

The Newcastle upon Tyne Hospitals NHS Foundation Trust

Intrathecal Cytotoxic Chemotherapy (ITC) Policy

Effective from: September 2011

Review Date: September 2013

1 Key Recommendations

The key recommendations outlined within this document are as follows:

- ITC can only be administered to adult and paediatric oncology patients at designated times and in designated areas within the Trust.
- Clinical staff who wish to be included on the [Trust ITC Register](#) must undertake appropriate training and demonstrate competence in their registered task prior to inclusion on the Trust ITC Register.
- Only competent and designated personnel, whose names are recorded on the Trust ITC Register, are authorised to prescribe, verify, dispense, issue, check or administer ITC.
- A competent Consultant, Specialist Registrar or Speciality Doctor, listed on the Trust ITC Register, using a designated ITC prescription chart, **MUST** prescribe ITC and only Methotrexate, Cytarabine, Hydrocortisone and Liposomal Cytarabine (DepoCyte) may be prescribed on this prescription chart.
- ITC drugs can only be issued and received by designated staff, listed on the Trust ITC Register, and ITC drugs **MUST** be kept in a designated, lockable refrigerator/container when they cannot be administered immediately.
- Intravenous cytotoxic chemotherapy must be administered **BEFORE** ITC drugs are issued (Section 16)
- Checks must be made by medical, nursing and pharmacy staff at relevant stages throughout the ITC process.

N.B. Although the ITC Lead is accountable to the Trust Chief Executive for compliance with the National ITC guidance every member of staff is accountable for their own individual actions and must adhere to the Trust ITC policy.

2 Policy scope

This policy applies only to members of the Newcastle upon Tyne Hospitals NHS Foundation Trust (NuTH) who have been trained and assessed as competent to be involved in the Intrathecal Chemotherapy process [or who are in training toward achieving competency in this procedure].

This policy applies to all patients [adult and children] who require intrathecal chemotherapy, either as an emergency or planned procedure.

3 Introduction

Intrathecal chemotherapy administration refers to the administration of a cytotoxic drug into the cerebral spinal fluid either via a lumbar puncture or through an intraventricular route.

- Issuing Pharmacy Production Unit RVI
NCCC Cytotoxic Dispensing Unit FRH
Pharmacy New Victoria Wing RVI
NCCC Clinical Trials Pharmacy FRH

5 Variations and Deviation from the NuTH Intrathecal Policy

Any unauthorised deviation from this policy is not acceptable and therefore must be reported as a patient safety incident in accordance with the [Management and Reporting of Accidents and Incidents Policy](#) (2010b). Such incidents must be reported on Datix Web and copied to the Designated Lead Clinician. All such incidents will be reported to the Medical Director.

In exceptional circumstances a variation to the policy may be requested. This MUST be discussed with the Lead Clinician for Intrathecal Chemotherapy (or deputy) documented as such in the patient's medical notes prior to the variation. At the discretion of the Lead Clinician for Intrathecal Chemotherapy [or their deputy] the variation should be escalated to the Medical Director.

6 Authorised Personnel & Roles

In order to comply with the revised and Updated National Guidance on the Safe Administration of Intrathecal Chemotherapy [August 2008] there are key personnel identified within this policy with specific responsibilities.

They are as follows:

Designated Lead / Lead Adult Trainer [Medical & Nursing Staff]

- Has the overall responsibility for intrathecal practices and adherence to the Intrathecal Policy / National Guidance in NuTH.
- Overall responsibility for holding the register and ensuring it is maintained and kept up-to-date.
- Lead trainer in Intrathecal policy for Medical and Nursing Staff in Adult Haematology. Responsible for induction, training and continuing professional development related to intrathecal chemotherapy.
- Responsible for reviewing competencies annually and issuing written confirmation of competence for designated tasks. Monitors the frequency staff perform the registered tasks. Will delegate these responsibilities appropriately to the Lead Trainers.
- Monitors the number of intrathecal chemotherapy administrations per year across NuTH,
- Responsible for ensuring the Lead Trainers have this role recognised in their job description and appraisal process.
- Responsible for assessing any variances, deviations or incidents from this policy in either service.
- Responsible for monitoring the number of intrathecal administrations per year
- Responsible for collating all emergency procedures performed outside the designated lists and recording out of hours procedures.
- Responsible for informing the Medical Director and Chief Executive of incidents, unplanned deviations or other issues related to the policy.

Deputy Designated Lead / Lead Paediatric Trainer [Medical & Nursing Staff]

- Oversees adherence to the Intrathecal Policy / National Guidance within the Great North Children's Hospital.
- Responsible for reporting any variances from the Intrathecal Policy to the Designated Lead.
- Lead trainer in Intrathecal policy for Medical and Nursing Staff in the Great North Children's Hospital.
- Responsible for induction, training and continuing professional development related to intrathecal chemotherapy for medical staff in the Directorate of Children's Services.
- Responsible for reviewing competencies annually and issuing written confirmation of competence for designated tasks.

Designated Lead Trainer Pharmacy Staff

- Acts as Lead Trainer for Pharmacy Staff.
- Responsible for ensuring adherence to the Intrathecal Policy within the pharmacy setting.
- Responsible for induction, training and continuing professional development related to intrathecal chemotherapy within the Pharmacy Department.
- Responsible for reviewing competencies annually and issuing written confirmation of competence for designated tasks
- Maintains the NuTH Authorised Intrathecal Register and keeps a copy of all competency certificates.
- Responsible for ensuring an up-to-date copy of the register is available on the Trust Intranet and copies circulated to the appropriate clinical areas.

7 Education, Training and competency assessment

7.1 Induction

All nursing, medical and pharmacy staff who are new to wards / departments within the ITC Division and pharmacy are advised that they **MUST NOT** be involved in any task associated with intravenous cytotoxic chemotherapy or ITC until they have received appropriate training and their competency has been assessed. A copy of Appendix 2 should be given to each new member of staff to read during their induction period.

7.2 Training procedure for staff wishing to be included on the Trust ITC register

Only those members of staff who have been trained and assessed as competent in an ITC task are eligible to be registered for that task. The training and assessment will consist of:

- attendance of an ITC lecture or successful completion of the ITC e-learning package,
- acquisition of clinical competence
- a competency assessment.

All ITC lectures will comprise of the following core syllabus:

- The potential clinical hazards associated with ITC, including the life threatening consequences associated with accidentally administering Vinca Alkaloids via the ITC route. Viewing and discussion of the issues highlighted in the DoH ITC video / DVD).
- The key requirements outlined within the National ITC guidance and implications for local practice i.e. details of the Trust ITC policy.
- The rationale, advantages, disadvantages and potential side effects associated with ITC.
- ITC administration processes to include associated documentation.
- Details pertaining to the process for acquiring / maintaining clinical competence and registration where appropriate.
- The key requirements outlined in NPSA/2008/RRR004 - Using Vinca Alkaloid Minibags (Adult/Adolescent Units)

7.3 Acquiring Clinical Competence

Competency criteria:

- Observe practice of the specific ITC task in which the staff member is seeking registration.
- Perform the specific ITC task under the direct supervision of, and in the constant presence when performing it, of personnel who are deemed competent and are included on the Trust ITC Register.

7.4 Competency Assessment

The Lead Adult, Paediatric and Pharmacy trainer / assessors are responsible for assessing the competence of ALL ITC registered clinical staff, with the assessment of nurse's competencies being performed in collaboration with Lead ITC nurses. Although assessment will invariably reflect the requirements of the registerable ITC task, all staff, irrespective of the proposed registerable task, will be expected to:

- Attend an ITC lecture or complete the ITC e-learning package.
- Demonstrate an underlying knowledge of ITC including rationale, process, potential side effects and potential clinical hazards / dangers.
- Demonstrate theoretical and practical understanding relevant to the specific ITC task.
- Demonstrate clinical competence in performing the expected registerable ITC task.
- Demonstrate awareness of significant local and national policies, procedures and guidelines supporting clinical practice e.g. consent, pharmacy Standard Operating Procedures (SOPs), accident and incident reporting, performing a lumbar puncture etc.
- Have read and critically analysed the National ITC guidance, NPSA/2008/RRR004 and Local ITC policy.
- Demonstrate an awareness of the holistic, individual needs of patients and relatives / guardians.

Only those clinical staff who have been assessed and deemed to be competent will receive a certificate and be included on the Trust ITC Register. In order to

maintain their position on the Trust ITC Register, staff MUST:

- Have their competence re-confirmed annually, in writing via a certificate.
- Perform their registered ITC task sufficiently often to maintain their competence. The Trust ITC group has defined the minimum number of procedures that should be performed or checked by each person on the register per annum as being
 - Adults 5
 - Paediatrics 10

N.B. The assessment of the 3 ITC lead trainer / assessors will be undertaken via colleague peer review.

Clinical staff that are not involved in providing an Intrathecal chemotherapy service (i.e. not on one of the ITC registers), but who are likely to work in areas where different aspects of the ITC service are provided should not take part, or be asked to take part, in any part of this process.

It is the responsibility of those individuals on the ITC register to ensure that any colleagues they involve in this process are on the ITC register for the task in question.

8 Continuing Professional Development

It is the responsibility of each registered practitioner to ensure that as part of their Continuing Professional Development they maintain practical experience within their registered ITC task/s.

Chemotherapy and ITC education and training must also feature annually within the Continuing Professional Development of all clinical staff who wish to remain on the Trust ITC Register. Each member of staff is personally responsible for maintaining an up to date record of their Continuing Professional Development.

9 Staff transferring to the NuTH NHS Foundation Trust

All clinical staff transferring to the NuTH NHS Foundation Trust who, at the time of transfer, were on the ITC Register of their previous Trust, are eligible for entry onto the NuTH NHS Foundation Trust ITC Register when they have:

- Provided written confirmation of their entry onto the previous Trust's ITC Register, current at the time of transfer.
- Have been inducted and assessed as competent in line with the Newcastle Trust's protocol.

10 Register of designated personnel

Unique lists of registered ITC personal, whose names appear on the Trust ITC Register, are available within all areas of the ITC Division and on the Trust intranet. The Trust ITC Register identifies which designated personnel have been trained and certified competent in one or more of the following ITC tasks:

Task		Staff Group
Prescribing	Writing of prescription	Consultants, ST3s and above, Speciality Doctors
	Patient review / consent	Consultants, ST3s and above, Speciality Doctors
Verification of prescriptions	Pharmacist clinical check	Oncology pharmacists
Dispensing and checking drugs in pharmacy	Worksheet and in-process checks	Production pharmacists and accredited production checking technicians
	Dispense and in-process checks	production technicians
	Final check	Production pharmacists
Issuing ITC drugs from the pharmacy		Production pharmacists Oncology pharmacists
Checking ITC drugs prior to administration		Chemotherapy trained nurses
Administering the ITC.		Consultants, ST3 and above, Speciality Doctors

For an individual's name to appear on the Trust's ITC Register they must have demonstrated, to their designated lead trainer / assessor (Adult, Paediatric or Pharmacy), that they are competent to fulfil their designated role/s and be certified competent. It is the responsibility of their lead trainer / assessor to complete a competency certificate and forward this to the ITC administrator. The ITC administrator logs the certificate in the ITC Master File, identifying additions / amendments, and the Trust ITC Lead authorises inclusion on the part/s of the Trust ITC Register. The ITC administrator is responsible for maintaining the ITC Master File / Register and updating ALL unique lists of registered ITC personnel within the ITC Division. The ITC administrator will update the Trust ITC Register and unique lists during the first week of each month and as required.

The ITC administrator will notify the Adult and Paediatric Head of ITC services and the Lead Adult and paediatric ITC nurses, approximately 4 weeks in advance, of personnel whose competencies are due to expire. Individuals who fail to maintain their annual competence or perform their registered task(s) insufficiently often to maintain competence will be removed from the Trust ITC Register.

N.B. Inclusion or deletion of staff from a part of the Trust ITC Register can only be undertaken by the ITC administrator with the authorisation of the ITC lead.

The ITC administrator will forward a copy of the ITC register each time it is updated to the Clinical Governance and Risk Department as well as designated members of staff working in each of the areas named in Appendix 1.

11 Distribution of Trust policy and registers

Only the latest editions of clinical policies, procedures and guidelines are available for reference by any member of staff involved in handling cytotoxic chemotherapy.

To ensure ease of access for consultation, hard copies of the Trust ITC policy, the National ITC guidance (2008), NPSA/2008/RRR004 Using Vinca Alkaloid Minibags (Adult/Adolescent Units) and up to date hard copies of the unique lists of registered ITC personnel can be found in all areas within the ITC Division and in designated inpatient wards and day case areas where oncology / haemato-oncology patients are admitted (Appendix 1). Electronic copies of all of these documents are also available on the Trust intranet.

12 Prescribing ITC using the ITC Prescription Chart

Only competent Consultants, ST3s or above and Speciality Doctors, whose names appear on the Trust ITC Register, are able to prescribe or administer ITC.

A specific NuTH NHS Foundation Trust ITC Prescription Chart **MUST** be used in **ALL** instances where ITC is prescribed. The ITC Prescription Chart is in a triplicate carbon copy format, thus ensuring that a full audit trail is available for the life cycle of each ITC, as depicted in the ITC Prescription Chart flow diagram (Appendix 4).

Only the following drugs can be prescribed on the Trust ITC Prescription Chart:

- Methotrexate
- Cytarabine
- Hydrocortisone
- Liposomal Cytarabine (DepoCyte)

Methotrexate and both formulations of Cytarabine clearly state on the manufacturer's vial that they can be administered via the Intrathecal route. Hydrocortisone sodium succinate (Solu-Cortef) is used intrathecally, as it is preservative free.

ITC drugs must be clearly written, in full, on the ITC Prescription Chart and the prescription must clearly and unambiguously, in the space provided, state the intended route of administration as "Intrathecal". All 3 layers of the ITC Prescription Chart must then be submitted to the pharmacy. Unless there is a clinical emergency all Intrathecal prescriptions must be received in pharmacy by 10:30hrs on the day of treatment.

13 Preparation and Dispensing

Cytotoxic chemotherapy (including ITC) can only be dispensed from pharmacy cytotoxic dispensing areas, by designated competent oncology pharmacy staff, during normal working hours i.e. between 9.00am and 5.30pm, Monday to Friday, excluding Bank Holidays.

ITC can only be dispensed by designated competent oncology pharmacy staff who are included on the Trust ITC Register. An up to date list of registered designated ITC

pharmacy staff is available in those areas outlined in Appendix 1.

Specific Standard Operating Procedures (SOPs) pertaining to the pharmaceutical management of ITC, prefixed CYT22, can be found within each pharmacy preparation unit within the ITC Division and these must be implemented in conjunction with the general SOPs pertaining to cytotoxic chemotherapy. There are specific ITC SOPs pertaining to the following:

- Clinical Checking of Prescriptions
- Aseptic Dispensing
- Distribution
- Storage

N.B. ITC and cytotoxic chemotherapy should **NEVER** be prepared in ward areas.

14 Labelling and Packaging

ALL pharmacy labels for cytotoxic chemotherapy and ITC **MUST** contain the following information:

- Patient's full name and hospital number.
- Name of product and dose.
- Total volume.
- Batch number.
- Expiry date.
- Route of administration (For ITC this **MUST** be printed clearly in **BOLD** and in the largest font size possible).

N.B. Negative expressions (e.g. "Not for Intrathecal Use") must **NEVER** be used on any pharmacy labels.

15 Packaging and Transportation

ITC is packed with the ITC Prescription Chart, in a clear zip-locked bag and transported in a designated ITC cool box. ITC **MUST** always be packed and transported separately from treatment for administration via any other route.

N.B. Although a group of paediatric ITC's can be transported and stored collectively, each ITC is prepared, packed, issued, checked and recorded individually.

16 Issuing ITC

Only designated members of pharmacy staff, can issue ITC to a competent doctor. Both names must appear on the Trust ITC Register. (The pharmacist is referred to as 'the issuer' and the doctor is referred to as 'the collector').

ITC drugs are issued as follows:

- In pharmacy, 'the issuer' physically hands over the ITC to 'the collector' who will be administering the ITC in the designated area.
- 'The issuer' takes the ITC to the designated area where the ITC will be administered and physically hands the ITC over to 'the collector' who will be administering the ITC.

'The issuer' must sign release of the ITC in the allocated section of the ITC Prescription Chart. 'The collector' must also sign in the allocated section of the ITC prescription to confirm receipt of the ITC.

N.B. When a number of paediatric ITCs are issued collectively each ITC must be released and received individually.

16.1 Timing of Issuing ITC

Although, in ideal circumstances, ITC should **NOT** be given on the same day as intravenous cytotoxic chemotherapy, it is acknowledged that the Trust manages patients from across the Northern Region. In instances when ITC is administered on the same day as intravenous cytotoxic chemotherapy the following safeguards **MUST** be enforced:

- Intravenous cytotoxic chemotherapy **MUST** be issued and administered **FIRST**.
- ITC can only be issued following written confirmation that the intravenous cytotoxic chemotherapy, for the named patient, for that day, has already been administered i.e. by checking the patient's medicine chart/ chemotherapy administration chart.

Those patients who are in the middle of an intravenous cytotoxic chemotherapy infusion, which has been started elsewhere, may continue their treatment providing:

- There is written confirmation that the intravenous infusion(s) has started before the ITC is issued from the pharmacy
- That the closed system is maintained and the infusion bag is not changed during the ITC procedure.

Children & adolescents scheduled to receive both intravenous and intrathecal chemotherapy on the same day should have early appointment times for clinic, to ensure all IV bolus chemotherapy is given on the ward or day unit before the ITC general anaesthetics list starts in theatres. If the IV chemotherapy has not been administered by 13:00hrs the ITC will be cancelled.

'The issuer' and 'the collector' must both make the following checks, **BEFORE** signing the ITC Prescription Chart:

- That ITC and intravenous cytotoxic chemotherapy have not been supplied together, by mistake.
- That any intravenous cytotoxic chemotherapy, prescribed for administration on the same day, has already been administered .

Intravenous chemotherapy for subsequent days for patients due an intrathecal will be returned to pharmacy to be quarantined during the intrathecal procedure. This can only be released by an authorised pharmacist following written confirmation that the ITC has been administered.

There should be no delivery of IV chemotherapy to the paediatric oncology ward or day unit for patients due an intrathecal between 12 noon until all of the patients have returned from theatre.

17 Interim Storage

Once dispensed, ITC and intravenous cytotoxic chemotherapy must be distributed and stored in accordance with relevant SOPs, Trust policies, procedures and guidelines (NuTH NHS Trust 2010).

If interim storage of prepared ITC is required then 'the collector' will be responsible for placing the ITC into the dedicated facility i.e. the appropriately labelled and locked ITC refrigerator, which is reserved for that purpose alone. No other drugs can ever be stored in the ITC refrigerator, even when it is not in use. ITC refrigerators are located in the following areas in the RVI:

- Ward 33 FRH.
- Ward 36 (Day Unit) FRH (Intrathecal Chemotherapy Room).
- Pharmacy New Victoria Wing RVI
- Children's Theatres – New Victoria Wing RVI (20) (Anaesthetic Room).

The dedicated ITC refrigerators can only be used to store ITC between issuing and administration. The nurse in charge will keep the key for the ITC refrigerator and the refrigerator can only be unlocked when ITC is being deposited or withdrawn. Only competent doctors or individuals whose names appear on the Trust ITC Register, are able to remove ITC from the ITC fridge.

N.B. When a number of paediatric ITCs are stored collectively, each dose of ITC must be removed from the locked refrigerator on an individual, named and patient number, basis. Once an ITC is withdrawn from the ITC refrigerator it must be re-locked.

All unused doses of intrathecal chemotherapy must be returned to pharmacy at the end of the session by the Doctor to whom they were issued.

18 Patient Review

A competent Consultant ST3 or above and Speciality Doctors, whose name appears on the Trust ITC Register, **MUST** review every patient before ITC is administered, ensuring that:

- Consent has been acquired (DoH 2001)
- The patients has been explicitly told the nature of the procedure, the route of administration, and the drug to be administered
- The appropriate tests have been conducted, results reviewed and documented in the patient's medical notes i.e. establishing that the patient is fit for treatment.
- The correct ITC has been prescribed i.e. drug, dose and route.
- Clear arrangements have been made for the ITC to be administered by a competent doctor whose name appears on the Trust ITC Register.
- Members of staff assisting in the procedure are on the register for the task they are carrying out

Confirmation that the review has taken place should be written in the patient's medical notes. To facilitate documentation a pre-printed ITC checklist label is available (See Appendix 5). This should be completed by the doctor reviewing the patient and attached to the medical notes or the reverse of the ITC prescription chart.

19 Checking and Administration

ITC **MUST** only be administered by a competent Consultant, ST3 or above or Speciality Doctor, whose name appears on the Trust ITC Register, during normal working hours, i.e. between 9.00am and 5.30pm, Monday to Friday, excluding Bank Holidays.

ST1 & ST2 **ARE NOT** permitted to prescribe or administer ITC within the NuTH NHS Foundation Trust.

ITC can only be administered to a patient in a designated area, during a predetermined time that has been negotiated by the clinical team in collaboration with the patient / relatives (during normal working hours). ITC can only be administered in designated areas when no other cytotoxic chemotherapy drugs are currently being administered or stored. When ITC is being administered, the designated area **MUST NOT** be used for any other purpose.

19.1 Checking

The checking process prior to administration is vital in ensuring that the correct drug and dose is being given to the correct patient, via the correct administration route. The following individuals must be involved in the checking process:

- The competent Doctor, whose name appears on the Trust ITC Register, who will be responsible for administering the ITC.
- An ITC Paediatric oncology / Adult haemato-oncology trained nurse, whose name appears on the Trust ITC Register.
- One of the following:
 - The patient.
 - A theatre nurse or Operating Theatre Practitioner, if the procedure is performed under general anaesthesia, or a chemotherapy nurse.
 - A relative or guardian.

In order for a patient, relative or guardian to actively participate in the checking process, if they so desire, they must be well informed regarding the nature of the procedure, the route of administration and the drug to be administered.

The following checks **MUST** be made and documented **PRIOR** to the administration of ITC.

A competent doctor **and** a nurse, whose names appear on the Trust ITC Register, when preparing to treat a patient with ITC, must check the following:

- Details on the ITC product label, including the batch number and expiry date.
- Product and patient details on the ITC Prescription Chart.
- The identity of the patient, via their patient identity band (wrist band).
- That the ITC is due to be given that day according to the treatment protocol / flowsheet within the patient's medical notes.

The senior theatre nurse, chemotherapy nurse or patient / relative or guardian is also responsible for adhering to the same checking procedure outlined

above.

N.B. Within NuTH a second doctor cannot substitute for a competent ITC Paediatric oncology nurse / Adult haemato-oncology nurse, taking part in the checking process.

19.2 Administration

ITC is administered in accordance with Trust procedures (Appendix 6a, 6b) and may require general anaesthetic, sedation (NuTH NHS Trust 2009) or local anaesthetic. The competent Consultant / ST3/ Speciality doctor, whose name appears on the Trust ITC Register, who is responsible for administering the ITC **MUST**, be present when the ITC is administered. In a situation where there is difficulty in performing the lumbar puncture another doctor may insert the needle but ITC must still be given by, or under the direct supervision of, a competent Consultant, whose name appears on the Trust ITC Register. The latter only applies when an ITC registered Consultant is training / assessing a colleague for entry onto the Trust ITC Register.

The following information **MUST** be recorded on the ITC Prescription Chart:

- Date and time.
- Name and signature of the Consultant / ST3 administering the ITC.
- Name and signatures of the two checkers.

N.B. The full signatures of **ALL** clinical staff involved in prescribing, dispensing, collecting, checking and administering ITC **MUST** be recorded in the allocated section of the ITC Prescription Chart.

20 Workload

The maximum number of children undergoing ITC under general anaesthetic in one operating session is twelve, unless exceptional circumstances prevail. The competent Consultant in charge of the operating list, whose name appears on the Trust ITC Register, must perform a risk assessment and document instances when this number is exceeded.

In the event of more patients than the maximum number (as stated above) requiring intrathecal chemotherapy, a review of the patients on the list must be undertaken involving all relevant clinical staff. This may result in patients being deferred to another scheduled list if clinically appropriate. The agreed maximum number of patients can only be exceeded if all relevant clinical and support staff agree and a formal risk assessment has been completed. The completed risk assessment form and associated documentation (contained in the risk assessment form) of this agreement must be retained for future review by the National Peer Review Team, as well as for local audit purposes.

An annual review of the number of intrathecal procedures will be undertaken by the ITC Lead. If it is projected that the number of procedures will exceed 500 per year, a risk assessment will be undertaken as per National Guidance

21 Out of Hours

If a patient is late for their appointment, but their arrival is within normal working hours, there must be sufficient flexibility in the designated area's working arrangements to enable their treatment to proceed. However, if a patient arrives for their planned ITC outside normal working hours i.e. between 9.00am and 5.30pm, Monday to Friday, excluding Bank Holidays then a new appointment must be made.

Only in the most exceptional circumstances e.g. the urgent treatment of central nervous system (CNS) leukaemia requiring emergency treatment, can ITC be given outside normal working hours or outside a designated area. In these instances:

- There must be a clear clinical need for the procedure to be undertaken immediately and in these circumstances a Consultant, whose name appears on the Trust ITC Register, must clearly document in the patient's medical notes the risk / benefit analysis that has led to their decision to treat the patient out of hours / outside a designated area.
- Methotrexate 6mg, 8mg, 10mg OR 12mg are the **ONLY** preparations that can be prescribed and administered by an **ITC Consultant** outside normal working hours.
- A pharmacist, whose name appears on the Trust ITC register, must speak directly to the ITC Consultant ordering and administering the ITC, establishing that there is an absolute clinical need and ensuring that all details are completed on the ITC Prescription Chart. The pharmacist will then facilitate and document the supply of ITC using the cytotoxic chemotherapy on-call guidance documentation and the appropriate ITC SOPs.
- In instances when ITC is administered on the same day as intravenous cytotoxic chemotherapy the pharmacist **MUST** confirm that any intravenous cytotoxic chemotherapy, for the named patient, for that day, has already been administered i.e. by checking the patient's medicine chart / chemotherapy administration chart..
- Duplicate copies of the ITC Prescription Chart **MUST** be kept in pharmacy, in line with standard procedure. On the next working day, the emergency duty pharmacist will inform the Intrathecal Chemotherapy Pharmacist or the ITC Senior Pharmacy Technician that an emergency intrathecal Methotrexate syringe has been issued. The ITC pharmacist or the ITC Senior Pharmacy Technician will ascertain if the ITC was administered and then verbally, or via Trust e-mail, notify the ITC lead of ITC administered outside normal working hours.
- The ITC will be delivered to the designated ITC administration point by the ITC Consultant and the administration of ITC **MUST** be supported by a competent Paediatric oncology / Adult haemato-oncology nurse, whose name appears on the Trust ITC Register. Although administration will be in accordance with the Trust ITC Policy, all Health Care Professionals involved in dispensing, checking and administering ITC outside normal working hours **MUST** also confirm that the drug details on the manufactured drug label correspond to those on the dispensing label. N.B. Following issue from pharmacy, the expiry date will only facilitate administration, provided it is stored in accordance with the Trust ITC Policy.
- The ITC Consultant **MUST** notify the ITC Lead, in writing, of the details pertaining to the requirement for administration outside normal working hours, including the actions taken and the outcome. A copy letter is sent to the ITC pharmacist, who

logs the letter in the ITC Master File. The ITC pharmacist and ITC Lead are responsible for monitoring the frequency of out of hours ITC administrations.

22 Being prepared to challenge

All staff involved with the management of patients receiving ITC are actively encouraged to challenge colleagues, irrespective of their seniority, if:

Policies and procedures are not being followed.

The actions of an individual could increase the potential risk to a patient.

Challenging a colleague is not viewed adversely, but as an additional check to improve patient safety and reduce potential risks.

23 Error / Incident reporting

The ITC Lead Clinician and ITC pharmacist must be notified immediately of any error, incident or near miss associated with the prescribing, dispensing, checking or administration of ITC. These individuals are then responsible for:

- Undertaking a root cause analysis
- Recommending any changes necessary
- Oversee the implementation of any changes

N.B. ALL errors, incidents or near misses must be reported in line with Trust procedures (NuTH NHS Trust 2010b).

24 Monitoring and Review

The Trust ITC lead is responsible for initiating the review of the Trust ITC Policy, which reflects the National ITC guidance. The Trust ITC policy will be reviewed bi-annually or more regularly if required. The Trust Lead Chemotherapy nurse, in collaboration with the Matrons, is responsible for ensuring that hard copies of the National ITC Guidelines and the Trust ITC Policy are kept up to date in all wards / departments (Section 2 & Appendix 1). An audit of documentation will be carried out during the life of this policy.

N.B The ITC pharmacist is responsible for co-ordinating the review and authorisation of all additional documentation that supports the administration of ITC within the Trust.

References

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NuTH NHS Trust (2010) [Anticancer Medicines Policy AND Guidance on the Management of Patients receiving Cytotoxic Chemotherapy for Non Malignant Conditions](#)

NuTH NHS Trust (2010b) [Management and Reporting of Accidents and Incidents](#)

NuTH NHS Trust (2009) [Guidelines For The Practice Of Intravenous Sedation In Adults](#)

25 Bibliography

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NuTH NHS Trust (2009). [Medical Device Management Policy](#)

NuTH NHS Trust (2011) [Purple book Procedures for the prescribing, recording and administration of medicines](#).

NuTH NHS Trust (2011) [Medicine Policy - The Newcastle upon Tyne Hospitals NHS Foundation Trust](#)

Royal College of Nursing (1998) *The administration of cytotoxic chemotherapy: recommendations*. RCN. London.

Appendix 1

Areas where hard copies of the Trust ITC policy and National Guidance can be found

Adult Haematology/Oncology

- Ward 33 FRH
- Ward 36 (Day unit) FRH
- Ward 34 FRH
- Ward 35 FRH
- Bobby Robson Clinical Trials Unit

Paediatric Oncology.

- Children's Theatres – New Victoria Wing RVI
- Ward 4 GNCH
- Ward 14 Paediatric Oncology Day Unit GNCH

Pharmacy

- Pharmacy Production Unit RVI
- Pharmacy New Victoria Wing RVI (in cool store next to IT locker)
- NCCC Cytotoxic Dispensing Unit

Appendix 2

ADMINISTRATION OF INTRATHECAL CHEMOTHERAPY

Information for all staff working on Ward 33 FH, Ward 36 FH, Ward 4 GNCH RVI, Ward 14 Day Unit GNCH Children's Theatres New Victoria Wing RVI

As you will be aware, these are specialist areas that administer different types of chemotherapy via various routes. Due to the specialist nature of these clinical areas your involvement with chemotherapy will be minimal unless you have undertaken specialist training

This Trust has strict policies to adhere to regarding the administration of Intrathecal chemotherapy.

The Administration of Intrathecal Drugs is a procedure that is performed in these specialist areas on a regular basis. There is a Trust policy relating to this procedure that is available in the Intrathecal Resource File held in the designated treatment rooms/theatres.

Under no circumstances will you be asked to perform any part of this procedure unless you have undertaken specialist training deemed competent and appear on the Trust ITC Register

If you are asked to accept delivery of an Intrathecal drug from the pharmacy staff – you must refuse. Drugs may only be accepted for delivery by a competent doctor whose name appears on the Trust ITC Register.

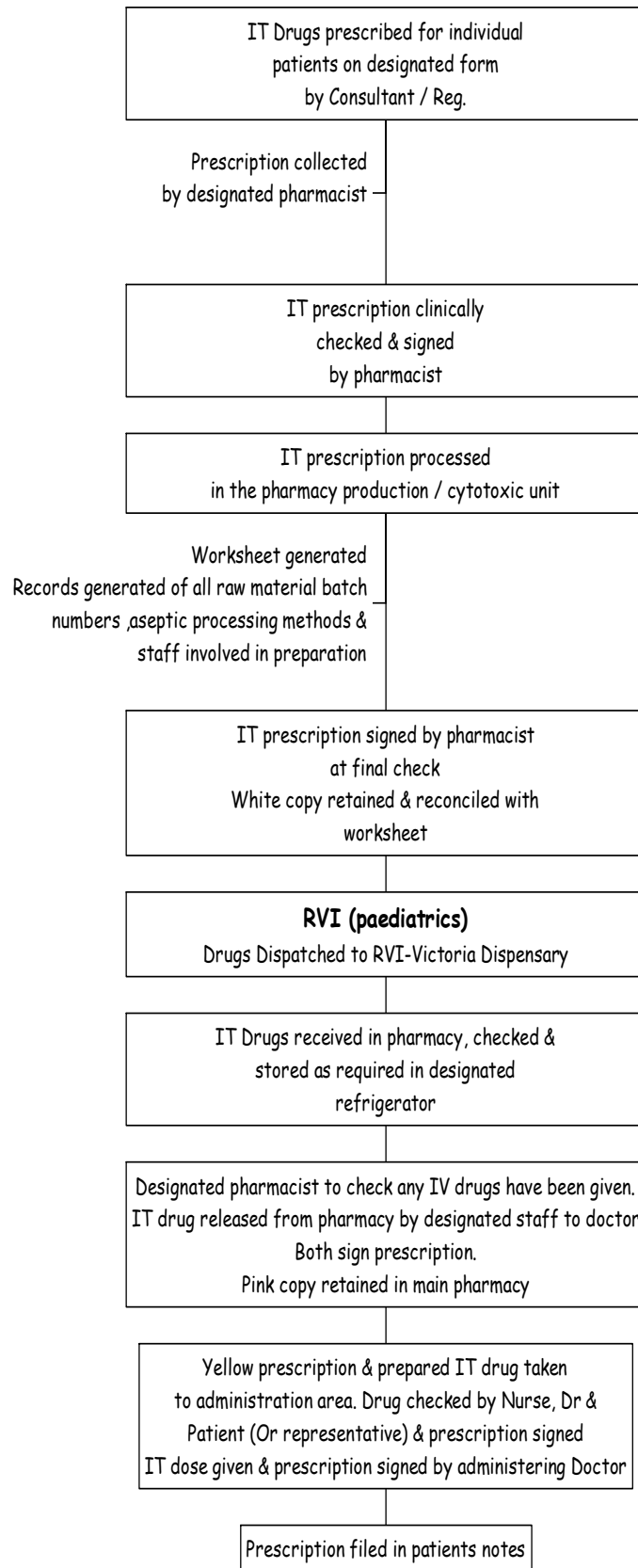
If you are asked to check an Intrathecal drug with a doctor – you must refuse.

If you are unsure about what to do please ask a member of the Nursing Team and they will be happy to help you.

Only competent nurses whose name appears on the Trust ITC Register will be able to check intrathecal drugs with a competent doctor. These nurses are listed on a register that is on the wall in the designated treatment rooms / theatres.

Appendix 3

ITC Prescription Chart life cycle flow diagram



Appendix 4

Patient review checklist

Patient Name	Hospital No:	DOB
Patient is fit to receive treatment (platelets should be $>50 \times 10^9/L$ or have an infusion of platelets running before any intrathecal chemotherapy is given and there should be no signs of raised intracranial pressure)	YES / NO	
Platelet count	x $10^9/L$	
Patient / parent or guardian has consented to receive intrathecal therapy with the named drug	YES / NO	
Patient reviewed by: (ST3 or Consultant on Register)		

Appendix 5a

ITC Administration Procedure (Lumbar Puncture)

- Small Dressing Pack
- Sterile gloves
- Lumbar puncture needle (22G; 1.5 inches, 2.5 inches or 3.5 inches depending on patient size)
- X 1 green needle
- X 1 orange needle
- X1 10 ml luer lock syringe
- Sterile sample pot
- Mediwipes
- Sharps box
- Sterile towel
- Liquid soap / Handrub
- Intrathecal chemotherapy
- Betadine (Antiseptic solution, povidone-iodine 10% in aqueous solution)
- Elastoplast or OP-site spray and a small piece of cotton wool.

For procedures performed under local anaesthetic - 1% Lidocaine 10 ml

- 1 Remove watch and rings and wash hands and forearms thoroughly for one minute.
- 2 Dry hands on sterile paper towel.
- 3 Assistant to clean work surface / tray with Mediwipes and open dressing pack without touching the inside and place it onto the work surface.
- 4 Don sterile gloves being careful not to touch the outer part of gloves with your ungloved hand.
- 5 Assistant to open syringe and needles onto the sterile sheet and place Betadine in the container provided (for skin preparation).
- 6 Check that the patient is due for ITC chemotherapy by cross-checking against the patient's treatment protocol / flowsheet in the medical notes.
- 7 Open ITC from its pharmacy packet and place on sterile sheet. Check ITC drug and dosage to be given from the ITC prescription chart and check the labelled syringe containing the ITC (Section 15 Trust ITC Policy). This must be checked by the Registered ITC Consultant / ST3 administering the chemotherapy together with the Registered Paediatric oncology / Adult haemato-oncology nurse and the senior theatre nurse, patient, relative or guardian.
- 8 Place the syringe containing the ITC on the sterile sheet.
- 9 When the patient is in the lateral supine position with the legs appropriately positioned and the patient is ready for the procedure, (confirmed by the anaesthetist if the patient is under a general anaesthetic); clean the skin twice

with the sterile gauze and Betadine from the dressing pack.

- 10 Clean excess Betadine from the patient's skin.
- 11 Place a sterile towel or piece of gauze over the anterior superior iliac spine and select the intravertebral disc that is perpendicular to the anterior superior iliac spine.
- 12 If the patient is NOT having a general anaesthetic infiltrate the skin and disc space with 1% Lidocaine.
- 13 Insert the lumbar puncture needle in this disc space until it is in the cerebrospinal fluid (CSF) space.
- 14 Withdraw the stylet.
- 15 If CSF flows freely then have the assistant catch eleven drops in a sterile universal container (sterile sample pot) for cytospin analysis.
- 16 If the CSF does not flow, or flows with difficulty, reinsert the stylet and adjust the lumbar puncture needle until the CSF flow is satisfactory.
- 17 Connect the syringe containing the ITC onto the end of the lumbar puncture needle.
- 18 If the patient is under the influence of a general anaesthetic check with the anaesthetist that they are happy for you to proceed with an injection of ITC.
- 19 Inject the ITC slowly into the CSF via the lumbar puncture needle.
- 20 After completion, withdraw the needle with syringe attached and have the assistant straighten the patient's legs. If appropriate, spray the skin with OP-site spray and place a small piece of cotton wool over the site to minimise leakage, or apply a dressing.
- 21 Dispose of the sharps from the work surface in the appropriate sharps bin/s and clean the work surface.
- 22 The Registered ITC Consultant / ST3 must sign and date the ITC Prescription Chart to confirm that the ITC has been given. The nurse checker and second checker MUST also sign and date the ITC Prescription Chart to confirm their role in the procedure (Section 15 Trust ITC Policy).
- 23 The Registered ITC Consultant / ST3 must write in the patient's notes describing the procedure performed and confirming the time and date.
- 24 Dispose of equipment in line with Trust guidelines / procedures (NuTH NHS Trust 2010)

Appendix 5b

ITC Administration Procedure (Intraventricular (Ommaya) Reservoir)

- Small Dressing Pack
- Sterile gloves
- 25 gauge butterfly needle (e.g. 20 mm: 0.75 inch needle)
- X 1 green needle
- X1 10 ml luer lock syringe
- X1 10ml sodium Chloride 0.9% for injection
- Sterile sample pot
- Mediwipes
- Sharps box
- Sterile towel
- Liquid soap / Handrub
- Intrathecal chemotherapy
- Betadine (Antiseptic solution, povidone-iodine 10% in aqueous solution)
- Elastoplast or OP-site spray and a small piece of cotton wool.

For intraventricular procedure EMLA cream may be applied at reservoir site one hour prior to procedure

1. Remove watch and rings and wash hands and forearms thoroughly for one minute.
2. Dry hands on sterile paper towel.
3. Assistant to clean work surface / tray with Mediwipes and open dressing pack without touching the inside and place it onto the work surface.
4. Don sterile gloves being careful not to touch the outer part of gloves with your ungloved hand.
5. Assistant to open syringe and needles onto the sterile sheet and place Betadine in the container provided (for skin preparation).
6. Draw up 2ml Sodium Chloride 0.9% for injection, remove green needle. Dispose of green needle in sharps box.
7. Check that the patient is due for ITC chemotherapy by cross-checking against the patient's treatment protocol / flowsheet in the medical notes.
8. Open ITC from its pharmacy packet and place on sterile sheet. Check ITC drug and dosage to be given from the ITC prescription chart and check the labeled syringe containing the ITC (Section 15 Trust ITC Policy). This must be checked by the Registered ITC Consultant / ST3 administering the chemotherapy together with the Registered Paediatric oncology / Adult haemato-oncology nurse and the senior theatre nurse, patient, relative or guardian.
9. Place the syringe containing the ITC on the sterile sheet.

10. When the patient is positioned appropriately, and the patient is ready for the procedure, remove EMLA cream if used; clean the skin twice with the sterile gauze and Betadine from the dressing pack.
11. Clean excess Betadine from the patient's scalp.
12. Place a sterile towel or piece of gauze below the site of the Ommaya reservoir.
13. Using a 25-gauge butterfly needle insert the needle in to the centre of the reservoir. Ideally, the precise position of entry should be varied between successive punctures
14. Using a 10ml syringe withdraw the volume of fluid to be injected into the reservoir (i.e. total volume of drug/s plus 2ml Sodium Chloride 0.9% for injection flush), slowly from the reservoir, over 2 minutes prior to drug/s administration. In total no more than 10ml of CSF should be removed at any one procedure.
15. Eleven drops of CSF should be collected in a sterile universal container (sterile sample pot) for cytospin analysis.
16. Connect the syringe containing the ITC onto the end of the butterfly needle. ITC is administered over 30 seconds to 60 seconds (depending on volume). When more than one ITC is given during the same procedure (e.g. when using triple therapy) no flush is required between ITC.
17. When all required ITC have been delivered, flush the reservoir with 2ml of Sodium Chloride 0.9% for injection to ensure ITC has reached the ventricles
18. While the Sodium Chloride 0.9% is being injected and near completion withdraw the butterfly needle with syringe attached. If appropriate, spray the skin with OP-site spray or apply a dressing.
19. Dispose of the sharps in the appropriate sharps bin/s and clean the work surface.
20. The Registered ITC Consultant / ST3 must sign and date the ITC Prescription Chart to confirm that the ITC has been given. The nurse checker and second checker MUST also sign and date the ITC Prescription Chart to confirm their role in the procedure (Section 15 Trust ITC Policy).
21. The Registered ITC Consultant / ST3 must write in the patient's notes describing the procedure performed and confirming the time and date.
22. Dispose of equipment in line with Trust guidelines / procedures (NuTH NHS Trust 2010)

Dilution and labelling of Vinca Alkaloids for intravenous use**Dilution**

To reduce the risk of inappropriately administering Vincristine and other Vinca Alkaloids via the intrathecal route, and in order to comply with current National ITC guidelines the following rules apply:

Ward	Presentation of Vinca alkaloids
Ward 4 RVI Paediatric Oncology Day Unit (PODU/14DU)	Vincristine Doses less than 1mg diluted to a 0.1mg/ml (100micrograms/ml) solution, or to a final volume of 10ml, presented in a syringe. Doses 1 to 2mg diluted to a final volume of 20ml presented, in a syringe. Vinblastine, Vindesine and Vinorelbine Diluted to a final volume of 20ml presented in a syringe.
Ward 33 FRH	Doses of Vincristine, Vinblastine, Vindesine and Vinorelbine must always be added to a 50ml minibag of Sodium Chloride 0.9% Injection
Ward 34 FRH	
Ward 35 FRH	
Ward 36 FRH	
Bobby Robson Clinical Trials Unit	

Note: The recommended presentation of vinca alkaloid treatment is not based on the age of the patient, but on where treatment is given. This may result in some patients having vinca alkaloids diluted in different ways on some occasions.

Labelling

The labels for Vinca Alkaloids and drugs with similar life threatening consequences, **MUST** also clearly warn of the consequences of administration by other routes e.g. "For Intravenous Use Only - fatal if given by other routes".

Exception: Presentation of Vinca alkaloids outwith National ITC Guidelines

The only exception to the above presentation requirements is where combination chemotherapy of doxorubicin/vincristine is required in the following regimes: VAD, EPOCH and C-VAD.

Doxorubicin and vincristine will be combined and presented in an elastomeric infusion for intravenous administration. The required dose/volume of each drug will be further diluted with glucose 5% or sodium chloride 0.9% and the elastomeric infusion will contain a final volume of 48ml to be administered intravenously over 96 hours.

As for other vinca alkaloid presentations, elastomeric infusion devices containing vinca alkaloids **MUST** also be labelled to clearly warn of the consequences of administration by other routes e.g. "For Intravenous Use Only - fatal if given by other routes".

THE NEWCASTLE UPON TYNE HOSPITALS NHS FOUNDATION TRUST
IMPACT ASSESSMENT – SCREENING FORM A

This form must be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval.

Policy Title:	Intrathecal Cytotoxic Chemotherapy (ITC) Policy	Policy Author:	
		Yes/No?	You must provide evidence to support your response:
1.	Does the policy/guidance affect one group less or more favourably than another on the basis of the following: (* denotes protected characteristics under the Equality Act 2010)		The policy contains no mention of any such group
	• Race *	No	
	• Ethnic origins (including gypsies and travellers)	No	
	• Nationality	No	
	• Gender *	No	
	• Culture	No	
	• Religion or belief *	No	
	• Sexual orientation including lesbian, gay and bisexual people *	No	
	• Age *	No	
	• Disability – learning difficulties, physical disability, sensory impairment and mental health problems *	No	
	• Gender reassignment *	No	
	• Marriage and civil partnership *	No	
2.	Is there any evidence that some groups are affected differently?	No	
3.	If you have identified potential discrimination which can include associative discrimination i.e. direct discrimination against someone because they associate with another person who possesses a protected characteristic, are any exceptions valid, legal and/or justifiable?	No	
4(a).	Is the impact of the policy/guidance likely to be negative? (If “yes”, please answer sections 4(b) to 4(d)).	No	
4(b).	If so can the impact be avoided?		
4(c).	What alternatives are there to achieving the policy/guidance without the impact?		
4(d).	Can we reduce the impact by taking different action?		

Comments:	Action Plan due (or Not Applicable): NOT APPLICABLE
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Name and Designation of Person responsible for completion of this form: Denise Blake, ITC Pharmacist Date: 15/8/11

Names & Designations of those involved in the impact assessment screening process: Professor Graham Jackson, Dr Simon Bailey, Carol Richardson

(If any reader of this procedural document identifies a potential discriminatory impact that has not been identified on this form, please refer to the Policy Author identified above, together with any suggestions for the actions required to avoid/reduce this impact.)

For advice on answering the above questions please contact Frances Blackburn, Head of Nursing, Freeman/Walkergate, or, Christine Holland, Senior HR Manager. On completion this form must be forwarded electronically to Steven Stoker, Clinical Effectiveness Manager, (Ext. 24963) steven.stoker@nuth.nhs.uk together with the procedural document. If you have identified a potential discriminatory impact of this procedural document, please ensure that you arrange for a full consultation, with relevant stakeholders, to complete a Full Impact Assessment (Form B) and to develop an Action Plan to avoid/reduce this impact; both Form B and the Action Plan should also be sent electronically to Steven Stoker within six weeks of the completion of this form.

Register of Those Accredited for Pharmacy Aspects of Intrathecal Chemotherapy

NAME	POSITION	PHARMACIST CLINICAL CHECK	WORKSHEET & IN-PROCESS CHECKS	TECHNICIAN DISPENSE & IN- PROCESS CHECKS	TRANSPORT & ISSUE	REVIEW DATE	ASSESOR
PHARMACISTS							
John Horncastle	Production Pharmacist	X	√	X	√	Jul-12	Denise Blake
Erica Lieberman	Production Pharmacist	X	√	X	√	Dec-11	Denise Blake
James Richardson	Production Pharmacist	√	√	X	√	Nov-11	Denise Blake
David Caulfield	Production Pharmacist	X	√	X	X	Feb-12	Denise Blake
Louise Horncastle	Production Pharmacist	X	√	X	√	Feb-12	Denise Blake
Hesther Wilson	Production Pharmacist	X	√	X	√	Mar-12	Denise Blake
Denise Blake	Clinical Pharmacist	√	X	X	√	Oct-12	Graham Jackson
Lynzie Dagg	Clinical Pharmacist	√	X	X	√	Sep-12	Denise Blake
Elizabeth Reay	Clinical Pharmacist	√	X	X	√	Oct-12	Denise Blake
Laura Larrieu	Production Pharmacist	X	√	X	√	Jun-12	Denise Blake
Tom Thornton	Clinical Pharmacist	√	X	X	√	Aug-12	Denise Blake

√ = authorised, X = not authorised

Register Created By: Denise Blake, ITC Pharmacist

Register Authorised By: Prof Graham Jackson, Trust ITC Lead

Register of Those Accredited for Pharmacy Aspects of Intrathecal Chemotherapy

NAME	POSITION	PHARMACIST CLINICAL CHECK	WORKSHEET & IN-PROCESS CHECKS	TECHNICIAN DISPENSE & IN- PROCESS CHECKS	TRANSPORT & ISSUE	REVIEW DATE	ASSESOR
PHARMACISTS							
John Horncastle	Production Pharmacist	X	√	X	√	Jul-12	Denise Blake
Louise Horncastle	Production Pharmacist	X	√	X	√	Feb-13	Denise Blake
Hesther Wilson	Production Pharmacist	X	√	X	√	Mar-13	Denise Blake
Denise Blake	Clinical Pharmacist	√	X	X	√	Oct-12	Graham Jackson
Lynzie Dagg	Clinical Pharmacist	√	X	X	√	Sep-12	Denise Blake
Elizabeth Reay	Clinical Pharmacist	√	X	X	√	Oct-12	Denise Blake
Laura Larrieu	Production Pharmacist	X	√	X	√	Jun-12	Denise Blake
Tom Thornton	Clinical Pharmacist	√	X	X	√	Aug-12	Denise Blake
Stephen Morris	Production Pharmacist	X	√	X	√	Dec-12	Denise Blake
James Richardson	Clinical Pharmacist	√	X	X	√	Feb-13	Denise Blake
David Caulfield	Production Pharmacist	X	√	X	√	Feb-13	Denise Blake
Erica Lieberman	Production Pharmacist	X	√	X	√	Mar-13	Denise Blake

√ = authorised, X = not authorised

Register Created By: Denise Blake, ITC Pharmacist

Register Authorised By: Prof Graham Jackson, Trust ITC Lead

Register of Those Accredited for Pharmacy Aspects of Intrathecal Chemotherapy

NAME	POSITION	PHARMACIST CLINICAL CHECK	WORKSHEET & IN-PROCESS CHECKS	TECHNICIAN DISPENSE & IN-PROCESS CHECKS	TRANSPORT & ISSUE	REVIEW DATE	ASSESOR
PHARMACY TECHNICIANS							
Lisa Irving	Production Technician	X	X	√	X	Jul-12	Christine Middleton
Joyce Kirton	Production Technician	X	X	√	X	Jul-12	Christine Middleton
Nicholas Moyse	Sen. Production Technician	X	X	√	X	Sep-12	Christine Middleton
Paul Murphy	Production Technician	X	X	√	X	May-12	Christine Middleton
Christine Middleton	Production Technician	X	X	√	X	May-12	Nicholas Moyse
Barbara Roy	Production Technician	X	X	√	X	May-12	Christine Middleton
Paul Blackwell	Production Technician	X	X	√	X	May-12	Christine Middleton
Lisa Hunter Blair	Production Technician	X	√	√	X	Jul-12	Christine Middleton
Gillian Sked	Production Technician	X	X	√	X	Feb-13	Christine Middleton
Tom Haines	Production Technician	X	X	√	X	Mar-13	Christine Middleton
Louise Angus	Production Technician	X	X	√	X	Jan-13	Christine Middleton

√ = authorised, X = not authorised

Register Created By: Denise Blake, ITC Pharmacist

Register Authorised By: Prof Graham Jackson, Trust ITC Lead



Register of Those Accredited for Medical Aspects of Intrathecal Chemotherapy

NAME	POSITION	PRESCRIBE	ADMINISTER	PATIENT REVIEW / CONSENT	REVIEW DATE	ASSESOR
MEDICAL STAFF (PAEDS)						
Simon Bailey	Consultant Paed. Onc.	√	√	√	Mar-13	Dr Graham Jackson
Peter Carey	Consultant Haematologist	√	√	√	Jun-12	Dr Simon Bailey
Rod Skinner	Consultant Paed. Onc.	X	X	√	Jan-13	Dr Simon Bailey
Josef Vormoor	Consultant Paed. Onc.	X	X	√	Jan-13	Dr Simon Bailey
Kevin Windebank	Consultant Paed. Onc.	X	X	√	Apr-13	Dr Simon Bailey
Sujith Samarasinghe,	Consultant Paed. Onc.	√	√	√	May-13	Dr Peter Carey
Sunita Dhir	Specialty Doctor	√	√	√	Sep-12	Dr Simon Bailey
Britta Vormoor	SpR	√	√	√	Dec-12	Dr Simon Bailey
Prasad Iyer	Specialty Doctor	√	√	√	Apr-13	Dr Simon Bailey

√ = authorised, X = not authorised

Register Created By: Denise Blake, ITC Pharmacist

Register Authorised By: Prof Graham Jackson, Trust ITC Lead

