1. Purpose

This Procedure outlines the process for the peripheral/central venous administration of a Cytotoxic agent to patients in a manner that is safe to both staff and patients.

2. Application

This Procedure is to be followed by all clinical staff throughout the West Coast District Health Board (WCDHB).

3. Definitions

For the purposes of this Procedure:
Cytotoxic medications is taken to mean toxic compounds known to have carcinogenic, mutagenic and/or teratogenic potential.

Oncology Nurse Specialist is an oncology trained nurse who is available to act as a resource for medical and nursing staff regarding the administration and management of Cytotoxic medications.

4. Responsibilities

For the purposes of this Procedure:

all ***Clinical Staff*** are required to:
- provide cares and treatments as per the requirements of this Procedure
- document all observations and cares and treatments given

5. Resources Required

This Procedure requires:

i) Cytotoxic Medication

ii) Patient's Clinical Record

6. Process

1.00 Nurses administering Cytotoxic agents must hold a current I.V. certificate and current Cytotoxic Administration certificate.

1.01 Each nurse giving chemotherapy must know:
- i) The rationale for using the prescribed drugs, the safe doses, potential side effects, action, incompatibilities and hazards of administration.
- ii) Action to be taken in the event of an adverse reaction occurring during the administration of the Cytotoxic drug.
- iii) The excretion route of the drugs used and the length of time before a drug is excreted after administration.
- iv) Handling precautions for any body fluids.
- v) The location of the Cytotoxic spill kit and the management of a Cytotoxic spill.
- vi) The means of disposal of the various Cytotoxic drugs and contaminated equipment.
- vii) The WCDHB Accident/Incident Reporting Procedure.

1.02 The nurse will educate the patient and family/whanau about Cytotoxic therapy prior to initial commencement of therapy, taking into consideration the patient's previous knowledge and capacity for new information. This will be both verbal and written information.

1.03 The nurse must ensure that the patient and their family/whanau is aware of the potential side effects and complications associated with Cytotoxic drugs and knows what action is to be taken if problems are encountered both in hospital and on discharge.

1.04 The nurse must also ensure the patient has follow-up appointments and blood test forms and understands the importance of this aspect of their treatment.

1.05 The nurse must check that the patient has given informed consent prior to the administration of Cytotoxic therapy. A signed consent form must be completed and a copy placed in the patient's Grey Hospital notes..

1.06 The nurse is to ensure the patient has safe appropriate IV access for administration of Cytotoxic therapy.

1.07 Two I.V. registered nurses, one of whom must be credentialled to administer Cytotoxic therapy will check that:

i) all documentation is complete and all medication orders are signed and dated.
ii) all pre-Cytotoxic therapy assessments have been completed, results are within the acceptable limits, and have been sighted and documented by medical staff.
iii) prescribed doses must be within safe limits (if unsure check with pharmacist) and ceiling doses must not be exceeded (except when specifically requested by consultant).
iv) the Physician has noted adverse side effects and tolerance of Cytotoxic medications.
v) patients are identified by the use of a name bracelet, or by the patient stating their address and birth date. If there is any doubt about identity, a relative or caregiver may be required to assist with identity. Patient details will be checked against the medication chart and the label on the dispensed medication.
vi) check the dispensed medication and dilution is correct and endorsed by pharmacy. If any uncertainty exists with prescribed doses, assessments or dispensed drugs, the Cytotoxic therapy will not be administered.

1.08 When both nurses have completed the check, the patient's identity against the patient's notes and the drugs for administration, the nurses will sign the documents with a date, time, dose and route of administration.

1.09 Prior to the administration of peripheral/central Cytotoxic therapy, the nurse will check the back flow of blood at the cannula site and seek consultation from a senior credentialled nurse or medical officer, if blood back flow is not present.

1.10 For the safety of the nurse the following must be followed:
i) wear plastic disposable aprons or disposable, impermeable gowns - back closed and with cuffed sleeves.
ii) purple nitrile gloves must be worn. (Available from Outpatients Department). If a latex allergy is known/suspected for the patient or staff, non latex gloves should be used.
iii) transport syringes to the patient's bedside in the container from pharmacy.

iv) prime tubing with a compatible flush solution before attaching them to IV bags with Cytotoxic drugs
v) Connect infusion bag, on a flat surface, at waist level.
vi) Use luer-lock fittings on needles, syringes and other IV equipment.
vii) Use a disposable gauze square around the port of entry of the syringe.
viii) Use a plastic backed absorbent sheet/pad under the port of entry.

1.11 Administer Cytotoxic therapy according to specific guidelines for each medication. If several Cytotoxic drugs are to be given, vesicants are administered first, starting with the vesicant in the smallest volume.

1.12 When administering bolus injections via a peripheral line, gentle pressure is applied to the plunger of the syringe in order to avoid extravasation or pain. Back flow should be checked half way during administration of each drug.

1.13 Vesicants are to be administered only as a bolus via a peripheral line. Continuous vesicant infusions must be administered via a pump through a CVC, PICC or Portacath.

1.14 At the end of each medication administration, a volume (of at least 20mL) of normal saline (0.9 % Saline) must be injected to ensure that the entire drug is administered and to clear the vein of the drug to preclude drug leakage as the luer is removed.

1.15 Continuous infusion sets and infusion containers should be assembled using compatible equipment and with particular care to avoid leakage. A purple Cytotoxic label should be attached to tubing and container so that it can be clearly identified by staff if an inpatient.

1.16 For continuous infusion, the nurse should check the venous patency by checking and documenting in the patient's clinical record, back flow of blood at hourly intervals if using a peripheral cannula.

1.17 Central venous lines should be checked hourly, or more frequently, and documented in the patient's clinical record. If a vesicant drug is being administered, the site must be checked and documented in the patient's clinical record, every 15 minutes during the administration.

1.18 Avoid transporting patients while Cytotoxic administration is in progress. If transportation is necessary, the patient must be escorted by a Cytotoxic credentialled nurse and a spill kit must accompany the nurse and patient.

1.19 The nurse must monitor the patient closely for signs of adverse drug reaction and instruct the patient to report any unusual signs as soon as they are noticed. They should report:
i) Sensations of pain, either at the injection site or along the vein.
ii) Altered sensations such as tingling, burning, temperature change. *(Possible local extravasation or venous problems)*
iii) Related feelings of "flushing", light-headedness, headache, blurring of vision, shortness of breath, chest discomfort, nausea etc. *(Possible systemic allergic reaction)*

1.20 In the event of an adverse drug reaction, or patient discomfort during medication administration, the injection/infusion is stopped immediately. The appropriate medical staff should be advised and special corrective action is taken.

1.21 The nurse will flush the line with a volume of at least 20mL of Normal Saline following completion of Cytotoxic medication administration to ensure that the entire medication is administered.

1.22 A Cytotoxic sign must be placed on the patient's bed or locker in clear view during the period through which the treatment drug may be excreted. As a general rule, excreta is considered hazardous until 48 hours after the completion of the treatment. (see *WCDHB Cytotoxic Therapy Patient Excreta Procedure*).

1.23 For continuous peripheral infusions a new cannula must be inserted every 72 hours and the intravenous tubing changed every 24 hours.

1.24 No subcut, intravenous or intramuscular Cytotoxic medication should be administered while a patient is under general anaesthetic.

1.25 Following administration of Cytotoxic therapy, the nurse is to complete the following documentation in the patient's clinical record:
- i) The names of the medications administered.
- ii) The route of administration.
- iii) The patient's tolerance of the Cytotoxic therapy cycle.
- iv) The condition of the current site of intravenous access if appropriate.
- v) Any difficulties encountered while administering Cytotoxic medication.
- vi) Antiemetics used and their effectiveness.
- vii) To assist all nursing staff, the time that Cytotoxic residues may continue to be excreted and the usual route of excretion.

1.26 The nurse will also complete:
- i) The medication chart.
- ii) The IV fluid balance chart if appropriate.
- iii) Site and infusion checks are documented.

1.27 All Cytotoxic contamination sharps, syringes and access devices are to be placed immediately after use into a purple impenetrable Cytotoxic container specified for the purpose.

1.28 All materials used in the preparation and administration of Cytotoxic drugs such as gloves, gowns, etc. are to be placed into a correctly labelled, sealed and covered containers with purple Cytotoxic label.

1.29 Contaminated laundry should be double bagged in alginate bags and specially marked red laundry bags, labelled Cytotoxic, and washed separately.

1.30 Non-disposable equipment must be washed immediately in warm soapy water and should never be left for another staff member to wash.

7. Precautions And Considerations

- Nurses administering Cytotoxic agents must hold a current I.V. certificate and current Cytotoxic Administration certificate.
- The nurse must monitor the patient closely for signs of adverse drug reaction and instruct the patient to report any unusual signs as soon as they are noticed
- All Cytotoxic contamination sharps, syringes and access devices are to be placed immediately after use into a purple impenetrable Cytotoxic container specified for the purpose.

8. References

The Cytotoxics Handbook, 1997, 3rd Edition, Radcliffe Medical Press.

Canterbury DHB Policy and Procedure Manual, Christchurch Hospital Vol F Fluid and medication Management Section 15

9. Related Documents

WCDHB Cytotoxic Management Procedure

Revision History		
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