Purpose and Background

Allogeneic bone marrow transplant patients are at risk for interstitial pneumonia caused by cytomegalovirus (CMV), other viruses, Pneumocystis carinii, and toxicity of chemotherapy or radiation. Because interstitial pneumonia is associated with a high mortality, it is critical to prevent or treat this complication.

Objectives

To establish uniform guidelines for prevention, diagnosis, and treatment of interstitial pneumonia.

Procedure

A. PROPHYLAXIS

1. Pneumocystis carinii:

   A. All allogeneic bone marrow transplant patients will receive Pneumocystis prophylaxis. Patients should receive trimethoprim-sulfamethoxazole starting at time of hospital admission and continuing until day-1 pretransplant. Adult patients will receive 160 mg trimethoprim/800 mg sulfamethoxazole (2 amps I.V., or 1 double strength tablet p.o.) t.i.d. Pediatric patients will be dosed at 6 mg/kg of the trimethoprim b.i.d. After transplant, the trimethoprim-sulfamethoxazole will be re-started when the ANC is ≥ 1000/mm³ (1 double strength tab p.o.tid on Saturday and Sunday only for adults), (6 mg/kg of trimethoprim for Pediatric patients on Saturday and Sunday only; not to exceed 2 DS tabs b.i.d.) and continued after transplant until the patient has been off immunosuppression (Tacrolimus or Cyclosporine in cord blood transplants & prednisone) for 2 weeks. In patients with chronic GVHD, the trimethoprim-sulfamethoxazole prophylaxis will be continued after transplant until immunosuppression is stopped.

   B. Patients with an allergy or intolerance to sulfa will receive either: Dapsone 100 mg po daily; Atovaquone (Mepron) 1500 mg suspension once daily;
pentamidine (aerosolized 300 mg, or 4 mg/kg IV, monthly) for prevention of 
Pneumocystis carinii pneumonia.

2. Cytomegalovirus (See SOP B6.421d. “Diagnosis and Management of 
Cytomegalovirus (CMV) Infection and Disease”).

B. DIAGNOSIS AND TREATMENT OF ACTIVE INTERSTITIAL PNEUMONIA

1. If a patient develops interstitial pneumonia after transplant, a diagnostic 
bronchoscopy with bronchoalveolar lavage will be done when clinically indicated.
A transbronchial lung biopsy may also be done. If the bronchoscopy with 
bronchoalveolar lavage is non-diagnostic, an open-lung biopsy will be considered 
in select patients.

2. For treatment of Pneumocystis carinii pneumonia, trimethoprim- 
sulfamethoxazole will be used. Patients with an allergy to sulfa will receive 
intravenous pentamidine.

3. For treatment of CMV pneumonia, a combination of ganciclovir plus 
intravenous 
immunoglobulin will be used. For suspected ganciclovir-resistant CMV disease 
or patients unable to tolerate ganciclovir due to myelosuppression, foscarnet can 
be used. (See also SOP B6.421d. “Diagnosis and Management of 
Cytomegalovirus (CMV) Infection and Disease”).

4. From time to time, patients may be enrolled in experimental studies. In these 
cases, the study protocol takes precedence over the SOP guidelines.

References:

1) Winston, DJ: Prophylaxis And Treatment Of Infection In The Bone Marrow 
Transplant Recipient. Current Clinical Topics in Infectious Diseases, Vol. 13 
(Remington JS, Swartz MN, eds.). Blackwell Scientific Publications, Inc., Boston 

2) Winston, DJ: Infections in bone marrow transplant recipients. Principles and 

in allogeneic bone marrow transplants: results of a placebo-controlled, double-blind 
ATTACHMENTS:

Attachment A: Procedure History
Attachment B: New/Revised Procedure Checklist

APPROVAL:

Gary J. Schiller, M.D., F.A.C.P.  4/15/2010
Professor
Director
Hematologic Malignancies/Stem Cell Transplantation Program

Maureen Sedrak, MSHA  4/15/2010
Quality Assurance Manager
Hematologic Malignancies/Stem Cell Transplantation Program
### PROCEDURE HISTORY

<table>
<thead>
<tr>
<th>Date</th>
<th>Initials</th>
<th>Page</th>
<th>Item and Summary of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/28/09</td>
<td></td>
<td></td>
<td>SOP Title Change</td>
</tr>
<tr>
<td>7/28/09</td>
<td></td>
<td></td>
<td>Format Changed</td>
</tr>
<tr>
<td>7/28/09</td>
<td></td>
<td></td>
<td>References updated</td>
</tr>
<tr>
<td>7/28/09</td>
<td></td>
<td></td>
<td>SOP Revised</td>
</tr>
<tr>
<td>4/15/10</td>
<td></td>
<td></td>
<td>Tacrolimus added</td>
</tr>
</tbody>
</table>

Attachment A
### NEW/REVISED PROCEDURE CHECKLIST

1. Information Systems changes required:
   - [ ] NA _______________________________________________________________
   - [ ] NA _______________________________________________________________
   - [ ] NA _______________________________________________________________

2. Procedure added to Training and Competency Evaluation Tool(s)? [ ] Yes [ ] NA

3. Procedure added/replaced in:
   - [ ] Master Copy Manual [ ] Operational Copy Manual(s) [ ] HSC Transplant
     Online [ ] NA
   - Other location(s): _______________________________________________________

4. Obsolete SOP(s) removed from service and filed? [ ] Yes [ ] NA

5. Table of Contents, SOP and Forms Master List modified? [ ] Yes [ ] NA

6. Information will be distributed to (check all that apply):
   - [ ] Electronic mail
   - [ ] Staff in-service/training/rounds
   - [ ] Transplant physicians
   - [ ] Other sections/departments (if applicable) specify:
     _______________________________________________________________
   - [ ] Other:
     _______________________________________________________________

Signature: _______________________________________________  ____________________________
Manager/Director Date

Attachment B