

NZNO Cancer Nurses Section Position Statement on the Minimum Safety Requirements for Nurses involved in the Administration of Anti-Cancer Drugs within the Oncology and Non-Oncology Setting



Preamble

Anti-cancer drugs are therapeutic agents intended primarily for the treatment of cancer. The use of these agents as a component of cancer treatment has increased rapidly over the past few decades largely due to scientific developments in the area of cancer biology¹. The term anti-cancer drugs for the purpose of this position statement include traditional anti-neoplastic agents (chemotherapy), monoclonal antibodies and targeted therapies.

Anti-cancer drugs are administered utilising a range of administration routes and formulations, typically delivered over extended periods, which vary in length and cycles.

Specific knowledge, skills and competency standards are required by health professionals to ensure safe and competent administration of these agents, in addition, the after care of people receiving these agents should be considered. Nurses must be appropriately trained to do this, and organisations must ensure these nurses work in appropriately resourced settings^{2,3,7,14}.

Historically, people receiving anti-cancer drugs were managed in the tertiary cancer centres. Improvements in side effect management combined with demands for cost containment, advances in technology and a greater emphasis on consumer preferences have contributed to increased numbers of smaller centres providing chemotherapy in provincial and remote communities.

The NZNO Cancer Nurses Section acknowledges that there are nurses practising outside of the oncology/haematology setting who are administering both anti-cancer drugs and non-cancer targeted therapy agents in the treatment of diseases other than cancer.

Anti-cancer drugs also present specific risks for health care personnel, as they are known to be mutagenic, carcinogenic and teratogenic¹. Exposure to anti-cancer drugs and related waste during preparation, administration and disposal thus presents an occupational hazard for health care workers². Specific knowledge and skills therefore play a major role in ensuring safe and competent administration of these agents along with the care of people receiving these treatments by appropriately educated registered nurses working in appropriately resourced settings^{2,7}.

This position statement, in conjunction with national and local policy, aims to address the minimum safety requirements for any nurse administering anti-cancer drugs in any health care setting to ensure the safe delivery of care to cancer patients receiving anti-cancer drugs.

Cancer Nurses Section Philosophy

The Cancer Nurses Section believes that nurses should abide by legislation, guidelines and professional standards relevant to their scope of practice as stated in the:

- Health Practitioners Competence Assurance Act 2003
- New Zealand Nursing Council Code of Conduct for Nurses and Midwives 1995
- Code of Health and Disability Services Consumers Rights 1995
- Hospitals Regulations 1993
- Medicines Act 1981
- Hospitals Act 1957
- Health Act 1956
- National Professional Development Framework for Cancer Nursing in New Zealand 2009,
- Registered Nurse Scope of Practice Nursing Council of New Zealand 2010
- NZNO Code of Ethics 2010
- Te Tiriti O Waitangi – Principles of partnership, protection and participation

This requires that:

- The nurse is personally and professionally accountable for the provision of safe and competent nursing care. Therefore, it is the responsibility of each nurse to maintain the competence necessary for current practice.
- A nurse must take full accountability for their actions understanding activities that are not within their scope of practice may compromise the safety of an individual. The scope of practice is based on each nurse's education, knowledge, competency, extent of experience and lawful authority.
- Nurses have a responsibility to be familiar with relevant laws to ensure that they do not engage in practices prohibited by such laws or delegate to others those activities prohibited by those laws.

In addition, the Cancer Nurses Section believes that:

- Specific education and training is necessary for health care personnel involved in the preparation, transport, administration and disposal of anti-cancer drugs and related waste, in order to minimise the risk of exposure of health care personnel, visitors and the environment and ensure safe and quality health services for people receiving anti-cancer therapies.
- Only registered nurses with specific education and training in the safe handling of anti-cancer drugs and related waste should administer anti-cancer therapies.
- Employers must ensure nurses involved in administering anti-cancer drugs have access to education; training and environmental factors such as ease of access, light and space and other resources are addressed as a matter of necessity to ensure minimum professional and safety standards are met.
- Employers must ensure that risk assessments have been conducted and recommended processes are in place to enable nurses to maintain their competency and scope of practice in this field.

Rationale

Anti-cancer drug regimens are highly toxic to cells, and can result in a range of acute and chronic adverse effects for both the persons receiving and those administering these treatments^{1,8,9,10}. A number of these adverse effects are potentially life-threatening. The safe and effective delivery of these drugs therefore requires highly complex clinical assessment, technical and problem solving skills.

Anti-cancer drugs are classified as hazardous substances, since they are capable of causing toxicity to personnel who are exposed to them. This exposure can occur through absorption of drugs via direct skin contact, inhalation of aerosols and drug particles, ingestion, or injection through accidental needle stick injury. While the actual effects of low level occupational exposure to anti-cancer agents remains unclear, evidence suggests that internal exposure to anti-cancer agents can lead to mutagenic, teratogenic and/or carcinogenic consequences⁶. Relevant international guidelines therefore recommend safety procedures to avoid exposure and minimise potential hazards from anti-cancer drugs by highlighting a responsible approach to practice^{8, 9, 10, 11}. Evidence suggests that if measures such as those outlined in these professional guidelines are employed, the potential risks associated with occupational exposure to anti-cancer drugs and related waste may be minimised⁶.

Minimum Requirements

The increasing level of complexity in the administration of anti-cancer drugs requires appropriate levels of expertise and knowledge for safe and effective delivery of these agents. Staff administering these agents must have access to the most up-to-date resources within their work setting, including electronic sources.

The National Framework for Cancer Nursing Education³ (EdCAN) and Cancer Australia¹² have developed competency standards and resources for the safe delivery of anti-cancer drugs which can be accessed and utilised by any facility administering these drugs within Australia and New Zealand.

The Cancer Nurses Section supports and advocates that all staff delivering anti-cancer drugs must have access to these and other resources (as detailed in Appendix 1), which enhance the safety of drug preparation, storage, transportation and management of cytotoxic related waste.

Anti-cancer drugs should not be compounded or mixed by nursing staff within cancer inpatient, outpatient and/or community settings.

The principles of safe handling of anti-cancer drugs and related waste are applied within the workplace environment.

The ethical and legal issues associated with the administration of anti-cancer drugs is acknowledged within the workplace environment.

Further education and training for nurses involved in administering anti-cancer drugs and handling of related waste should be undertaken when new drugs, protocols or equipment are introduced or when procedures change. A nurse's continuing competence in the administration of anti-cancer drugs and handling related waste should be maintained through participation in relevant professional development and education activities regularly, ideally on an annual basis.

Recommendations

The Cancer Nurses Section recommends that, prior to the administration of any anti-cancer drug the nurse/nurses have access to the following information, resources and equipment as a minimum requirement for ensuring the safety of the patient and nurse:

- A written legible order (preferably in electronic format) signed by an appropriately qualified Medical Officer/Nurse Practitioner and validated through a pharmaceutical review process by a suitably trained pharmacist.
- Patient informed consent⁷ is documented.
- Relevant information on medical and surgical conditions, including allergies.
- All recent records, including investigations and pathology results, to verify diagnosis and to enable identification of any contraindications and/or factors that increase an individual's risk for toxicities associated with the anti-cancer drug/s.
- All recent investigations and pathology results to enable adequate assessment of patient responses to previous cycles of anti-cancer drug/s.
- Emergency drugs and emergency procedure protocols.
- Protocols and equipment for the management of extravasation of anti-cancer drugs.
- Protocols and equipment for managing spillage, which includes reference to the requirements of both trained and untrained personnel in the event of an anti-cancer drug spill.
- Information on prescribed drugs and drug protocols, their actions, side effects and any specific implications for administration and patient care.
- Record of patient height and current weight. Utilise either the Mosteller calculation or DuBois method to calculate body surface area².
- Presentation of drugs in a ready to administer form.
- Personal protective equipment (PPE):
 - Impermeable gown with closed front, long sleeves and elastic cuffs.
 - Gloves should be purpose manufactured to prevent absorption of drugs.
 - Eye goggles should provide full cover (ordinary eye glasses are not a substitute for eye protective wear).
 - Appropriately fitting face masks should be utilised to prevent the inhalation of particles from anti-cancer drugs.¹¹ Class P2 (N95)* Respiratory Protective Equipment (RPE) compliant with AS/NZS 1716: 2003 Respiratory devices or a comparable internationally accepted standard. *A P2 is considered comparable to a N95.
- Anti-cancer waste management equipment/facilities.
- An environment for administering anti-cancer drugs that has adequate lighting and space.
- Material data safety sheets are available in either hard copy or electronic format.
- A Medical Officer who has training and experience in the management of adverse events.
- Guidelines and institutional policies and procedures regarding safe administration and handling of anti-cancer drugs and related wastes.

References

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3. National Framework for Cancer Nursing Education (2009) www.edcan.org.
4. Australian Nursing Council (2003) Code of Professional Conduct for Nurses in Australia.
5. Australian Nursing Council Inc (2008) ANCI Code of Ethics for Nurses in Australia.
6. Oncology Nursing Society (2003) Safe Handling of Hazardous Drugs Oncology Nursing Society: Pittsburgh.
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8. Queensland Workplace Health and Safety Strategy (2005): Guide for Handling Cytotoxic Drugs and Related Waste. Queensland Government Department of Industrial Relations.
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11. Victorian Workcover Authority (2003). Handling cytotoxic drugs in the workplace. Victorian Government.
12. <https://www.eviq.org.au/>.
13. <http://www.cancerlearning.gov.au>.
14. National Professional Development Framework for Cancer Nursing in New Zealand 2009.

Acknowledgement

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Disclaimer

This statement is a guide to appropriate practice to be followed only subject to the clinician's judgment. The statement is designed to provide information to assist decision-making, and is not meant to be prescriptive. Those who use this statement should make their own determination regarding specific safe and appropriate clinical practices. While care has been taken to ensure that this statement reflects the state of general knowledge and expert consensus about practice in the field as at the date of publication, CNS does not make any warranty or guarantee in respect to any of the contents or information contained in this statement nor accept responsibility or liability whatsoever for any errors or omissions in the statement.

Appendix 1 - Recommended Resources suitable for developing safety guidelines in your workplace.

See Appendix 1 - Cancer Nurses Section – Position Statement on the Minimum Education Requirements for Nurses involved in the Administration of Anti-Cancer Drugs within the Oncology and Non-Oncology setting.

- ASCO/ONS - Chemotherapy Administration Safety Standards 2009
<http://www.asco.org/ASCOv2/Department Content/Cancer Policy and Clinical Affairs/Downloads/JCO ASCO-ONS Safety Standards.pdf>
- COSA – Safe Prescribing Guidelines 2008
https://www.eviq.org.au/LinkClick.aspx?fileticket=X4HOdn_f6So=&tabid=58
- NSW Government - Cytotoxic Drugs and Related Waste Guide 2008
http://www.workcover.nsw.gov.au/formspublications/publications/Documents/cytotoxic_drugs_related_waste_risk_management_guide_5633.pdf
- Victoria Government - Handling Cytotoxic Drugs in the Workplace 2003
http://www.worksafe.vic.gov.au/wps/wcm/connect/25d4c0004071f542a5cdf1fb554c40/handling_cytotoxic.pdf?MOD=AJPERES
- Queensland Guide to Handling Cytotoxic Drugs and Related Waste 2006
http://www.deir.qld.gov.au/workplace/resources/pdfs/cytotoxicdrugs_guide2006.pdf
- NIOSH - List of Antineoplastic and Other Hazardous Drugs in Healthcare Settings 2010
<http://www.cdc.gov/niosh/docs/2010-167/pdfs/2010-167.pdf>