DukeMedicine

Division of Cellular Therapy

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Colony Stimulating Factor Guidelines

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ABMT-GEN-034
COLONY STIMULATING FACTOR GUIDELINES

1 Purpose

To provide a consistent approach for the use of myeloid colony-stimulating factors (CSFs) for stem cell mobilization prior to transplantation and hematopoietic recovery following preparative chemotherapy and/or radiation therapy and stem cell transplantation.

2 Introduction

Colony-stimulating factors, when used alone or in combination with chemotherapy, significantly increase the yield of hematopoietic progenitor cells collected from the peripheral blood for subsequent transplantation.

3 Scope

Physicians and Advanced practice practitioners are responsible for writing orders/prescribing mobilization therapy and the nursing staff is responsible to carry out those orders. Doses of CSF administered in the ABMT clinic will be reviewed and dispensed by the North Pavilion pharmacists. Nursing staff will document the type of CSF administered in the medical record. If a portion of the mobilization is to occur with local physician or in the home, it is the responsibility of the transplant coordinator to arrange the care.

4 Definitions/Acronyms

4.1	CSF:	Colony stimulating factors
4.2	mcg:	microgram
4.3	kg:	kilogram
4.4	NMDP:	National Marrow Donor Program
4.5	mg:	milligram
4.6	min:	minute
4.7	UL:	microliter
4.8	mm3:	cubic millimeter
4.9	CrCl:	creatinine clearance
4.10	SQ:	subcutaneous

5 Procedure

5.1 Refer to **Table I CSF Mobilization Summary**

5.2 CSF is continued daily until the completion of stem collection process and the target cell dose is collected.

5.3 Neupogen, Granix and Zarxio may be used interchangeably based on insurance requirements.

5.4 Patients who are Chemotherapy mobilized will receive CSF 2-3 days following chemotherapy. They will continue CSF until the completion of stem collection process.

5.5 Refer to Table II Summary of Plerixafor Use for a description of the indications and dosing of Plerixafor.

5.6 Refer to The Duke ABMT Plerixafor Algorithm for description of Plerixafor dosing schedule according to peripheral blood CD-34 counts in conjunction with peripheral blood stem cell bag counts following collection.

6 Post-transplantation CSF

6.1 Autologous: Filgrastim/Granix 5 mcg/kg/day rounded to nearest vial size, beginning on Day +5 and continuing until ANC >1000/mm3 x 2 days or >5000/mm3 x 1 day or per research protocol

6.2 .Allogeneic, ablative: No routine CSF use

6.3 Allogeneic, non-ablative: No routine CSF use

6.4 Allogeneic, cord blood ablative: Filgrastim 5 mcg/kg/day beginning on Day +1 and continuing until ANC >3000/mm3 x 2 days or per research protocol

7 Reportable conditions

7.1 The attending physician or designee will be contacted for:

7.1.1 Allergy reaction

7.1.2 Intolerance to therapy

7.1.3 Pain that cannot be controlled with analgesics

7.1.4 White blood cell count >60,000/mm-3

Table I CSF Mobilization Summary

Transplant type	Preferred CSF	Dose	Start date
Autologous (Multiple myeloma, lymphoma, testicular, brain cancer, etc.)	Filgrastim**	10 mcg/kg/day	CSF alone: Begin 4 days prior to stem cell collection.*
Autologous (Multiple myeloma, lymphoma, testicular, brain cancer, etc.)	Filgrastim** following Chemomobilization	10 mcg/kg/day	Chemomobilization: Begin on Day 3-5 of mobilization chemotherapy regimen (unless otherwise specified per protocol)*
Allogeneic, ablative matched	Filgrastim**	10 mcg/kg/day	Begin 4 days prior to stem cell collection.*
Allogeneic, non-ablative matched or mismatched	Filgrastim**	16 mcg/kg/day in 2 divided doses	Begin 4 days prior to stem cell collection.*
Allogeneic, reduced intensity matched or mismatched	Filgrastim**	10mcg/kg/day	Begin 4 days prior to stem cell collection.*
NMDP Matched unrelated donor	Filgrastim Doses supplied by a NMDP approved supplier	CSF dose is based on donor weight range as referenced in NMDP Neupogen Order Form	Begin 4 days prior to stem cell collection. **No more than 5 days are given unless approved by NMDP Medical Director**

* CSF is continued daily until completion of stem collection process

** Neupogen, Granix and Zarxio may be used interchangeably based on insurance requirements

Table II Summary of Plerixafor Use

Indication	Plerixafor dose	Start date
• Planned in conjunction with daily filgrastim in autologous donors who are expected to mobilize poorly • Refer to Duke ABMT Plerixafor Algorithm	Fixed dosing: Weight ≤83 kg: 20 mg or 0.24 mg.kg actual body weight 0.24 mg/kg/day (240 mcg/kg/day) subQ daily for up to 4 days if CrCl >50 ml/min (cap at 40 mg) OR 0.16 mg/kg/day (160 mcg/kg/day) SQ daily for up to 4 days if CrCl ≤50 ml/min (cap at 27 mg)	Begin on evening of 4th day of filgrastim approximately 11-16 hours prior to scheduled apheresis)

8 Related Documents

8.1 Duke ABMT CSF Algorithm

9 References

9.1 Stover J, Shaw JR, Kuchibhatla, M, et al. Evaluation of hematopoietic stem cell mobilization rates with early plerixafor administration for adult stem cell transplantation. Biology of Blood and Marrow Transplanation. 2017;23:1290-1294.

9.2 www.nccn.org

10. Revision History

Revision No.	Author	Description of Change(s)
04	S. Drago	Nursing staff will document the type of CSF administered in the medical record added to Scope. Refer to the following tables which summarize the guidelines for CSF use in the Adult BMT population. Added to Procedure Definitions/Acronyms section added Allo DLI deleted from Table I 6.1 – 6.4 added Fixed dosing: Weight ≤83 kg: 20 mg or 0.24 mg.kg actual body weight Added to Table II Formatted in FACT format Reference updated

Signature Manifest

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