Chemotherapy Training Programme

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<table>
<thead>
<tr>
<th>CONTENTS</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Educational Sessions to Support the Attainment of Competencies</td>
<td>4</td>
</tr>
<tr>
<td>Programme Content</td>
<td>4</td>
</tr>
<tr>
<td>Level 1 – aims/ objectives</td>
<td>5/6</td>
</tr>
<tr>
<td>Level 1 competencies</td>
<td>6</td>
</tr>
<tr>
<td>Practical Chemotherapy Competencies - level 1</td>
<td>8</td>
</tr>
<tr>
<td>Level 2 – Aims/ objectives</td>
<td>9</td>
</tr>
<tr>
<td>Level 2 competencies</td>
<td>10</td>
</tr>
<tr>
<td>Practical Chemotherapy Competencies - level 2</td>
<td>11</td>
</tr>
<tr>
<td>Educational Sessions to Support the Attainment of Competencies in Paediatric Oncology Shared Care Centres (POSCUs)</td>
<td>12</td>
</tr>
<tr>
<td>POSCU – aims/ objectives</td>
<td>13</td>
</tr>
<tr>
<td>Practical Chemotherapy Competencies (POSCUs)</td>
<td>14</td>
</tr>
<tr>
<td>POSCU competencies</td>
<td>15</td>
</tr>
</tbody>
</table>
1. Introduction

Alder Hey Children’s NHS Foundation Trust

This training package has been devised to meet the demand of training issues in nurses working within paediatric oncology both in the primary treatment centre and the shared care units. This covers all the applicable competencies in the Merseyside and Cheshire Cancer Network Chemotherapy Training package (http://www.mccn.nhs.uk/fileuploads/File/Chemotherapy%20Competency%20Framework_final.pdf)

2. Programme Content

2.1 For Primary Treatment Centre (Type 2 ‘Full’ and Type 3 ‘Foundation’ training)

The programme consists of 2 sessions of four hours of theoretical training each followed by an accompanying workbook and practical assessment. The nurses will work with a mentor to achieve their competencies and practical assessments. After completion of session 1 and the workbook and competencies the nurse will have achieved type 3 foundation training and following completion of session 2 and the workbook and competencies the nurse will have achieved type 2 full training.

2.2 For Paediatric Oncology Shared Care Units (POSCUs) and community staff who will be administering low risk chemotherapy (Type 4 ‘low risk’ training).

The programme consists of 5 hours of theoretical training followed by one workbook and practical assessment relating to the potential treatment they may be administering. The nurses will receive theoretical support from the Primary Treatment Centre which is where the workbook will be assessed. Practical assessment will occur locally either by another paediatric nurse who is competent in chemotherapy administration or an adult colleague competent in chemotherapy administration. Following completion of the theoretical training, workbook and competencies the nurse will have achieved type 4 ‘low risk’ training.

CVAD training and blood product training will be completed at local trust level.
In addition, validation of practice can be made available at the POSCU should this be impossible through adult colleagues locally.

Paediatric Oncology Shared Care Unit (POSCU) ward based staff who will not be administering chemotherapy but providing supportive care will receive foundation level training which covers blood products and CVAD training, cascaded locally and supplemented by additional PTC e-learning on the febrile patient and chemotherapy. Local training will be supervised by the POSCU Lead Nurse with support from the PTC.

Updates should be maintained annually as a minimum requirement and more frequently when changes in practice have been indicated. The updates will be achieved by undertaking the e-learning package.

3. Educational Sessions to Support the Attainment of Competencies

3.1 Level 1 (Type 3 ‘Foundation’)

One 4 hour educational session

Preparation 2 week reading requirement

- Cell physiology (nursing physiology textbook)
- Trust cytotoxic policy

Indicative Content

- Introduction to cancer genesis
- Context of paediatric cancer
- Cell reproduction
- Cancer cell characteristics
- Chemotherapy groups and mode of function
- Introduction to chemotherapy side effects (generic)
Introduction to health and safety in administration of chemotherapy.
Cytotoxic spill kit and safety management
Workbook and competency discussion

3.2 Level 2 (Type 2 ‘Full’)  
One 4 hour educational session

Preparation  Successful completion of workbook 1 and level one supervised log.
Preparatory reading of session one handouts

Indicative Content

Assessment strategy.
Workbook and competency discussion.
Review of session one theory
Cytotoxic policy and chemotherapy administration.
Individual chemotherapy side effects.
Extravasation and the appropriate policy and management procedure.

3.3 Level 1 (Type 3 ‘Foundation’) – aims/ objectives

3.3.1 Aims
To enable qualified children’s nurses to increase their knowledge of cytotoxic drugs
To increase awareness of safe administration of cytotoxic drugs and their appropriate actions to deal with potentially hazardous situations

3.3.2 Objectives
To review the cellular physiology of malignant and normal cells
To demonstrate understanding of the action of cytotoxic drugs on the reproducing cell including the concept of targeted therapy.

To demonstrate knowledge of the care before, during and after the administration of the cytotoxic drugs

To highlight the procedure for safe administration and appropriate action to be taken when faced with a hazardous event in this procedure

To define the nursing care for this group of patients and their families
### 3.4 Level 1 (Type 3 ‘Foundation’) competencies

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<thead>
<tr>
<th>Competency to be demonstrated</th>
<th>Suggested Activities</th>
<th>Evidence of Achievement</th>
</tr>
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| **1. Demonstrates an understanding of the cell cycle and cell replication which can be applied to the principles of cancer genesis** | i) Outline the key principles of mitosis and the cell cycle  
ii) Compare “healthy cell” behaviour to that of a cancer cell |  |
| **2. Utilises, applies knowledge and demonstrates effective understanding of the cell cycle in the principles of cytotoxic therapy and potential general side effects of therapy** | i) Participates in completion of a care plan of a child receiving chemotherapy, specifically for mucositis, nausea/vomiting, bone marrow suppression and their management  
ii) Explain the general principles of cytotoxic chemotherapy and antiemetic therapy  
iii) Explain what chemotherapy does to cancer cells, and why we use combination chemotherapy treatment.  
iv) demonstrates an awareness of the concept of targeted chemotherapy |  |
| **3. Demonstrates effective clinical skills, care and support of a child and family receiving chemotherapy. Showing knowledge of correct procedures in handling cytotoxic therapy** | i) Lead a discussion in actions to be taken if a cytotoxic spillage is detected  
ii) Initially discuss with mentor the precautions a child and family should take at home re chemotherapy. i.e. Gloves, disposal of waste, handling of bodily fluids  
iii) Discusses family education re handling of oral chemotherapy and its administration and disposal.  
iv) With mentor have a supervised practice session on the delivery of the information to the family |  |
| **4. Can recognise, and demonstrate knowledge of correct procedures involved to achieve healthcare protection in the safe administration of cytotoxic therapy** | i) Can list activities undertaken in the safe administration of cytotoxic therapy and cytotoxic spillages in accordance with local policies |  |
### 4. Practical Chemotherapy Competencies Level 1

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<tr>
<th>Competency to be demonstrated</th>
<th>Suggested activity</th>
<th>Evidence of achievement</th>
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<tbody>
<tr>
<td>1. Demonstrates safe and effective practice of administration of chemotherapy by the oral route.</td>
<td>i) Keeping a supervised practice log of the administration of chemo by this route (3 examples minimum).&lt;br&gt;ii) Demonstrate appropriate use of gloves&lt;br&gt;iii) Informal interview to discuss the potential problems with each possible oral preparation.</td>
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<td>2. Can demonstrate safe and effective practice in the preparation of parents/patients for chemotherapy administration and appropriate child care/self care afterwards.</td>
<td>i) Supervised practice log of all chemo administration to include assessment of verbal demonstration of knowledge and skill in parent/patient education&lt;br&gt;ii) Informal interview to discuss potential barriers to effective communication and parent/patient education</td>
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4.1 Level 2 (Type 2 ‘Full’) – Aims/ objectives

4.1.1 Aims

To enable qualified childrens nurses to build on existing knowledge and skills to become confident and competent in the administration of cytotoxic drugs

To increase awareness of safe administration of cytotoxic drugs and their appropriate actions to deal with potentially hazardous situations

4.1.2 Objectives

To describe the action of individual drugs and their side effects

To demonstrate knowledge of the care before, during and after the administration of the cytotoxic drugs

To highlight the procedure for safe administration and appropriate action to be taken when faced with a hazardous event in this procedure

To define the nursing care for this group of patients and their families
### 4.2 Level 2 (Type 2 ‘Full’) competencies

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</thead>
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| 1. Is able to describe the action of various types of cytotoxic chemotherapy and its potential side effects | i) Completion of chemotherapy workbook  
ii) Explains to a child and family the chemotherapy they are administering and its potential side effects  
iii) Discussion with mentors | |
| 2. Is able to describe the actions that need to be undertaken when administering chemotherapy e.g. extravasation, anaphylaxis | i) Completion of chemotherapy workbook  
ii) Explains the action required in the event of anaphylaxis  
iii) Explains the action involved in the event of extravasation | |
| 3. Demonstrates knowledge of the specific routes available for administration of chemotherapy and the appropriateness for individual drugs. | i) Completion of chemotherapy workbook  
ii) Leads a discussion on the process involved when a child attends for intrathecal treatment  
iii) Explains the different routes available and rationale for each route | |
| 4. Can outline the management of supportive care issues relating to the child with cancer and their family | i) Completion of chemotherapy workbook  
ii) Explains to mentor plan of care for child undergoing chemotherapy | |
| 5. Demonstrates a knowledge of the impact of protocols on the child and family | i) Explains protocol to a student with observation by a mentor  
ii) Completion of plan of care in chemotherapy work book | |
5. Practical Chemotherapy Competencies Level 2 (Type 2 ‘Full’)

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</tr>
</thead>
</table>
| 1. Will demonstrate their knowledge of the issues involved in setting up safe and effective intravenous equipment for the administration of a wide variety of chemotherapy schedules | i) Documented supervised practice of running through IV set up for 5 different chemotherapy combinations  
ii) Informal interview on trouble shooting IV infusional problems | |
| 2. Can outline the process of checklist completion and the responsibility of the nurse in its use. | i) documented supervised practice of checklist completion  
ii) Informal interview on dealing with potential errors and their consequences in the process | |
| 3. Can demonstrate safe and effective practice in the administration of chemotherapy by the following IV routes; bolus and infusion. | i) Keeping a supervised practice log of the administration of therapy by each route (3 bolus and 5 infusional examples). Log to be signed by chemo supervisor  
ii) Supervised practice log for infusional chemotherapy to include documentation of discussion on appropriate IV access, infusional equipment required and safe construction of infusional routes.  
iii) Log to be completed within a 3 month time period. | |
5.1 Shared Care and Community Competencies (Type 4 ‘Low risk’)

One 6 hour educational session

Preparation 2 week reading requirement

Cell physiology pack (nursing physiology textbook)
Trust cytotoxic policy
Safe handling articles
Side effect article

Indicative Content applicable to treatment likely to be administered

Introduction to cancer genesis
Context of paediatric cancer
Cell reproduction
Cancer cell characteristics
Chemotherapy groups and mode of function
Introduction to chemotherapy side effects (generic)
Introduction to health and safety in administration of chemotherapy.
Cytotoxic spill kit and safety management
Workbook and competency discussion
Cytotoxic policy and chemotherapy administration.
Individual chemotherapy side effects.
Extravasation and the appropriate policy and management procedure.
5.2 Shared care and community (Type 4 ‘Low risk’) – aims/objectives

5.2.1 Aims

To enable qualified children’s nurses to build on existing knowledge and skills to become confident and competent in the administration of specific cytotoxic drugs

To increase awareness of safe administration of cytotoxic drugs and their appropriate actions to deal with potentially hazardous situations

5.2.2 Objectives.

To review the cellular physiology of malignant and normal cells

To demonstrate understanding of the action of cytotoxic drugs on the reproducing cell.

To describe the action of individual drugs and their side effects

To demonstrate knowledge of the care before, during and after the administration of the cytotoxic drugs

To highlight the procedure for safe administration and appropriate action to be taken when faced with a hazardous event in this procedure

To define the nursing care for this group of patients and their families
## 5.3 Shared Care and community (Type 4 ‘Low risk’) competencies

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| 1. Is able to describe the action of various types of cytotoxic chemotherapy and its potential side effects | i) Completion of chemotherapy workbook  
ii) Explains to a child and family the chemotherapy they are administering and its potential side effects  
iii) Discussion with mentors |  |
| 2. Is able to describe the actions that need to be undertaken regarding the issue of health and safety when administering chemotherapy e.g. extravasation, anaphylaxis | i) Completion of chemotherapy workbook  
ii) Explains the action required in the event of anaphylaxis  
iii) Explains the action involved in the event of extravasation |  |
| 3. Demonstrates knowledge of the specific routes available for administration of chemotherapy and the appropriateness for individual drugs. | i) Completion of chemotherapy workbook  
ii) Explains the different routes available and rationale for each route |  |
| 4. Can outline the management of supportive care issues relating to the child with cancer and their family | i) Completion of chemotherapy workbook  
ii) Explains to mentor plan of care for child undergoing chemotherapy in the shared care setting |  |
| 5. Demonstrates a knowledge of the impact of the acute lymphoblastic leukaemia protocol on the child and family | i) Discussion of ALL protocol with mentor  
ii) Completion of plan of care in chemotherapy workbook |  |
## 5.4 Practical Chemotherapy Competencies (shared care)

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<tr>
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<tbody>
<tr>
<td>1. Can demonstrate safe and effective practice of administration of chemotherapy by the following routes; oral and IV bolus.</td>
<td>i) Keeping a supervised practice log of the administration of chemotherapy by each route (2 oral examples and 3 bolus examples). Log to be signed each time by observing chemo supervisor.</td>
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<td>2. Can demonstrate safe and effective practice in the preparation of parents/patients for chemotherapy administration and appropriate child care/self care afterwards.</td>
<td>i) Supervised practice log of all chemo administration to include assessment of verbal demonstration of knowledge and skill in parent/patient education. Informal interview to discuss potential barriers to effective communication and parent/patient education</td>
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