Blood Count Monitoring Post-Autologous Stem Cell Transplant UHL Children's Hospital guideline

University Hospitals of Leicester NHS Trust

Trust Ref: E7/2021

Introduction and Who this Standard Operating Procedure applies to

This CYPICS network guideline has been developed by clinicians from Nottingham Children's Oncology Unit with consultation across the network including from the Leicester Royal Infirmary and has been ratified by the Leicester Children's Hospital guideline process.

This guideline applies to all children and young people under the age of 19 years who are receiving chemotherapy for malignant disease

UHL local Paediatric Oncology specialists are:

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Blood Count Monitoring Post-Autologous SCT

	Title of Guideline	**3188 - Guideline for monitoring blood counts following an autologous stem cell transplant**
	Contact Name and Job Title (author)	Dr Sophie Wilne, Consultant Oncologist Elizabeth Ralling, Quality Manager (Katie Manning, previous Quality Manager)
	Directorate & Speciality	Directorate: Family Health – Children Speciality: Paediatric Oncology
	Date of submission of this version	21/9/23
	Date when guideline to be reviewed	21/9/25
	Guideline Number	ASCT/C/017
	Explicit definition of patient group to which it applies (e.g. inclusion and exclusion criteria, diagnosis)	This guideline applies to children and young people post-autologous stem cell transplant (SCT) prior to engraftment.
	Abstract	This guideline outlines the frequency of blood count monitoring for children and young people post-autologous SCT prior to engraftment.
	Key Words	Paediatrics. Children. Young People. Cancer. Autologous stem cell transplant. Full blood count. Neutrophil. Platelets. Blood count. Engraftment.
	Statement of the evidence base of the guideline – has the guideline been peer reviewed by colleagues?	
1a	meta analysis of randomised controlled trials	
1b	At least one randomised controlled trial	
2a	at least one well-designed controlled study without randomisation	
2b	at least one other type of well-designed quasi-experimental study	
3	well –designed non-experimental descriptive studies (ie comparative / correlation and case studies)	
4	expert committee reports or opinions and / or clinical experiences of respected authorities	
5	recommended best practise based on the clinical experience of the guideline developer	X
	Consultation Process	Paediatric Consultant Oncologists. Margaret Parr, Lead Nurse, CYPICS. Dani Jones, CYPICS Clinical Educator. Ward Manager, E39.
	Target audience	Clinical teams caring for children and young people post-autologous stem cell transplant.
	This guideline has been registered with the trust. However, clinical guidelines are guidelines only. The interpretation and application of clinical guidelines will remain the responsibility of the individual clinician. If in doubt contact a senior colleague or expert. Caution is advised when using guidelines after the review date.	

Authorised by	Name	Signature	Date
Programme Director	Dr Sophie Wilne	**SIGNED ON MASTER COPY**	
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Document Control

Document Amendment Record

Version	Issue Date	Author
V1	September 2020	Dr Sophie Wilne, Katie Manning
V2	September 2023	Dr Sophie Wilne, Elizabeth Ralling

General Notes:

Summary of changes for new version:

Contents

1. Introduction

1.1 Conditioning for Haemopoietic Stem Cell Transplantation (HSCT) leads to destruction of the cellular components of blood and bone marrow. Post HSCT there is reduced haemopoiesis until the new stem cells colonise the marrow. It is imperative that the clinical team monitor a patient's blood count frequently prior to engraftment to ensure that appropriate and timely supportive care is provided.

1.2 For the purposes of this guideline, blood count monitoring will specifically relate to full blood count (FBC).

2. Purpose and Objectives

2.1 The purpose of this guideline is to outline the required frequency of blood count monitoring in children and young people post-autologous stem cell transplant prior to engraftment.

2.2 Frequent monitoring of the child/young persons' FBC will assist the clinical team to provide timely supportive care including blood product transfusion to reduce the risk of bleeding or anaemia.

2.3 Blood count monitoring is essential to ensure that dates for engraftment are identified and can be reported to the European Group for Blood and Marrow Transplantation (EBMT) and NHS Blood Transfusion (NHSBT) as required

2.4 Regular monitoring of blood counts will ensure that graft failure, although uncommon in children post-autologous SCT, is identified so that appropriate treatment can be initiated (see ASCT/C/016 Diagnosis and Management of Graft Failure).

3. Responsibilities

3.1 The patient's consultant will be responsible for notifying the clinical team (nursing and medical) of any patient-specific variation in blood count monitoring from this guideline.

3.2 The medical team are responsible for analysis of the FBC and the initiation of any supportive therapy or graft failure management.

3.3 The patient's consultant is responsible for deciding the frequency of blood count monitoring following discharge home or to another care provider until platelet engraftment is evidenced.

3.4 The discharging ward nurse and liaison nurses are responsible for communicating the frequency of blood count monitoring to the community teams or nursing team in another care provider following discharge. The medical team should include the frequency of blood count monitoring within the transfer letter if the child/young person is being transferred to another care provider.

3.5 The liaison nurses or day care nursing team will check the results of blood counts obtained post-discharge and will escalate results as required to a member of the medical team.

4. Procedure

4.1 Engraftment

4.1.1 Neutrophil engraftment is defined as the 1st of 3 consecutive days with an actual neutrophil count (ANC) of ≥0.5x10⁹/l. Platelet engraftment is defined as the 1st of 3 consecutive days the platelet count is ≥20x10⁹/l including 7 consecutive days without platelet transfusion.

4.2 Blood count monitoring prior to engraftment

4.2.1 FBC should be monitored at a minimum daily and more frequently if clinical condition indicates e.g. rapidly falling platelet count, active bleeding.

4.2.2 Each FBC result must be checked by a member of the medical team. Transfusion support should be provided as per ASCT/C/ 018 Transfusion Support for children and young people with malignancy and bone marrow failure.

4.3 Blood count monitoring post-discharge (prior to platelet engraftment)

4.3.1 FBC should be monitored at a minimum twice weekly until platelet engraftment.

4.3.2 More frequent FBC monitoring should be undertaken if the child/young person is requiring more frequent platelet transfusions. In this instance, the required frequency will be a consultant decision.

4.3.3 The FBC results must be checked on the day the sample has been obtained and recorded within the day care blood results folder.

5. Limitations

5.1 Post discharge the child/young person may need their blood count checking more frequently in the event of becoming unwell or signs of bleeding.

6. References/ Further Information

ASCT/C/018 Transfusion Support for children and young people with malignancy and bone marrow failure

UHL Education and Training

None

Key Words

The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.
As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

CONTACT AND REVIEW DETAILS

SOP Lead (Name and Title) Emma Ross; Consultant Paediatric Oncologist	**Executive Lead** **Chief Medical Officer**
Details of Changes made during review:	