



**Guidelines for
GVHD prophylaxis and dose of ATG
conditioning protocol for Allogeneic
Bone Marrow Transplant**

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GVHD PROPHYLAXIS

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The most life-threatening complication of allo HSCT is the graft-versus-host disease (GVHD) which occurs when T cells from the recipient recognize the host as foreign. Overall, 30–50% of the patients will develop acute GVHD, and around 15% will have severe GVHD (grades III–IV). The main risk factor for developing chronic GVHD is the previous development of the acute form of the disease.

Risk factor scoring of GVHD

GVHD Risk Factors (EBMT Handbook 2019/ N Engl J Med 2017; 377:2167-79)

| Risk factor | Score (PROPOSED) |
|--------------------------------------|-------------------------|
| Female donor to male recipient | 0.5 |
| Donor Parity (number of conceptions) | 0.5 |
| Haplo-matched HSCT | |
| Use of PBSC | 2 |
| Previous radiotherapy | 0.5 |
| Myeloablative conditioning | |
| Donor age (>40 yrs.) | 0.5 |
| recipient age (>40yrs) | 0.5 |

Choice of agents of GVHD Prophylaxis

| Conditioning Regimen | Source of stem cells | GVHD Prophylaxis |
|---|-----------------------------|--|
| Myeloablative regimen: | BMH | Calcineurin inhibitor + Methotrexate ± ATG |
| | PBSC | Calcineurin inhibitor + Methotrexate + ATG |
| Reduced intensity conditioning regimen | BMH | Calcineurin inhibitor + Myophenolate mofetil ± ATG |
| | PBSC | Calcineurin inhibitor + ATG + Myophenolate mofetil |
| non myeloablative regimen | BMH | Calcineurin inhibitor + ATG |
| | PBSC | Calcineurin inhibitor + ATG |
| Haploidentical Transplant | BMH | calcineurin inhibitor + PT Cyclophosphamide 100mg/kg + MMF ± ATG |
| | PBSC | calcineurin inhibitor + PT Cyclophosphamide 100mg/kg + MMF ± ATG |

Dose of ATG according to GVHD Risk factor:

| Conditioning Regimen | | GVHD risk factor | Dose of ATG mg/kg |
|---|------------------|---------------------------|---|
| Non Myeloablative (Aplastic Anemia) | | Any | 20 (Part of regimen) |
| Myeloablative- nonmalignant (Thalassemia) | | 0 - <2 ≥ 2 | 5 TG (Part of regimen) 7.5 TG (PBSC/ Maternal donor) |
| Myeloablative-malignant disease | | 0 0.5 – 1.5 ≥2 | Nil 5 10 |
| Reduced Intensity regimen (malignant) | | 0-0.5 1-1.5 ≥ 2 | Nil 5 10 |
| Reduced Intensity regimen (non-malignant) | | Immunodeficiency syndrome | 10 |
| Haploidentical Transplant (nonmalignant) | Aplastic Anemia | Any | 10-20 (as per conditioning intensity) |
| | Immunodeficiency | Any | 10 |
| Haploidentical Transplant (malignant) | | 0-0.5 1-1.5 ≥ 2 | Nil 2.5 5 |