | - Chemotherapy must be prescribed on the basis of an approved protocol  
- A PBS prescription alone should not be used to prescribe oral chemotherapy as it has insufficient space to provide the information required to ensure safe supply. An order written on an appropriate chemotherapy chart should ideally accompany a PBS prescription  
- If the oral chemotherapy agent is prescribed based on the patients body surface area or weight, the details should be provided on the order |
<table>
<thead>
<tr>
<th>Process Standard</th>
<th>Key Points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• The quantity prescribed should be the quantity of tablets/capsules the patient requires for that cycle of treatment. While this is documented best practice, community pharmacists currently must supply the PBS quantity prescribed.</td>
</tr>
<tr>
<td></td>
<td>• Tablet counting devices should not be used unless they are thoroughly washed after use and are designated only for cytotoxic agents.</td>
</tr>
<tr>
<td></td>
<td>• The strengths of oral formulations are often limited. Chemotherapy and targeted therapy doses cannot involve the breaking of tablets/capsules and steps must be taken to round doses according to the strengths available when calculating dose requirements according to BSA. Where rounding is inappropriate it may be necessary to alter dosing scheduling. The pharmacist responsible for prescribing may be required to contact the Medical Oncologist on an alternate dosing schedule.</td>
</tr>
<tr>
<td></td>
<td>• Where a patient has difficulty in swallowing advice should be sought from a pharmacist before advising a patient to crush or dissolve tablets at home. Crushing tablets carries both exposure risks and changes to drug bioavailability. Alternate oral preparations that can be dissolved or made into a mixture may need to be prescribed.</td>
</tr>
</tbody>
</table>

For further information please refer to:
SHPA Standards of Practice for the Provision of Oral Chemotherapy for the Treatment of Cancer
Journal of Pharmacy Practice and Research Volume 37, No 2, 2007
# DRUG SIGNAGE

<table>
<thead>
<tr>
<th>Process Standard</th>
<th>Key Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signs and labels can be used to alert all health care professionals, patients and family members of the potential presence of cytotoxic substances and waste. “PURPLE” is the recognised colour associated with cytotoxic products, as well as the symbol which represents a cell in the late telophase stage of division, and the word cytotoxic.</td>
<td>Special cytotoxic labels must be used on:</td>
</tr>
<tr>
<td></td>
<td>- Dispensed containers of cytotoxic medications. Please see drug labeling for further information</td>
</tr>
<tr>
<td></td>
<td>- Sharps containers in the home</td>
</tr>
<tr>
<td></td>
<td>- Pathology specimens collected in the home</td>
</tr>
<tr>
<td></td>
<td>- Any container carrying contaminated waste in the home e.g. vomit containers, urinals, commode pans etc, particularly in situations where more than one carer is responsible for emptying the receptacle</td>
</tr>
<tr>
<td></td>
<td>- Cytotoxic labels can be obtained by contacting</td>
</tr>
<tr>
<td></td>
<td>Medi Print:</td>
</tr>
</tbody>
</table>
| | 61 Nealdon Drive  
| | Meadowbrook QLD 4131 |
| | Ph: 1800 065 535  
| | (07) 3200 7788 |
**Process Standard**

Labels should be used to alert all health care professionals, patients and family members of the potential presence of cytotoxic medications.

**Key Points**

- Generic names should be used. Where local policy dictates the use of a trade names a reference should be included in the labeling to the generic name.
- As well as standard labeling additional requirements include:
  - Clear and unambiguous dosing instructions ‘As directed’ must *NEVER* be used.
  - The intended period of treatment.
  - Start and stop dates for short term intermittent treatment.
  - The total dose required. If patients are required to take different strengths of tablets to make up the dose then the instructions must be labeled with the number of tablets to take and the total dose.
  - All boxes/bottles must contain a label. Boxes must never be taped together with a label on one box. When more than one container is used to dispense the same medicine then the following (or similar) must be used: *This is x of y number of containers containing the same medication. Please use the contents of one container before starting another*.
  - Doses of chemotherapy that are intended to be taken weekly must include on the label the term ‘Once a week’ and specify the day the dose is due. An additional label should also be added: this dose of drug is taken *WEEKLY* check your dose carefully.
  - A label indicating appropriate storage requirements must also be added where appropriate.
  - Cautionary and advisory labels as required must be added to the container.
  - Dispensed containers of cytotoxic drugs must be clearly labeled with a cytotoxic warning sticker with the distinctive warning: *Cytotoxic, Handle with Care*.
### DRUG LABELING (Cont)

<table>
<thead>
<tr>
<th>Process Standard</th>
<th>Key Points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>For further information please refer to: SHPA Standards of Practice for the Provision of Oral Chemotherapy for the Treatment of Cancer Journal of Pharmacy Practice and Research Volume 37, No 2, 2007</td>
</tr>
</tbody>
</table>
## DRUG PACKAGING AND STORAGE

<table>
<thead>
<tr>
<th>Process Standard</th>
<th>Key Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>All health care professionals, patients and family members will be aware of the minimum standard for cytotoxic drug identification and storage</td>
<td>• All layers of the packaging must be clearly marked as cytotoxic including the outer bag that contains the supply</td>
</tr>
<tr>
<td></td>
<td>• The container should offer protection from the light where required. Where cytotoxic medication is supplied in glass bottles then a pharmacist must confirm whether other containers are suitable for dispensing or whether it is essential that the glass bottle be used to avoid any adverse affects on the drug</td>
</tr>
<tr>
<td></td>
<td>• When a blister pack is used, this must be filled by the pharmacist dispensing the chemotherapy and labeled with relevant instructions with a cytotoxic warning label. Other non cytotoxic medication <strong>MUST NOT</strong> be placed into the same pack</td>
</tr>
<tr>
<td></td>
<td>• Oral chemotherapy agents should be stored as directed by the pharmacist, in a secure manner, out of the reach or children</td>
</tr>
<tr>
<td></td>
<td>• Tablet containers should have child proof caps. Where this is not the case, care should be taken to ensure that they are kept out of the reach of children</td>
</tr>
</tbody>
</table>
# DRUG ADMINISTRATION

<table>
<thead>
<tr>
<th>Process Standard</th>
<th>Key Points</th>
</tr>
</thead>
</table>
| Many tablets either have an outer compressed coating with the drug in an inner core, or are film coated or sugar coated. 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 | - If loose powder is observed, return tablets to the patients pharmacist for appropriate disposal  
- Oral chemotherapy agents should be administered as ordered by the treating Oncologist  
- Protective gloves must be worn when handling tablets, capsules or mixtures in syringes. Thoroughly wash hands at the completion of administration. Those carers who are pregnant or breast feeding should not handle any chemotherapy medications  
- Tablets and capsules should be tipped from their container /blister pack directly into a disposable medicine cup (alternatively the container lid can be used where appropriate)  
- Tablets/capsules must be swallowed whole. Tablets containing cytotoxic must NEVER be crushed, broken or, allowed to be chewed. Crushing tablets carries both exposure risks and changes to drug bioavailability. Alternate oral preparations that can be dissolved or made into a mixture may need to be prescribed  
- If a patient is unable to swallow or administering via a PEG or a nasogastric tube, then the pharmacist must be contacted for advice on alternative dose formulations and the oncologist contacted for a new medical order  
- If an anti emetic is required then this should be administered not less than thirty (30) minutes prior to the administration of oral chemotherapy unless instructed otherwise in the protocol  
- If the patient vomits immediately after ingestion and the tablet or capsule cannot be seen, do not re-administer the dose. Inform the patients treating medical physician for further guidance. Treat vomit as a chemotherapy spill |
## DISPOSAL OF DRUG/S, CONTAMINATED PRODUCTS AND WASTE

<table>
<thead>
<tr>
<th>Process Standard</th>
<th>Key Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Care Professionals, patients and family members should understand safe handling of cytotoxic waste and be aware of the potential hazards of exposure. <strong>Correct disposal minimises risk</strong></td>
<td></td>
</tr>
<tr>
<td>Cytotoxic waste is disposed of by incinerating at high temperatures, minimum 1100 degrees</td>
<td></td>
</tr>
<tr>
<td><strong>Excess Medication:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Dry waste:</strong> Gloves, plastic medicine cups, syringes, and empty medicine containers and blister packs</td>
<td><em>Any unused medication should be returned to the pharmacy for appropriate disposal</em></td>
</tr>
<tr>
<td><strong>Wet contaminated linen:</strong> Sheets, pillowcases towels clothing etc</td>
<td><em>Ideally, an appropriately marked puncture proof bin for incineration should be used for the disposal of cytotoxic waste. However, this is not currently possible in all clinical situations. The EPA does not currently have information pertaining to the adverse effects of exposure to cytotoxic waste. They advise that where health care professionals provide care for patients who are receiving oral chemotherapy, cytotoxic bins should be provided for appropriate disposal of cytotoxic waste products as an OH&amp;S standard. In the case of the patient and carer, dry waste should be placed in a plastic bag, tied up and put into the rubbish bin</em></td>
</tr>
<tr>
<td><strong>Dry linen:</strong> No special precautions required</td>
<td><em>Contaminated linen should be handled with gloves, cleaned with detergent and copious amounts of water. No special washing detergent is necessary. Wash separately from other clothing once on the long cycle. Plastic covers should be used where appropriate if the patient is vomiting or incontinent to prevent contamination of bedding such as pillows or mattresses. Those carers who are pregnant or breast feeding should not handle any chemotherapy waste products</em></td>
</tr>
</tbody>
</table>
DISPOSAL OF DRUG/S, CONTAMINATED PRODUCTS AND WASTE (Cont)

<table>
<thead>
<tr>
<th>Process Standard</th>
<th>Key Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Urine, vomits, blood, sperm and other bodily fluids</strong></td>
<td></td>
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</tbody>
</table>
Elimination of cytotoxic agents from the body occurs via urine, faeces, sperm, vomit, sweat, saliva, wound excaudate and expired air. These waste products may contain both inactive or active metabolites for a period of time post administration of cytotoxic agents  
The standard excretion time is 48 hours from the commencement of chemotherapy. Gloves must be worn when handling body waste  
The operation of on – site sewage treatment systems such as septic tanks might be affected by cytotoxic waste. Further information should be obtained from the manufacture or supplier of the system  |
|  | • Double flush the toilet after use for **5 - 7 days** after discontinuing oral cytotoxic chemotherapy as a portion of the drug remains in the gut and is excreted via the stool  
• Contaminated waste should be handled with gloves. Receptacles should be cleaned with detergent and copious amounts of water. The contents of urinals commodes and vomit bowls should be double flushed in the toilet. The Contents of ileostomy/colostomy bags can be double flushed in the toilet  
• Ideally, an appropriately marked puncture proof bin for incineration should be used for the disposal of cytotoxic waste. However, this is not possible in all clinical situations. The Environment Protection Authority (EPA) does not currently have information pertaining to the adverse effects of exposure to cytotoxic waste products. They advise that where health care professionals provide care for patients who are receiving oral chemotherapy, cytotoxic bins should be provided for appropriate disposal of cytotoxic waste products as an OH&S standard. In the case of the patient and carer, contaminated products such as wet dressings, ileostomy/colostomy bags and nappies, should be placed in a plastic bag, tied up and put into the rubbish bin  |
## SPILLAGE

<table>
<thead>
<tr>
<th>Process Standard</th>
<th>Key Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>All spillage should be dealt with immediately</td>
<td>• Wear rubber gloves when handling contaminated spills in the home. Contaminated surfaces should be washed with copious amounts of water and with detergent. Refer to page 21 for proper disposal of contaminated products</td>
</tr>
</tbody>
</table>
## TRANSPORT OF CYTOTOXIC WASTE

<table>
<thead>
<tr>
<th>Process Standard</th>
<th>Key Points</th>
</tr>
</thead>
</table>
| Cytotoxic waste is transported from the patients home in an appropriate and safe manner | • Once the purple cytotoxic waste bin is ¾ full seal bin, do not allow it to overflow with waste products. Ensure the lid has been securely fastened for transport and securely stored out of the reach of children  
• Appropriate measures need to be established by health service providers to ensure cytotoxic waste is transported and disposed of in an appropriate manner. For further information on the appropriate transport and disposal of cytotoxic waste products, please refer to Worksafe Victoria, Handling of cytotoxic drugs in the workplace, or the EPA (see Appendix 3 for contact details) |
REFERENCES


Worksafe Victoria, Jan 2003. Handling Cytotoxic Drugs in the Workplace.

WEB SITES


http://en.wikipedia.org/wiki/Therapeutic_Goods_Administration
http://en.wikipedia.org/wiki/Chemotherapy_regimen

http://en.wikipedia.org/wiki/Toxicity
**Glossary**

**Body Waste:** Chemotherapy substances are primarily eliminated from the patient by renal and hepatic excretion. Therefore urine, faeces, vomitus, wound waste, sweat, saliva, and expired air may be contaminated with either the unchanged drug or active metabolites.

**Chemotherapy:** Term used to describe all medicines regardless of administration, which have an anti-tumour activity on cancer cells.

**Carcinogenic:** A substance or physical agent with the potential to cause cancer in certain circumstances or to make cancer more likely to occur.

**Chemotherapy Spill:** May involve a spill of chemotherapy during the administration process and/or body waste following administration of chemotherapy.

**Chemotherapy Waste:** Unused chemotherapy pharmaceuticals, and containers, contaminated personal protection or equipment eg. contents of colostomy/ urostomy bags and incontinence aids.

**Cytotoxic:** Harmful to cells of the body, particularly those that reproduces rapidly.

**Mutagenic:** A substance with the potential to change DNA and the potential to cause cancer.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oncology:</td>
<td>Related to cancer</td>
</tr>
<tr>
<td>Oral Chemotherapy:</td>
<td>Term used to describe all medicines which have an anti-tumour activity that are administered to cancer patients via the oral route</td>
</tr>
<tr>
<td>PBS Script:</td>
<td>The PBS Schedule lists all of the medicines available to be dispensed to patients at a Government-subsidised price. The Schedule is part of the wider Pharmaceutical Benefits Scheme managed by the Department of Health and Ageing and administered by Medicare Australia</td>
</tr>
<tr>
<td>pH:</td>
<td>Measure of how strongly acidic or basic a substance is when dissolved in water. Acids have a pH less than 7, bases have a pH greater than 7</td>
</tr>
<tr>
<td>Telophase:</td>
<td>Last stage in the division of a single body cell into two identical cells</td>
</tr>
<tr>
<td>Teratogenic:</td>
<td>Capable of causing harm to an embryo or foetus to produce birth defects</td>
</tr>
</tbody>
</table>
Therapeutic Goods Administration (TGA):

The TGA is the regulatory body for therapeutic goods (including medicines, medical devices, gene technology, and blood products) in Australia. It is a Division of the Australian Department of Health and Ageing established under the Therapeutic Goods Act 1989 (Cth). The TGA is responsible for conducting assessment and monitoring activities to ensure that therapeutic goods available in Australia are of an acceptable standard and that access to therapeutic advances is in a timely manner.

Toxicity:
Toxicity is the ability of a chemical or physical agent to induce detrimental temporary or permanent tissue change or to detrimentally interfere with normal biochemical processing.

Treatment Regime:
Often identified with acronyms, they identify the agents used in combination to treat cancers.

Workplace:
Any place, whether or not in a building or structure, where employees or self-employed persons work.
Appendix 1: Oral Cytotoxic Drugs (not including hormonal or steroidal drugs)

Busulfan
Capecitabine
Chlorambucil
Dasatinib
Etoposide
Fludarabine
Hydroxyurea

Partially targeted treatments (e.g. imatinib, gefitinib)
Investigational oral cytotoxic drugs available via the
Special access scheme or as part of clinical trials

Idarubicin
Lomustine
Melphalan
Mercaptopurine
Methotrexate
Procarbazine
Temozolomide
Thioguanine
Vinorelbine

Immunomodulatory drugs (e.g. thalidomide)

It should be noted that this list is not exhaustive and may not include medicines introduced into clinical practice after the SHPA Standards were published.

**Appendix 2: Counselling points for pharmacy staff**

- The medication name and indication. If the medication is part of a protocol that the protocol name should be provided
- How and when to take their medication. Some patients may find it difficult to comprehend the concept of repeated short treatment courses with ‘gaps’ between them or the concept of treatment days (i.e. cycle 1 day 8)
- The duration of treatment
- What to do in the event of missing one or more doses
- What to do in case of vomiting after taking a dose
- The need to swallow tablets/capsules whole and not to chew. The risk of crushing tablets and mixing with food or emptying the contents of capsules into food or drink must be highlighted
- Important interactions (food-drug, drug-drug, drug-herb). The risks of taking additional medicines not prescribed by their doctor (including complementary therapies) and of the need to inform health professionals about all their current treatments. It is useful to provide and maintain a patient medications profile where any changes in medications can be recorded
- Expected adverse effects, strategies for managing them and when to seek professional help. Since monitoring is less frequent with oral therapy, patients may need to seek help early if adverse effects develop that may necessitate a break from treatment
- When to take supportive medications such as antiemetics
- The need for and how to obtain further supplies
- The principles of safe handling, storage and disposal
  - They must be advised:
    - To store all medications including any needing refrigeration in a secure manner away from children
⇒ To avoid or keep to a minimum handling of tablets/capsules by any other than themselves
⇒ To always wash their hands after handling tablets/capsules
⇒ To store empty containers and unused medication in a strong designated container or bag and return these to the hospital or pharmacy for disposal
⇒ About the health and safety aspects of dealing with bodily waste

Expect tests during treatment e.g. blood tests


Other considerations to take into account when providing education to patients includes:

- Their motivation to learn and level of information seeking
- Level of literacy
- Other physical barriers e.g. deafness or arthritis which may prohibit the use of child proof caps
- Other factors affecting the intake of information e.g. stress or anxiety disorders
- Supportive carers and/or family members who can assist
Appendix 3: Useful contacts and websites:

Cancer Council Victoria:
Address: 1 Rathdowne St,
Carlton, Vic, 3053.
Phone: 96 35 5000
Help Line 131120
Fax: 96 35 5270
Email: enquiries@cancervic.org.au
Web: www.cancervic.org.au/

Cancer Institute NSW:
Address: PO Box 41,
Alexandria, NSW, 1435.
Australia
Phone: + 61 2 8374 5600
Fax: + 61 2 8374 5700
Email: information@cancerinstitute.org.au
Web: www.cancerinstitute.org.au

DHS – Cancer and Palliative Care Unit:
Address: 19th Floor,
50 Lonsdale St
Melbourne VIC 3000
Phone: 90 96 2136
Fax: 90 96 2513
Environmental Protection Authority (EPA) Victoria:
For any information about prescribed industrial waste contact the Prescribed Industrial Waste (PIW) Team:
Head Office:
Address: GPO Box 4395QQ,
           Melbourne, Victoria, 3001.
Phone: 96 95 2722
Fax: 96 95 2932
Email: prescribedwaste@epa.vic.gov.au
Web: www.epa.vic.gov.au/

Gippsland Regional Integrated Cancer Service (GRICS):
Phone: 51 28 0075
Email: khalsall@lrh.com.au
Web: www.gha.net.au/grics/

Grampians Integrated Cancer Service (GICS):
Address: Po Box 577
         Ballarat, Vic, 3353.
Phone: 53 20 4782
Fax: 53 20 4076
Email: sarahg@bhs.org.au

Peter McCallum Cancer Institute : Drug Information Line
Phone: 96 56 1211

Poisons Information Centre:
Phone: 13 11 26 (24hrs 7 days a week)
Fax: 93 49 12 61
Email: poison.centre@rch.org.au
Worksafe Victoria:
Head Office
Address: Level 24 222 Exhibition St,
         Melbourne, Vic, 3000.
         GPO Box 4306,
         Melbourne, Vic, 3001.
Phone:  96 41 1555
Fax:    96 41 1222
Toll Free: 1800 136 089
Email: info@workcover.vic.gov.au
Web    www.workcover.vic.gov.au