

GUIDELINES FOR CHEMOTHERAPY ADMINISTRATION

ADMINISTRATION OF CYTOTOXIC DRUGS VIA THE INTRAVENOUS ROUTE

INTRAVENOUS CYTOTOXIC CHEMOTHERAPY SHOULD ONLY BE GIVEN BY PRACTITIONERS WHO HAVE UNDERTAKEN A TRUST APPROVED TRAINING PROGRAMME.

The aims of these guidelines are to protect practitioners and patients from contamination by cytotoxic chemotherapy and to prevent extravasation of the drugs that can result in local tissue injury.

Prior to administration it must be checked that the spillage, extravasation and anaphylaxis packs are to hand and there must be familiarisation with the contents

ADMINISTRATION VIA THE INTRAVENOUS ROUTE	RATIONALE
1. Explain procedure for administration ensuring that the patient understands as much as they wish about their treatment and related side effects and that they are prepared and supported	To understand the implications of the treatment
2. Ensure patient has given written consent.	Informed consent to treatment
3. If drugs are stored in the fridge remove 1 hour prior to administration	Enables drugs to warm to room temperature, preventing vasoconstriction and venospasm on administration
4. Wash hands and prepare equipment. Clean plastic tray, sterile field, sterile gauze, Cytotoxic Sharps bin. Prime an administration set with compatible flush solution.	For safe administration of chemotherapy and asepsis purposes
5. Put on personal protective equipment (PPE). Chemotherapy should not be removed from plastic bag without first putting on apron and nitrile gloves. Goggles are optional but should be considered if risk of splashing to the eyes. All syringes and infusion bags should be checked for any leakage or contamination.	To reduce the risk of contamination

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<p>6. Two practitioners to carry out checking procedure (one of whom must be a registered nurse and recorded on the central database to level 1 or above)</p> <p>Check labels on syringe/ infusion against the prescription these are to include drug dose, route of administration and expiry, diluents and storage details.</p> <p>Prescription chart needs to be checked for appropriate medical practitioners signature and that blood parameters and other investigations are recorded and within an acceptable range.</p> <p>Hospital number, date of birth, patient's name must then be checked against the patient.</p> <p>For patients in the community drugs will be checked on receipt as above, and a level 3 nurse and the patient will perform a secondary check prior to administration.</p>	<p>To reduce the risk of medication error</p>
<p>7. Position patient comfortably and assess potential veins for Cannulation</p> <p>Avoid:</p> <ul style="list-style-type: none"> • Ante-cubital fossa • Affected arm of an axillary node dissection • Lymphoedematous arms • Limb that has had venepuncture in the last 12 hours <p>If venous access is poor, warm arm prior to attempt.</p>	<p>Difficult site to detect and heal for infiltrations/extravasations</p> <p>Circulation may be impaired leading to impaired lymphatic drainage</p> <p>Stasis of lymph predisposes to phlebitis and cellulitis</p> <p>Extravasation can occur at Venepuncture site</p>

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<p>8. Cannulate vein and secure with designated IV dressing Use Blue 22 Gauge/yellow 24 Gauge polyurethane cannulas</p>	<p>To anchor cannula and reduce incidence of infection Smaller gauges less likely to puncture posterior vein wall. Less pain on insertion. Greater haemodilution of drug. Polyurethane cannulas reduce the risk of mechanical phlebitis.</p>
<p>9. Connect administration set and allow compatible flush solution to free flow.</p>	<p>Establish venous patency</p>
<p>10. Immediately prior to administration</p> <ul style="list-style-type: none"> • Wash hands and re apply a fresh pair of nitrile gloves • Check the syringes are luer lock and no more than ¾ full • Prime additional administration sets and secondary giving sets with compatible flush solution <p>The nurse administering the chemotherapeutic agents should have knowledge of disease processes, drug classifications, pharmacological indications, actions, side effects, adverse reactions, method of administration, rate of delivery, treatment goal, drug properties (vesicant/non vesicant) and specific drug calculations of dose and volume relative to body surface area.</p>	<p>Reduces potential for introduction of micro organisms To prevent accidental separation of plunger and syringe barrel</p>
<p>11. ADMINISTRATION OF BOLUS DRUGS (Only to be undertaken by practitioners recorded at level 2 or 3 on the chemotherapy database)</p> <ul style="list-style-type: none"> • Compatible flush solution to be free flowing and checked for back flow by dropping below the level of the heart. 	<p>Establishes vein integrity and reduces the risk of extravasation</p> <p>So tubing cannot be pulled or the</p>

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<ul style="list-style-type: none"> • Ensure all connections are secure and tape administration set • Clean bottom needle free side arm port of IV administration set with mediswab and allow to air dry • Place sterile gauze immediately under the needle free access port and renew between each drug administration 	<p>cannula dislodged Prevents contamination with micro organisms</p> <p>Reduces the risk of contamination at the syringe connecting point</p>
<p>Administer drugs into the bottom side arm port and administer drugs using a slow pulsed technique into free flowing line</p> <ul style="list-style-type: none"> • Give drugs in the following order <ol style="list-style-type: none"> 1. ANTI EMETICS 2. VESICANTS 3. IRRITANTS 4. NON IRRITANTS <ul style="list-style-type: none"> • Allow 5 –10 mls compatible flush in between each drug and again before removing cannula • Check for backflow of blood at regular intervals <p>Monitor site throughout for redness, swelling, and/or leakage and encourage patient to report any signs of pain/ discomfort. If extravasation is suspected STOP INFUSION IMMEDIATELY and follow Extravasation policy (CCPG C2)</p>	<p>To minimise emesis To ensure those agents likely to cause venous irritation are given when the venous integrity is greatest</p> <p>To avoid mixing incompatible solutions and to clear the vein of irritants.</p> <p>To ensure cannula remains insitu in vein.</p>
<p>12. ADMINISTRATION OF CYTOTOXIC INTRAVENOUS INFUSIONS (Only to be undertaken by practitioners recorded at level 1 or above on the chemotherapy database)</p> <ul style="list-style-type: none"> • Normal saline or a compatible solution should be used to prime all administration sets. Chemotherapy should never used to prime a line or be piggy backed into the primary giving set. 	<p>To prevent contamination and spillage</p>

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<ul style="list-style-type: none"> • Line to be checked for backflow of blood prior to connection of chemotherapy • Ensure all connections are secure and tape administration set. Do not bandage cannula • Two practitioners to check the setting of the Volumed pump against the prescription and document on the parenteral infusion checklist • Inspect site and document on the parenteral infusion checklist. 4 hourly. In addition check the site and record whenever the dose or bag is commenced/changed or bolus injection is given, check again after 1 hour then resume 4 hourly checks. • Change administration set every 72 hours <p>If extravasation is suspected STOP INFUSION IMMEDIATELY and follow Extravasation policy</p> <p>If patients require an infusion of vesicant drugs then consideration should be given to the insertion of a central venous catheter</p>	<p>To establish vein integrity</p> <p>So tubing cannot be pulled or the cannula dislodged. Bandaging increases risk of mechanical phlebitis and prevents site being continuously viewed.</p> <p>To reduce drug error</p>
<p>13. Discard all Cytotoxic waste as per cytotoxic waste policy (CCPG C 6/7)</p>	<p>To protect personnel from contamination and sharps injury</p>
<p>14. Record administration details in the appropriate documents</p>	<p>To identify patient has received treatment and to ensure continuity of care</p>

References:

1. Dougherty L., Lamb J. (1999) Intravenous Therapy in Nursing Practice. Churchill Livingstone, Edinburgh.
2. Gates R.A. & Fink, R. M. (2001) Oncology Nursing Secrets. 2nd edition Hanley and Belfus Inc. Philadelphia.
3. Mallett, J. , Bailey, C. (Ed) 1996. Drug administration The Royal Marsden NHS Trust Manual of Clinical Nursing Procedures, 4th Edition. Chapter 15

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4. RCN Clinical Practice Guidelines (1998) The administration of Cytotoxic chemotherapy. RCN Research Programme. Oxford
5. RCN Standards for Infusion Therapy (2005). RCN IV Therapy Forum.
6. Derby hospitals NHS Foundation Trust Medicines Code. 3rd edition. 2000.
7. Derby Hospitals Parenteral Therapy Guidelines, 2005.

**ADMINISTRATION OF CYTOTOXIC DRUGS VIA THE INTRAMUSCULAR
/SUBCUTANEOUS ROUTE**

CYTOTOXIC CHEMOTHERAPY SHOULD ONLY BE GIVEN BY PRACTITIONERS WHO HAVE UNDERTAKEN A TRUST APPROVED TRAINING PROGRAMME.

Nursing staff wishing to administer IM/SC injections need to be recorded on the central database as having developed their scope of professional practice in the administration and safe handling of Cytotoxic drugs to level 1.

Vesicants should never be given via the intramuscular/subcutaneous route

Equipment

- Appropriate PPE – disposable plastic apron, Nitrile gloves, goggles if risk of splashing to eyes
- Clean tray or receiver in which to place drug and equipment
- 21,23, or 25G needle depending on route of administration
- Luer lock syringe containing chemotherapy drug
- Isopropyl alcohol 70% impregnated swab
- Cytotoxic sharps bin

Procedure	Rationale
1. Explain and discuss procedure with patient	To ensure that the patient understands the procedure and gives his/her valid consent
2. Wash hands with bactericidal soap and water or bactericidal hand rub.	To prevent contamination of medication and equipment
3. Put on personal protective equipment:	To protect the nurse from local contamination to skin or clothing.
4. Collect and check all equipment	To prevent delays and enable full concentration on procedure
5. Inspect all equipment	To check that none is damaged, and that there is no leakage of Cytotoxic drugs from the syringe which may cause potential contamination.
6. The nurse administering the chemotherapy should perform all checks according to the criteria outlined within the Medicines Code.	To ensure the patient is given the correct drug in the prescribed dose, using the appropriate diluents and by the correct route.

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<p>7. Details should be re-checked with a designated practitioner at the patient's bedside. For patients in the community drugs will be checked prior to dispensing by a recognised specialist practitioner and the dispensing pharmacist or suitably trained member of nursing staff; and again with the patient and/or carer prior to administration</p>	<p>To further minimise any risk of error</p>
<p>8. Position patient comfortably with privacy</p>	<p>To promote patient comfort and preserve dignity</p>
<p>9. Prior to administering injection ensure good bond between needle and syringe (luer lock syringes should always be used) and ensure the correct needle size for the prescribed route of administration.</p>	<p>To prevent leakage or spray resulting in contamination.</p>
<p>10. Evaluate the patient's knowledge of the medication being offered. If this knowledge appears to be faulty or incorrect, offer an explanation of the use, action, dose and potential side-effects of the drug or drugs involved</p>	<p>A patient has the right to information about treatment.</p>
<p>11. Expose the chosen site. Sites should be rotated</p>	<p>To prevent local irritation developing</p>
<p>12. Clean the chosen site with a swab saturated with isopropyl alcohol and allow to air dry</p>	<p>To reduce the number of pathogens introduced into the skin by the needle</p>
<p>13. Proceed with the administration of the drug. Recommendations relating to administration should be followed carefully. (refer to The Royal Marsden Manual of Clinical Procedures) Intramuscular injections – should be given using a Z-track technique</p>	<p>To prevent leakage of chemotherapy onto to the skin and subsequent irritation</p>
<p>14. Ensure that sharps and nonsharps waste are disposed of safely according to the Cytotoxic waste policy</p>	<p>To ensure safe disposal and avoid other injury and contamination to staff.</p>
<p>15. RECORD administration details in appropriate documents</p>	<p>To maintain accurate records and prevent duplication of treatment</p>

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2. RCN Clinical Practice Guidelines (1998) The administration of Cytotoxic chemotherapy. RCN Research Programme. Oxford
3. SDAH NHS Trust Medicines Code. 3rd edition. 2000.

ADMINISTRATION OF CYTOTOXIC DRUGS VIA THE ORAL ROUTE

THESE DRUGS ARE POTENTIALLY CARCINOGENIC AND TERATOGENIC* AND MAY BE ABSORBED THROUGH THE SKIN AND THEREFORE SHOULD BE HANDLED WITH GREAT CAUTION.

CYTOTOXIC CHEMOTHERAPY SHOULD ONLY BE GIVEN BY PRACTITIONERS WHO HAVE UNDERTAKEN A TRUST APPROVED TRAINING PROGRAMME.

Nursing staff wishing to administer oral chemotherapy need to be recorded on the central database as having developed their scope of professional practice in the administration and safe handling of Cytotoxic drugs to level 1.

- Teratogenic - may cause abnormalities in a fetus.

ADMINISTRATION VIA THE ORAL ROUTE	RATIONALE
1. CHECK LABEL DETAILS on pack against the prescription	To ensure correct drug is given to patient
2. NITRILE GLOVES should be worn to administer tablets and capsules	To reduce skin contamination
3. DO NOT CRUSH tablets or open capsules	To prevent contamination and reduce irritation to the oral mucosa
4. ALL ORAL SYRINGES, SPOONS AND DISPOSABLE MEDICINE POTS USED FOR THE ADMINISTRATION OF ORAL CYTOTOXIC DRUGS should be put in a designated cytotoxic clinical waste bin.	

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5. IF A TABLET OR MEDICINE IS DROPPED follow the procedure for the disposal of cytotoxic waste.	To reduce the risk of contamination
6. RECORD administration details in appropriate documents	To identify patient has received treatment and to ensure continuity of care

CYTOTOXIC CHEMOTHERAPY SHOULD ONLY BE GIVEN BY PRACTITIONERS WHO HAVE UNDERTAKEN A TRUST APPROVED TRAINING PROGRAMME.

Nursing staff wishing to administer intravesicular chemotherapy need to be recorded on the central database as having developed their scope of professional practice in the administration and safe handling of Intravesical chemotherapy and immunotherapy.

ADMINISTRATION OF CYTOTOXIC DRUGS VIA INTRAVESICAL ROUTE using MITO-IN device.

SINGLE POST-OPERATIVE DOSE. Inpatients Only – wards 310, 311, 312, 410, Urology Daycase Unit
NB. Patient has catheter in-situ e.g. post TURBT

EQUIPMENT

- | | |
|--|--|
| 1. Sterile dressing trolley | 13. Catheter leg bag |
| 2. Cytotoxic Waste bin | 14. Gate clamp / clamp for catheter |
| 3. Sterile Nitrile gloves | 15. Dressing towel / sterile dressing pack |
| 4. Non-sterile Nitrile gloves | 16. 21G Green needle |
| 5. Disposable apron x 2 | 17. 50ml sterile luer-lock syringe |
| 6. Eye protection | 18. 40mls Sterile 0.9% Sodium Chloride |
| 7. Mask | 19. Alcohol swab / Steret |
| 8. Spillage kit | 20. Incontinence sheet x 2 |
| 9. Catheter spigot (if irrigation in situ) | |
| 10. Kyowa 40mg Mitomycin C vial (<i>delivered from pharmacy</i>) | |
| 11. Mito-In administration set (<i>delivered from pharmacy</i>) | |
| 12. Understanding Intravesical Chemotherapy – Inpatient Mitomycin C’ patient information leaflet | |

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ADMINISTRATION VIA INTRAVESICAL ROUTE	RATIONALLE
1. Explain and discuss the procedure with the patient. Give the patient the 'Understanding Intravesical Chemotherapy – Inpatient Mitomycin C' leaflet & allow them time to read this prior to administration. Obtain verbal consent to proceed.	To ensure that the patient understands the procedure and gives his / her valid consent.
2. Assemble all necessary equipment, including the cytotoxic bin and proceed to the patient.	To ensure that the instillation proceeds smoothly and without interruption.
3. Screen the patient's bed.	To ensure privacy during the procedure.
4. Check all the details on the Mitomycin C vial box against the patient's prescription chart, with a second registered nurse. Check drug, dose, route, allergies, hospital number, date of birth, expiry, patients name and storage details. Details must be checked against the patient.	To minimise the risk of error, comply with legal requirements and hospital cytotoxic drug policy. To ensure that the correct patient has been identified.
5. Place one incontinence sheet under the patient's buttocks and the other under the catheter.	To protect the patient and bed linen should any spillage occur.
6. Ensure the catheter has been on free drainage; therefore the bladder is empty of urine. Turn off irrigation (if applicable) & spigot irrigation port.	To prevent dilution of the drug.
7. Open sterile dressing towel / dressing pack on to dressing trolley. Open vial box, Mito-In administration set, green needle, 50ml luer-lock syringe, sterile gloves, alcohol swab / steret and catheter leg bag on to sterile field. Put on protective equipment - Disposable apron, eye protection, mask & sterile nitrile gloves.	To ensure that the instillation proceeds smoothly and without interruption. To protect the nurse from contact with the cytotoxic drug.

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8. Using aseptic techniques proceed to take cap off 40mg Mitomycin C Kyowa vial and swab the top of the vial with the alcohol swab / steret.	To enable preparation of Mitomycin C.
9. Prepare the administration set by sliding green clamp close to the 'Y Junction' and close the clamp. Close both white clamps close to the 'Y Junction' also.	To facilitate drug reconstitution and prevent spillage.
10. Connect the 21G green needle to the 50ml luer-lock syringe and withdraw 40mls 0.9% Sodium Chloride into syringe.	To facilitate drug reconstitution.
11. Connect administration set to 40mg Mitomycin C vial, ensuring that it 'clicks' into place.	To facilitate drug reconstitution.
12. Unscrew the white cap from administration set and attach the 50ml luer-lock syringe containing 0.9% Sodium Chloride.	To facilitate drug reconstitution.
13. Open both white clamps and slowly add 10mls 0.9% Sodium Chloride into the vial. Gently rotate the vial to begin mixing. Draw back the solution in to the syringe. Repeat this process until the powder is dissolved.	To facilitate drug reconstitution.
14. Draw back all of the solution into syringe and close both white clamps near to the 'Y Junction'.	To stop drug re-entering the vial ensuring the patient receives the full dose.
15. Attach the catheter connector (supplied in the Mito-In device package) to the Mito-In device. Attach the administration set to the catheter. Ensure there is a good fit between the catheter connector and the catheter. Open the green clamp and the white clamp near to syringe.	To facilitate drug administration. To prevent spillage.

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16. Slowly instil the Mitomycin C into the bladder over 3-5 mins.	Rapid instillation would be uncomfortable for the patient, and may cause bladder spasm
17. Observe the patient throughout the administration, checking for signs of shock, pain and leaking from around the catheter. Ask the patient to comment about pain and sensation throughout the procedure.	To detect any problems early and minimise potential damage.
18. Clamp the catheter with the gate clamp and remove the Mito-In administration set along with the catheter connector – dispose of this into the cytotoxic bin immediately. Connect the catheter to the leg-bag and leave the gate clamp closed. Place the incontinence pad around the catheter at the meatus as best as possible (this may not be possible with female patients).	To prevent drainage of the drug from the bladder. As per cytotoxic waste policy. Should bypassing occur this will minimise spillage.
19. Make the patient comfortable. Ensure that the nurse call bell is in easy reach should the patient need assistance to turn or experience any problems	To make patient more comfortable. Give reassurance.
20. Check the patients' notes for any specific instructions about positioning during treatment. Otherwise advise the patient to change their position every 15 minutes e.g. Left lateral, right lateral, supine and prone. (Assistance may need to be provided).	To assist coating of the bladder mucosa.
21. Record administration details in the nursing and medical notes and sign the prescription chart.	To maintain records.

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22. After 1 hour or sooner if the patient is unable to tolerate the treatment the bladder needs to be drained. Wearing non-sterile nitrile gloves, apron & eye protection - release the catheter clamp and allow the drug to drain into the leg bag.	One hour is the usual time specified for intravesical drugs to ensure the maximum therapeutic effect with minimum toxicity. To drain the drug away.
23. Change the catheter bag and dispose of it along with its contents, gloves, aprons, mask, incontinence sheets and all other disposable equipment into the cytotoxic bin.	To minimise contact with the cytotoxic drug. Dispose of cytotoxic waste as per hospital cytotoxic waste policy.
24. Inform all other nursing staff on duty and the following shift that the patient has received intravesical Mitomycin C.	To ensure all nursing staff are aware; therefore being able to dispose of urine, handle catheter leakage or spillage as per cytotoxic waste policy.
25. Advise the patient to increase fluid intake over the next 24hours.	To provide a good fluid output, washing out the bladder and reduce the likelihood of local irritation or difficulty in urination.
26. If the patient has the catheter removed within 24 hours of having the drug, they should be advised to sit when passing urine and double flush the toilet after each micturition for up to 24 hours following administration.	To ensure safe disposal and prevent spillage.
27. Advise the patient to wash their genitals following each micturition with plenty of soap and water.	To reduce the likelihood of local irritation.
28. Advise the patient to inform the nurse if they are incontinent of urine or if their catheter leaks urine within 24 hours of administration.	To ensure correct handling of leakage or spillage.
29. Ensure that the patient understands the follow up care and has an information leaflet.	To promote patient compliance and understanding. To reduce anxiety experienced by the patient.

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NB. If, for any reason, the vial of Mitomycin is not used, it should be returned to pharmacy unopened and in its packaging. This should be handed directly to a member of the pharmacy team, inform them that it contains a chemotherapy agent.

PRECAUTIONS

- Nursing or medical staff who are pregnant, breastfeeding and / or are known to have an immunological deficiency should not handle cytotoxic products or waste products that are likely to contain cytotoxic products.
- Urine remains contaminated for up to 24 hours following the treatment.
- Do not use hand creams or emollients after handling the drug as they increase the drugs absorption through the skin.

References

1. Bailey M. & Sarosdy M. (2000) Bladder Cancer. Fast Facts. Health Press: Oxford
2. British Association of Urological Nurses: Section of Oncology. (2005) Guidelines for the Administration of Intravesical Therapies. V1. Fitwise Management Ltd: Bathgate
3. Beretta G. (2002) Mitomycin C. 17th Ed. Edizioni Minerva Medica: Turin
4. Department of Clinical Oncology. Cytotoxic Chemotherapy Policies and Guidelines. SDAH NHS Trust
5. Kyowa-Hakko UK Ltd. Mito-In Product Information.
6. Mallett J. & Bailey C. Eds. (2000) Manual of Clinical Nursing Procedures. The Royal Marsden Manual. 5th Ed. Blackwell Science Ltd: Oxford
7. Southern Derbyshire Acute Hospitals NHS Trust (1999) Principles of Practice in Male Catheterisation
8. United Kingdom Central Council for Nurses, Midwives and Health Visitors (UKCC). (1992) The Scope of Professional Practice
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ADMINISTRATION OF CYTOTOXIC DRUGS VIA INTRAVESICAL ROUTE using MITO-IN device.

OUTPATIENTS COURSE ONLY – Urology Daycase Unit

EQUIPMENT

- | | |
|---|------------------------------------|
| 1. Sterile dressing trolley | 13. Sterile catheterisation pack |
| 2. Cytotoxic Waste bin | 14. Lofic 'InstiCath' 10/12ch |
| 3. Spillage kit | 15. 50ml bag 0.9% Sodium Chloride |
| 4. Disposable apron | 16. 50ml sterile luer-lock syringe |
| 5. Eye protection | 17. Incontinence sheet |
| 6. Mask | 18. Alcohol swab / Steret |
| 7. 2 x pair Sterile Nitrile gloves | 19. 19G needle |
| 8. Kyowa 40mg Mitomycin C vial (<i>delivered from pharmacy</i>) | |
| 9. Mito-In administration set (<i>delivered from pharmacy</i>) | |
| 10. Understanding Intravesical Chemotherapy – Outpatient Mitomycin C' patient information leaflet | |

ADMINISTRATION VIA INTRAVESICAL ROUTE	RATIONALLE
1. Explain and discuss the procedure with the patient. Check that the patient has had the 'Understanding Intravesical Chemotherapy – Outpatient Mitomycin C' leaflet & allow them time to ask any questions. Obtain verbal consent to proceed.	To ensure that the patient understands the procedure and gives his / her valid consent.
2. Check that the patient has not had any changes in urinary symptoms e.g. Dysuria. Obtain a urine sample before 1 st treatment and test for nitrites. Withhold treatment if evidence of UTI. If evidence of UTI, send Mid-Stream specimen of Urine (MSU). Inform medical staff and treat if indicated.	To exclude possible urinary tract infection (UTI).
3. Assemble all necessary equipment, including the cytotoxic bin and proceed to the patient.	To ensure that the instillation proceeds smoothly and without interruption.
4. Screen the patient's bed.	To ensure privacy during the procedure.

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5. Check all the details on the Mitomycin C vial box against the patient's prescription chart, with a second registered nurse. Check drug, dose, route, allergies, hospital number, date of birth, expiry, patients name and storage details. Details must be checked against the patient.	To minimise the risk of error, comply with legal requirements and hospital cytotoxic drug policy. To ensure that the correct patient has been identified.
5. Place an incontinence sheet under the patient's buttocks.	To protect the patient and bed linen should any spillage occur.
6. Open sterile catheter pack on to dressing trolley. Open Mitomycin vial box, Mito-In administration set, needle, 50ml luer-lock syringe, both pairs of sterile gloves, alcohol swab / steret and saline bag on to sterile field. Open InstiCath and half fill packet with tap water.	To ensure that the instillation proceeds smoothly and without interruption. To activate lubricant on catheter.
7. Put on protective equipment - Disposable apron, eye protection, mask & sterile nitrile gloves.	To protect the nurse from contact with the cytotoxic drug.
8. Using aseptic techniques proceed to take cap off 40mg Mitomycin C Kyowa vial and swab the top of the vial with the alcohol swab / steret.	To enable preparation of Mitomycin C.
9. Prepare the administration set by sliding green clamp close to the 'Y Junction' and close the clamp. Close both white clamps close to the 'Y Junction' also.	To facilitate drug reconstitution and prevent spillage.
10. Connect the needle to the 50ml luer-lock syringe and withdraw 40mls 0.9% Sodium Chloride into syringe.	To facilitate drug reconstitution.

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<p>11. Connect administration set to 40mg Mitomycin C vial, ensuring that it 'clicks' into place. Unscrew the white cap from the administration set and attach the 50ml luer-lock syringe containing 0.9% Sodium Chloride.</p>	<p>To facilitate drug reconstitution.</p>
<p>12. Open both white clamps and slowly add 10mls 0.9% Sodium Chloride into the vial. Gently rotate the vial to begin mixing. Draw back the solution in to the syringe. Repeat this process 3 or 4 times until the powder is dissolved.</p>	<p>To facilitate drug reconstitution.</p>
<p>13. Draw back all of the solution into syringe and close both white clamps near to the 'Y Junction'.</p>	<p>To stop drug re-entering the vial ensuring the patient receives the full dose.</p>
<p>14. Using the InstiCath, catheterise the patient as per hospital policy.</p>	<p>To facilitate drug administration</p>
<p>15. Attach the administration set to the catheter. Ensure there is a good fit between the luer-lock syringe and the luer lock InstiCath catheter.</p>	<p>To facilitate drug administration. To prevent spillage.</p>
<p>16. Open the green clamp and the white clamp near to syringe. Slowly instil the Mitomycin C into the bladder over 3-5 mins.</p>	<p>Rapid instillation would be uncomfortable for the patient, and may cause bladder spasm</p>
<p>17. Observe the patient throughout the administration, checking for signs of shock, pain and incontinence. Ask the patient to comment about pain and sensation throughout the procedure, and to inform you if they are incontinent of urine.</p>	<p>To detect any problems early and minimise potential damage. To ensure correct handling of spillage.</p>

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18. Once all of the Mitomycin has been instilled; remove the catheter with the Mito-In administration set and dispose of them into the cytotoxic bin immediately.	To prevent drainage of the drug from the bladder. As per cytotoxic waste policy.
19. Dispose of all other equipment including gloves, aprons, mask, incontinence sheets and all other disposable equipment into the cytotoxic bin.	As per cytotoxic waste policy.
20. Make the patient comfortable. Ensure that the nurse call bell is in easy reach should the patient need assistance to turn or experience any problems	To make patient more comfortable. Give reassurance.
21. Check the patients' notes for any specific instructions about positioning during treatment. Otherwise advise the patient to change their position every 15 minutes e.g. Left lateral, right lateral, supine and prone. (Assistance may need to be provided).	To assist coating of the bladder mucosa.
22. Record administration details in the nursing and medical notes and sign the prescription chart.	To maintain records.
23. After 1 hour or sooner if the patient is unable to tolerate the treatment, ask the patient to void into the toilet. Advise them to sit when voiding.	One hour is the usual time specified for intravesical drugs to ensure the maximum therapeutic effect with minimum toxicity. To minimise splashing.
24. Advise the patient to increase fluid intake over the next 24hours.	To provide a good fluid output, washing out the bladder and reduce the likelihood of local irritation or difficulty in urination.

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<p>25. Advise the patient to sit when passing urine and double flush the toilet after each micturition for the next 24 hours.</p> <p>Advise the patient to wash their genitals following each micturition with plenty of soap and water.</p>	<p>To ensure safe disposal and prevent spillage.</p> <p>To reduce the likelihood of local irritation.</p>
<p>26. Ensure that the patient understands the follow up care and has an information leaflet.</p>	<p>To promote patient compliance and understanding.</p> <p>To reduce anxiety experienced by the patient.</p>

NB. If, for any reason, the vial of Mitomycin is not used, it should be locked in the dedicated Mitomycin C cupboard and a message left on the patients prescription chart indicating that it was not used.

PRECAUTIONS

- Nursing or medical staff who are pregnant, breastfeeding and / or are known to have an immunological deficiency should not handle cytotoxic products or waste products that are likely to contain cytotoxic products.
- Urine remains contaminated for up to 24 hours following the treatment.
- Do not use hand creams or emollients after handling the drug as they increase the drugs absorption through the skin.

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